



FCC RF Test Report

APPLICANT : Wistron Corporation
EQUIPMENT : Notebook Computer
BRAND NAME : Lenovo
MODEL NAME : TP00076C
FCC ID : PU5-TP00076CUC
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

Equipment: Sierra Wireless EM7455 and Intel 8265NGW tested inside of Lenovo Notebook Computer

This is a partial report which is included the conducted emission and radiated emission test items. The product was received on Nov. 03, 2016 and testing was completed on Dec. 02, 2016. 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



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR6N0303-01E	Rev. 01	Initial issue of report	Dec. 19, 2016



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.407(b)	Unwanted Emissions	15.407(b)(4)(i) &15.209(a)	Pass	Under limit 9.42 dB at 184.980 MHz
3.2	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 17.72 dB at 0.170 MHz
3.3	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.4	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

Wistron Corporation

21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Dist, New Taipei City 221, Taiwan R.O.C.

1.2 Manufacturer

Wistron Corporation

21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Dist, New Taipei City 221, Taiwan R.O.C.

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Notebook Computer
Brand Name	Lenovo
Model Name	TP00076C
FCC ID	PU5-TP00076CUC
Integrated WWAN Module	Brand Name: Sierra Model Name: EM7455 FCC ID: N7NEM7455
Integrated WLAN Module	Brand Name: Intel Model Name: 8265NGW FCC ID: PD98265NG
EUT supports Radios application	WCDMA/HSPA/LTE WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
EUT Stage	Production Unit

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification			
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz		
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)		
Antenna Function Description		Ant. 1	Ant. 2
	802.11 a/n/ac	V	V
	802.11 n/ac MIMO	V	V

Note: MIMO Ant. 1+2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.

1.5 Modification of EUT

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

1.6 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.
	CO01-HY

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

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No.
	03CH10-HY

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

1.7 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- FCC KDB 644545 D03 Guidance for IEEE 802.11ac New Rules v01
- 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

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels (X, Y, Z) and one Notebook type. The worst cases (Z plane for Ant. 2; X plane for Ant. 1+2) were recorded in this report.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155 [#]	5775	165	5825

Note:

1. The above Frequency and Channel in "*" were 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel in "[#]" were 802.11ac VHT80.

2.2 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.

Single Antenna

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT80	MCS0

MIMO Antenna

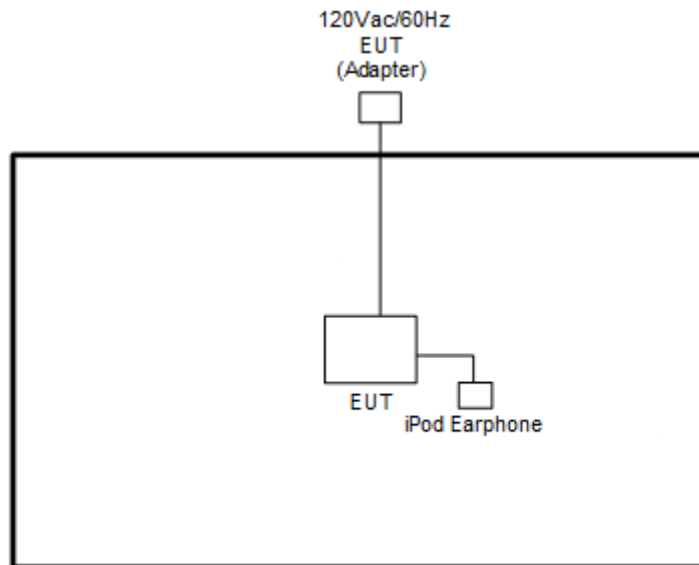
Modulation	Data Rate
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT80	MCS0

AC Conducted Emission	Mode 1 : WLAN (5GHz) Tx + TF + TC
Remark: - All the radiated test cases were performance with Antenna 3. - TF stands for Test Function, and consists of MPEG4 and Camera. - TC stands for Test Configuration, and consists of Earphone, USB (HD and iPod), Adapter, SD Card, and DP Cable.	

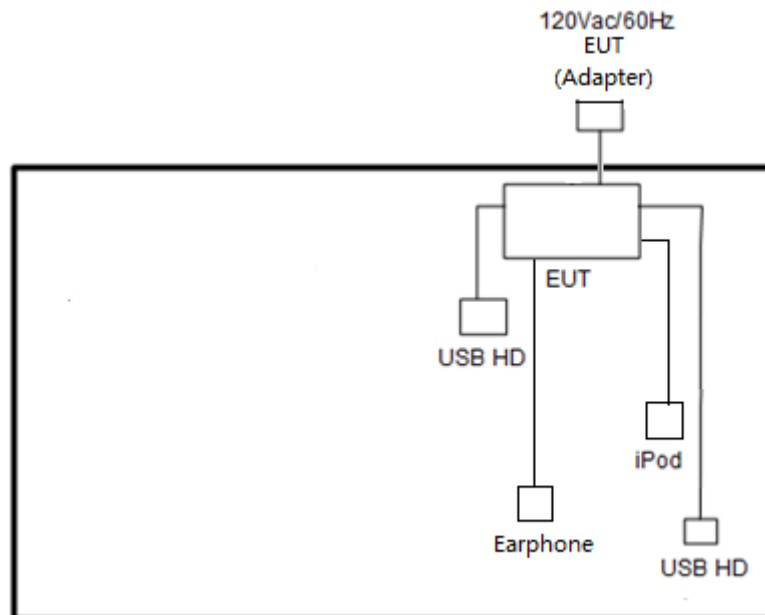
Ch. #		Band IV : 5725-5850 MHz			
		802.11a	802.11n HT20	802.11n HT40	802.11ac VHT80
L	Low	149	149	151	-
M	Middle	157	157	-	155
H	High	165	165	159	-

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>





2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	iPod	Apple	A1285	DoC	Shielded, 1.0m	N/A
2.	Earphone	lenovo	TS300-01MS21-8S	FCC DoC	Unshielded, 1.2m	N/A
3.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A
4.	HD USB	lenovo	F310S	FCC DoC	Shielded, 0.5m	N/A
5.	HD USB	SONY	HD-E1	FCC DoC	Shielded, 0.5m	N/A
6.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.5 EUT Operation Test Setup

The programmed RF utility, "DRTU Tool", is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

3 Test Result

3.1 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part 15.205.

3.1.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5.725-5.85 GHz band:
15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- (2) Unwanted spurious emissions fallen in restricted bands per FCC Part 15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

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

Note: The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3} \text{ } \mu\text{V/m, where P is the eirp (Watts)}$$

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

- (3) KDB 789033 D02 General UNII Test Procedures New Rules v01r03 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

3.1.2 Measuring Instruments

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

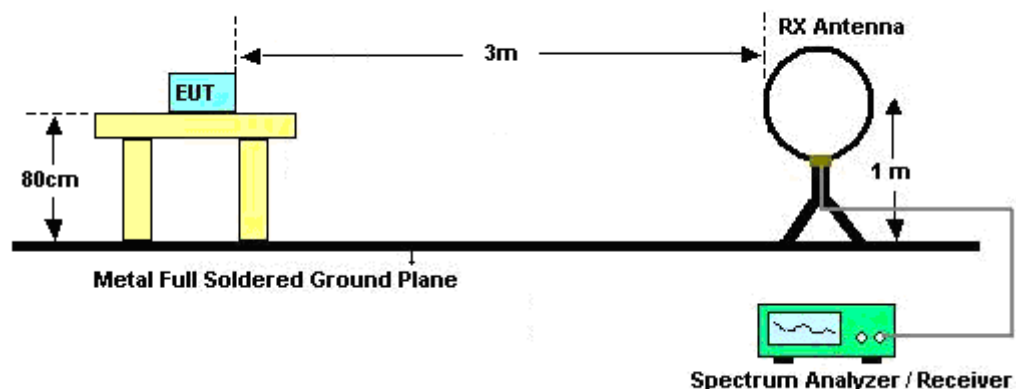
3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03. Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW $\geq$ 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - 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.

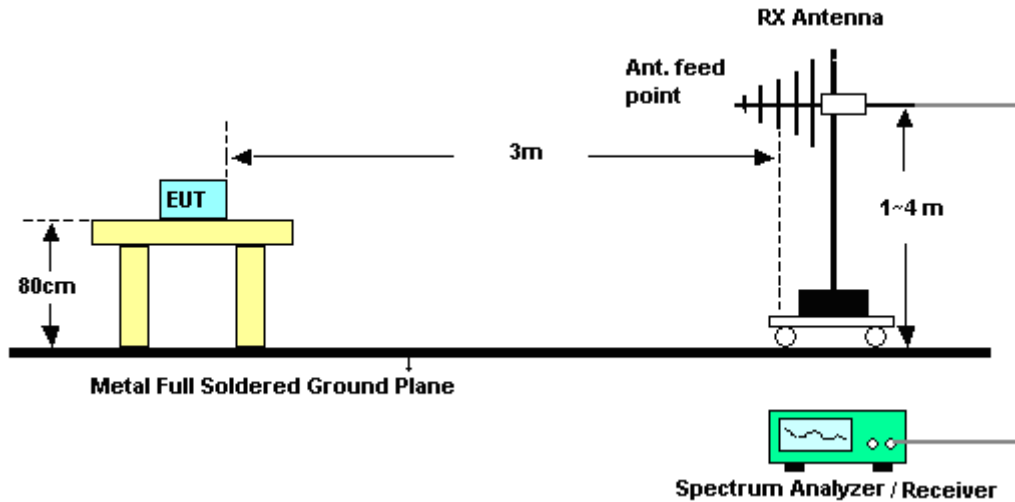
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.1.4 Test Setup

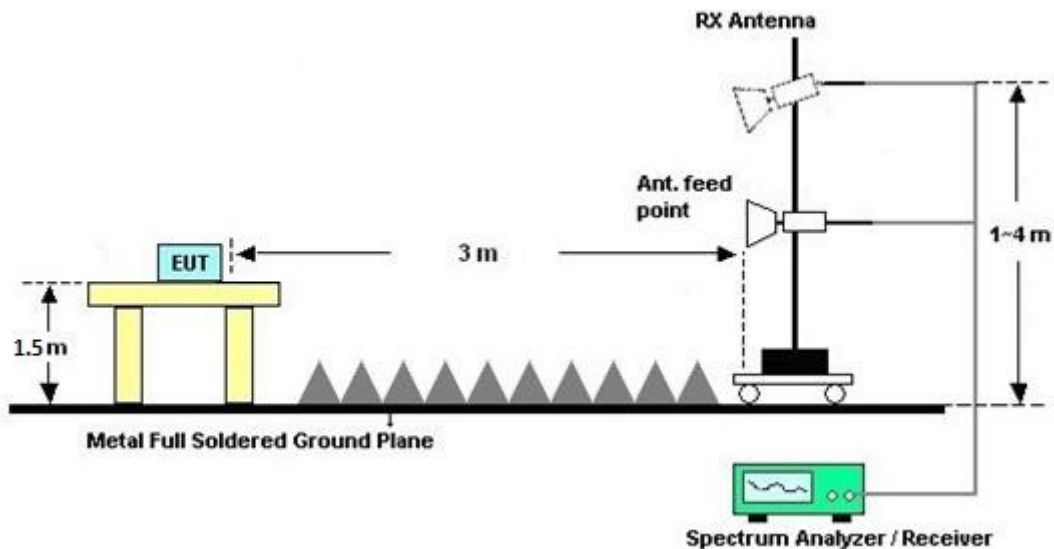
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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.



3.1.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix A and B.

3.1.7 Duty Cycle

Please refer to Appendix C.

3.1.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix A and B.

3.2 AC Conducted Emission Measurement

3.2.1 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.

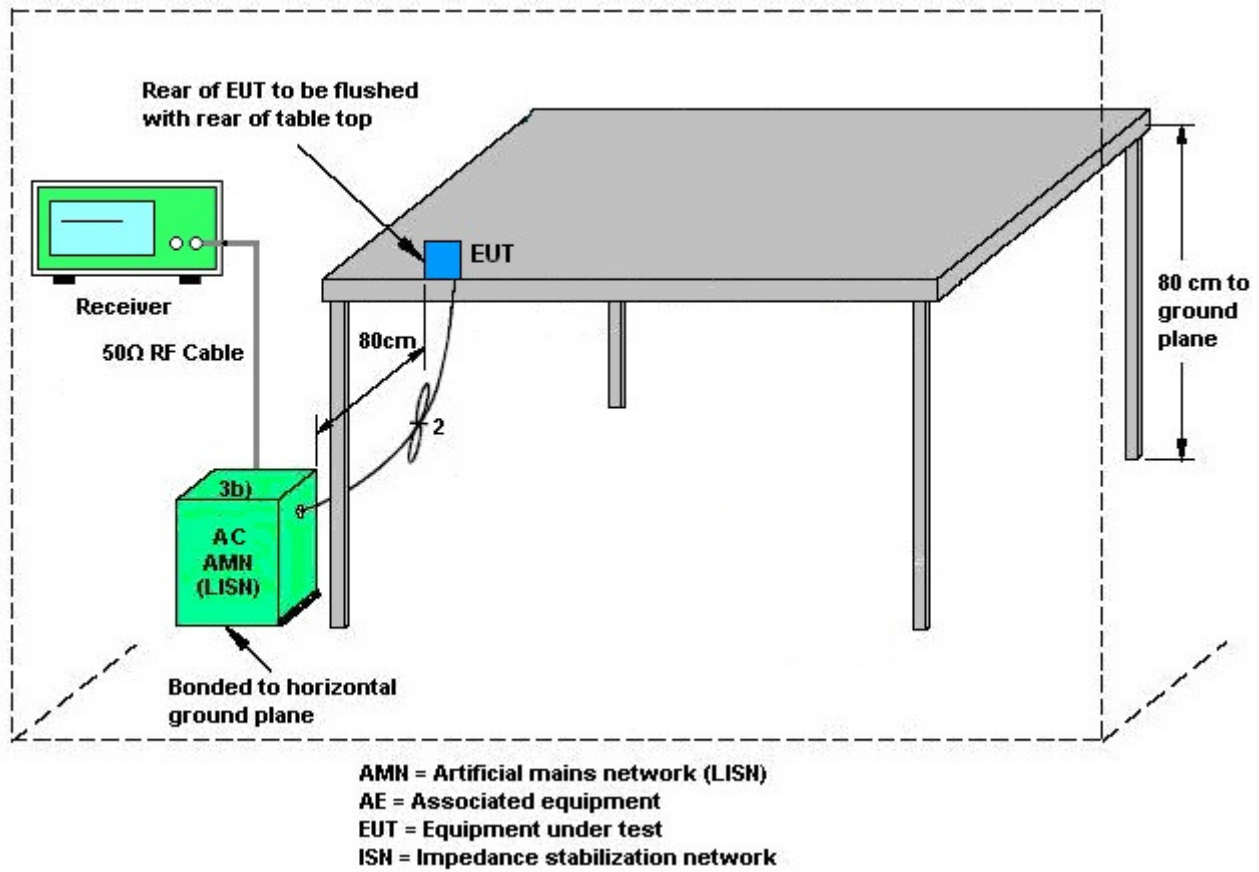
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

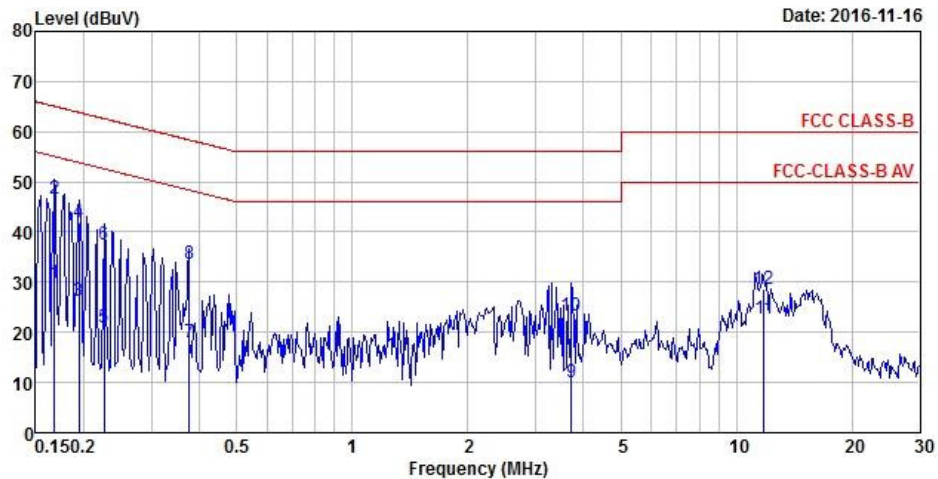
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.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

3.2.4 Test Setup



3.2.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	James Chiu	Relative Humidity :	50~54%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN (5GHz) Tx + TF + TC		

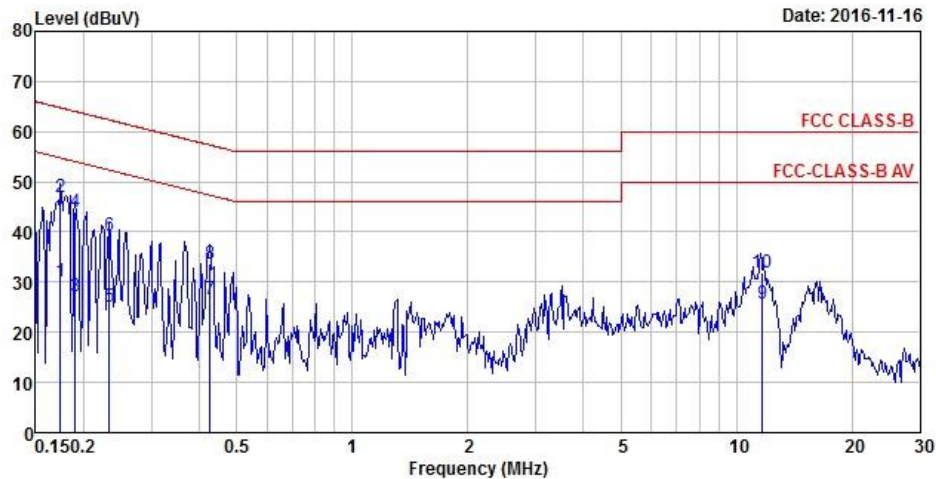


Site : C001-HY
 Condition: FCC CLASS-B LISN 2001/009-106-A LINE
 EUT : NB (Convertible) (Sierra EM7455) FCC
 Model : ThinkPad X1 Yoga 2nd(Raven 2)
 Power : 120V/60Hz
 Memo : Mode 1-L
 Memo : Wifi 5G Link + TF + TC
 Project : 6N0303-01

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.17	29.89	-25.19	55.08	29.62	0.17	0.10	Average
2 MAX	0.17	46.71	-18.37	65.08	46.44	0.17	0.10	QP
3	0.19	26.24	-27.60	53.84	26.00	0.14	0.10	Average
4	0.19	41.81	-22.03	63.84	41.57	0.14	0.10	QP
5	0.23	20.98	-31.63	52.61	20.74	0.14	0.10	Average
6	0.23	37.61	-25.00	62.61	37.37	0.14	0.10	QP
7	0.38	18.07	-30.28	48.35	17.80	0.17	0.10	Average
8	0.38	33.63	-24.72	58.35	33.36	0.17	0.10	QP
9	3.72	10.16	-35.84	46.00	9.82	0.24	0.10	Average
10	3.72	23.35	-32.65	56.00	23.01	0.24	0.10	QP
11	11.80	22.61	-27.39	50.00	22.07	0.44	0.10	Average
12	11.80	28.60	-31.40	60.00	28.06	0.44	0.10	QP



Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	James Chiu	Relative Humidity :	50~54%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN (5GHz) Tx + TF + TC		



Site : C001-HY
 Condition: FCC CLASS-B LISN 2001/009-106-A NEUTRAL
 EUT : NB (Convertible) (Sierra EM7455) FCC
 Model : ThinkPad X1 Yoga 2nd(Raven 2)
 Power : 120V/60Hz
 Memo : Mode 1-N
 Memo : Wifi 5G Link + TF + TC
 Project : 6N0303-01

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.17	30.22	-24.55	54.77	30.03	0.09	0.10	Average
2 MAX	0.17	47.05	-17.72	64.77	46.86	0.09	0.10	QP
3	0.19	27.12	-26.90	54.02	26.91	0.11	0.10	Average
4	0.19	43.88	-20.14	64.02	43.67	0.11	0.10	QP
5	0.23	25.01	-27.34	52.35	24.78	0.13	0.10	Average
6	0.23	39.24	-23.11	62.35	39.01	0.13	0.10	QP
7	0.43	26.50	-20.83	47.33	26.24	0.16	0.10	Average
8	0.43	33.67	-23.66	57.33	33.41	0.16	0.10	QP
9	11.70	25.62	-24.38	50.00	25.12	0.40	0.10	Average
10	11.70	31.94	-28.06	60.00	31.44	0.40	0.10	QP



3.3 Automatically Discontinue Transmission

3.3.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.3.2 Measuring Instruments

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

3.3.3 Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

3.4 Antenna Requirements

3.4.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2) ,if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.4.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.4.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(N_{ANT}/N_{SS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

			DG for Power	DG for PSD	Power Limit Reduction	PSD Limit Reduction
	Ant 1 (dBi)	Ant 2 (dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	-0.34	0.26	0.26	2.98	0.00	0.00

Power limit reduction = Composite gain – 6dBi, (min = 0)

PSD limit reduction = Composite gain + PSD Array gain – 6dBi, (min = 0)



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Nov. 26, 2016 ~ Dec. 02, 2016	Sep. 01, 2017	Radiation (03CH10-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Oct. 26, 2016	Nov. 26, 2016 ~ Dec. 02, 2016	Oct. 25, 2017	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	35413&02	30MHz~1GHz	Jan. 13, 2016	Nov. 26, 2016 ~ Dec. 02, 2016	Jan. 12, 2017	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Sep. 30, 2016	Nov. 26, 2016 ~ Dec. 02, 2016	Sep. 29, 2017	Radiation (03CH10-HY)
Preamplifier	Keysight	83017A	MY53270078	1GHz~26.5GHz	Oct. 26, 2016	Nov. 26, 2016 ~ Dec. 02, 2016	Oct. 25, 2017	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 17, 2016	Nov. 26, 2016 ~ Dec. 02, 2016	Oct. 16, 2017	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Nov. 26, 2016 ~ Dec. 02, 2016	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	Nov. 26, 2016 ~ Dec. 02, 2016	N/A	Radiation (03CH10-HY)
Preamplifier	MITEQ	TTA0204	1872107	2GHz~40GHz	Feb. 15, 2016	Nov. 26, 2016 ~ Dec. 02, 2016	Feb. 14, 2017	Radiation (03CH10-HY)
Preamplifier	Jet-Power	JPA00101800-30-10P	1601180002	1GHz~18GHz	Jul. 27, 2016	Nov. 26, 2016 ~ Dec. 02, 2016	Jul. 26, 2017	Radiation (03CH10-HY)
Preamplifier	MITEQ	JS44-1800400 0-33-8P	1840917	18GHz ~ 40GHz	Jun. 14, 2016	Nov. 26, 2016 ~ Dec. 02, 2016	Jun. 13, 2017	Radiation (03CH10-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917058 4	18GHz- 40GHz	Nov. 08, 2016	Nov. 26, 2016 ~ Dec. 02, 2016	Nov. 07, 2017	Radiation (03CH10-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz to 26.5GHz	Jan. 20, 2016	Nov. 26, 2016 ~ Dec. 02, 2016	Jan. 19, 2017	Radiation (03CH10-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Nov. 16, 2016	N/A	Conduction (CO01-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	Nov. 16, 2016	Aug. 29, 2017	Conduction (CO01-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Nov. 16, 2016	Dec. 01, 2016	Conduction (CO01-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.2
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.6
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.9
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2
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Appendix A. Radiated Spurious Emission

Test Engineer :	Tsung Lee, Stan Hsieh, and Kyle Chuang	Temperature :	21~23°C
		Relative Humidity :	45~49%

Band 4 - 5725~5850MHz

WIFI 802.11a (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.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5628.4	48.35	-19.85	68.2	40.26	32.47	8.23	32.61	102	261	P	H
		5680	50.53	-39.91	90.44	42.39	32.5	8.27	32.63	102	261	P	H
		5714.2	52.91	-56.27	109.18	44.73	32.52	8.3	32.64	102	261	P	H
		5722.2	55.3	-60.52	115.82	47.08	32.53	8.33	32.64	102	261	P	H
	*	5745	101.85	-	-	93.63	32.54	8.33	32.65	102	261	P	H
	*	5745	94.62	-	-	86.4	32.54	8.33	32.65	102	261	A	H
													H
													H
		5640.6	50	-18.2	68.2	41.9	32.48	8.23	32.61	314	45	P	V
		5698.2	51.99	-51.88	103.87	43.81	32.51	8.3	32.63	314	45	P	V
		5719.4	53.96	-56.67	110.63	45.77	32.53	8.3	32.64	314	45	P	V
		5724.4	58.21	-62.62	120.83	49.99	32.53	8.33	32.64	314	45	P	V
	*	5745	104.73	-	-	96.51	32.54	8.33	32.65	314	45	P	V
	*	5745	97.61	-	-	89.39	32.54	8.33	32.65	314	45	A	V
													V
													V



WIFI Ant. 2	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)
802.11a CH 157 5785MHz		5603.6	49.39	-18.81	68.2	41.3	32.46	8.23	32.6	111	258	P	H
		5690.4	49.61	-48.51	98.12	41.43	32.51	8.3	32.63	111	258	P	H
		5707	49.22	-57.94	107.16	41.04	32.52	8.3	32.64	111	258	P	H
		5725	48.26	-73.94	122.2	40.04	32.53	8.33	32.64	111	258	P	H
	*	5785	101.22	-	-	92.97	32.57	8.35	32.67	111	258	P	H
	*	5785	95.26	-	-	87.01	32.57	8.35	32.67	111	258	A	H
		5854	48.89	-64.19	113.08	40.53	32.62	8.43	32.69	111	258	P	H
		5859.2	47.85	-61.77	109.62	39.5	32.62	8.43	32.7	111	258	P	H
		5912.4	47.61	-29.88	77.49	39.21	32.65	8.47	32.72	111	258	P	H
		5929.8	47.58	-20.62	68.2	39.13	32.66	8.51	32.72	111	258	P	H
													H
													H
		5621.8	50.34	-17.86	68.2	42.24	32.47	8.23	32.6	283	54	P	V
		5677.8	49.99	-38.82	88.81	41.84	32.5	8.27	32.62	283	54	P	V
		5717	51.21	-58.75	109.96	43.03	32.52	8.3	32.64	283	54	P	V
		5723.4	50.84	-67.71	118.55	42.62	32.53	8.33	32.64	283	54	P	V
	*	5785	105.09	-	-	96.84	32.57	8.35	32.67	283	54	P	V
	*	5785	97.98	-	-	89.73	32.57	8.35	32.67	283	54	A	V
		5852.4	48.32	-68.41	116.73	39.97	32.61	8.43	32.69	283	54	P	V
		5863.4	48.28	-60.17	108.45	39.93	32.62	8.43	32.7	283	54	P	V
		5876.6	48.88	-55.13	104.01	40.52	32.63	8.43	32.7	283	54	P	V
		5927.2	49.6	-18.6	68.2	41.15	32.66	8.51	32.72	283	54	P	V
													V
													V



WIFI Ant. 2	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)
802.11a CH 165 5825MHz	*	5825	101.72	-	-	93.41	32.6	8.39	32.68	107	197	P	H
	*	5825	94.69	-	-	86.38	32.6	8.39	32.68	107	197	A	H
		5851.8	51.8	-66.3	118.1	43.45	32.61	8.43	32.69	107	197	P	H
		5858.2	51.25	-58.65	109.9	42.9	32.62	8.43	32.7	107	197	P	H
		5880.8	49.83	-51.06	100.89	41.47	32.63	8.43	32.7	107	197	P	H
		5925.8	46.59	-21.61	68.2	38.14	32.66	8.51	32.72	107	197	P	H
													H
													H
	*	5825	104.53	-	-	96.22	32.6	8.39	32.68	268	43	P	V
	*	5825	96.75	-	-	88.44	32.6	8.39	32.68	268	43	A	V
		5854	53.18	-59.9	113.08	44.82	32.62	8.43	32.69	268	43	P	V
		5855.2	51.35	-59.39	110.74	42.99	32.62	8.43	32.69	268	43	P	V
		5875.4	50.59	-54.31	104.9	42.23	32.63	8.43	32.7	268	43	P	V
		5925.4	49.14	-19.06	68.2	40.69	32.66	8.51	32.72	268	43	P	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 2	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)
802.11a CH 149 5745MHz		11490	40.29	-33.71	74	38.9	40.01	12.58	51.2	100	0	P	H
		17235	41.91	-26.29	68.2	37.35	41.05	15.66	52.15	100	0	P	H
													H
													H
		11490	40.27	-33.73	74	38.88	40.01	12.58	51.2	100	0	P	V
		17235	42.25	-25.95	68.2	37.69	41.05	15.66	52.15	100	0	P	V
													V
													V
802.11a CH 157 5785MHz		11570	40.17	-33.83	74	38.83	39.88	12.66	51.2	100	0	P	H
		17355	40.31	-27.89	68.2	35.31	41.38	15.79	52.17	100	0	P	H
													H
													H
		11570	39.46	-34.54	74	38.12	39.88	12.66	51.2	100	0	P	V
		17355	40.87	-27.33	68.2	35.87	41.38	15.79	52.17	100	0	P	V
													V
													V
802.11a CH 165 5825MHz		11650	41.47	-32.53	74	40.19	39.75	12.73	51.2	100	0	P	H
		17475	44.13	-24.07	68.2	38.68	41.71	15.93	52.19	100	0	P	H
													H
													H
		11650	39.82	-34.18	74	38.54	39.75	12.73	51.2	100	0	P	V
		17475	44.07	-24.13	68.2	38.62	41.71	15.93	52.19	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 2	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 149 5745MHz		5638.4	48.56	-19.64	68.2	40.46	32.48	8.23	32.61	105	183	P	H
		5699.4	49.35	-55.41	104.76	41.17	32.51	8.3	32.63	105	183	P	H
		5717.6	52.51	-57.62	110.13	44.32	32.53	8.3	32.64	105	183	P	H
		5725	57.7	-64.5	122.2	49.48	32.53	8.33	32.64	105	183	P	H
	*	5745	102.11	-	-	93.89	32.54	8.33	32.65	105	183	P	H
	*	5745	94.72	-	-	86.5	32.54	8.33	32.65	105	183	A	H
													H
													H
		5635.8	50.59	-17.61	68.2	42.49	32.48	8.23	32.61	283	43	P	V
		5666	50.87	-29.21	80.08	42.73	32.49	8.27	32.62	283	43	P	V
		5719	55.91	-54.61	110.52	47.72	32.53	8.3	32.64	283	43	P	V
		5724.4	59.78	-61.05	120.83	51.56	32.53	8.33	32.64	283	43	P	V
	*	5745	104.81	-	-	96.59	32.54	8.33	32.65	283	43	P	V
	*	5745	97.01	-	-	88.79	32.54	8.33	32.65	283	43	A	V
													V
													V



WIFI Ant. 2	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 157 5785MHz		5630.2	49.84	-18.36	68.2	41.75	32.47	8.23	32.61	111	258	P	H
		5695.2	49.68	-51.98	101.66	41.5	32.51	8.3	32.63	111	258	P	H
		5715.2	48.9	-60.56	109.46	40.72	32.52	8.3	32.64	111	258	P	H
		5722.4	49.38	-66.89	116.27	41.16	32.53	8.33	32.64	111	258	P	H
	*	5785	103.29	-	-	95.04	32.57	8.35	32.67	111	258	P	H
	*	5785	95.2	-	-	86.95	32.57	8.35	32.67	111	258	A	H
		5852	48.48	-69.16	117.64	40.13	32.61	8.43	32.69	111	258	P	H
		5864.8	48.5	-59.55	108.05	40.15	32.62	8.43	32.7	111	258	P	H
		5878	47.63	-55.34	102.97	39.27	32.63	8.43	32.7	111	258	P	H
		5933	46.34	-21.86	68.2	37.89	32.66	8.51	32.72	111	258	P	H
													H
													H
		5628.6	50.48	-17.72	68.2	42.39	32.47	8.23	32.61	283	54	P	V
		5678.8	50.55	-39	89.55	42.4	32.5	8.27	32.62	283	54	P	V
		5718.2	50.85	-59.45	110.3	42.66	32.53	8.3	32.64	283	54	P	V
		5721.8	50.63	-64.27	114.9	42.41	32.53	8.33	32.64	283	54	P	V
	*	5785	105.35	-	-	97.1	32.57	8.35	32.67	283	54	P	V
	*	5785	97.91	-	-	89.66	32.57	8.35	32.67	283	54	A	V
		5851.2	48.6	-70.86	119.46	40.25	32.61	8.43	32.69	283	54	P	V
		5866.4	49.92	-57.69	107.61	41.57	32.62	8.43	32.7	283	54	P	V
		5877.2	49.95	-53.62	103.57	41.59	32.63	8.43	32.7	283	54	P	V
		5934.2	48.34	-19.86	68.2	39.89	32.66	8.51	32.72	283	54	P	V
													V
													V



WIFI Ant. 2	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 165 5825MHz	*	5825	102.65	-	-	94.34	32.6	8.39	32.68	209	255	P	H
	*	5825	94.28	-	-	85.97	32.6	8.39	32.68	209	255	A	H
		5851.4	51.67	-67.34	119.01	43.32	32.61	8.43	32.69	209	255	P	H
		5858.8	49.62	-60.11	109.73	41.27	32.62	8.43	32.7	209	255	P	H
		5918	48.17	-25.19	73.36	39.77	32.65	8.47	32.72	209	255	P	H
		5937.8	48.27	-19.93	68.2	39.83	32.66	8.51	32.73	209	255	P	H
													H
													H
	*	5825	104.67	-	-	96.36	32.6	8.39	32.68	289	57	P	V
	*	5825	96.55	-	-	88.24	32.6	8.39	32.68	289	57	A	V
		5850.8	53.69	-66.69	120.38	45.34	32.61	8.43	32.69	289	57	P	V
		5855.2	50.28	-60.46	110.74	41.92	32.62	8.43	32.69	289	57	P	V
		5898	49.12	-39.02	88.14	40.72	32.64	8.47	32.71	289	57	P	V
		5934.6	48.08	-20.12	68.2	39.64	32.66	8.51	32.73	289	57	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 2	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 149 5745MHz		11490	40.21	-33.79	74	38.82	40.01	12.58	51.2	100	0	P	H
		17235	43.16	-25.04	68.2	38.6	41.05	15.66	52.15	100	0	P	H
													H
													H
		11490	39.76	-34.24	74	38.37	40.01	12.58	51.2	100	0	P	V
		17235	42.16	-26.04	68.2	37.6	41.05	15.66	52.15	100	0	P	V
													V
													V
802.11n HT20 CH 157 5785MHz		11570	40.19	-33.81	74	38.85	39.88	12.66	51.2	100	0	P	H
		17355	43.32	-24.88	68.2	38.32	41.38	15.79	52.17	100	0	P	H
													H
													H
		11570	39.6	-34.4	74	38.26	39.88	12.66	51.2	100	0	P	V
		17355	43.32	-24.88	68.2	38.32	41.38	15.79	52.17	100	0	P	V
													V
													V
802.11n HT20 CH 165 5825MHz		11650	39.41	-34.59	74	38.13	39.75	12.73	51.2	100	0	P	H
		17475	46.75	-21.45	68.2	41.3	41.71	15.93	52.19	100	0	P	H
													H
													H
		11650	39.53	-34.47	74	38.25	39.75	12.73	51.2	100	0	P	V
		17475	44.22	-23.98	68.2	38.77	41.71	15.93	52.19	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 2	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 HT40 CH 151 5755MHz		5606	48.62	-19.58	68.2	40.53	32.46	8.23	32.6	102	197	P	H
		5676	50.79	-36.69	87.48	42.64	32.5	8.27	32.62	102	197	P	H
		5719.2	55.41	-55.17	110.58	47.22	32.53	8.3	32.64	102	197	P	H
		5723.2	57.6	-60.5	118.1	49.38	32.53	8.33	32.64	102	197	P	H
	*	5755	100.74	-	-	92.5	32.56	8.33	32.65	102	197	P	H
	*	5755	92.7	-	-	84.46	32.56	8.33	32.65	102	197	A	H
		5852.2	46.57	-70.61	117.18	38.22	32.61	8.43	32.69	102	197	P	H
		5858.2	47.96	-61.94	109.9	39.61	32.62	8.43	32.7	102	197	P	H
		5901.4	48.14	-37.48	85.62	39.74	32.64	8.47	32.71	102	197	P	H
		5934.2	46.6	-21.6	68.2	38.15	32.66	8.51	32.72	102	197	P	H
													H
													H
		5622.4	51.82	-16.38	68.2	43.72	32.47	8.23	32.6	294	52	P	V
		5690.8	52.9	-45.52	98.42	44.72	32.51	8.3	32.63	294	52	P	V
		5717.4	57.82	-52.25	110.07	49.64	32.52	8.3	32.64	294	52	P	V
		5723.6	59.68	-59.33	119.01	51.46	32.53	8.33	32.64	294	52	P	V
	*	5755	104.05	-	-	95.81	32.56	8.33	32.65	294	52	P	V
	*	5755	95.67	-	-	87.43	32.56	8.33	32.65	294	52	A	V
		5852.6	50.67	-65.6	116.27	42.32	32.61	8.43	32.69	294	52	P	V
		5873	50.06	-55.7	105.76	41.7	32.63	8.43	32.7	294	52	P	V
		5880.6	49.4	-51.64	101.04	41.04	32.63	8.43	32.7	294	52	P	V
		5935.8	48.76	-19.44	68.2	40.32	32.66	8.51	32.73	294	52	P	V
													V
													V



WIFI Ant. 2	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 HT40 CH 159 5795MHz		5640.2	48.68	-19.52	68.2	40.58	32.48	8.23	32.61	129	199	P	H
		5683.6	48.99	-44.11	93.1	40.81	32.51	8.3	32.63	129	199	P	H
		5708.2	50.96	-56.54	107.5	42.78	32.52	8.3	32.64	129	199	P	H
		5722	48.85	-66.51	115.36	40.63	32.53	8.33	32.64	129	199	P	H
	*	5795	100.71	-	-	92.45	32.58	8.35	32.67	129	199	P	H
	*	5795	93.09	-	-	84.83	32.58	8.35	32.67	129	199	A	H
		5851.2	47.6	-71.86	119.46	39.25	32.61	8.43	32.69	129	199	P	H
		5865	50.2	-57.8	108	41.85	32.62	8.43	32.7	129	199	P	H
		5891.4	47.96	-45.07	93.03	39.56	32.64	8.47	32.71	129	199	P	H
		5941.8	47.71	-20.49	68.2	39.26	32.67	8.51	32.73	129	199	P	H
													H
													H
		5649.8	51.03	-17.17	68.2	42.88	32.49	8.27	32.61	293	51	P	V
		5650	50.87	-17.33	68.2	42.72	32.49	8.27	32.61	293	51	P	V
		5708.6	51.17	-56.44	107.61	42.99	32.52	8.3	32.64	293	51	P	V
		5724.6	49.86	-71.43	121.29	41.64	32.53	8.33	32.64	293	51	P	V
	*	5795	102.56	-	-	94.3	32.58	8.35	32.67	293	51	P	V
	*	5795	95.53	-	-	87.27	32.58	8.35	32.67	293	51	A	V
		5850.4	50.42	-70.87	121.29	42.07	32.61	8.43	32.69	293	51	P	V
		5855.6	49.73	-60.9	110.63	41.37	32.62	8.43	32.69	293	51	P	V
		5881.6	49.06	-51.24	100.3	40.66	32.63	8.47	32.7	293	51	P	V
		5945	47.34	-20.86	68.2	38.89	32.67	8.51	32.73	293	51	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 2	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 HT40 CH 151 5755MHz		11510	40.12	-33.88	74	38.74	40	12.58	51.2	100	0	P	H
		17265	42.05	-26.15	68.2	37.39	41.15	15.66	52.15	100	0	P	H
													H
													H
		11510	41.2	-32.8	74	39.82	40	12.58	51.2	100	0	P	V
		17265	41.21	-26.99	68.2	36.55	41.15	15.66	52.15	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11590	39.65	-34.35	74	38.35	39.84	12.66	51.2	100	0	P	H
		17385	42.88	-25.32	68.2	37.8	41.47	15.79	52.18	100	0	P	H
													H
													H
		11590	40.37	-33.63	74	39.07	39.84	12.66	51.2	100	0	P	V
		17385	42.71	-25.49	68.2	37.63	41.47	15.79	52.18	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 2	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)
802.11ac VHT80 CH 155 5775MHz		5642.2	50.41	-17.79	68.2	42.27	32.48	8.27	32.61	100	198	P	H
		5699.2	56.8	-47.81	104.61	48.62	32.51	8.3	32.63	100	198	P	H
		5712.2	58.51	-50.11	108.62	50.33	32.52	8.3	32.64	100	198	P	H
		5725	58.8	-63.4	122.2	50.58	32.53	8.33	32.64	100	198	P	H
	*	5775	96.58	-	-	88.32	32.57	8.35	32.66	100	198	P	H
	*	5775	89.37	-	-	81.11	32.57	8.35	32.66	100	198	A	H
		5852.4	56.15	-60.58	116.73	47.8	32.61	8.43	32.69	100	198	P	H
		5857.8	52.4	-57.61	110.01	44.05	32.62	8.43	32.7	100	198	P	H
		5884.4	48.86	-49.36	98.22	40.47	32.63	8.47	32.71	100	198	P	H
		5928.4	47.68	-20.52	68.2	39.23	32.66	8.51	32.72	100	198	P	H
													H
													H
		5646.2	51.53	-16.67	68.2	43.39	32.48	8.27	32.61	292	52	P	V
		5696.6	55.78	-46.91	102.69	47.6	32.51	8.3	32.63	292	52	P	V
		5714	59.79	-49.33	109.12	51.61	32.52	8.3	32.64	292	52	P	V
		5724.6	59.69	-61.6	121.29	51.47	32.53	8.33	32.64	292	52	P	V
	*	5775	100.29	-	-	92.03	32.57	8.35	32.66	292	52	P	V
	*	5775	92.11	-	-	83.85	32.57	8.35	32.66	292	52	A	V
		5854.8	54.87	-56.39	111.26	46.51	32.62	8.43	32.69	292	52	P	V
		5859	56.18	-53.5	109.68	47.83	32.62	8.43	32.7	292	52	P	V
		5878.4	49.76	-52.91	102.67	41.4	32.63	8.43	32.7	292	52	P	V
		5933.8	47.57	-20.63	68.2	39.12	32.66	8.51	32.72	292	52	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 4 5725~5850MHz****WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI Ant. 2	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)
802.11ac VHT80 CH 155 5775MHz		11550	39.77	-34.23	74	38.44	39.91	12.62	51.2	100	0	P	H
		17325	41.36	-26.84	68.2	36.48	41.29	15.75	52.16	100	0	P	H
													H
													H
		11550	39.95	-34.05	74	38.62	39.91	12.62	51.2	100	0	P	V
		17325	42.05	-26.15	68.2	37.17	41.29	15.75	52.16	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

5GHz WIFI 802.11n HT40 (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
5GHz 802.11n HT40 LF		80.49	24.86	-15.14	40	42.79	13.9	0.93	32.76			P	H
		121.53	22.66	-20.84	43.5	36.47	17.82	1.14	32.77			P	H
		184.98	34.08	-9.42	43.5	49.8	15.55	1.48	32.75	100	0	P	H
		738.9	28.27	-17.73	46	31.07	27.24	2.91	32.95			P	H
		874	30.24	-15.76	46	30.83	28.7	3.16	32.45			P	H
		938.4	30.55	-15.45	46	29.45	29.69	3.29	31.88			P	H
													H
													H
													H
													H
													H
													H
		39.72	27.03	-12.97	40	38.63	20.5	0.65	32.75			P	V
		58.35	27.25	-12.75	40	46.42	12.64	0.93	32.74			P	V
		78.87	28.3	-11.7	40	46.47	13.66	0.93	32.76	100	0	P	V
		794.9	28.7	-17.3	46	30.77	27.86	2.97	32.9			P	V
		883.8	30.09	-15.91	46	30.62	28.7	3.16	32.39			P	V
		957.3	31.72	-14.28	46	30.1	30	3.29	31.67			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.
!	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. 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”.



Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	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 149 5745MHz		5642.6	50.03	-18.17	68.2	41.89	32.48	8.27	32.61	100	302	P	H
		5694.4	52.18	-48.89	101.07	44	32.51	8.3	32.63	100	302	P	H
		5718.8	56.92	-53.54	110.46	48.73	32.53	8.3	32.64	100	302	P	H
		5724.8	60.2	-61.54	121.74	51.98	32.53	8.33	32.64	100	302	P	H
	*	5745	105.46	-	-	97.24	32.54	8.33	32.65	100	302	P	H
	*	5745	97.83	-	-	89.61	32.54	8.33	32.65	100	302	A	H
													H
													H
		5644.4	48.13	-20.07	68.2	39.99	32.48	8.27	32.61	371	271	P	V
		5692.8	51.42	-48.47	99.89	43.24	32.51	8.3	32.63	371	271	P	V
		5719.8	53.95	-56.79	110.74	45.76	32.53	8.3	32.64	371	271	P	V
		5723.2	56.32	-61.78	118.1	48.1	32.53	8.33	32.64	371	271	P	V
	*	5745	101.9	-	-	93.68	32.54	8.33	32.65	371	271	P	V
	*	5745	94.57	-	-	86.35	32.54	8.33	32.65	371	271	A	V
													V
													V



WIFI Ant. 1+2	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 157 5785MHz		5623	49.04	-19.16	68.2	40.94	32.47	8.23	32.6	102	302	P	H
		5678.6	50.37	-39.03	89.4	42.22	32.5	8.27	32.62	102	302	P	H
		5706.2	51.54	-55.4	106.94	43.36	32.52	8.3	32.64	102	302	P	H
		5724.8	52.17	-69.57	121.74	43.95	32.53	8.33	32.64	102	302	P	H
	*	5785	105.09	-	-	96.84	32.57	8.35	32.67	102	302	P	H
	*	5785	97.19	-	-	88.94	32.57	8.35	32.67	102	302	A	H
		5851	49.67	-70.25	119.92	41.32	32.61	8.43	32.69	102	302	P	H
		5855.4	50.78	-59.91	110.69	42.42	32.62	8.43	32.69	102	302	P	H
		5884.8	50.51	-47.41	97.92	42.12	32.63	8.47	32.71	102	302	P	H
		5949.4	48.33	-19.87	68.2	39.88	32.67	8.51	32.73	102	302	P	H
													H
													H
		5622.8	48.26	-19.94	68.2	40.16	32.47	8.23	32.6	348	273	P	V
		5698.4	49.23	-54.79	104.02	41.05	32.51	8.3	32.63	348	273	P	V
		5707.2	48.52	-58.7	107.22	40.34	32.52	8.3	32.64	348	273	P	V
		5721.4	50.1	-63.89	113.99	41.91	32.53	8.3	32.64	348	273	P	V
	*	5785	101.37	-	-	93.12	32.57	8.35	32.67	348	273	P	V
	*	5785	94.05	-	-	85.8	32.57	8.35	32.67	348	273	A	V
		5851.2	46.85	-72.61	119.46	38.5	32.61	8.43	32.69	348	273	P	V
		5866.4	48.46	-59.15	107.61	40.11	32.62	8.43	32.7	348	273	P	V
		5923.8	48.01	-21.07	69.08	39.56	32.66	8.51	32.72	348	273	P	V
		5949.6	48.27	-19.93	68.2	39.82	32.67	8.51	32.73	348	273	P	V
													V
													V



WIFI Ant. 1+2	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 165 5825MHz	*	5825	105.61	-	-	97.3	32.6	8.39	32.68	100	303	P	H
	*	5825	97.51	-	-	89.2	32.6	8.39	32.68	100	303	A	H
		5852.2	54.33	-62.85	117.18	45.98	32.61	8.43	32.69	100	303	P	H
		5855.6	53.89	-56.74	110.63	45.53	32.62	8.43	32.69	100	303	P	H
		5888.8	50.79	-44.17	94.96	42.39	32.64	8.47	32.71	100	303	P	H
		5927.2	48.98	-19.22	68.2	40.53	32.66	8.51	32.72	100	303	P	H
													H
													H
	*	5825	100.41	-	-	92.1	32.6	8.39	32.68	359	273	P	V
	*	5825	93.8	-	-	85.49	32.6	8.39	32.68	359	273	A	V
		5851.4	51.33	-67.68	119.01	42.98	32.61	8.43	32.69	359	273	P	V
		5856	50.43	-60.09	110.52	42.07	32.62	8.43	32.69	359	273	P	V
		5891.6	48.75	-44.13	92.88	40.35	32.64	8.47	32.71	359	273	P	V
		5947.2	47.86	-20.34	68.2	39.41	32.67	8.51	32.73	359	273	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	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 149 5745MHz		11490	43.71	-30.29	74	53.02	40.01	12.58	61.9	100	0	P	H
		17235	44.02	-24.18	68.2	48.67	41.05	15.66	61.36	100	0	P	H
													H
													H
		11490	43.37	-30.63	74	52.68	40.01	12.58	61.9	100	0	P	V
		17235	44.08	-24.12	68.2	48.73	41.05	15.66	61.36	100	0	P	V
													V
													V
802.11n HT20 CH 157 5785MHz		11570	42.78	-31.22	74	52.13	39.88	12.66	61.89	100	0	P	H
		17355	45.96	-22.24	68.2	50.08	41.38	15.79	61.29	100	0	P	H
													H
													H
		11570	42.63	-31.37	74	51.98	39.88	12.66	61.89	100	0	P	V
		17355	43.59	-24.61	68.2	47.71	41.38	15.79	61.29	100	0	P	V
													V
													V
802.11n HT20 CH 165 5825MHz		11650	43.28	-30.72	74	52.67	39.75	12.73	61.87	100	0	P	H
		17475	46.54	-21.66	68.2	50.12	41.71	15.93	61.22	100	0	P	H
													H
													H
		11650	42.95	-31.05	74	52.34	39.75	12.73	61.87	100	0	P	V
		17475	44.26	-23.94	68.2	47.84	41.71	15.93	61.22	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	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 HT40 CH 151 5755MHz		5643.6	51.83	-16.37	68.2	43.69	32.48	8.27	32.61	100	300	P	H
		5699.6	54.62	-50.29	104.91	46.44	32.51	8.3	32.63	100	300	P	H
		5716.2	59.6	-50.14	109.74	51.42	32.52	8.3	32.64	100	300	P	H
		5721.2	60.71	-52.83	113.54	52.52	32.53	8.3	32.64	100	300	P	H
	*	5755	102.09	-	-	93.85	32.56	8.33	32.65	100	300	P	H
	*	5755	94.81	-	-	86.57	32.56	8.33	32.65	100	300	A	H
		5852	50.59	-67.05	117.64	42.24	32.61	8.43	32.69	100	300	P	H
		5859.8	49.52	-59.93	109.45	41.17	32.62	8.43	32.7	100	300	P	H
		5899	49.69	-37.71	87.4	41.29	32.64	8.47	32.71	100	300	P	H
		5946.6	47.62	-20.58	68.2	39.17	32.67	8.51	32.73	100	300	P	H
													H
													H
		5609.2	50.64	-17.56	68.2	42.55	32.46	8.23	32.6	364	252	P	V
		5696.2	53.16	-49.24	102.4	44.98	32.51	8.3	32.63	364	252	P	V
		5718	54.41	-55.83	110.24	46.22	32.53	8.3	32.64	364	252	P	V
		5721.8	54.99	-59.91	114.9	46.77	32.53	8.33	32.64	364	252	P	V
	*	5755	98.15	-	-	89.91	32.56	8.33	32.65	364	252	P	V
	*	5755	90.98	-	-	82.74	32.56	8.33	32.65	364	252	A	V
		5853	49.23	-66.13	115.36	40.88	32.61	8.43	32.69	364	252	P	V
		5873	48.12	-57.64	105.76	39.76	32.63	8.43	32.7	364	252	P	V
		5891.6	48.09	-44.79	92.88	39.69	32.64	8.47	32.71	364	252	P	V
		5937.6	47.55	-20.65	68.2	39.11	32.66	8.51	32.73	364	252	P	V
													V
													V



WIFI Ant. 1+2	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 HT40 CH 159 5795MHz		5649.8	49.09	-19.11	68.2	40.94	32.49	8.27	32.61	100	301	P	H
		5693	50.8	-49.24	100.04	42.62	32.51	8.3	32.63	100	301	P	H
		5718	50.94	-59.3	110.24	42.75	32.53	8.3	32.64	100	301	P	H
		5722.6	50.89	-65.84	116.73	42.67	32.53	8.33	32.64	100	301	P	H
	*	5795	102.19	-	-	93.93	32.58	8.35	32.67	100	301	P	H
	*	5795	93.83	-	-	85.57	32.58	8.35	32.67	100	301	A	H
		5853.6	52.64	-61.35	113.99	44.28	32.62	8.43	32.69	100	301	P	H
		5856.6	51.67	-58.68	110.35	43.31	32.62	8.43	32.69	100	301	P	H
		5883.2	51.19	-47.92	99.11	42.79	32.63	8.47	32.7	100	301	P	H
		5949.8	48.41	-19.79	68.2	39.96	32.67	8.51	32.73	100	301	P	H
													H
													H
		5626.8	47.71	-20.49	68.2	39.61	32.47	8.23	32.6	314	274	P	V
		5686	48.61	-46.26	94.87	40.43	32.51	8.3	32.63	314	274	P	V
		5711.4	48.09	-60.3	108.39	39.91	32.52	8.3	32.64	314	274	P	V
		5724.6	47.98	-73.31	121.29	39.76	32.53	8.33	32.64	314	274	P	V
	*	5795	98.29	-	-	90.03	32.58	8.35	32.67	314	274	P	V
	*	5795	91.35	-	-	83.09	32.58	8.35	32.67	314	274	A	V
		5851	49.53	-70.39	119.92	41.18	32.61	8.43	32.69	314	274	P	V
		5872.4	49.01	-56.92	105.93	40.65	32.63	8.43	32.7	314	274	P	V
		5897.6	48.99	-39.45	88.44	40.59	32.64	8.47	32.71	314	274	P	V
		5932.6	50	-18.2	68.2	41.55	32.66	8.51	32.72	314	274	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	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 HT40 CH 151 5755MHz		11510	43.36	-30.64	74	52.68	40	12.58	61.9	100	0	P	H
		17265	43.24	-24.96	68.2	47.77	41.15	15.66	61.34	100	0	P	H
													H
													H
		11510	43.36	-30.64	74	52.68	40	12.58	61.9	100	0	P	V
		17265	44.11	-24.09	68.2	48.64	41.15	15.66	61.34	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11590	43.37	-30.63	74	52.75	39.84	12.66	61.88	100	0	P	H
		17385	43.01	-25.19	68.2	47.02	41.47	15.79	61.27	100	0	P	H
													H
													H
		11590	42.78	-31.22	74	52.16	39.84	12.66	61.88	100	0	P	V
		17385	43.73	-24.47	68.2	47.74	41.47	15.79	61.27	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	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)
802.11ac VHT80 CH 155 5775MHz		5630.8	50.6	-17.6	68.2	42.51	32.47	8.23	32.61	100	301	P	H
		5692.4	56.77	-42.83	99.6	48.59	32.51	8.3	32.63	100	301	P	H
		5714.2	60.77	-48.41	109.18	52.59	32.52	8.3	32.64	100	301	P	H
		5720.8	59.01	-53.61	112.62	50.82	32.53	8.3	32.64	100	301	P	H
	*	5775	99.46	-	-	91.2	32.57	8.35	32.66	100	301	P	H
	*	5775	92.89	-	-	84.63	32.57	8.35	32.66	100	301	A	H
		5852.4	54.43	-62.3	116.73	46.08	32.61	8.43	32.69	100	301	P	H
		5857.2	54	-56.18	110.18	45.64	32.62	8.43	32.69	100	301	P	H
		5885.2	49.92	-47.71	97.63	41.53	32.63	8.47	32.71	100	301	P	H
		5943.4	48.33	-19.87	68.2	39.88	32.67	8.51	32.73	100	301	P	H
													H
													H
		5628	47.96	-20.24	68.2	39.86	32.47	8.23	32.6	313	274	P	V
		5699.6	52.44	-52.47	104.91	44.26	32.51	8.3	32.63	313	274	P	V
		5716.4	55.53	-54.26	109.79	47.35	32.52	8.3	32.64	313	274	P	V
		5724.6	54.67	-66.62	121.29	46.45	32.53	8.33	32.64	313	274	P	V
	*	5775	95.23	-	-	86.97	32.57	8.35	32.66	313	274	P	V
	*	5775	89.2	-	-	80.94	32.57	8.35	32.66	313	274	A	V
		5854.2	51.98	-60.64	112.62	43.62	32.62	8.43	32.69	313	274	P	V
		5858.8	52.51	-57.22	109.73	44.16	32.62	8.43	32.7	313	274	P	V
		5875.6	50.08	-54.67	104.75	41.72	32.63	8.43	32.7	313	274	P	V
		5928.4	47.52	-20.68	68.2	39.07	32.66	8.51	32.72	313	274	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 4 5725~5850MHz****WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI Ant. 1+2	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)
802.11ac VHT80 CH 155 5775MHz		11550	42.37	-31.63	74	51.73	39.91	12.62	61.89	100	0	P	H
		17325	44.37	-23.83	68.2	48.64	41.29	15.75	61.31	100	0	P	H
													H
													H
		11550	42.11	-31.89	74	51.47	39.91	12.62	61.89	100	0	P	V
		17325	44.46	-23.74	68.2	48.73	41.29	15.75	61.31	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

5GHz WIFI 802.11n HT40 (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
5GHz 802.11n HT40 LF		30.81	24.59	-15.41	40	31.15	25.54	0.65	32.75			P	H
		125.04	18.65	-24.85	43.5	32.18	17.9	1.33	32.76			P	H
		199.02	23.74	-19.76	43.5	39.05	15.96	1.48	32.75			P	H
		740.3	28.29	-17.71	46	31.07	27.26	2.91	32.95			P	H
		852.3	30.09	-15.91	46	30.81	28.7	3.16	32.58			P	H
		940.5	30.99	-15.01	46	29.79	29.77	3.29	31.86	100	0	P	H
													H
													H
													H
													H
													H
													H
		39.18	26.26	-13.74	40	37.3	21.06	0.65	32.75			P	V
		50.52	27.05	-12.95	40	43.66	15.2	0.93	32.74	100	0	P	V
		112.62	21.87	-21.63	43.5	36.06	17.44	1.14	32.77			P	V
		754.3	28.48	-17.52	46	30.97	27.54	2.91	32.94			P	V
		850.2	29.71	-16.29	46	30.45	28.7	3.16	32.6			P	V
		945.4	31.4	-14.6	46	30.01	29.9	3.29	31.8			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.
!	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”.



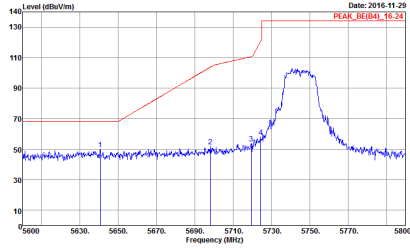
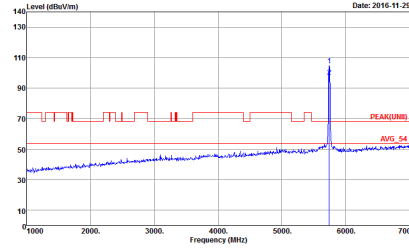
Appendix B. Radiated Spurious Emission Plots

Test Engineer :	Tsung Lee, Stan Hsieh, and Kyle Chuang	Temperature :	21~23°C
		Relative Humidity :	45~49%

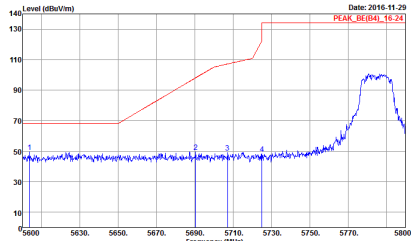
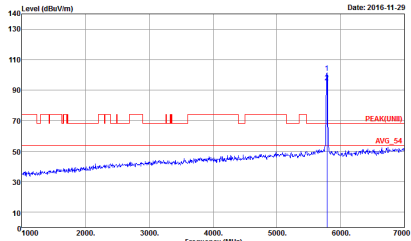
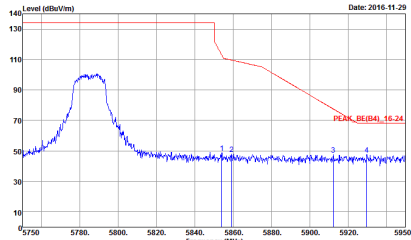
Band 4 - 5725~5850MHz WIFI 802.11a (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
2	Horizontal	Fundamental
Peak	Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 33	Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 33

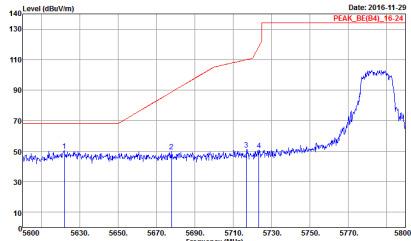
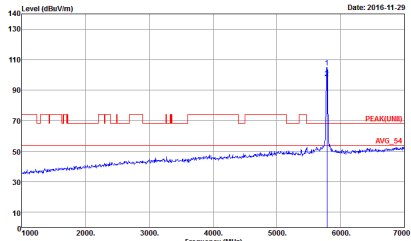
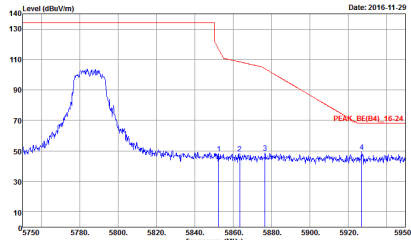


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 33	 Site : 03CH10-HY Condition : PEAK(UMB) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 33



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 34	 Site : 03CH10-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 34
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 34	Left blank

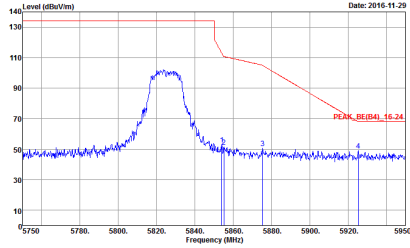
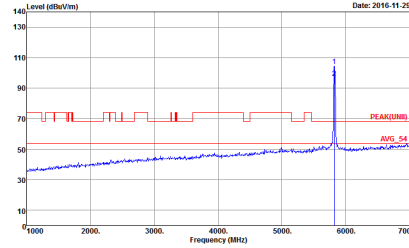


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 34	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 34
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 34	Left blank



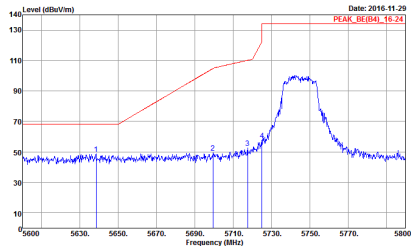
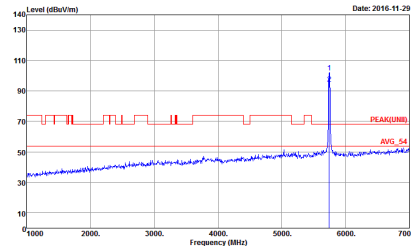
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
2	Horizontal	Fundamental
Peak	Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 35	Site : 03CH10-HY Condition : PEAK(UMB) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 35



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 35	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 35



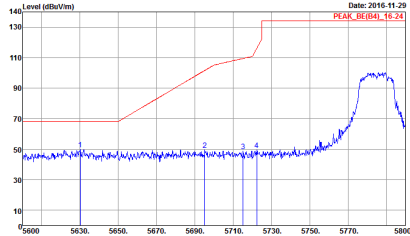
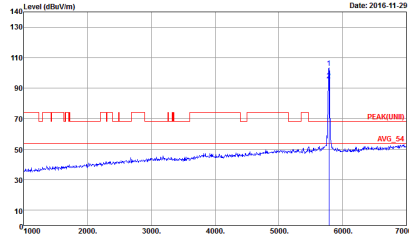
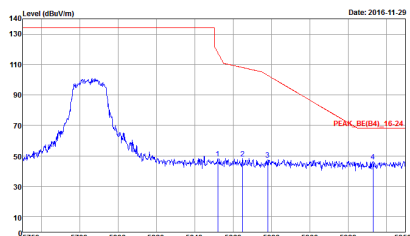
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 36	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 36

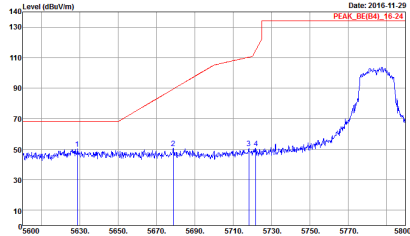
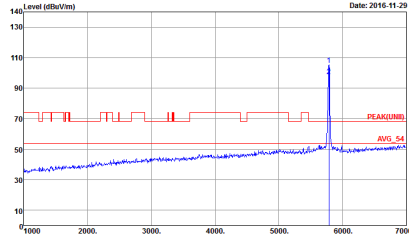
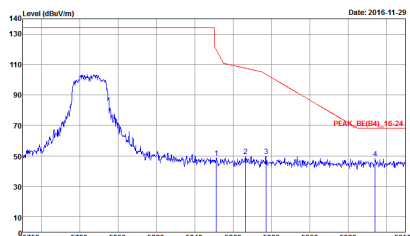


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Vertical	Fundamental
Peak	Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 36	Site : 03CH10-HY Condition : PEAK(UMB) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 36

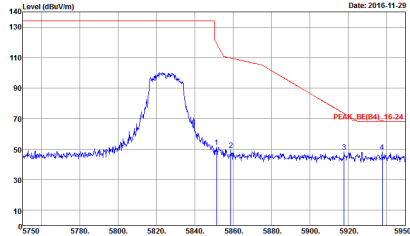
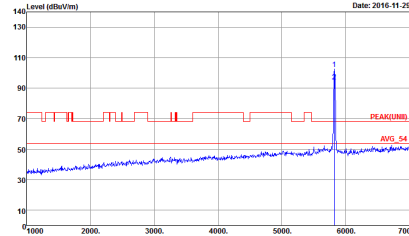


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 37	 Site : 03CH10-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 37
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 37	Left blank

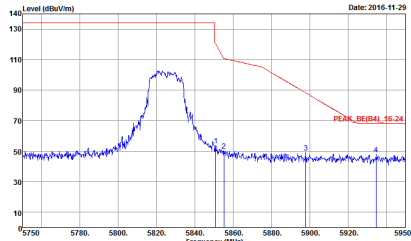
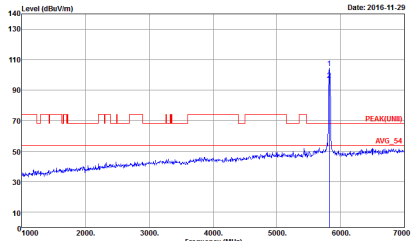


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 37	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 37
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 37	Left blank



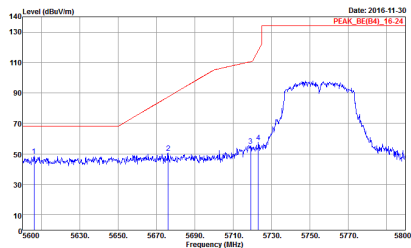
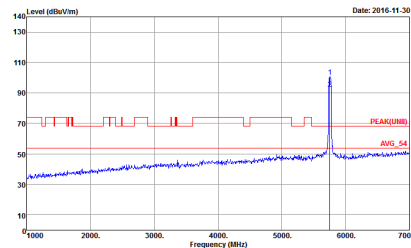
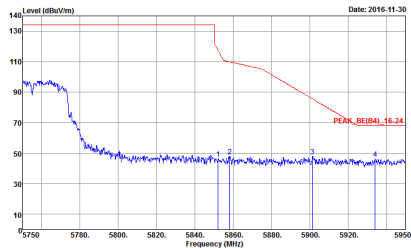
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 38	 Site : 03CH10-HY Condition : PEAK(UMB) 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 38



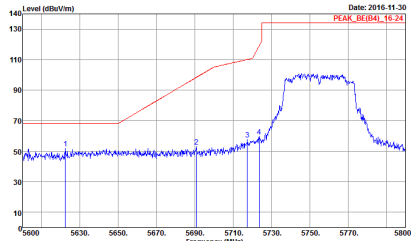
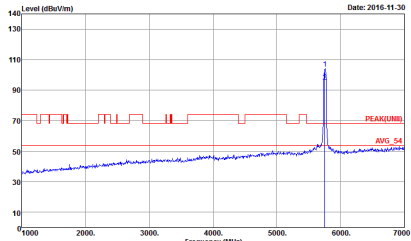
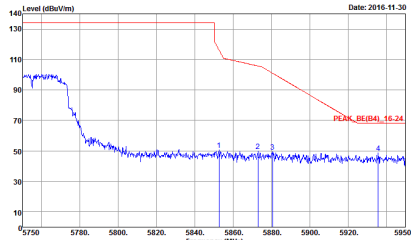
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 38	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 38



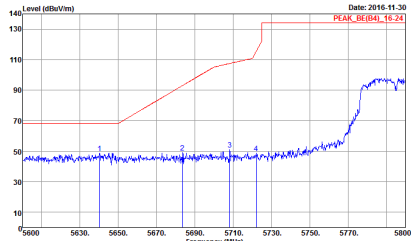
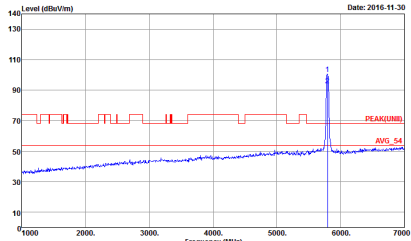
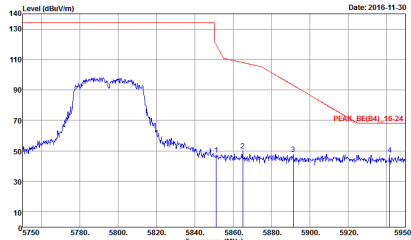
Band 4 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 39	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 39
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 39	Left blank

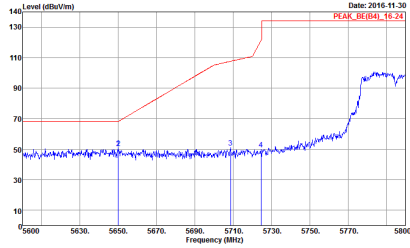
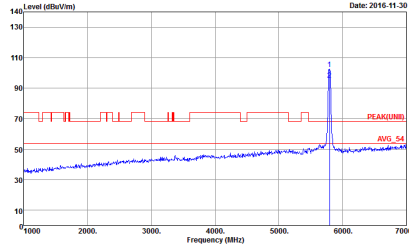
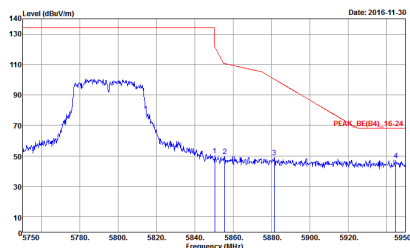


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 39	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 39
	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 39	Left blank



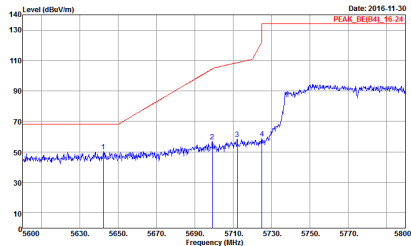
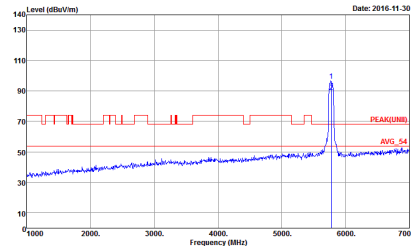
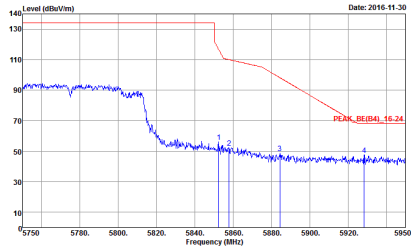
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 40	 Site : 03CH10-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 40
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 40	Left blank



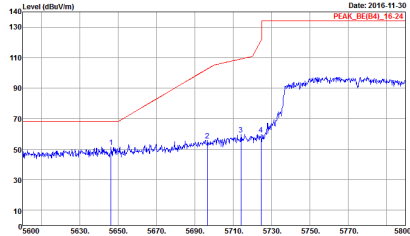
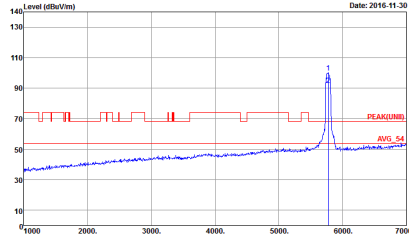
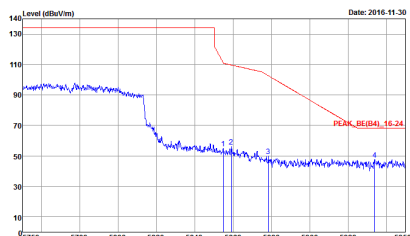
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 40	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 40
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 40	Left blank



Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

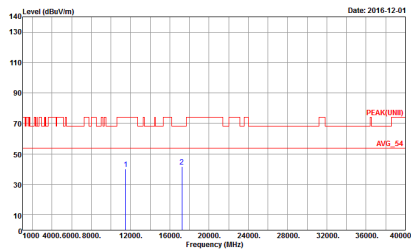
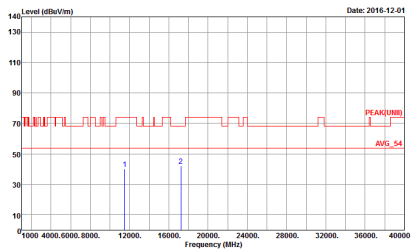
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 41	 Site : 03CH10-HY Condition : PEAK(U(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 41
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 41	Left blank



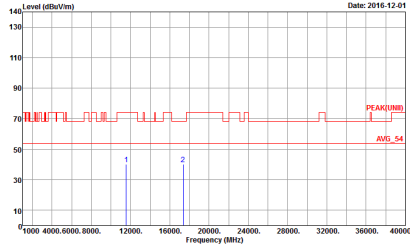
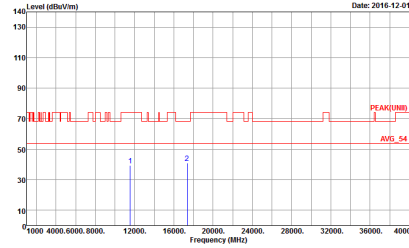
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL Detector : Peak Project : GND303-01 Mode : 41	 Site : 03CH10-HY Condition : PEAK(UMB) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : GND303-01 Mode : 41
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL Detector : Peak Project : GND303-01 Mode : 41	Left blank



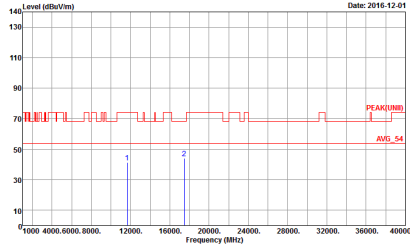
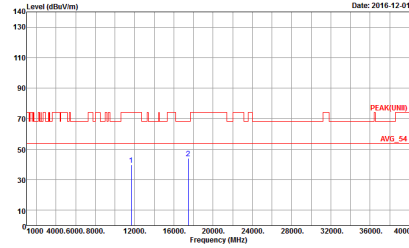
Band 4 - 5725~5850MHz
WIFI 802.11a (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 33	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 33



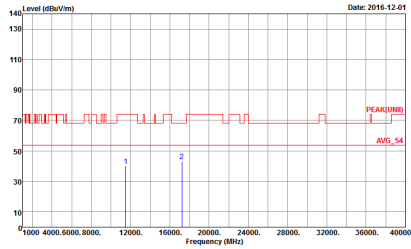
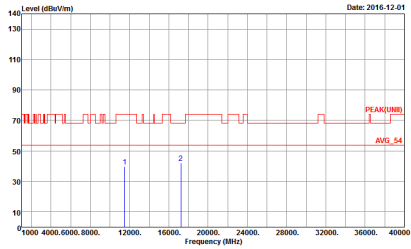
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 34	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 34



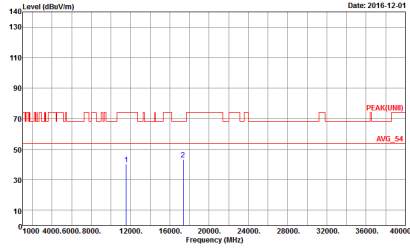
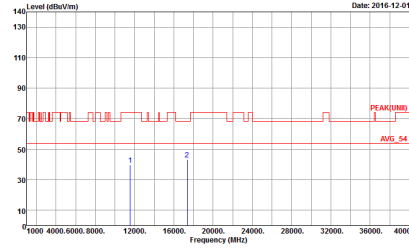
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 35	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 35



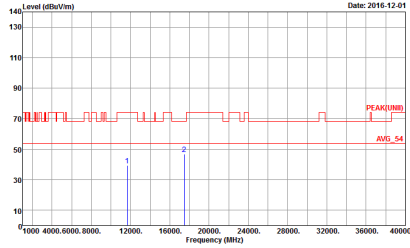
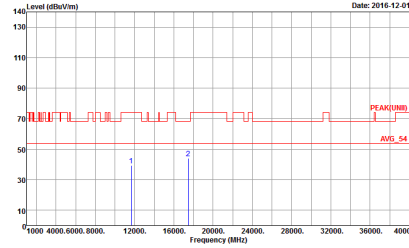
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 36	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 36



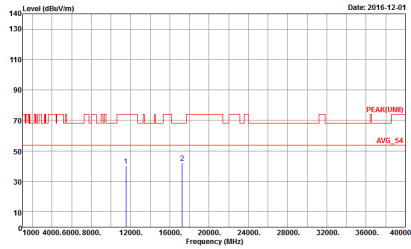
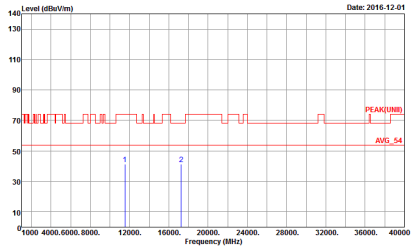
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 37	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 37



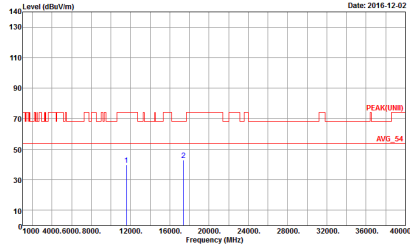
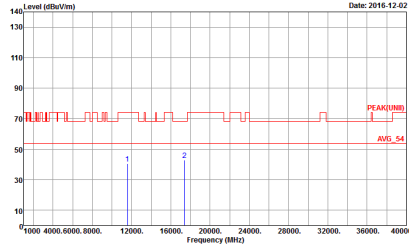
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 3B	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 3B



Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

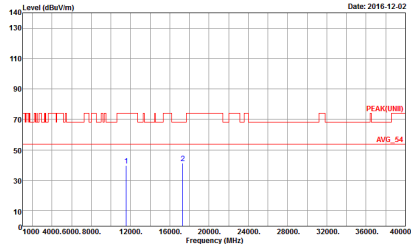
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 39	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 39



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 40	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 40

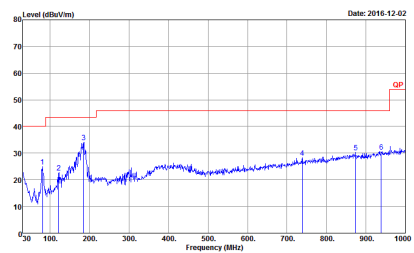
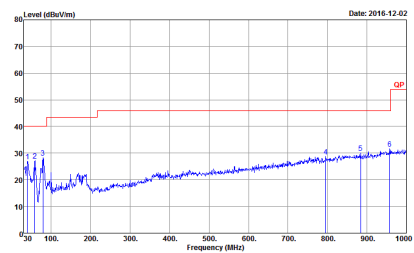


Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

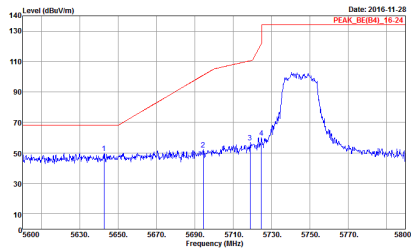
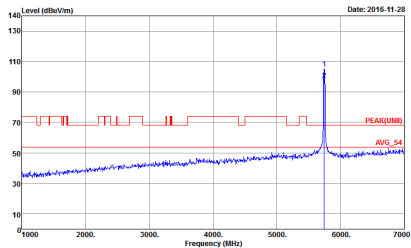
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 41	 Site : 03CH10-HY Condition : PEAK(UNII) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 41



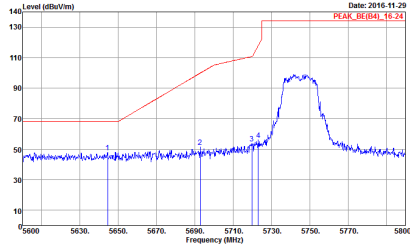
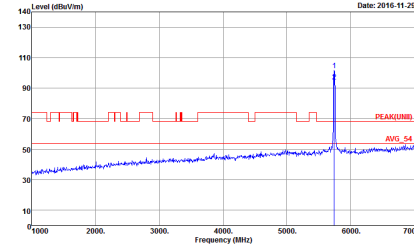
Emission below 1GHz
5GHz WIFI 802.11n HT40 (LF)

WIFI	5GHz 5725~5850MHz	
ANT	802.11n HT40 LF	
2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-11Y Condition : QP 3m BI-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 74	 Site : 03CH10-11Y Condition : QP 3m BI-LOG 6111D-LF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 74

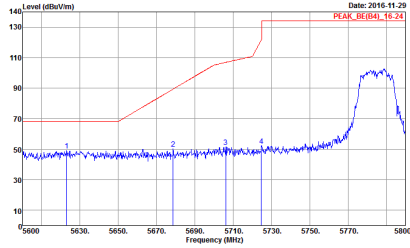
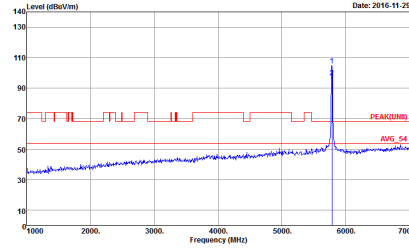
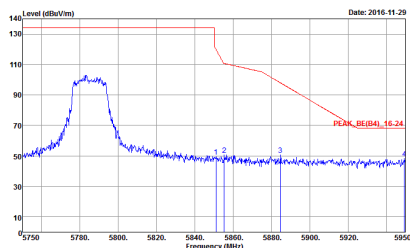
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_15-24 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : GND303-01 Mode : 65	 Site : 03CH10-HY Condition : PEAK(UMB) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : GND303-01 Mode : 65

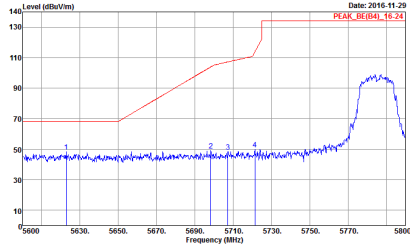
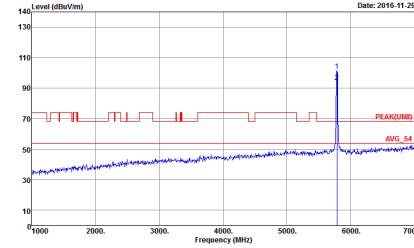
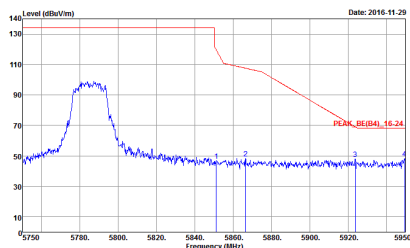


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 65	 Site : 03CH10-HY Condition : PEAK(UNII) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 65

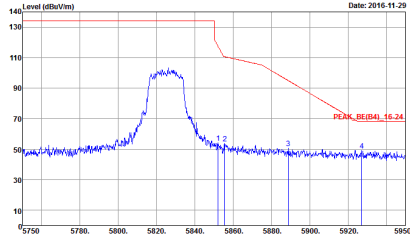
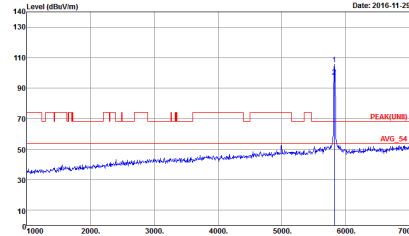


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 66	 Site : 03CH10-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 66
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 66	Left blank

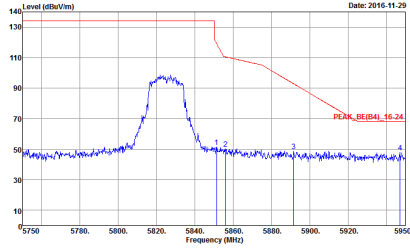
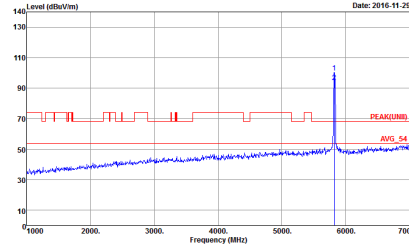


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 66	 Site : 03CH10-HY Condition : PEAK(UMB) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 66
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 66	Left blank



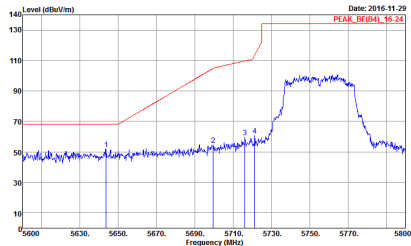
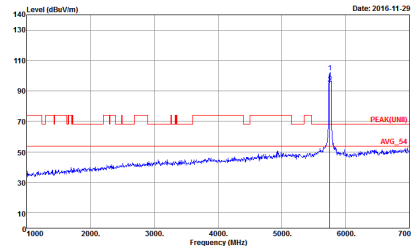
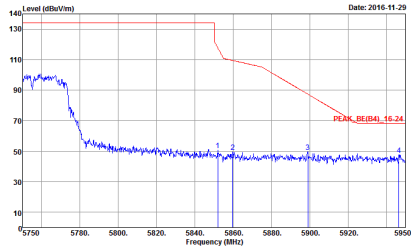
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 67	 Site : 03CH10-HY Condition : PEAK(UNII) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 67



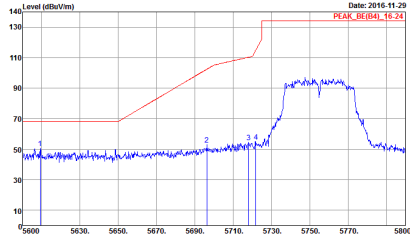
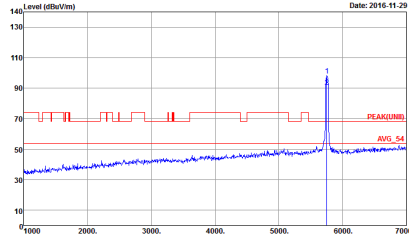
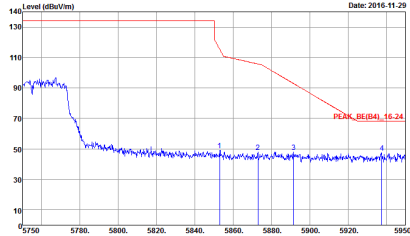
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 67	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 67



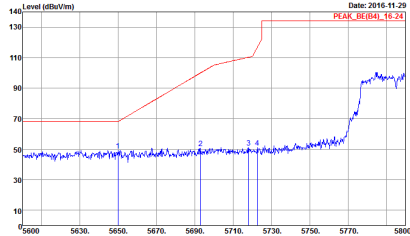
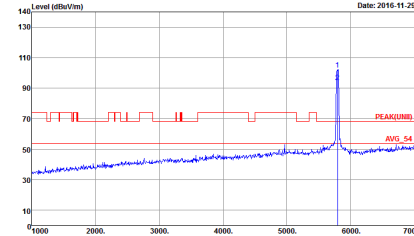
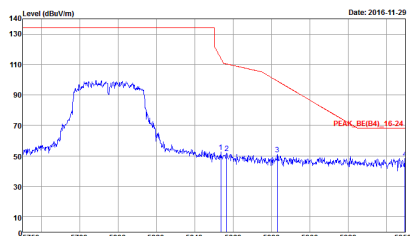
Band 4 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 68	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 68
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 68	Left blank

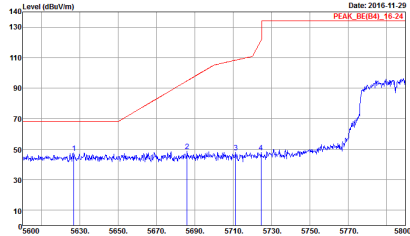
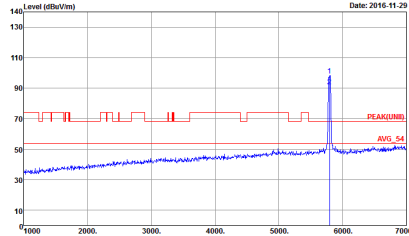
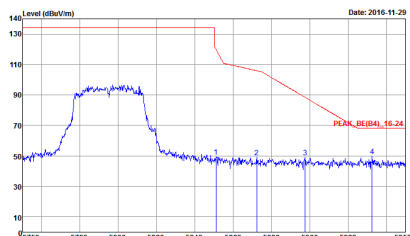


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 68	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 68
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 68	Left blank



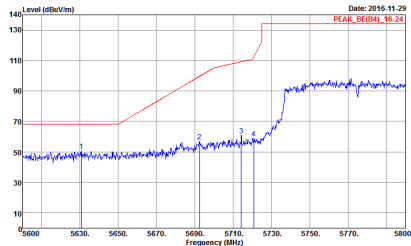
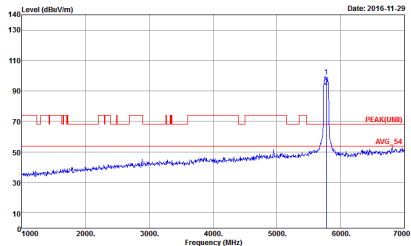
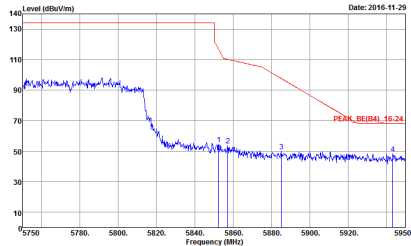
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 69	 Site : 03CH10-HY Condition : PEAK(UMB) 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 69
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 6N0303-01 Mode : 69	Left blank



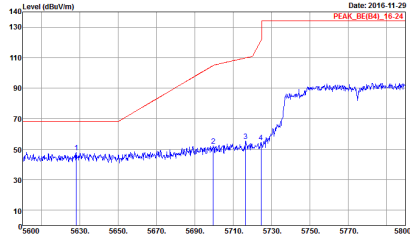
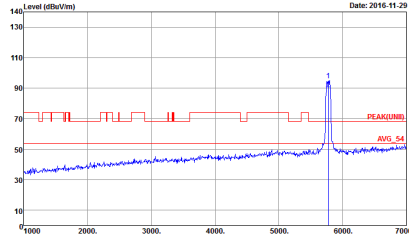
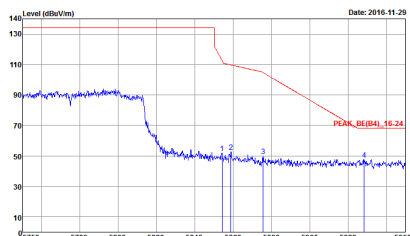
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 69	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 69
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 69	Left blank



Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

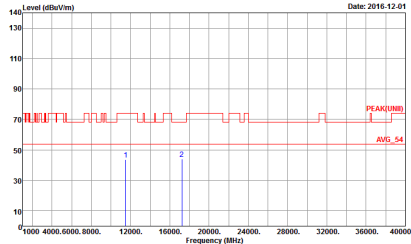
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 70	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 70
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 6N0303-01 Mode : 70	Left blank



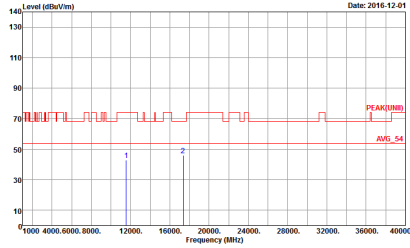
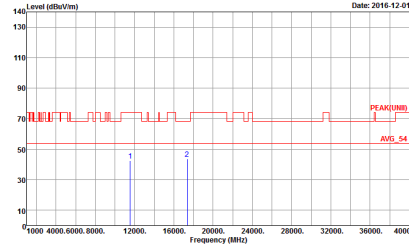
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 70	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 70
	 Site : 03CH10-HY Condition : PEAK_BE(B4)_16-24 3m HORN 91200-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 70	Left blank



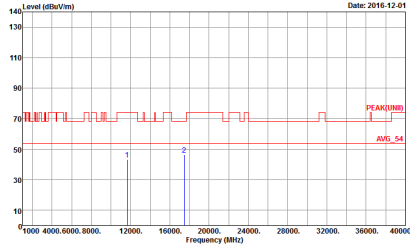
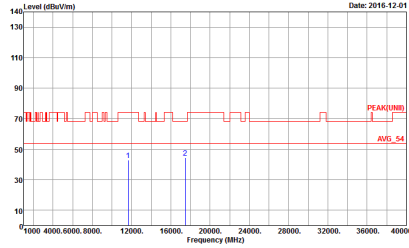
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 65	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 65



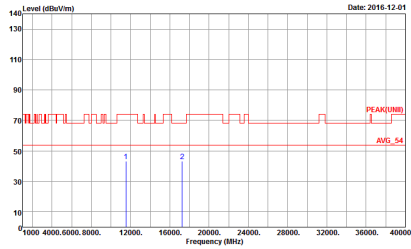
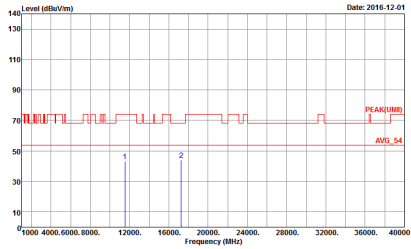
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 66	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 66



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 67	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 67



Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

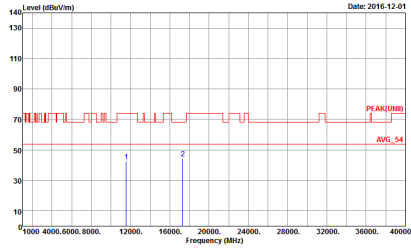
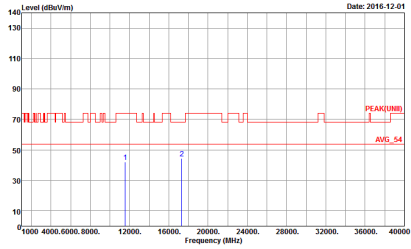
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 68	 Site : 03CH10-HY Condition : PEAK(UNIT) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 68



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Horizontal	Vertical
Peak Avg.	Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 69	Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 69

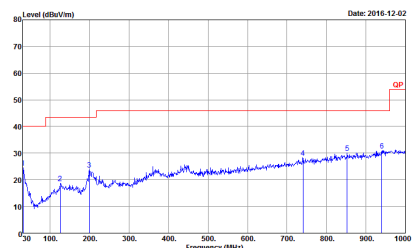
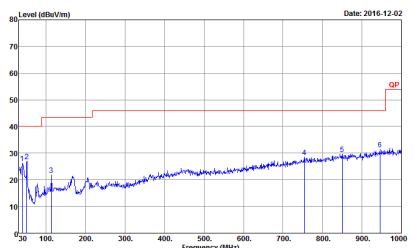


Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 70	 Site : 03CH10-HY Condition : PEAK(UMI) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 70



Emission below 1GHz
5GHz WIFI 802.11n HT40 (LF)

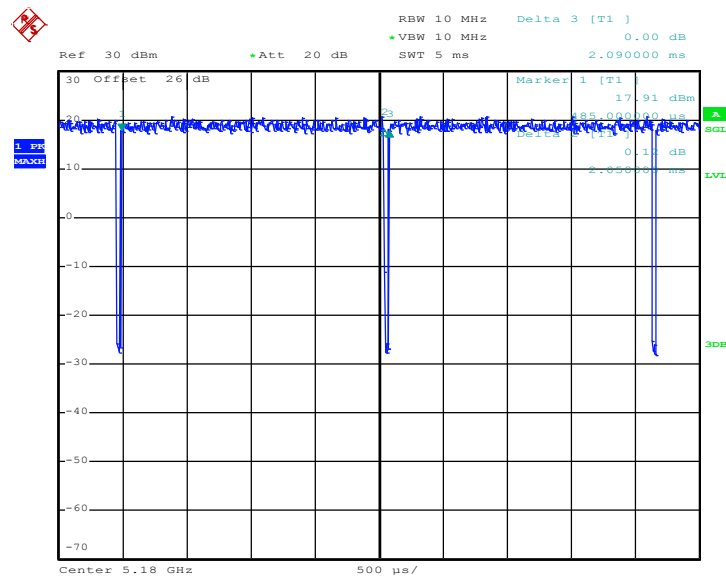
WIFI	5GHz 5725~5850MHz	
ANT	802.11n HT40 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : QP 3m BI-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 6N0303-01 Mode : 75	 Site : 03CH10-HY Condition : QP 3m BI-LOG 6111D-LF VERTICAL Detector : Peak Project : 6N0303-01 Mode : 75

Appendix C Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11a	98.09	-	-	10Hz
2	802.11a	98.09	-	-	10Hz
1	5GHz 802.11n HT20	97.95	1910	0.523560209	1kHz
2	5GHz 802.11n HT20	98.46	-	-	10Hz
1+2 (1)	5GHz 802.11n HT20	96.04	970	1.030927835	3kHz
1+2 (2)	5GHz 802.11n HT20	96.08	980	1.020408163	3kHz
1	5GHz 802.11n HT40	96.67	928	1.077586207	3kHz
2	5GHz 802.11n HT40	96.69	936	1.068376068	3kHz
1+2 (1)	5GHz 802.11n HT40	92.42	488	2.049180328	3kHz
1+2 (2)	5GHz 802.11n HT40	93.18	492	2.032520325	3kHz
1	5GHz 802.11ac VHT80	93.50	460	2.173913043	3kHz
2	5GHz 802.11ac VHT80	93.44	456	2.192982456	3kHz
1+2 (1)	5GHz 802.11ac VHT80	86.30	252	3.968253968	10kHz
1+2 (2)	5GHz 802.11ac VHT80	85.14	252	3.968253968	10kHz

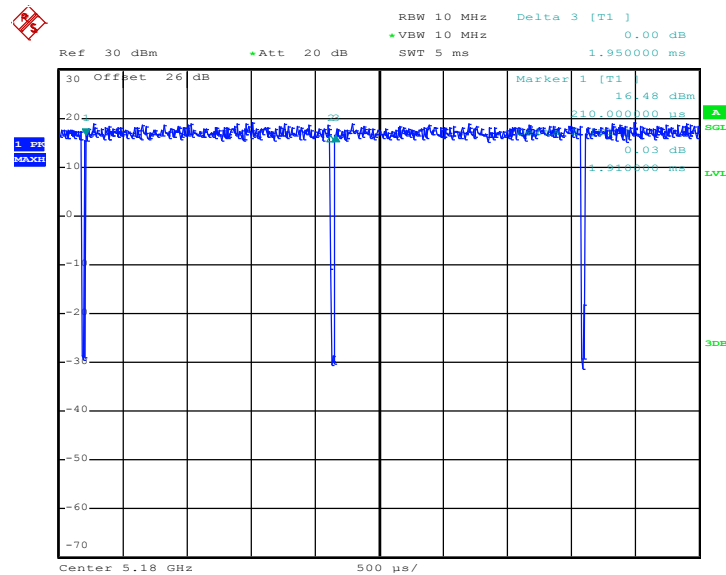
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802.11a



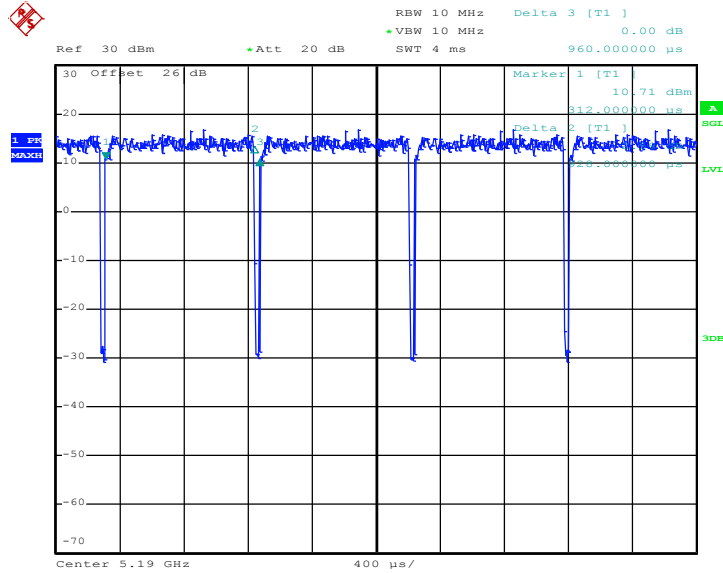
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5GHz 802.11n HT20



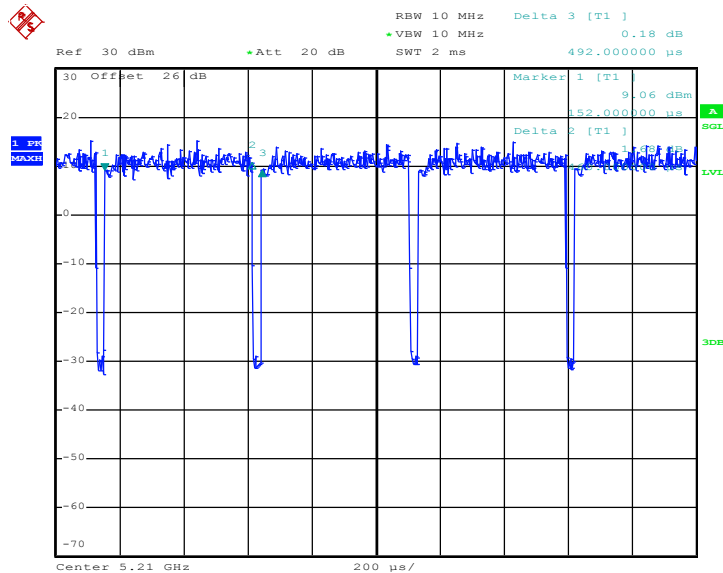
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5GHz 802.11n HT40



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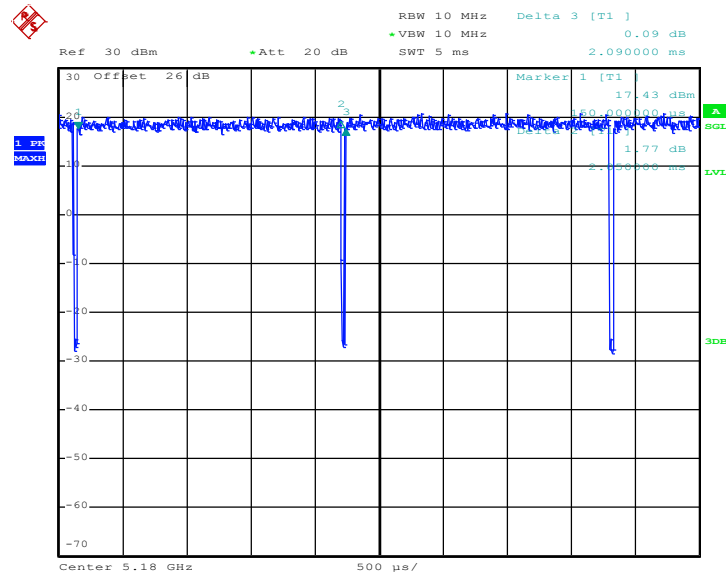
5GHz 802.11ac VHT80



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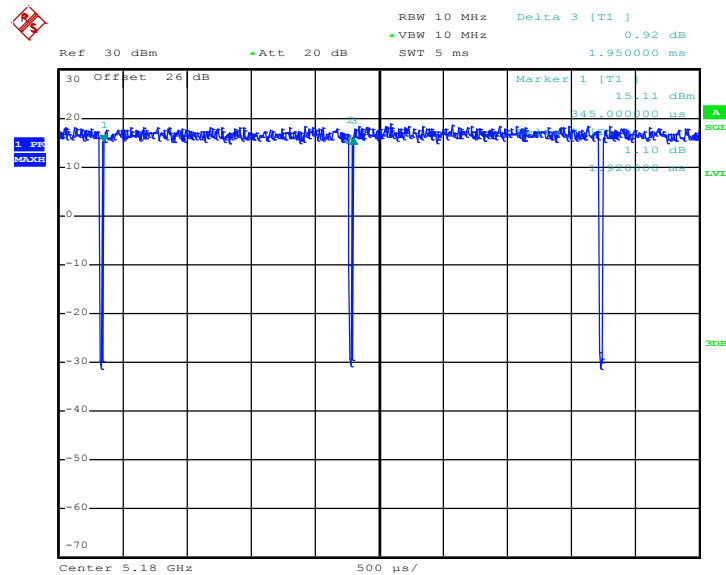
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802.11a

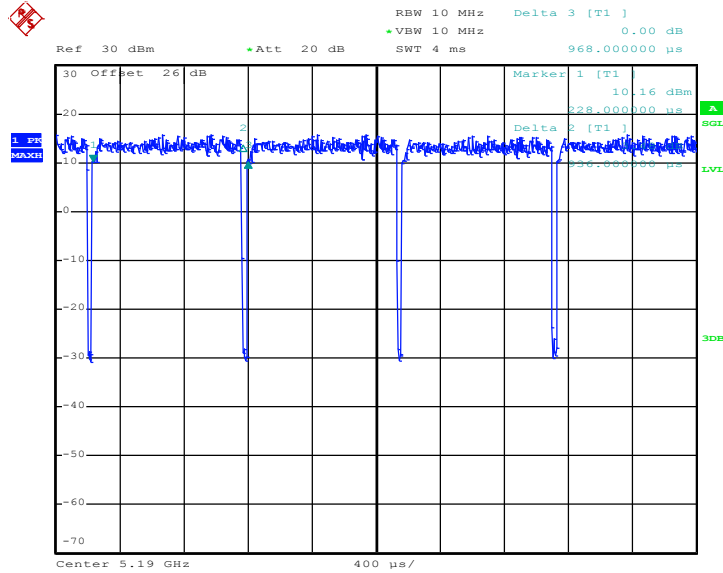


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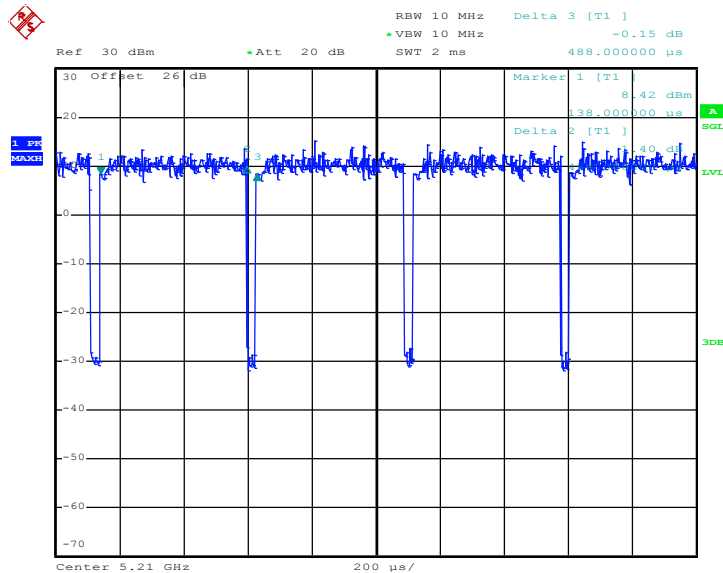
5GHz 802.11n HT20



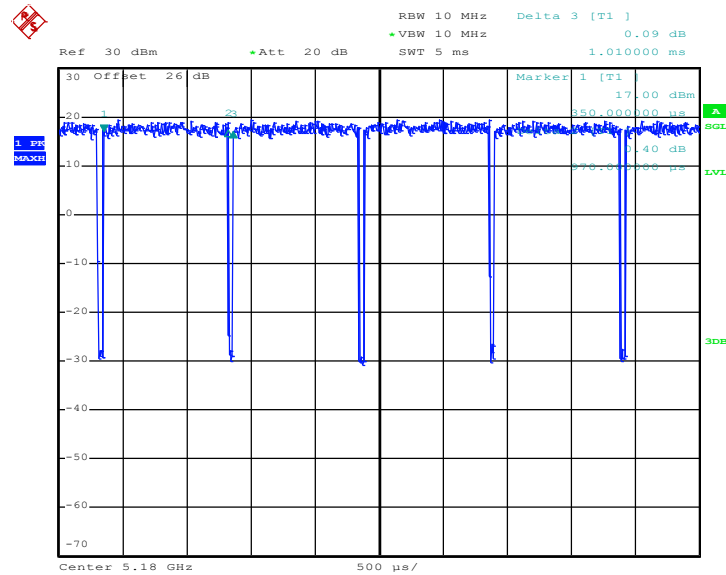
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5GHz 802.11n HT40


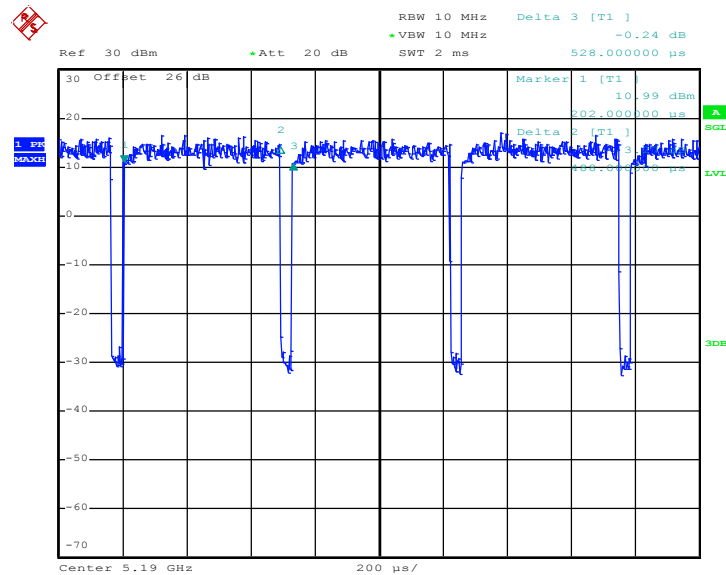
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5GHz 802.11ac VHT80


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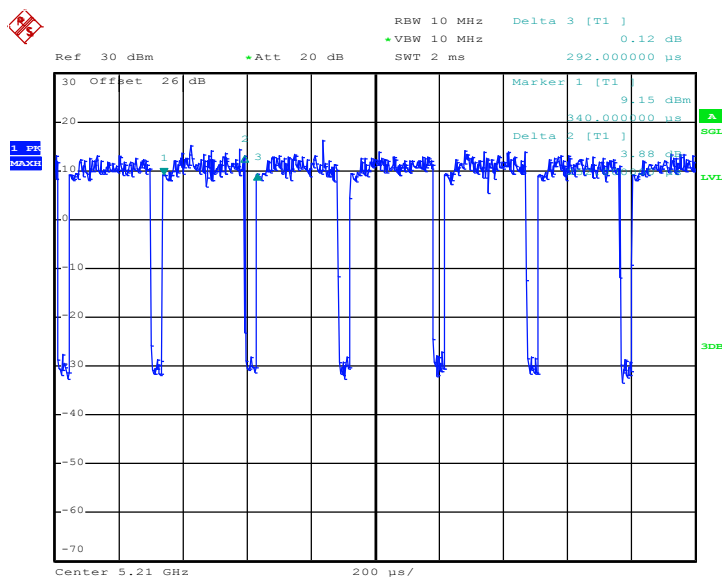
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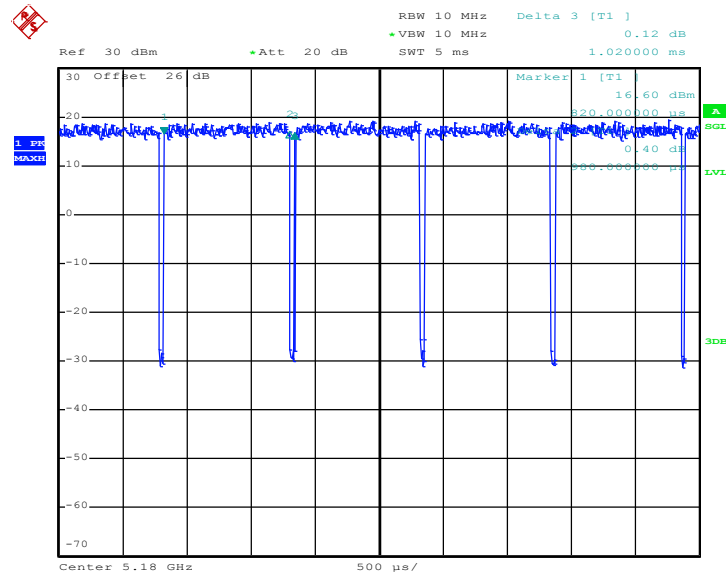
5GHz 802.11n HT40


Date: 15.NOV.2016 14:35:28

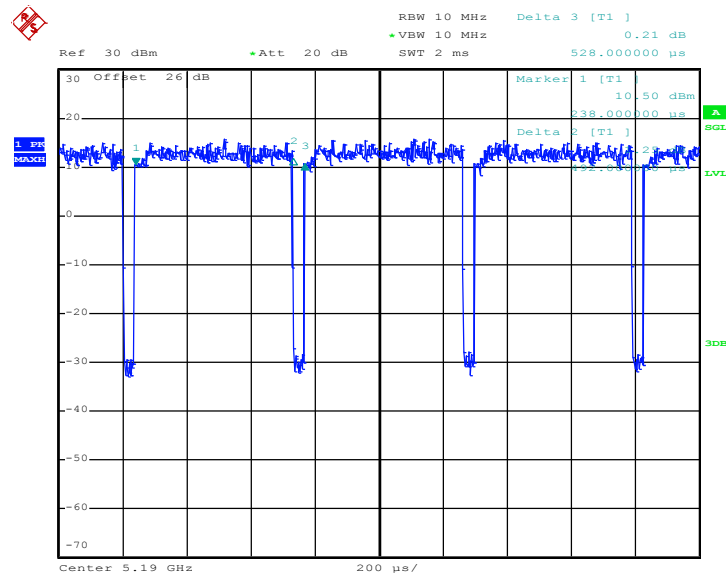
5GHz 802.11ac VHT80



Date: 15.NOV.2016 14:58:12

<MIMO Ant. 1+2(2)>
5GHz 802.11n HT20


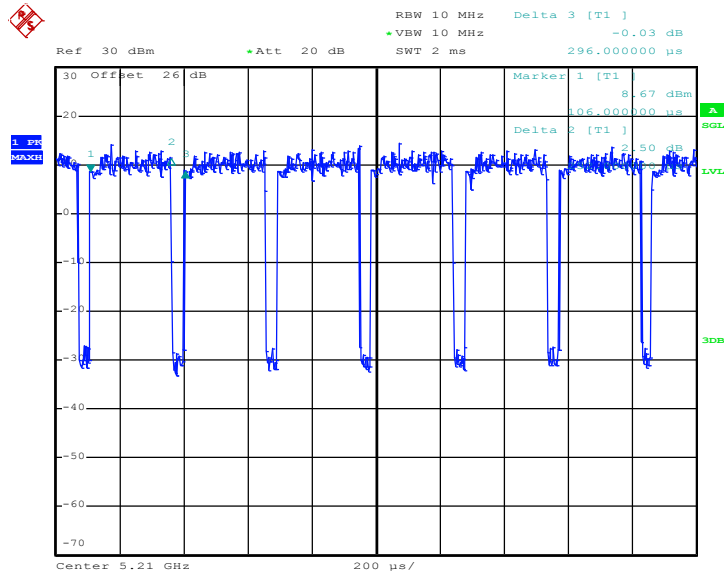
Date: 15.NOV.2016 14:22:39

5GHz 802.11n HT40


Date: 15.NOV.2016 14:36:28



5GHz 802.11ac VHT80



Date: 15.NOV.2016 14:59:37