

FCC RF Test Report

APPLICANT : Elo Touch Solutions, Inc.
EQUIPMENT : POS
BRAND NAME : ELO or 
MODEL NAME : PayPoint
FCC ID : RBWPAYPOINT
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Mar. 30, 2017 and testing was completed on May 19, 2017. 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.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR733048C	Rev. 01	Initial issue of report	Jun. 28, 2017

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 3.80 dB at 145.430 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 13.16 dB at 10.56 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

Elo Touch Solutions, Inc.

670 N. McCarthy Blvd., Suite 100, Milpitas, CA95035

1.2 Product Feature of Equipment Under Test

Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n/ac

Product Specification subjective to this standard	
Antenna Type	WLAN: PIFA Antenna Bluetooth: PIFA Antenna

1.3 Modification of EUT

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



1.4 Testing Location

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan District, Shenzhen City, Guangdong Province, China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595		
Test Site No.	Sporton Site No.		
	CO01-SZ		

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

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.
	TH01-KS	03CH03-KS	306251

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



1.5 Applicable Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
- ♦ ANSI C63.10-2013

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

2 Test Configuration of Equipment Under Test

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

2.1 Carrier Frequency and Channel

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



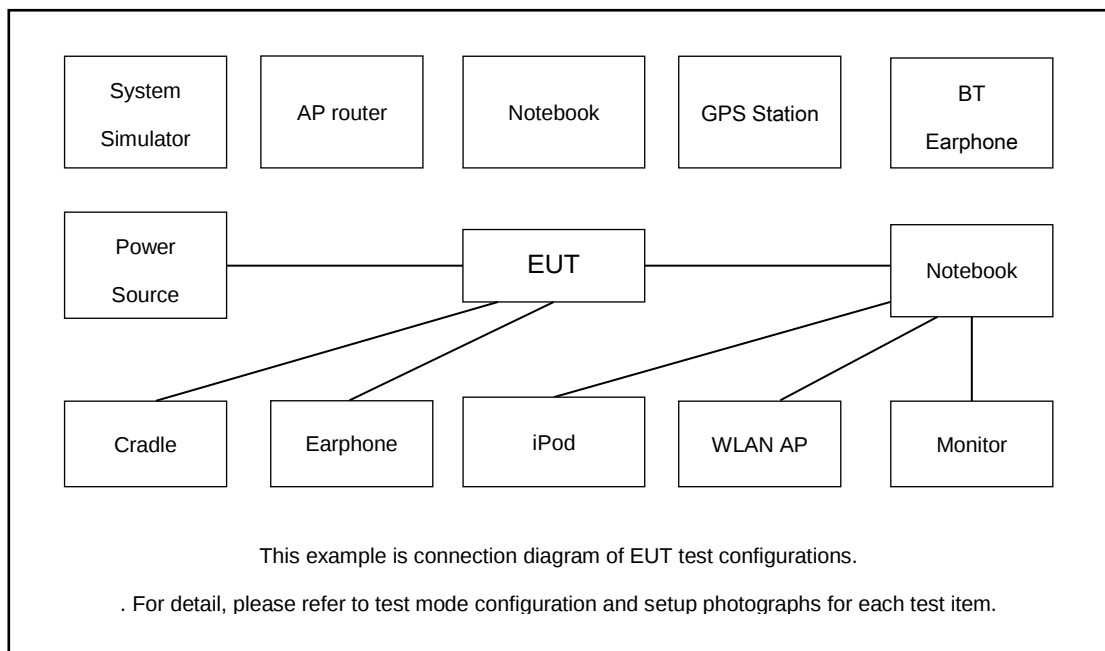
2.2 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates as below table.

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

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DIR-820L	KA2IR820LA1	N/A	Unshielded, 1.8 m
2.	LCD Monitor	Dell	92715Qt	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
3.	NOTE BOOK	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
5.	iPod	Apple	MC690ZP/A	FCC DoC	Shielded, 1.2 m	N/A
6.	USB flash drive	Kingston	DT101	N/A	N/A	N/A
7.	SD Card	SanDisk	4G class 4	N/A	N/A	N/A



2.5 EUT Operation Test Setup

The RF test items, programmed RF utility, "QRCT" installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

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

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

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.

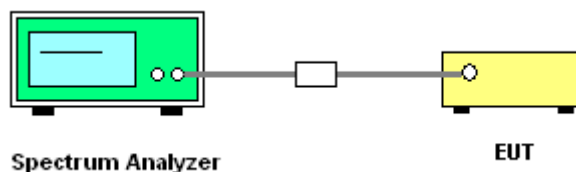
3.1.2 Measuring Instruments

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 v04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1MHz and set the Video bandwidth (VBW) = 3MHz.
6. Measure and record the results in the test report.

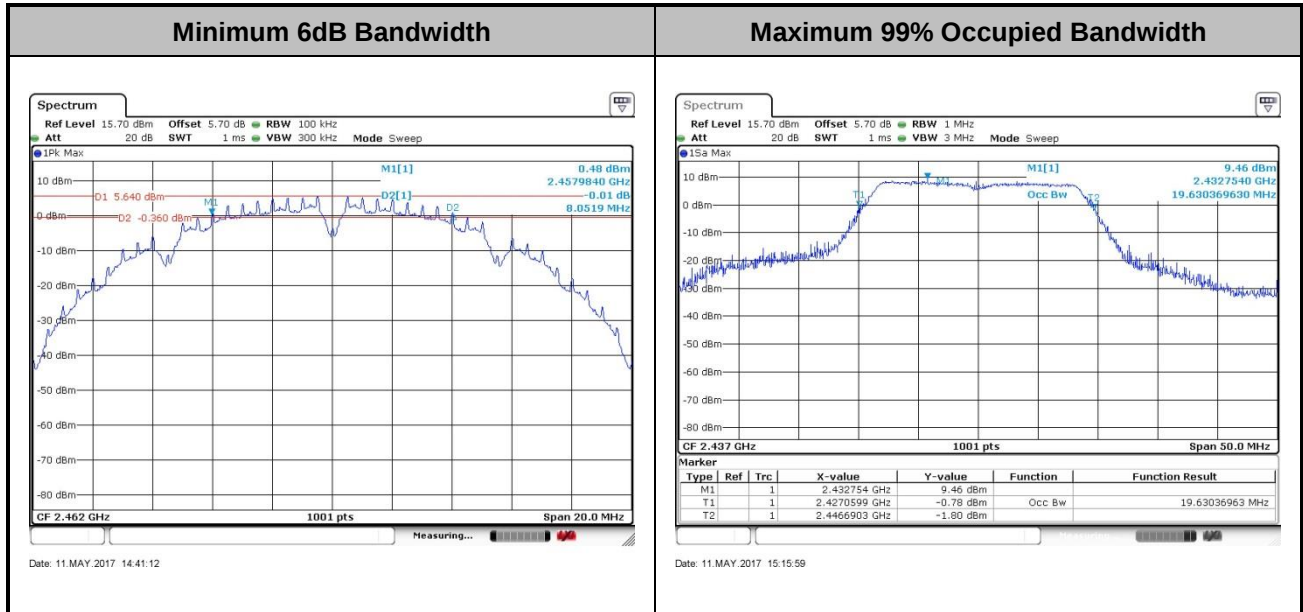
3.1.4 Test Setup





3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.



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.

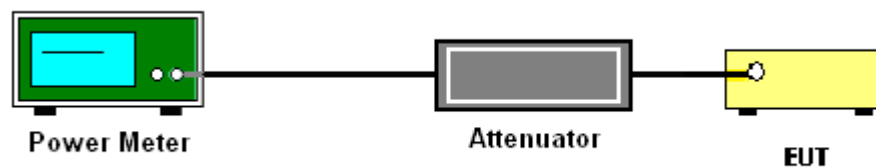
3.2.2 Measuring Instruments

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 v04 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.

3.2.6 Test Result of Average output Power (Reporting Only)

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

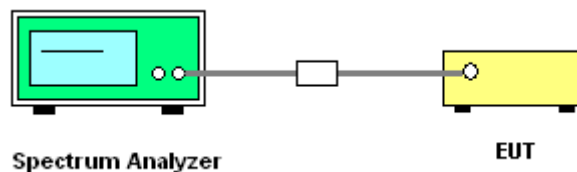
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

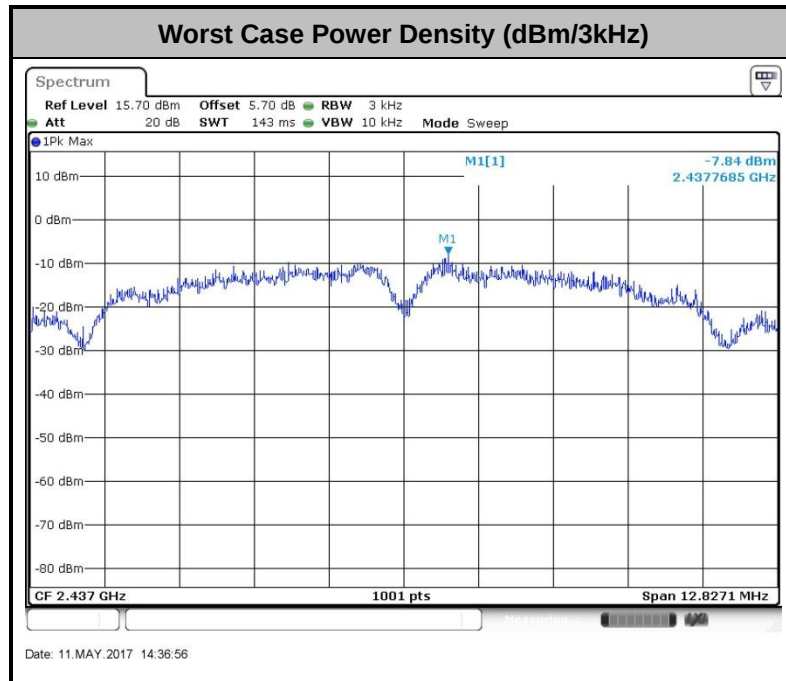
1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum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

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

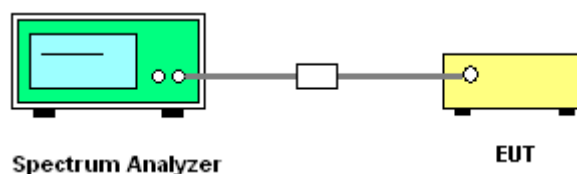
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

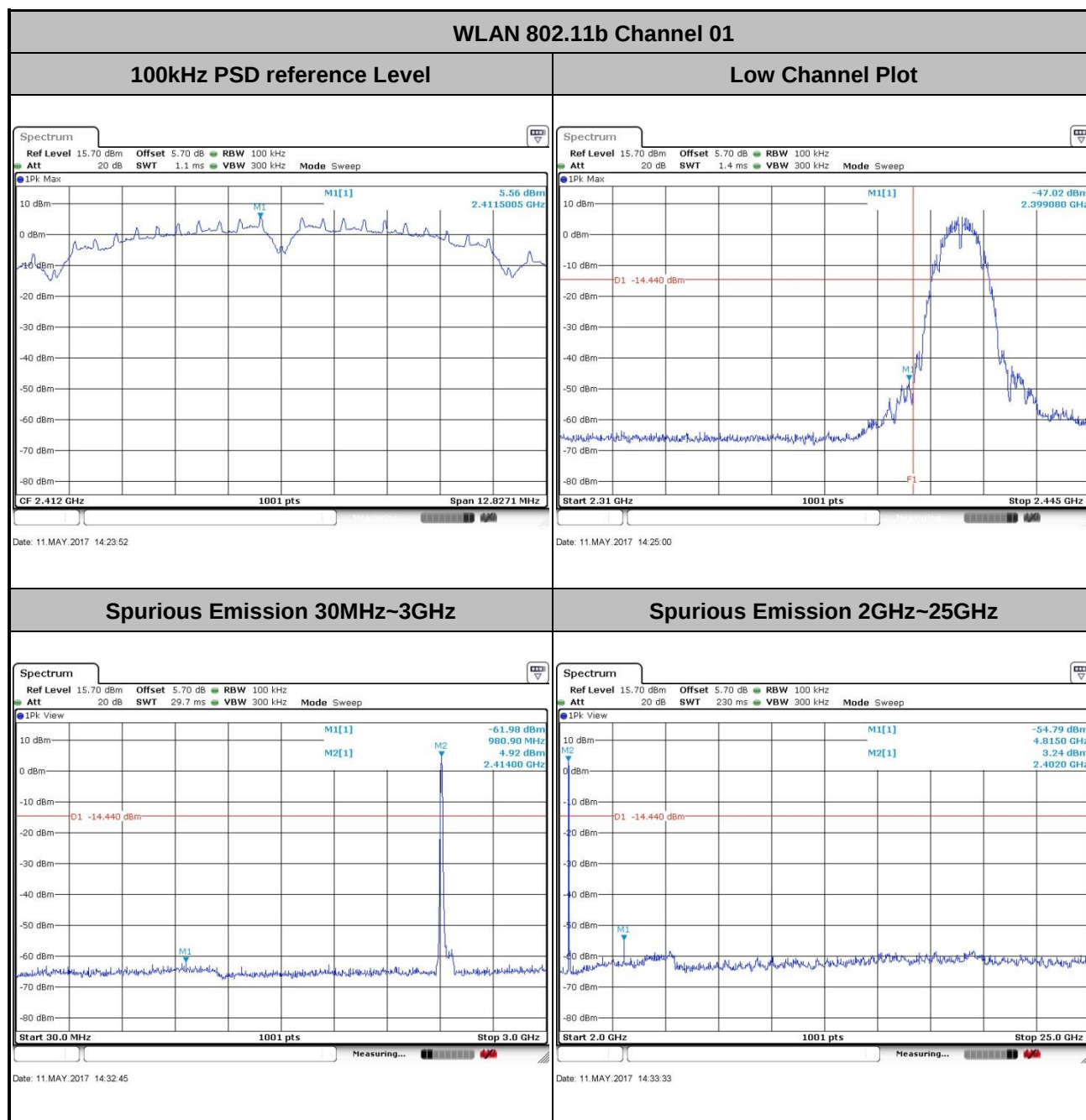
3.4.4 Test Setup





3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Mode :	802.11b	Temperature :	21~25℃
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	Hirem Shen

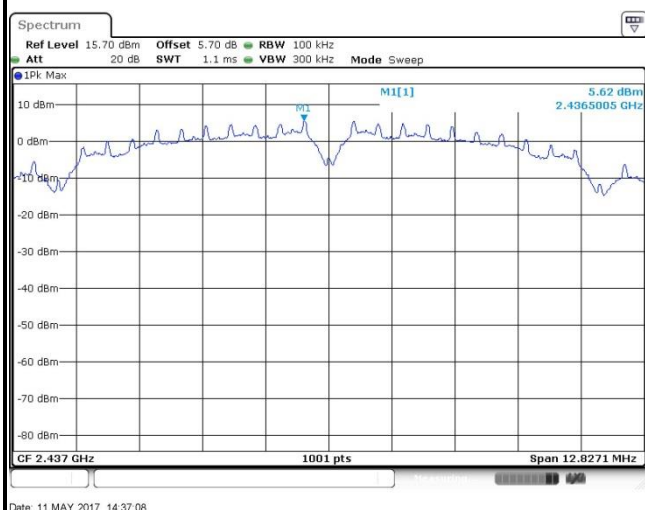




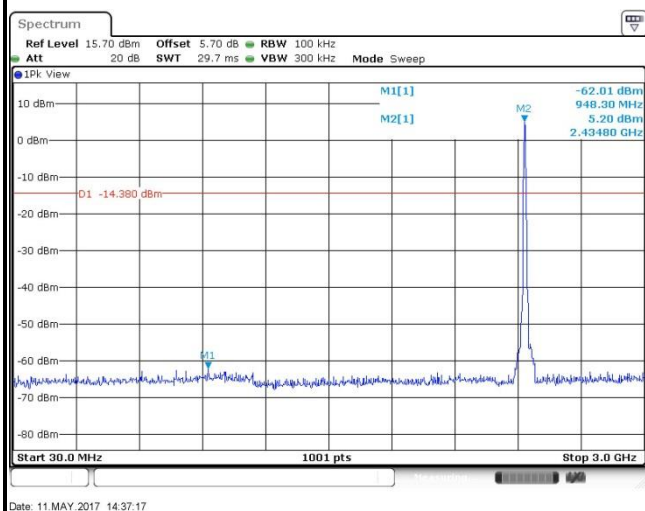
Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	Hirem Shen

WLAN 802.11b Channel 06

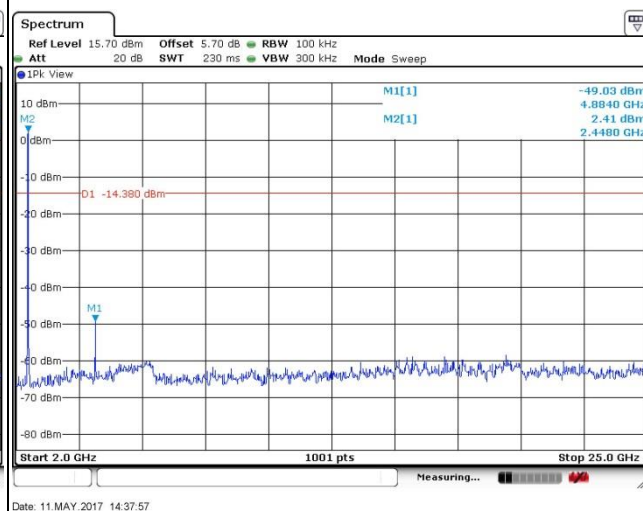
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

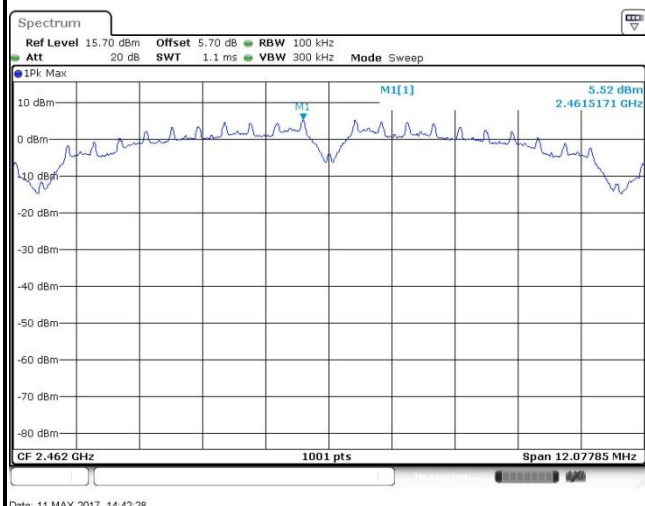




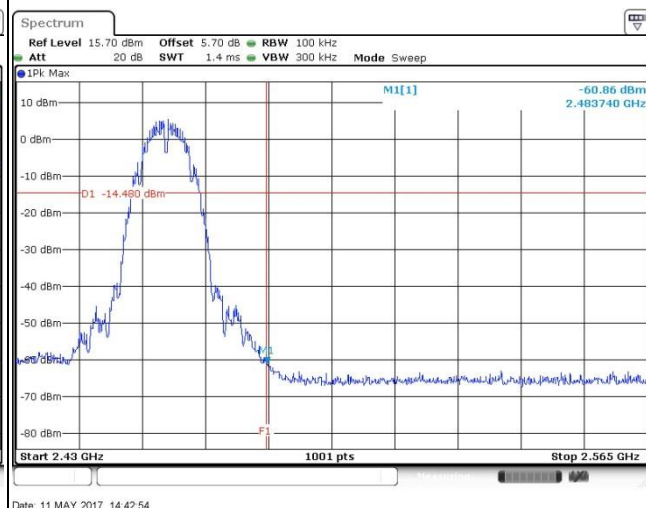
Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	Hirem Shen

WLAN 802.11b Channel 11

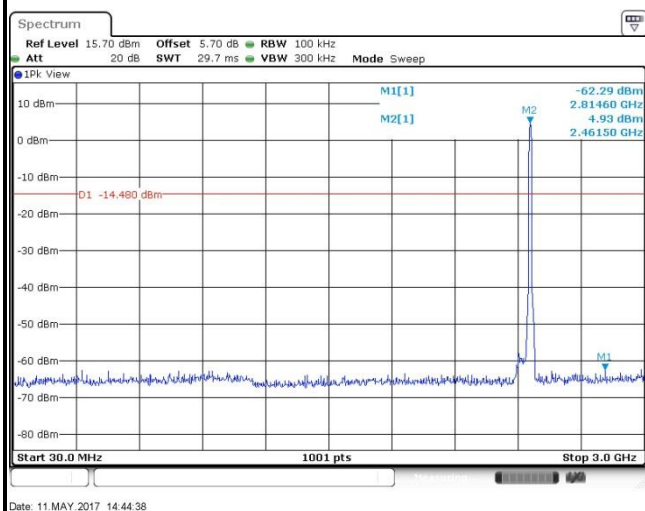
100kHz PSD reference Level



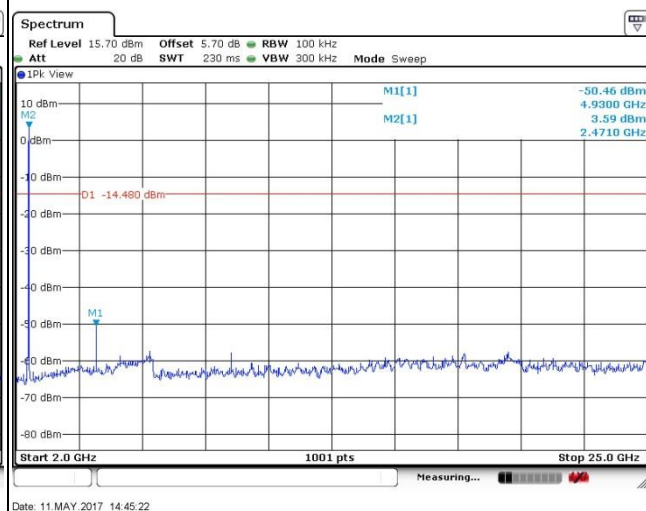
High Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

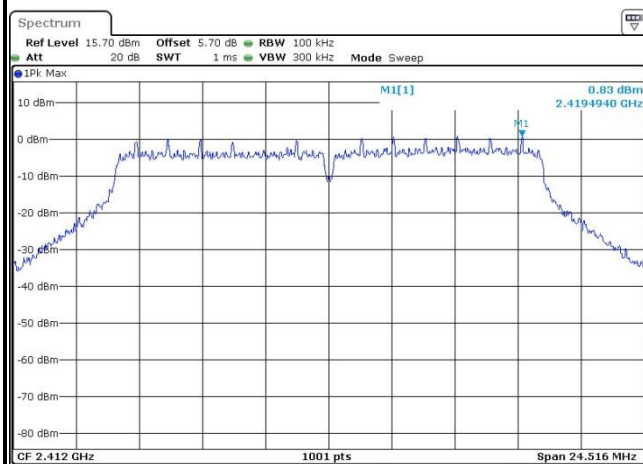




Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	Hirem Shen

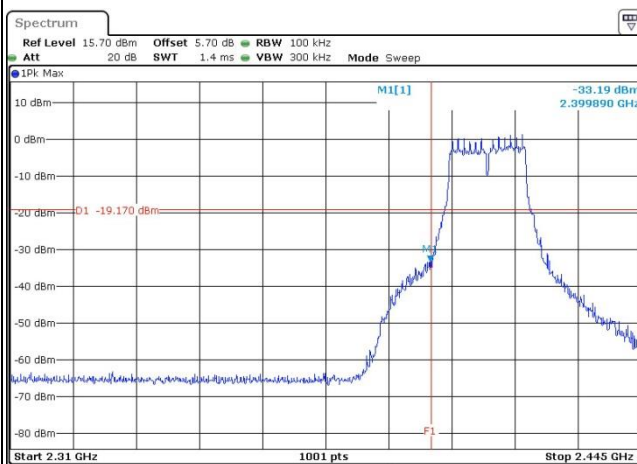
WLAN 802.11g Channel 01

100kHz PSD reference Level



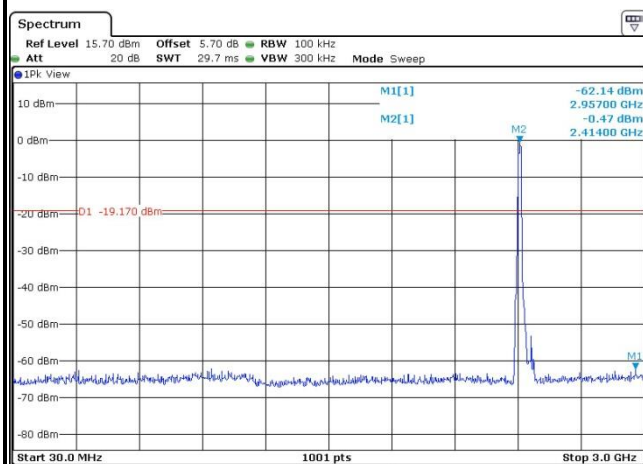
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Low Channel Plot



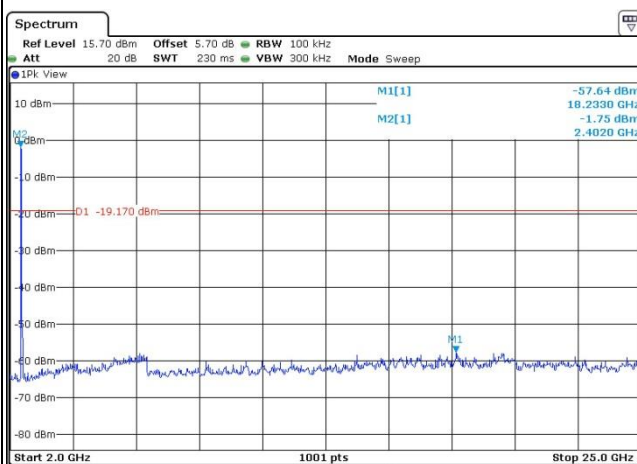
Date: 11.MAY.2017 14:49:03

Spurious Emission 30MHz~3GHz



Date: 11.MAY.2017 15:58:50

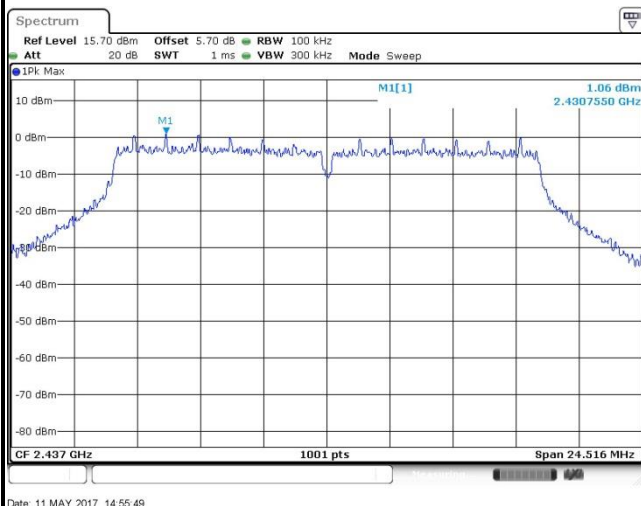
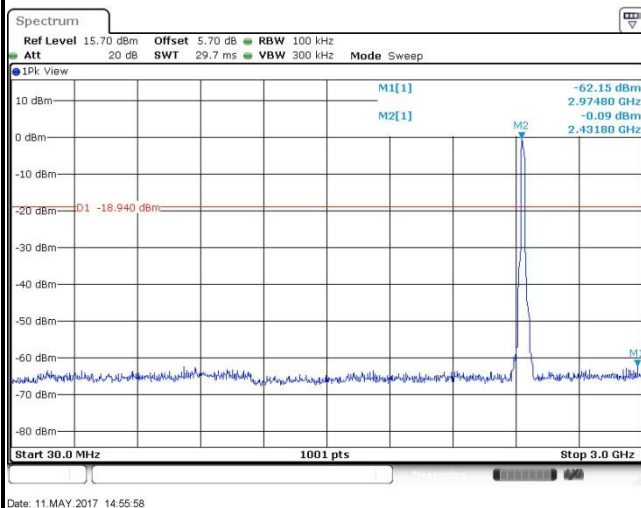
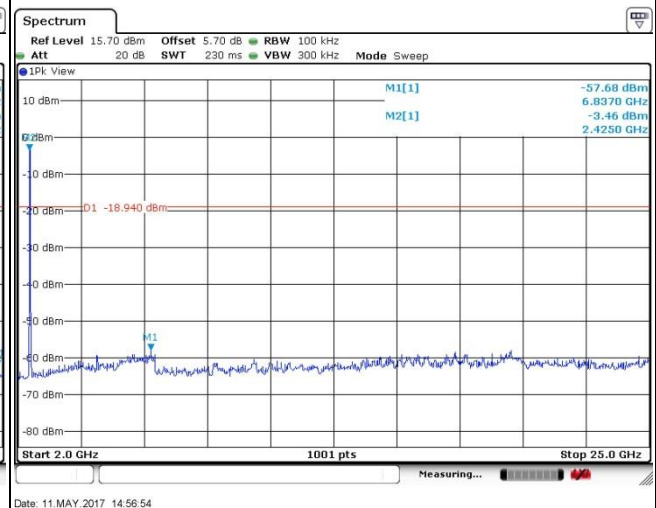
Spurious Emission 2GHz~25GHz



Date: 11.MAY.2017 14:52:08



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

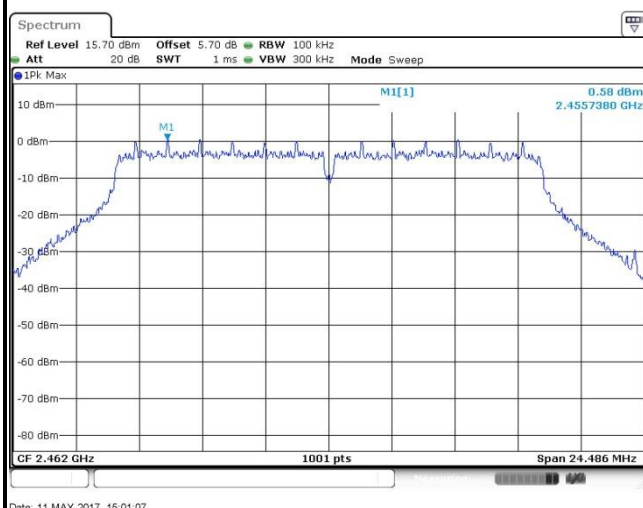
WLAN 802.11g Channel 06**100kHz PSD reference Level****Spurious Emission 30MHz~3GHz****Spurious Emission 2GHz~25GHz**



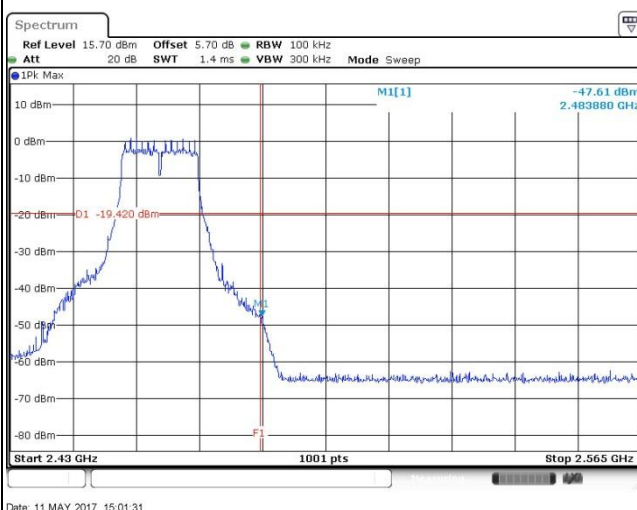
Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	Hirem Shen

WLAN 802.11g Channel 11

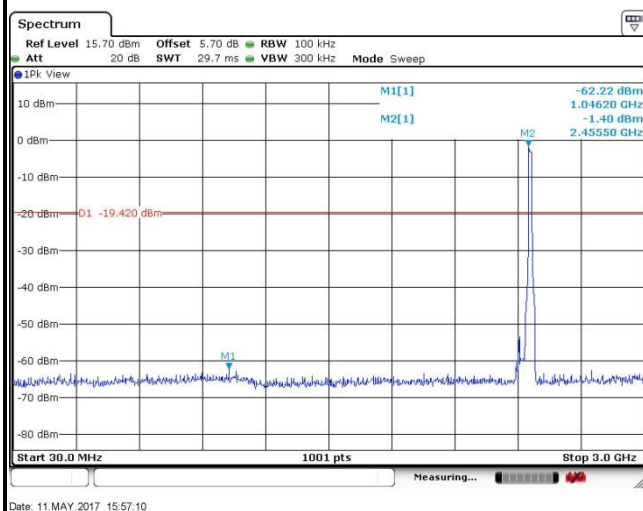
100kHz PSD reference Level



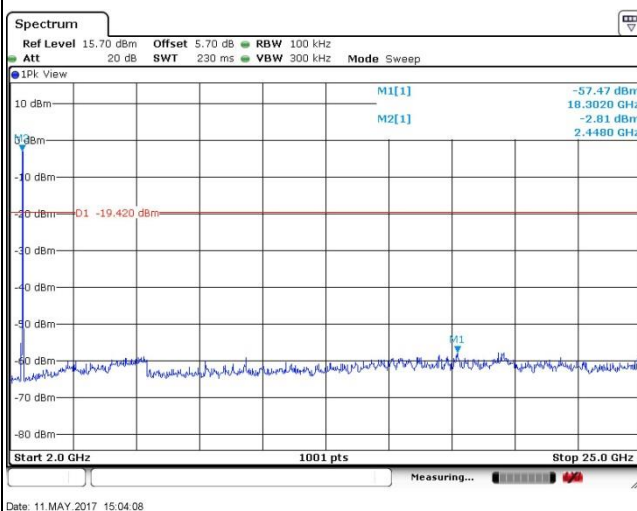
High Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

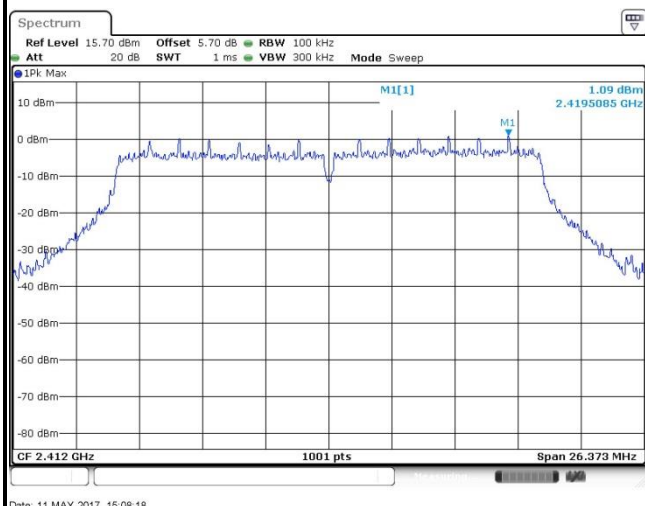




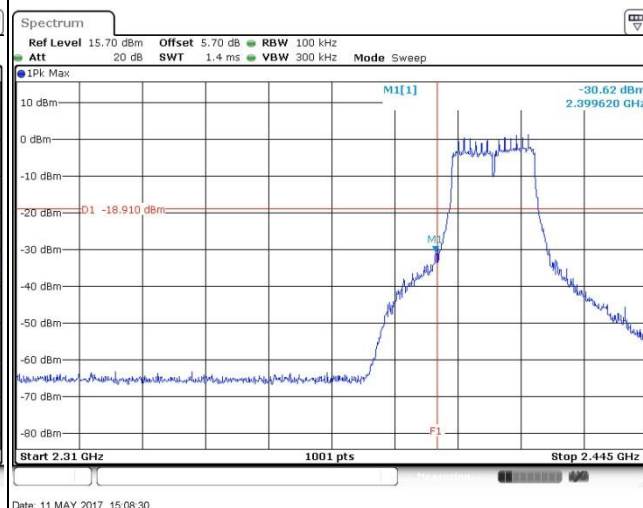
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	Hirem Shen

WLAN 802.11n HT20 Channel 01

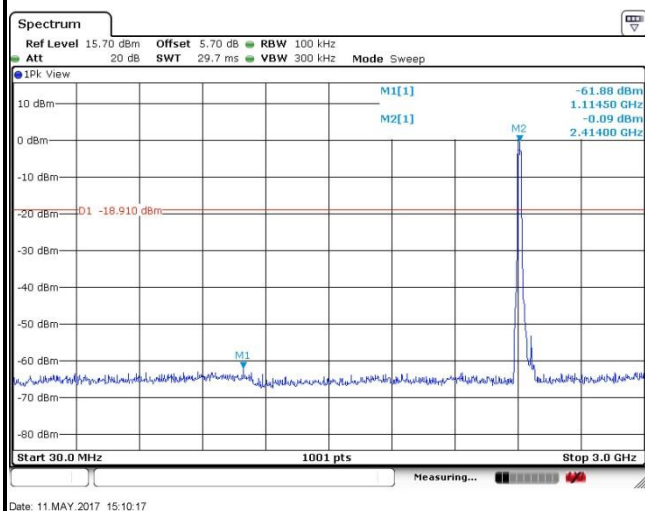
100kHz PSD reference Level



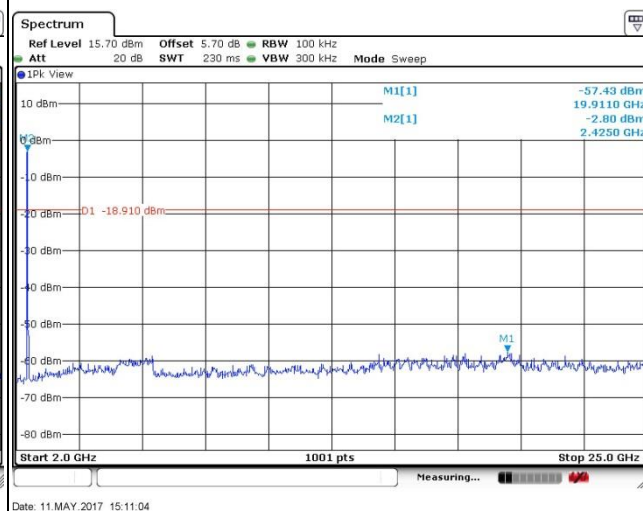
Low Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

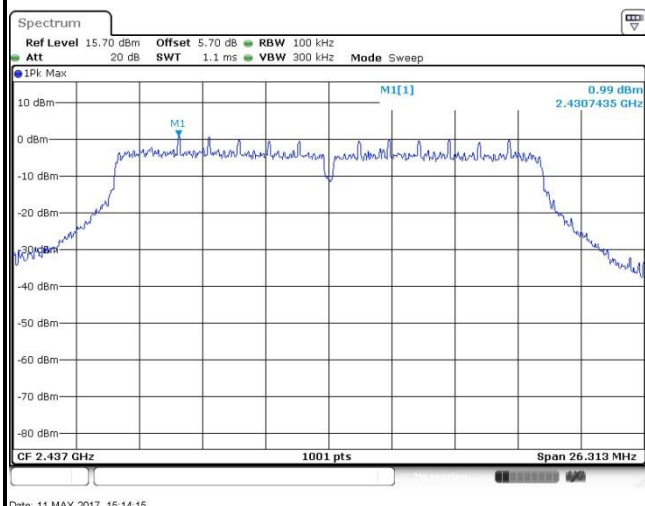




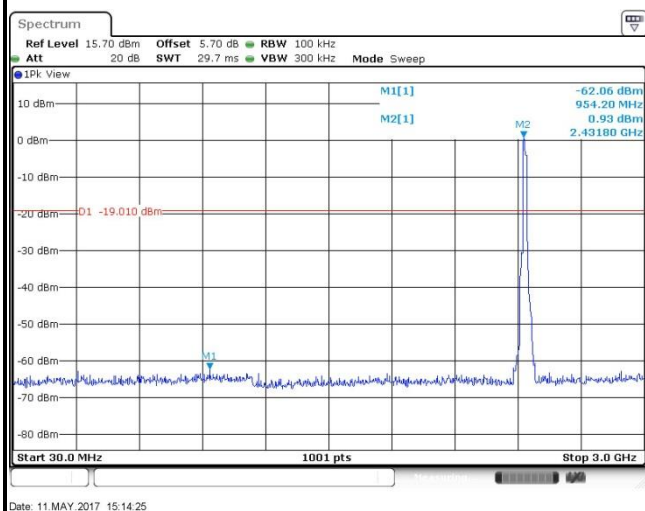
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	Hirem Shen

WLAN 802.11n HT20 Channel 06

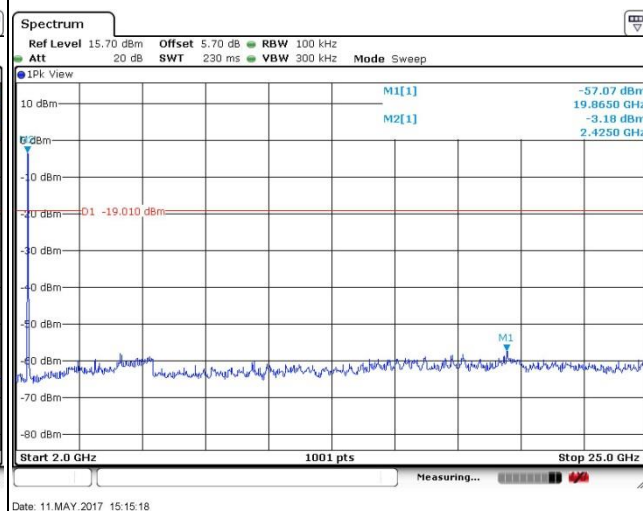
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

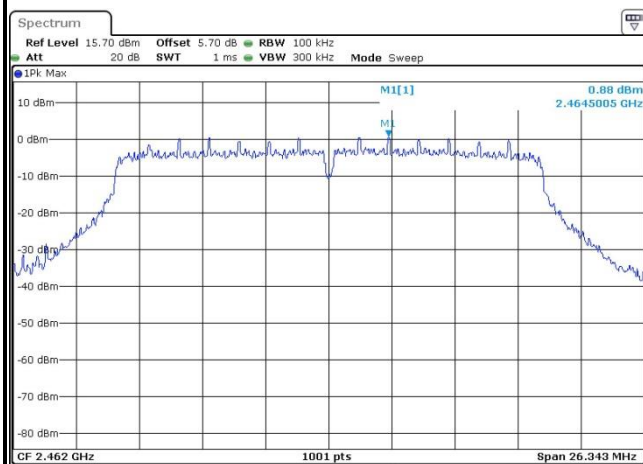




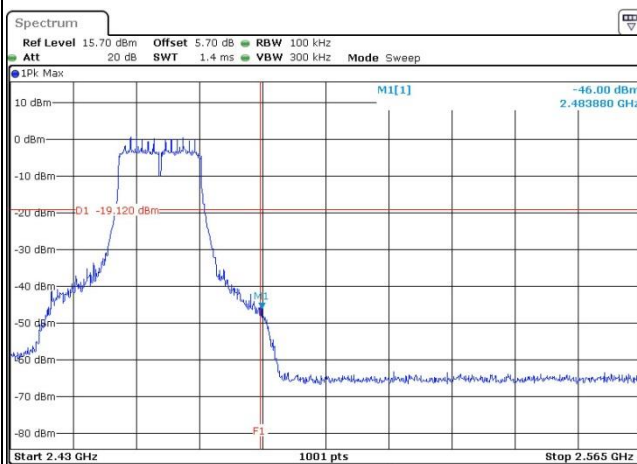
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	Hirem Shen

WLAN 802.11n HT20 Channel 11

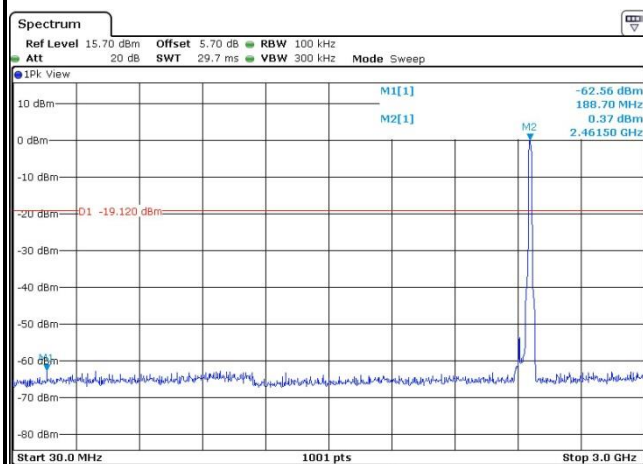
100kHz PSD reference Level



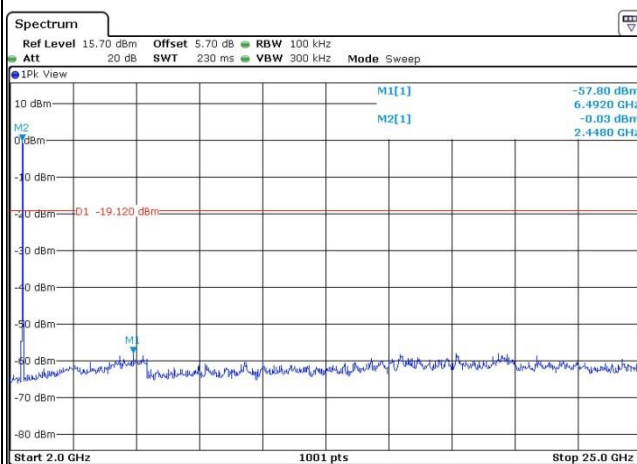
High Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz





3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

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



3.5.3 Test Procedures

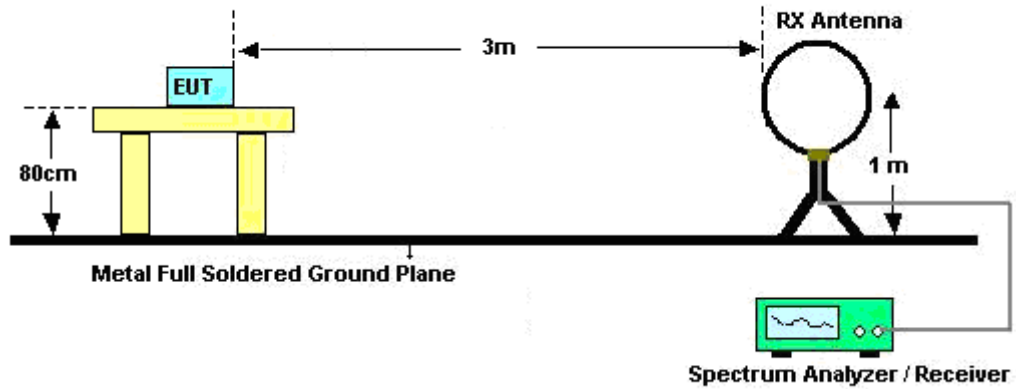
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For 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:

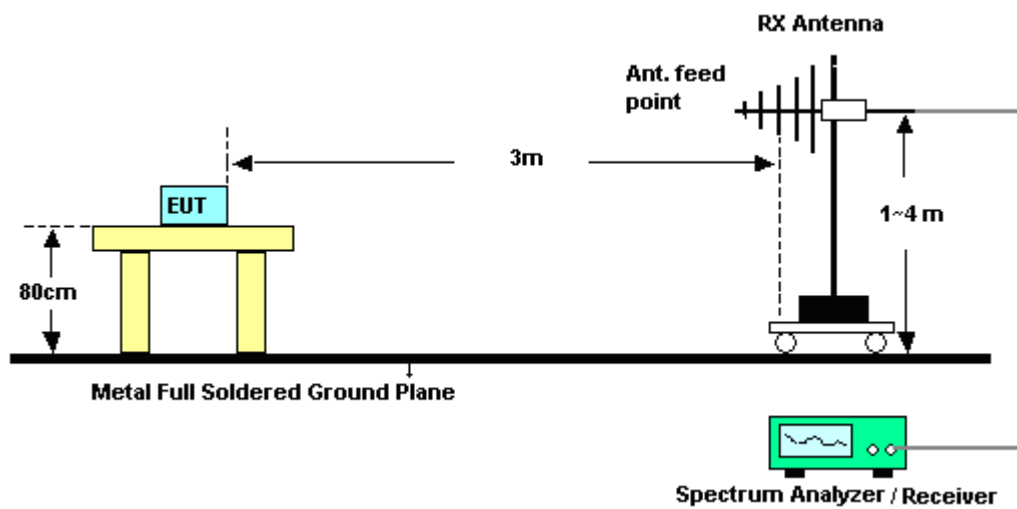
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

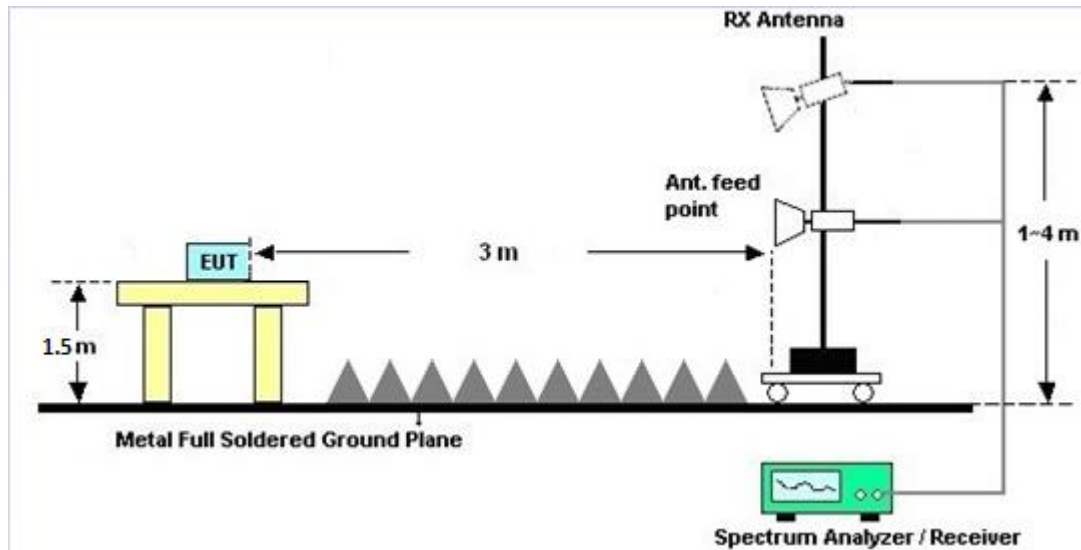
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.5.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

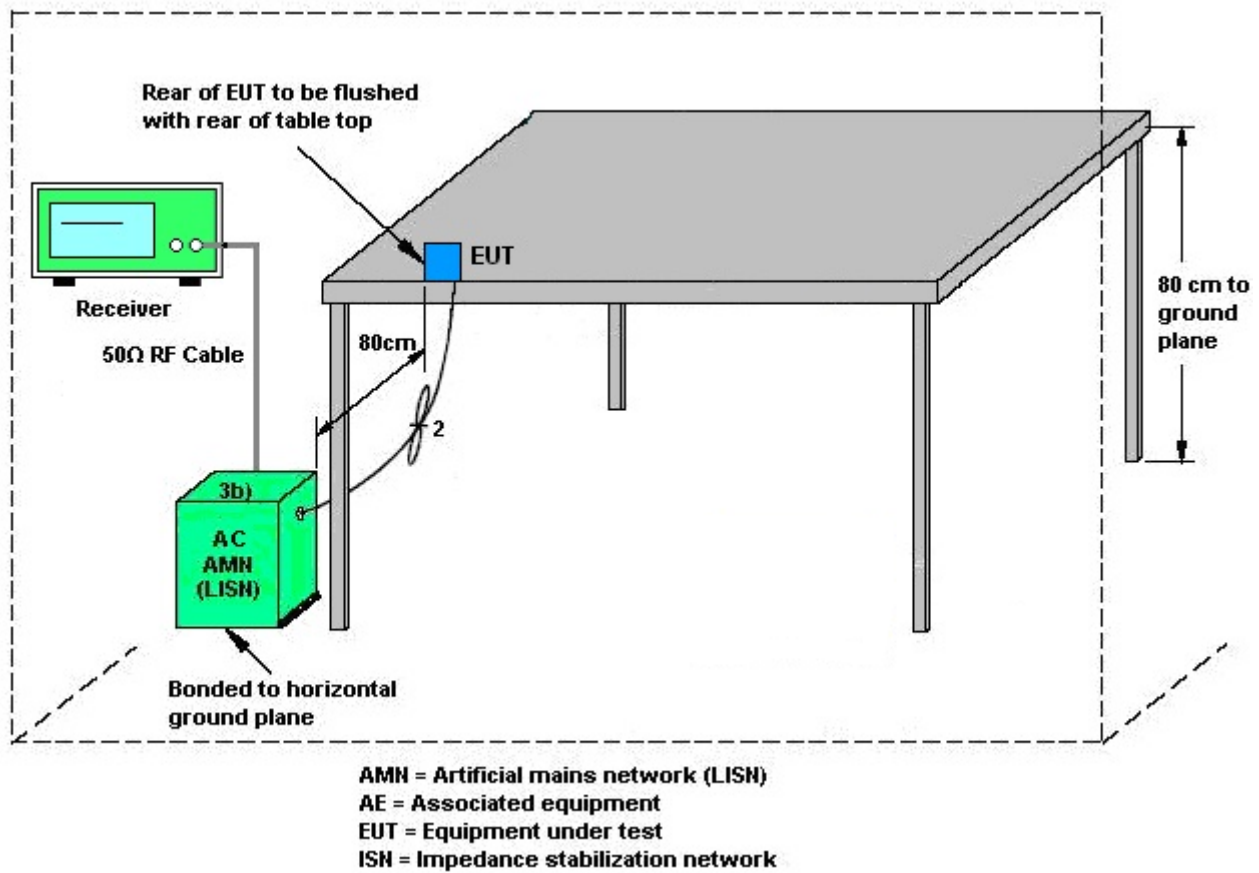
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. 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 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	FSP40	100319	9kHz~40GHz	Oct.13, 2016	May 11, 2017	Oct.13, 2017	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Aug. 09, 2016	May 11, 2017	Aug. 08, 2017	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 19, 2017	May 11, 2017	Jan. 19, 2018	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 19, 2017	May 11, 2017	Jan. 19, 2018	Conducted (TH01-KS)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Jan. 06, 2017	May 19, 2017	Jan. 05, 2018	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Jan. 05, 2017	May 19, 2017	Jan. 04, 2018	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103892	9kHz~30MHz	Jan. 05, 2017	May 19, 2017	Jan. 04, 2018	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 16, 2016	May 19, 2017	Jul. 15, 2017	Conduction (CO01-SZ)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct..22.2016	May 09, 2017 ~ May 11, 2017	Oct. 21, 2017	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 18, 2017	May 09, 2017 ~ May 11, 2017	Apr.17, 2018	Radiation (03CH03-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 23, 2016	May 09, 2017 ~ May 11, 2017	Nov.22, 2017	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 22, 2017	May 09, 2017 ~ May 11, 2017	Apr 21, 2018	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Apr. 22, 2017	May 09, 2017 ~ May 11, 2017	Apr 21, 2018	Radiation (03CH03-KS)
SHF-EHF Horn	com-power	AH-840	101070	18GHz ~40GHz	Oct. 19, 2016	May 09, 2017 ~ May 11, 2017	Oct. 18, 2017	Radiation (03CH03-KS)
Amplifier	com-power	PA-103A	161069	1MHz ~1000MHz / 32 dB	Apr 18, 2017	May 09, 2017 ~ May 11, 2017	Apr 17, 2018	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35-HG	1887435	18~40GHz	Oct. 13, 2016	May 09, 2017 ~ May 11, 2017	Oct. 12, 2017	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 13, 2016	May 09, 2017 ~ May 11, 2017	Oct. 12, 2017	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	May 09, 2017 ~ May 11, 2017	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	May 09, 2017 ~ May 11, 2017	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	May 09, 2017 ~ May 11, 2017	NCR	Radiation (03CH03-KS)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.5
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.6
---	-----

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.5
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

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

A1 - DTS Part

Test Engineer:	Hirem Shen	Temperature:	21~25	°C
Test Date:	2017/5/11	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band								
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	13.49	8.55	0.50	Pass
11b	1Mbps	1	6	2437	13.54	8.55	0.50	Pass
11b	1Mbps	1	11	2462	13.29	8.05	0.50	Pass
11g	6Mbps	1	1	2412	18.63	16.34	0.50	Pass
11g	6Mbps	1	6	2437	18.93	16.34	0.50	Pass
11g	6Mbps	1	11	2462	18.43	16.32	0.50	Pass
HT20	MCS0	1	1	2412	19.28	17.58	0.50	Pass
HT20	MCS0	1	6	2437	19.63	17.54	0.50	Pass
HT20	MCS0	1	11	2462	19.13	17.56	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	16.72	30.00	2.68	19.40	36.00	Pass
11b	1Mbps	1	6	2437	16.65	30.00	2.68	19.33	36.00	Pass
11b	1Mbps	1	11	2462	16.61	30.00	2.68	19.29	36.00	Pass
11g	6Mbps	1	1	2412	20.27	30.00	2.68	22.95	36.00	Pass
11g	6Mbps	1	6	2437	20.05	30.00	2.68	22.73	36.00	Pass
11g	6Mbps	1	11	2462	20.75	30.00	2.68	23.43	36.00	Pass
HT20	MCS0	1	1	2412	20.39	30.00	2.68	23.07	36.00	Pass
HT20	MCS0	1	6	2437	20.43	30.00	2.68	23.11	36.00	Pass
HT20	MCS0	1	11	2462	20.82	30.00	2.68	23.50	36.00	Pass

TEST RESULTS DATA
Average Power Table
(Reporting Only)

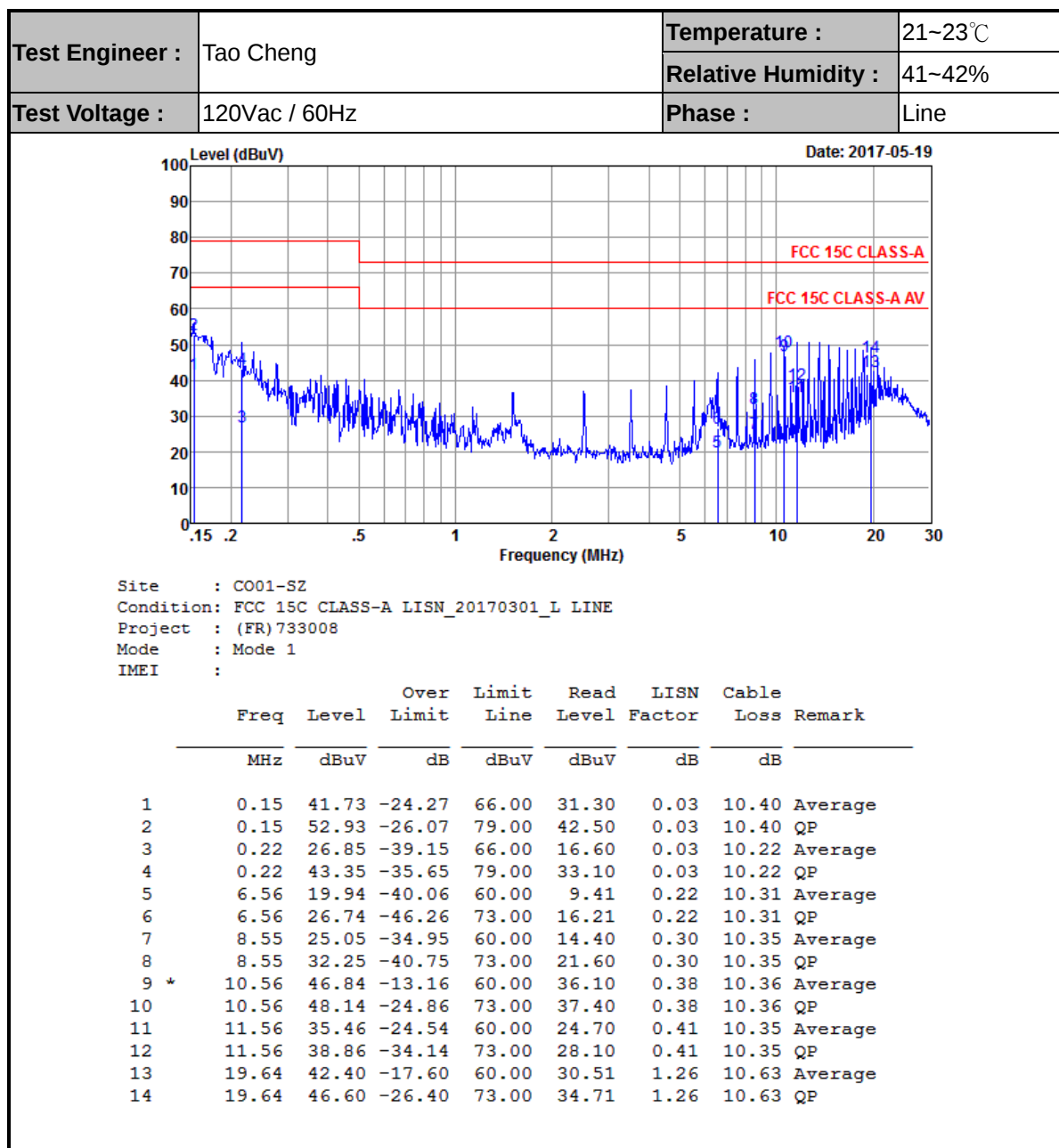
2.4GHz Band						
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)
11b	1Mbps	1	1	2412	0.11	14.12
11b	1Mbps	1	6	2437	0.11	14.04
11b	1Mbps	1	11	2462	0.11	13.97
11g	6Mbps	1	1	2412	0.58	11.81
11g	6Mbps	1	6	2437	0.58	11.74
11g	6Mbps	1	11	2462	0.58	11.93
HT20	MCS0	1	1	2412	0.62	11.87
HT20	MCS0	1	6	2437	0.62	11.90
HT20	MCS0	1	11	2462	0.62	11.94

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	-8.90	2.68	8.00	Pass
11b	1Mbps	1	6	2437	-7.84	2.68	8.00	Pass
11b	1Mbps	1	11	2462	-7.91	2.68	8.00	Pass
11g	6Mbps	1	1	2412	-12.72	2.68	8.00	Pass
11g	6Mbps	1	6	2437	-13.27	2.68	8.00	Pass
11g	6Mbps	1	11	2462	-13.35	2.68	8.00	Pass
HT20	MCS0	1	1	2412	-14.08	2.68	8.00	Pass
HT20	MCS0	1	6	2437	-12.26	2.68	8.00	Pass
HT20	MCS0	1	11	2462	-13.73	2.68	8.00	Pass

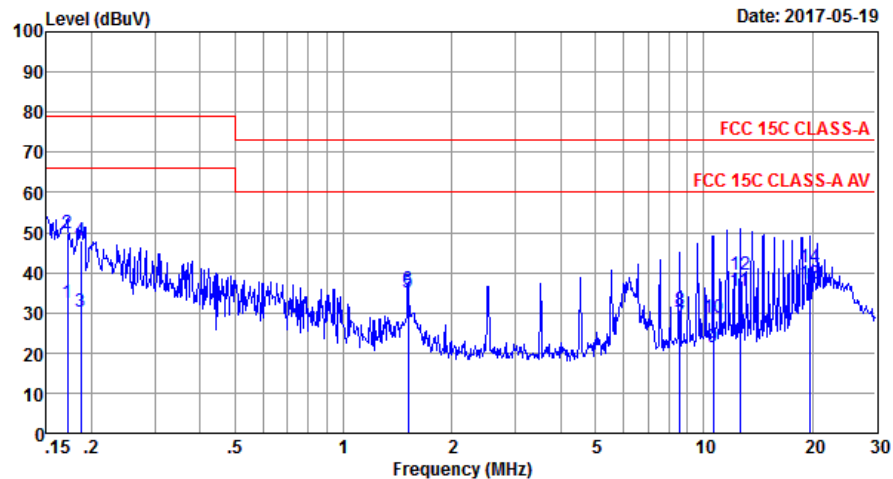


Appendix B. AC Conducted Emission Test Results





Test Engineer :	Tao Cheng	Temperature :	21~23°C
		Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Site : C001-SZ
Condition: FCC 15C CLASS-A LISN_20170301_N NEUTRAL
Project : (FR)733008
Mode : Mode 1
IMEI :

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.17	32.65	-33.35	66.00	22.30	0.03	10.32	Average
2	0.17	49.65	-29.35	79.00	39.30	0.03	10.32	QP
3	0.19	30.30	-35.70	66.00	20.00	0.03	10.27	Average
4	0.19	47.80	-31.20	79.00	37.50	0.03	10.27	QP
5	1.51	34.91	-25.09	60.00	24.70	0.05	10.16	Average
6	1.51	35.91	-37.09	73.00	25.70	0.05	10.16	QP
7	8.59	27.37	-32.63	60.00	16.90	0.12	10.35	Average
8	8.59	30.47	-42.53	73.00	20.00	0.12	10.35	QP
9	10.62	21.35	-38.65	60.00	10.81	0.18	10.36	Average
10	10.62	28.65	-44.35	73.00	18.11	0.18	10.36	QP
11	12.58	35.49	-24.51	60.00	24.89	0.26	10.34	Average
12	12.58	39.49	-33.51	73.00	28.89	0.26	10.34	QP
13 *	19.64	37.10	-22.90	60.00	25.90	0.57	10.63	Average
14	19.64	41.30	-31.70	73.00	30.10	0.57	10.63	QP



Appendix C. Radiated Spurious Emission

Test Engineer :	Rich Sun	Temperature :	21~22°C
		Relative Humidity :	41~42%

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		2377.21	49.59	-24.41	74	54.44	26.16	5.45	36.46	100	150	P	H
		2389.82	39.04	-14.96	54	43.69	26.3	5.47	36.42	100	150	A	H
	*	2414	100.94	-	-	105.64	26.26	5.47	36.43	100	150	P	H
	*	2414	97.98	-	-	102.68	26.26	5.47	36.43	100	150	A	H
													H
													H
		2332.75	50.28	-23.72	74	55.74	25.75	5.39	36.6	256	100	P	V
		2388.39	39.05	-14.95	54	43.7	26.3	5.47	36.42	256	100	A	V
	*	2412	101.25	-	-	105.95	26.26	5.47	36.43	256	100	P	V
	*	2414	97.99	-	-	102.69	26.26	5.47	36.43	256	100	A	V
													V
													V
802.11b CH 06 2437MHz		2389.69	54.53	-19.47	74	59.18	26.3	5.47	36.42	302	12	P	H
		2389.56	39	-15	54	43.65	26.3	5.47	36.42	302	12	A	H
	*	2436	103.98	-	-	108.73	26.21	5.48	36.44	302	12	P	H
	*	2436	100.82	-	-	105.57	26.21	5.48	36.44	302	12	A	H
		2491.36	49.64	-24.36	74	54.56	26.04	5.52	36.48	302	12	P	H
		2483.68	39.04	-14.96	54	43.91	26.09	5.51	36.47	302	12	A	H
		2376.3	49.44	-24.56	74	54.29	26.16	5.45	36.46	307	252	P	V
		2389.56	38.93	-15.07	54	43.58	26.3	5.47	36.42	307	252	A	V
	*	2436	101.63	-	-	106.38	26.21	5.48	36.44	307	252	P	V
	*	2436	98.23	-	-	102.98	26.21	5.48	36.44	307	252	A	V
		2483.74	49.27	-24.73	74	54.14	26.09	5.51	36.47	307	252	P	V
		2484.1	38.89	-15.11	54	43.76	26.09	5.51	36.47	307	252	A	V



802.11b CH 11 2462MHz	*	2462	104.05	-	-	108.88	26.13	5.5	36.46	297	14	P	H
	*	2462	100.73	-	-	105.56	26.13	5.5	36.46	297	14	A	H
		2498.68	49.85	-24.15	74	54.77	26.04	5.52	36.48	297	14	P	H
		2484.04	39.39	-14.61	54	44.26	26.09	5.51	36.47	297	14	A	H
													H
													H
	*	2462	101.06	-	-	105.89	26.13	5.5	36.46	300	252	P	V
	*	2462	97.83	-	-	102.66	26.13	5.5	36.46	300	252	A	V
		2484.58	49.65	-24.35	74	54.52	26.09	5.51	36.47	300	252	P	V
		2483.86	39.09	-14.91	54	43.96	26.09	5.51	36.47	300	252	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	43.21	-30.79	74	41.19	30.81	7.72	36.51	100	0	P	H
													H
													H
													H
		4824	45.8	-28.2	74	43.78	30.81	7.72	36.51	300	360	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4872	43.08	-30.92	74	40.88	30.97	7.76	36.53	100	0	P	H
		7308	46.48	-27.52	74	37.94	35.03	9.76	36.25	100	0	P	H
													H
													H
		4872	47.73	-26.27	74	45.53	30.97	7.76	36.53	300	360	P	V
		7308	47.41	-26.59	74	38.87	35.03	9.76	36.25	300	360	P	V
													V
													V
802.11b CH 11 2462MHz		4924	42.98	-31.02	74	40.61	31.13	7.8	36.56	100	360	P	H
		7386	46.87	-27.13	74	38	35.29	9.86	36.28	100	360	P	H
													H
													H
		4926	45.78	-28.22	74	43.41	31.13	7.8	36.56	300	0	P	V
		7386	48.85	-25.15	74	39.98	35.29	9.86	36.28	300	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.82	60.59	-13.41	74	65.24	26.3	5.47	36.42	313	9	P	H
		2389.95	45.06	-8.94	54	49.71	26.3	5.47	36.42	313	9	A	H
	*	2420	103.27	-	-	108.02	26.21	5.48	36.44	313	9	P	H
	*	2418	95.48	-	-	100.18	26.26	5.47	36.43	313	9	A	H
													H
													H
		2389.95	60.69	-13.31	74	65.34	26.3	5.47	36.42	329	250	P	V
		2389.82	43.55	-10.45	54	48.2	26.3	5.47	36.42	329	250	A	V
	*	2414	101.71	-	-	106.41	26.26	5.47	36.43	329	250	P	V
	*	2408	93.25	-	-	97.95	26.26	5.47	36.43	329	250	A	V
													V
													V
802.11g CH 06 2437MHz		2380.72	50	-24	74	54.85	26.16	5.45	36.46	310	9	P	H
		2388.39	39.37	-14.63	54	44.02	26.3	5.47	36.42	310	9	A	H
	*	2430	104.06	-	-	108.81	26.21	5.48	36.44	310	9	P	H
	*	2430	96.35	-	-	101.1	26.21	5.48	36.44	310	9	A	H
		2483.92	49.73	-24.27	74	54.6	26.09	5.51	36.47	310	9	P	H
		2485	39.38	-14.62	54	44.25	26.09	5.51	36.47	310	9	A	H
		2336.65	49.33	-24.67	74	54.58	25.89	5.41	36.55	317	251	P	V
		2384.49	39.16	-14.84	54	44.01	26.16	5.45	36.46	317	251	A	V
	*	2430	101.42	-	-	106.17	26.21	5.48	36.44	317	251	P	V
	*	2430	93.76	-	-	98.51	26.21	5.48	36.44	317	251	A	V
		2483.86	49.51	-24.49	74	54.38	26.09	5.51	36.47	317	251	P	V
		2485.06	39.04	-14.96	54	43.91	26.09	5.51	36.47	317	251	A	V



802.11g CH 11 2462MHz	*	2462	104.44	-	-	109.27	26.13	5.5	36.46	300	10	P	H
	*	2460	96.47	-	-	101.3	26.13	5.5	36.46	300	10	A	H
		2483.92	63	-11	74	67.87	26.09	5.51	36.47	300	10	P	H
		2483.51	47.54	-6.46	54	52.41	26.09	5.51	36.47	300	10	A	H
													H
													H
	*	2460	101.06	-	-	105.89	26.13	5.5	36.46	306	261	P	V
	*	2464	93.24	-	-	98.07	26.13	5.5	36.46	306	261	A	V
		2483.62	59.9	-14.1	74	64.77	26.09	5.51	36.47	306	261	P	V
		2483.62	45.4	-8.6	54	50.27	26.09	5.51	36.47	306	261	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	41.89	-32.11	74	39.87	30.81	7.72	36.51	300	360	P	H
													H
													H
													H
		4824	42.21	-31.79	74	40.19	30.81	7.72	36.51	300	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4874	42.53	-31.47	74	40.33	30.97	7.76	36.53	300	360	P	H
		7308	47.1	-26.9	74	38.56	35.03	9.76	36.25	300	360	P	H
													H
													H
		4872	43.64	-30.36	74	41.44	30.97	7.76	36.53	300	0	P	V
		7311	47.85	-26.15	74	39.31	35.03	9.76	36.25	300	0	P	V
													V
													V
802.11g CH 11 2462MHz		4926	42.95	-31.05	74	40.58	31.13	7.8	36.56	300	0	P	H
		7386	48.01	-25.99	74	39.14	35.29	9.86	36.28	300	0	P	H
													H
													H
		4924	43.77	-30.23	74	41.4	31.13	7.8	36.56	300	360	P	V
		7386	47.77	-26.23	74	38.9	35.29	9.86	36.28	300	360	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		2389.95	64.85	-9.15	74	69.5	26.3	5.47	36.42	316	10	P	H
		2389.82	46.36	-7.64	54	51.01	26.3	5.47	36.42	316	10	A	H
	*	2420	102.61	-	-	107.36	26.21	5.48	36.44	316	10	P	H
	*	2420	94.84	-	-	99.59	26.21	5.48	36.44	316	10	A	H
													H
													H
		2389.95	61.78	-12.22	74	66.43	26.3	5.47	36.42	316	252	P	V
		2389.95	45.01	-8.99	54	49.66	26.3	5.47	36.42	316	252	A	V
	*	2418	101.05	-	-	105.75	26.26	5.47	36.43	316	252	P	V
	*	2420	93.15	-	-	97.9	26.21	5.48	36.44	316	252	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2388.65	49.61	-24.39	74	54.26	26.3	5.47	36.42	307	11	P	H
		2385.53	39.71	-14.29	54	44.36	26.3	5.47	36.42	307	11	A	H
	*	2432	103.98	-	-	108.73	26.21	5.48	36.44	307	11	P	H
	*	2430	96.01	-	-	100.76	26.21	5.48	36.44	307	11	A	H
		2485.6	49.78	-24.22	74	54.65	26.09	5.51	36.47	307	11	P	H
		2484.1	39.72	-14.28	54	44.59	26.09	5.51	36.47	307	11	A	H
		2364.99	49.86	-24.14	74	54.91	26.03	5.43	36.51	302	251	P	V
		2389.82	39.42	-14.58	54	44.07	26.3	5.47	36.42	302	251	A	V
	*	2430	101.68	-	-	106.43	26.21	5.48	36.44	302	251	P	V
	*	2430	93.67	-	-	98.42	26.21	5.48	36.44	302	251	A	V
		2488.84	49.18	-24.82	74	54.1	26.04	5.52	36.48	302	251	P	V
		2484.7	39.12	-14.88	54	43.99	26.09	5.51	36.47	302	251	A	V



802.11n HT20 CH 11 2462MHz	*	2460	103.71	-	-	108.54	26.13	5.5	36.46	302	10	P	H
	*	2460	96.07	-	-	100.9	26.13	5.5	36.46	302	10	A	H
		2483.8	64.58	-9.42	74	69.45	26.09	5.51	36.47	302	10	P	H
	!	2483.56	48.89	-5.11	54	53.76	26.09	5.51	36.47	302	10	A	H
													H
													H
	*	2462	100.77	-	-	105.6	26.13	5.5	36.46	303	250	P	V
	*	2460	92.4	-	-	97.23	26.13	5.5	36.46	303	250	A	V
		2485.06	61.02	-12.98	74	65.89	26.09	5.51	36.47	303	250	P	V
		2483.62	45.89	-8.11	54	50.76	26.09	5.51	36.47	303	250	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	41.4	-32.6	74	39.38	30.81	7.72	36.51	100	360	P	H
													H
													H
													H
		4824	42.36	-31.64	74	40.34	30.81	7.72	36.51	300	360	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4872	42.38	-31.62	74	40.18	30.97	7.76	36.53	100	360	P	H
		7311	47.41	-26.59	74	38.87	35.03	9.76	36.25	100	360	P	H
													H
													H
		4874	43.48	-30.52	74	41.28	30.97	7.76	36.53	300	360	P	V
		7308	47.69	-26.31	74	39.15	35.03	9.76	36.25	300	360	P	V
													V
													V
802.11n HT20 CH 11 2462MHz		4926	42.06	-31.94	74	39.69	31.13	7.8	36.56	100	360	P	H
		7386	48.8	-25.2	74	39.93	35.29	9.86	36.28	100	360	P	H
													H
													H
		4924	42.69	-31.31	74	40.32	31.13	7.8	36.56	300	360	P	V
		7386	48.08	-25.92	74	39.21	35.29	9.86	36.28	300	360	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
2.4GHz 802.11n HT20 LF		34.85	34.35	-5.65	40	39.58	25.5	0.62	31.35			P	H
		128.94	37.92	-5.58	43.5	49.85	18.31	1.26	31.5			P	H
		155.13	38.49	-5.01	43.5	50.92	17.69	1.43	31.55			P	H
		210.42	36.78	-6.72	43.5	50.42	16.08	1.76	31.48			P	H
		364.65	40.53	-5.47	46	47.94	21.85	1.97	31.23			P	H
		685.72	41.95	-4.05	46	43.67	26.35	3	31.07	100	56	P	H
													H
													H
													H
													H
													H
													H
		55.22	36.12	-3.88	40	51.33	14.9	1.29	31.4			P	V
		110.51	37.56	-5.94	43.5	48.8	18.68	1.54	31.46			P	V
		145.43	39.7	-3.8	43.5	51.89	17.98	1.37	31.54	100	20	P	V
		312.27	37.41	-8.59	46	47.25	19.59	1.9	31.33			P	V
		354.95	40.18	-5.82	46	47.99	21.48	1.93	31.22			P	V
		486.87	39.81	-6.19	46	44.71	23.86	2.49	31.25			P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Emission below 1GHz

Note symbol

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

$$1. \text{ Level(dB}\mu\text{V/m)} =$$

$$\text{Antenna Factor(dB/m)} + \text{Cable Loss(dB)} + \text{Read Level(dB}\mu\text{V)} - \text{Preamp Factor(dB)}$$

$$2. \text{ Over Limit(dB)} = \text{Level(dB}\mu\text{V/m)} - \text{Limit Line(dB}\mu\text{V/m)}$$

For Peak Limit @ 2390MHz:

$$1. \text{ Level(dB}\mu\text{V/m)}$$

$$= \text{Antenna Factor(dB/m)} + \text{Cable Loss(dB)} + \text{Read Level(dB}\mu\text{V)} - \text{Preamp Factor(dB)}$$

$$= 32.22(\text{dB/m}) + 4.58(\text{dB}) + 54.51(\text{dB}\mu\text{V}) - 35.86(\text{dB})$$

$$= 55.45(\text{dB}\mu\text{V/m})$$

$$2. \text{ Over Limit(dB)}$$

$$= \text{Level(dB}\mu\text{V/m)} - \text{Limit Line(dB}\mu\text{V/m)}$$

$$= 55.45(\text{dB}\mu\text{V/m}) - 74(\text{dB}\mu\text{V/m})$$

$$= -18.55(\text{dB})$$

For Average Limit @ 2390MHz:

$$1. \text{ Level(dB}\mu\text{V/m)}$$

$$= \text{Antenna Factor(dB/m)} + \text{Cable Loss(dB)} + \text{Read Level(dB}\mu\text{V)} - \text{Preamp Factor(dB)}$$

$$= 32.22(\text{dB/m}) + 4.58(\text{dB}) + 42.6(\text{dB}\mu\text{V}) - 35.86(\text{dB})$$

$$= 43.54(\text{dB}\mu\text{V/m})$$

$$2. \text{ Over Limit(dB)}$$

$$= \text{Level(dB}\mu\text{V/m)} - \text{Limit Line(dB}\mu\text{V/m)}$$

$$= 43.54(\text{dB}\mu\text{V/m}) - 54(\text{dB}\mu\text{V/m})$$

$$= -10.46(\text{dB})$$

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



Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Rich Sun	Temperature :	21~22°C
		Relative Humidity :	41~42%

Note symbol

-L	Low channel location
-R	High channel location

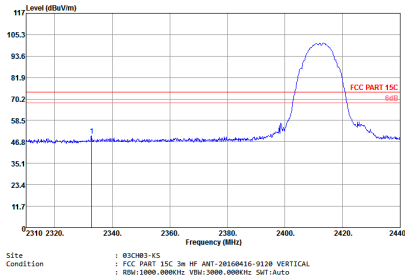
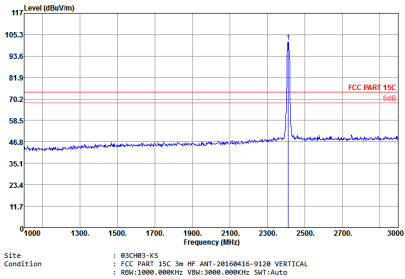
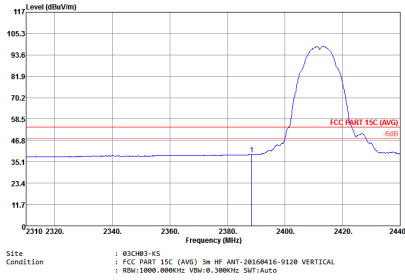
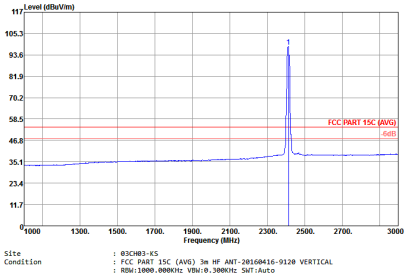


2.4GHz 2400~2483.5MHz

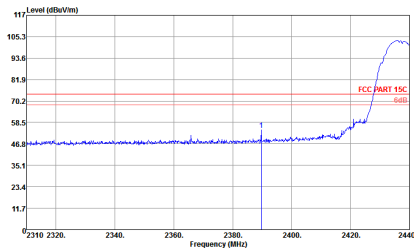
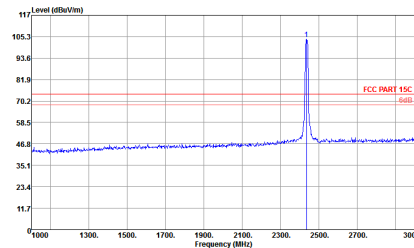
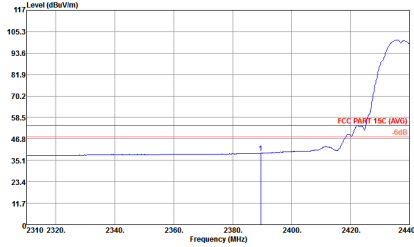
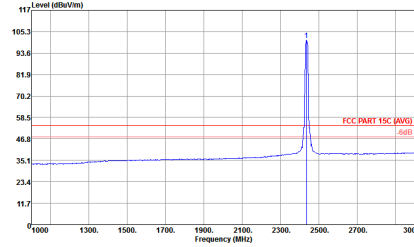
WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak	Site Condition : 83CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SMT:Auto	Site Condition : 83CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SMT:Auto
Avg.	Site Condition : 83CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VBW:0.300KHz SMT:Auto	Site Condition : 83CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VBW:0.300KHz SMT:Auto

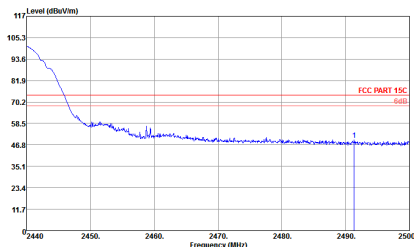
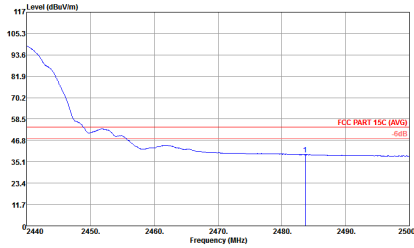


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RSM:1000.0000Hz VSW:0.0000Hz SMT:Auto	 Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RSM:1000.0000Hz VSW:0.0000Hz SMT:Auto
Avg.	 Site Condition : 03CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RSM:1000.0000Hz VSW:0.0000Hz SMT:Auto	 Site Condition : 03CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RSM:1000.0000Hz VSW:0.0000Hz SMT:Auto

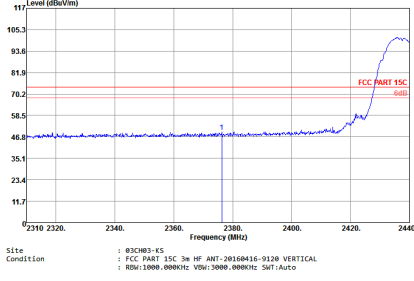
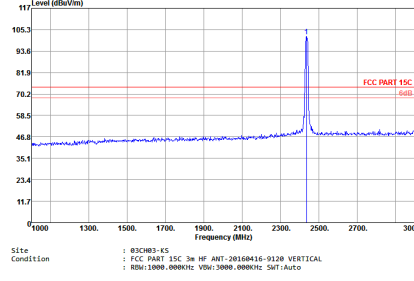
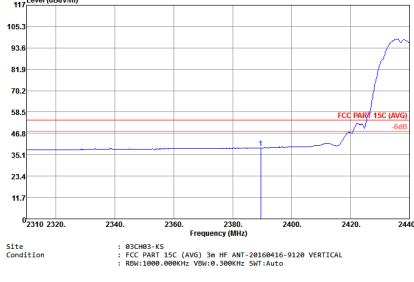
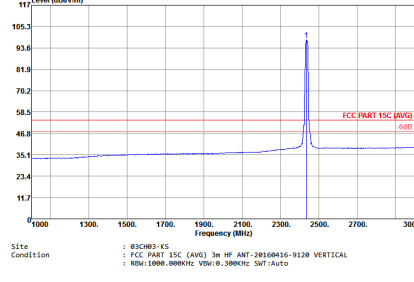


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 83CH83-KS Condition : FCC PART 15C 3m HF ANT-20160416-9120 HORIZONTAL : RSM:1000.000KHz VSW:3.000 000KHz SMT:Auto	 Site : 83CH83-KS Condition : FCC PART 15C 3m HF ANT-20160416-9120 HORIZONTAL : RSM:1000.000KHz VSW:3.000 000KHz SMT:Auto
Avg.	 Site : 83CH83-KS Condition : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 HORIZONTAL : RSM:1000.000KHz VSW:3.000KHz SMT:Auto	 Site : 83CH83-KS Condition : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 HORIZONTAL : RSM:1000.000KHz VSW:3.000KHz SMT:Auto

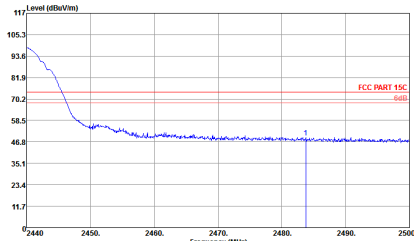
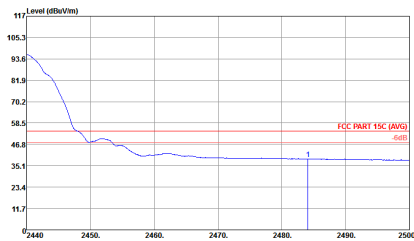


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak	 Site Condition : 802.11b-ES : FCC PART 15C 3e HF ANT-2016M416-9120 HORIZONTAL : RDM:1000.000KHz VSW:2.000 000KHz SWT:Auto	Left blank
Avg.	 Site Condition : 802.11b-ES : FCC PART 15C (AVG) 3e HF ANT-2016M416-9120 HORIZONTAL : RDM:1000.000KHz VSW:2.000 000KHz SWT:Auto	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	 Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:3.000 000Hz SMT:Auto	 Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:3.000 000Hz SMT:Auto
Avg.	 Site Condition : 03CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:0.300KHz SMT:Auto	 Site Condition : 03CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:0.300KHz SMT:Auto

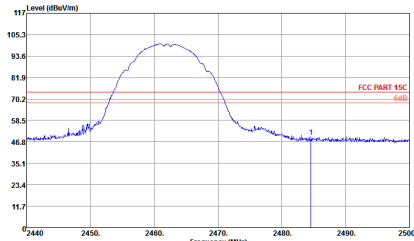
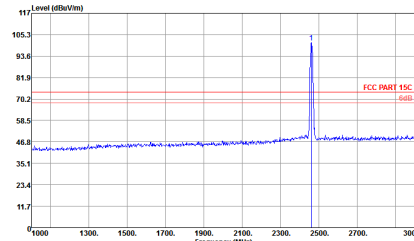
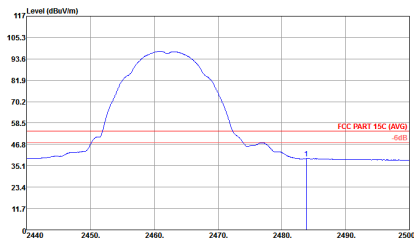
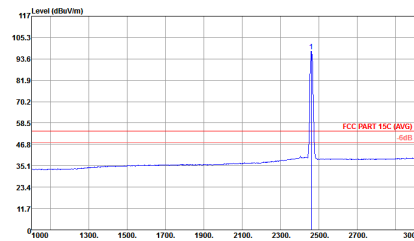


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	 Site Condition : 802.11b-ES : FCC PART 15C 3m HF ANT-2016M16-9120 VERTICAL : RDM:1000.000KHz VSW:3.000 0000Hz SWT:Auto	Left blank
Avg.	 Site Condition : 802.11b-ES : FCC PART 15C (AVG) 3m HF ANT-2016M16-9120 VERTICAL : RDM:1000.000KHz VSW:3.000 0000Hz SWT:Auto	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak	Site Condition : 83CH83-KS : FCC PART 15C 3e HF ANT-20160416-9120 HORIZONTAL : RSM:1000.000KHz VSW:0.900KHz SWT:Auto	Site Condition : 83CH83-KS : FCC PART 15C 3e HF ANT-20160416-9120 HORIZONTAL : RSM:1000.000KHz VSW:0.900KHz SWT:Auto
Avg.	Site Condition : 83CH83-KS : FCC PART 15C (AVG) 3e HF ANT-20160416-9120 HORIZONTAL : RSM:1000.000KHz VSW:0.900KHz SWT:Auto	Site Condition : 83CH83-KS : FCC PART 15C (AVG) 3e HF ANT-20160416-9120 HORIZONTAL : RSM:1000.000KHz VSW:0.900KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site Condition : 03CH03-ES : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RSM:1000.000KHz VSW:3.000.000KHz SMT:Auto	 Site Condition : 03CH03-ES : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RSM:1000.000KHz VSW:3.000.000KHz SMT:Auto
Avg.	 Site Condition : 03CH03-ES : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RSM:1000.000KHz VSW:0.300KHz SMT:Auto	 Site Condition : 03CH03-ES : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RSM:1000.000KHz VSW:0.300KHz SMT: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	Fundamental
Peak		
Avg.		

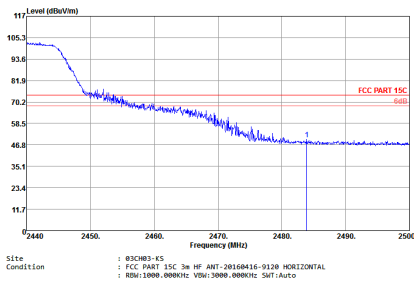
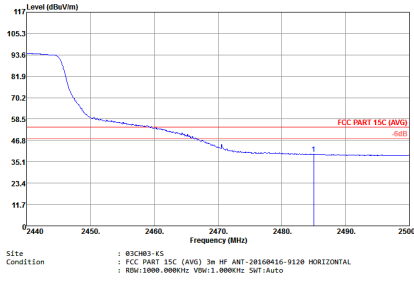


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak		
Avg.		

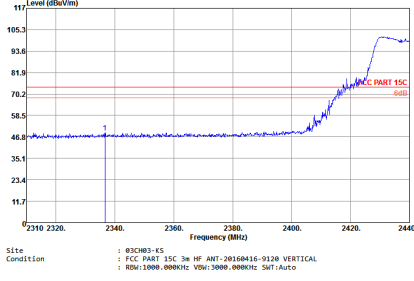
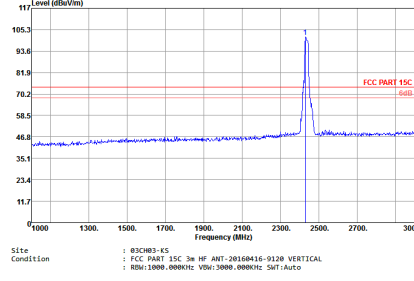
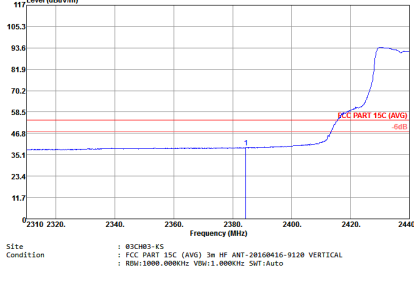
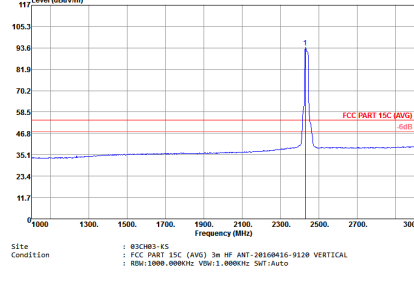


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	Site : 83CH83-KS Condition : FCC PART 15C 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000.000KHz SMT:Auto	Site : 83CH83-KS Condition : FCC PART 15C 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000.000KHz SMT:Auto
Avg.	Site : 83CH83-KS Condition : FCC PART 15C (AVG) 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000KHz SMT:Auto	Site : 83CH83-KS Condition : FCC PART 15C (AVG) 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000KHz SMT:Auto

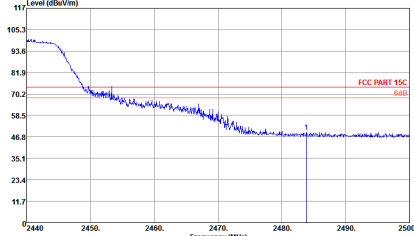
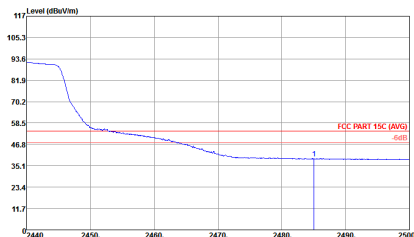


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak	 Site Condition : 802.11g-KS : FCC PART 15C 3m HF ANT-20160416-9120 HORIZONTAL : RSM:1000.000KHz VSW:1.000KHz SWT:Auto	Left blank
Avg.	 Site Condition : 802.11g-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 HORIZONTAL : RSM:1000.000KHz VSW:1.000KHz SWT:Auto	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	 Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RSW:1.000, 0.000KHz VSW:1.000, 0.000Hz SMT:Auto	 Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RSW:1.000, 0.000KHz VSW:1.000, 0.000Hz SMT:Auto
Avg.	 Site Condition : 03CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RSW:1.000, 0.000KHz VSW:1.000, 0.000Hz SMT:Auto	 Site Condition : 03CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RSW:1.000, 0.000KHz VSW:1.000, 0.000Hz SMT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH03-KS Condition : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RSM:1000.000KHz VSW:1.000KHz SWT:Auto	Left Blank
Avg.	 Site : 03CH03-KS Condition : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RSM:1000.000KHz VSW:1.000KHz SWT:Auto	Left Blank



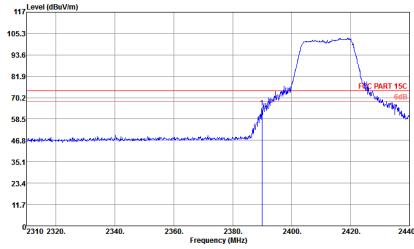
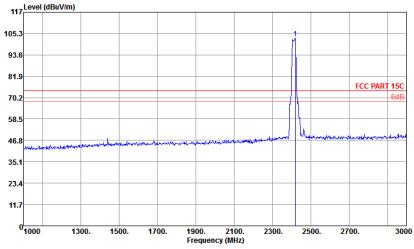
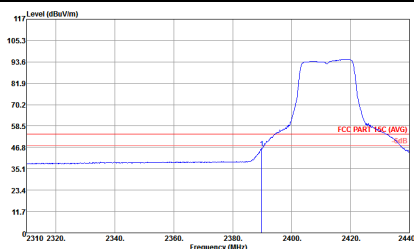
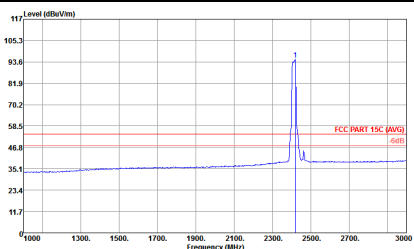
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak	Site Condition : 83CH83-KS : FCC PART 15C 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:1.000KHz SMT:Auto	Site Condition : 83CH83-KS : FCC PART 15C 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:1.000KHz SMT:Auto
Avg.	Site Condition : 83CH83-KS : FCC PART 15C (AVG) 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:1.000KHz SMT:Auto	Site Condition : 83CH83-KS : FCC PART 15C (AVG) 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:1.000KHz SMT:Auto



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



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	Fundamental
Peak	 Site Condition : 83CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 HORIZONTAL : RSW:1.000, 0.000Hz, VSW:1.000, 0.000Hz, SWT:Auto	 Site Condition : 83CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 HORIZONTAL : RSW:1.000, 0.000Hz, VSW:1.000, 0.000Hz, SWT:Auto
Avg.	 Site Condition : 83CH03-KS : FCC PART 15C (Ave) 3m HF ANT-20160416-9120 HORIZONTAL : RSW:1.000, 0.000Hz, VSW:1.000, 0.000Hz, SWT:Auto	 Site Condition : 83CH03-KS : FCC PART 15C (Ave) 3m HF ANT-20160416-9120 HORIZONTAL : RSW:1.000, 0.000Hz, VSW:1.000, 0.000Hz, SWT:Auto

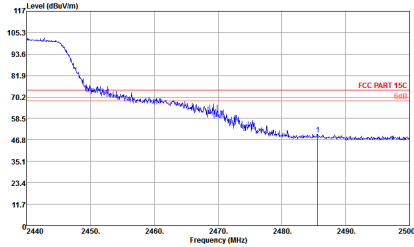
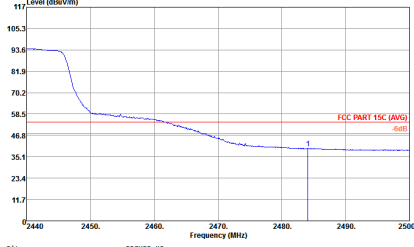


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak	Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:1.000KHz SMT:Auto	Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:1.000KHz SMT:Auto
Avg.	Site Condition : 03CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:1.000KHz SMT:Auto	Site Condition : 03CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:1.000KHz SMT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	Site : 83CH83-KS Condition : FCC PART 15C 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000.000KHz SMT:Auto	Site : 83CH83-KS Condition : FCC PART 15C 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000.000KHz SMT:Auto
Avg.	Site : 83CH83-KS Condition : FCC PART 15C (AVG) 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000KHz SMT:Auto	Site : 83CH83-KS Condition : FCC PART 15C (AVG) 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000KHz SMT:Auto

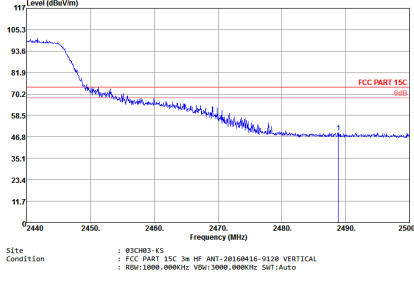
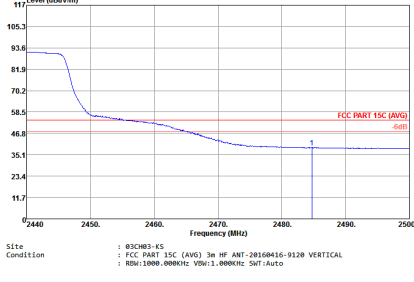


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak	 Site Condition : 802.11n HT20 CH06 2437MHz - R FCC PART 15C (AVG) RDM:1000.000KHz VSW:1.000KHz SMT:Auto	Left blank
Avg.	 Site Condition : 802.11n HT20 CH06 2437MHz - R FCC PART 15C (AVG) RDM:1000.000KHz VSW:1.000KHz SMT:Auto	Left blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:1.000KHz SMT:Auto	Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:1.000KHz SMT:Auto
Avg.	Site Condition : 03CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:1.000KHz SMT:Auto	Site Condition : 03CH03-KS : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:1.000KHz SMT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH03-KS Condition : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:1.000KHz SWT:Auto	Left Blank
Avg.	 Site : 03CH03-KS Condition : FCC PART 15C (AVG) 3m HF ANT-20160416-9120 VERTICAL : RDM:1000.000KHz VSW:1.000KHz SWT:Auto	Left Blank



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	Site Condition : 83CH83-KS : FCC PART 15C 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000.000KHz SMT:Auto	Site Condition : 83CH83-KS : FCC PART 15C 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000.000KHz SMT:Auto
Avg.	Site Condition : 83CH83-KS : FCC PART 15C (AVG) 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000KHz SMT:Auto	Site Condition : 83CH83-KS : FCC PART 15C (AVG) 3e HF ANT-20160416-9120 HORIZONTAL : RBW:1000.000KHz VSW:3.000KHz SMT:Auto



WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak		
Avg.		



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.	Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-2016M16-9120 HORIZONTAL : RMS:10000, AVERAGE: 1000, 30000, 00000000, SMT:Auto	Site Condition : 03CH03-KS : FCC PART 15C 3m HF ANT-2016M16-9120 VERTICAL : RMS:10000, AVERAGE: 1000, 30000, 00000000, SMT:Auto

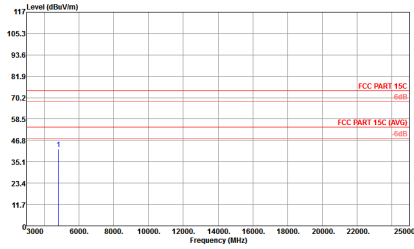
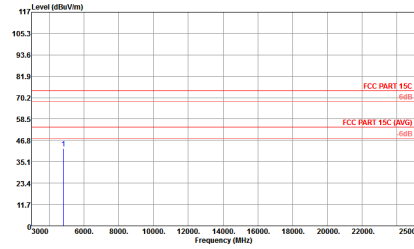
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	Site Condition : 83CMB3-K5 : FCC PART 15C 3m HF ANT-2016M416-9120 HORIZONTAL : RSW:100W-000012C VSW:300W-000012C SWT:Auto	Site Condition : 83CMB3-K5 : FCC PART 15C 3m HF ANT-2016M416-9120 VERTICAL : RSW:100W-000012C VSW:300W-000012C SWT:Auto



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



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

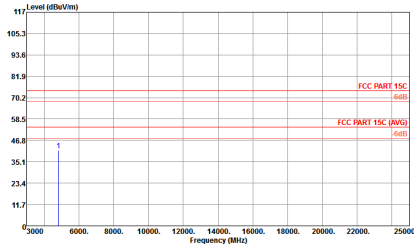
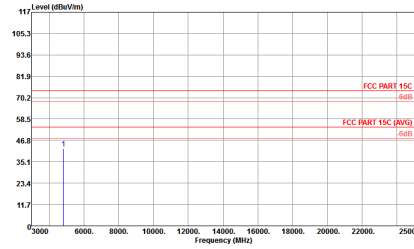
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	 Site Condition : #3CH03-KS : FCC PART 15C 3m HF ANT-2016M16-0120 HORIZONTAL : RES:10000, AVERAGE, VIEW:30000, 00000000, SMT:Auto	 Site Condition : #3CH03-KS : FCC PART 15C 3m HF ANT-2016M16-0120 VERTICAL : RES:10000, AVERAGE, VIEW:30000, 00000000, SMT:Auto

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	Site Condition : 83CMB3-K5 : FCC PART 15C 3m HF ANT-2016M416-9120 HORIZONTAL : RES:1000.0000Hz VSW:3000.0000Hz SWT:Auto	Site Condition : 83CMB3-K5 : FCC PART 15C 3m HF ANT-2016M416-9120 VERTICAL : RES:1000.0000Hz VSW:3000.0000Hz SWT:Auto

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	Site Condition : 83CH03-K5 : FCC PART 15C 3m HF ANT-20160416-9120 HORIZONTAL : RES:1000-0000Hz VSW:3000-0000Hz SWT:Auto	Site Condition : 83CH03-K5 : FCC PART 15C 3m HF ANT-20160416-9120 VERTICAL : RES:1000-0000Hz VSW:3000-0000Hz SWT:Auto



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

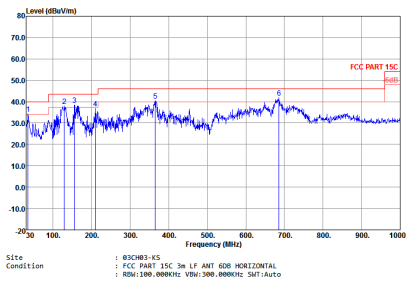
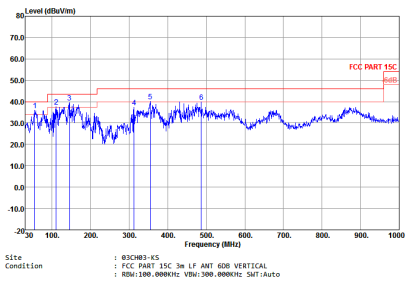
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	 Site Condition : #3CH03-KS : FCC PART 15C 3m HF ANT-2016M416-9120 HORIZONTAL : RES:10000, AVERAGE: 1000, 30000, 0.000101, SMT:Auto	 Site Condition : #3CH03-KS : FCC PART 15C 3m HF ANT-2016M416-9120 VERTICAL : RES:10000, AVERAGE: 1000, 30000, 0.000101, SMT:Auto

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	Site Condition : 83CMB3-K5 : FCC PART 15C 3m HF ANT-2016M416-9120 HORIZONTAL : RSW:100W-000012C VSW:300W-000012C SWT:Auto	Site Condition : 83CMB3-K5 : FCC PART 15C 3m HF ANT-2016M416-9120 VERTICAL : RSW:100W-000012C VSW:300W-000012C SWT:Auto

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	Site Condition : 83CMB3-K5 : FCC PART 15C 3m HF ANT-2016M416-9120 HORIZONTAL : RSW:100W-000012C VSW:300W-000012C SWT:Auto	Site Condition : 83CMB3-K5 : FCC PART 15C 3m HF ANT-2016M416-9120 VERTICAL : RSW:100W-000012C VSW:300W-000012C SWT:Auto



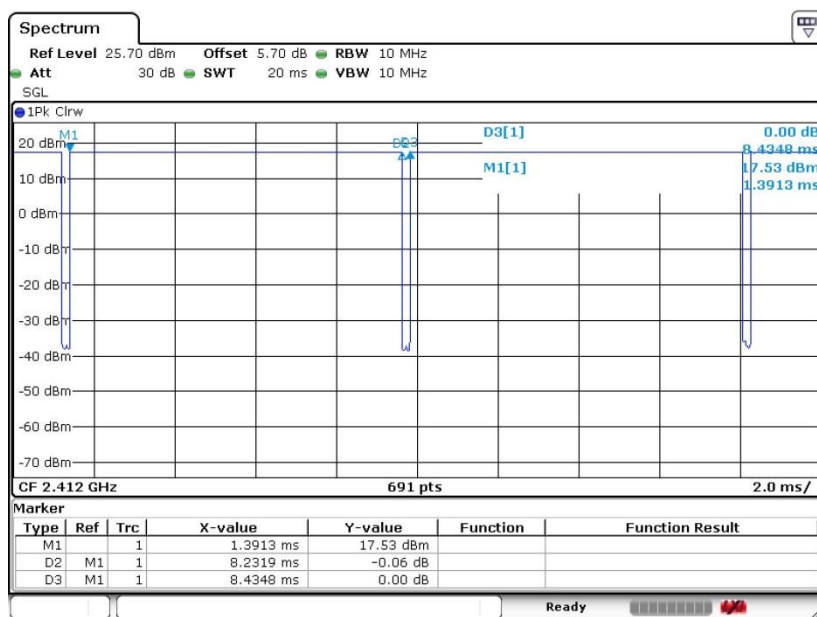
Emission below 1GHz
2.4GHz WIFI 802.11n HT20 (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
1	Horizontal	Vertical
QP / Peak	 Site Condition : 83CH03-KS : FCC PART 15C 3m LF ANT 600 HORIZONTAL : RSM-100-00000000 VSWR:300-00000000 SMT:auto	 Site Condition : 83CH03-KS : FCC PART 15C 3m LF ANT 600 VERTICAL : RSM-100-00000000 VSWR:300-00000000 SMT:auto

Appendix E. Duty Cycle Plots

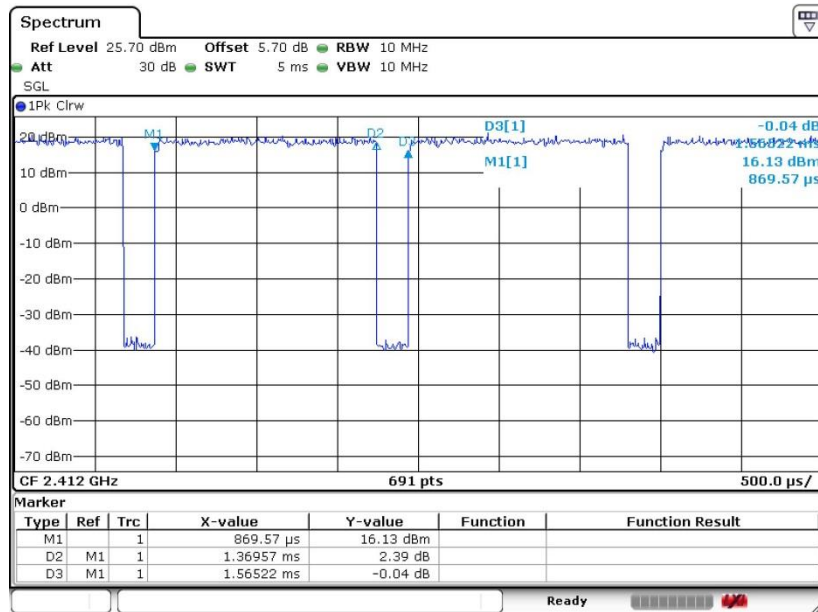
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	97.59	8.23	0.12	300Hz
802.11g	87.50	1.37	0.73	1KHz
2.4GHz 802.11n HT20	86.70	1.28	0.78	1KHz

802.11b



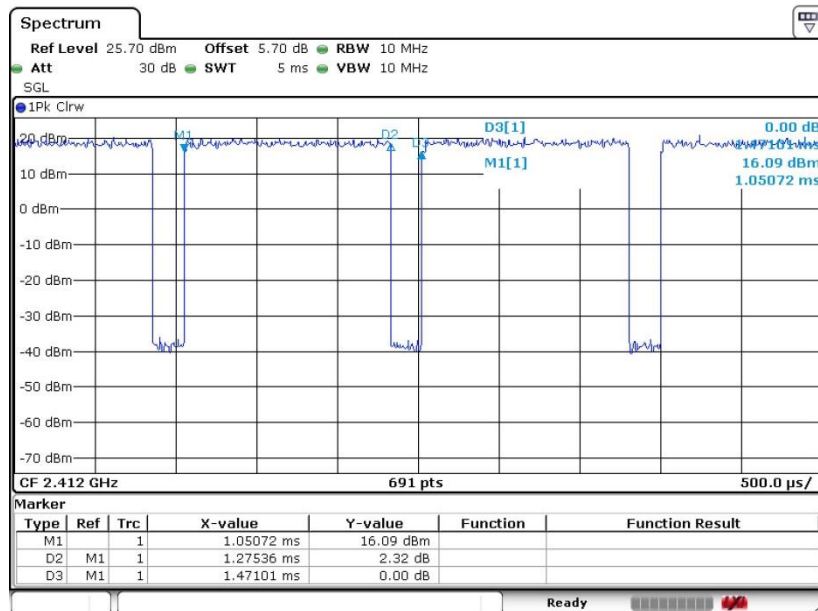
Date: 26.APR.2017 21:39:57

802.11g



Date: 26 APR.2017 21:40:48

802.11n HT20



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