



FCC RF Test Report

APPLICANT : SHARP CORPORATION
EQUIPMENT : Smart Phone
TYPE NAME : Type-A
Type-B
FCC ID : APYHRO00249
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Apr. 01, 2017 and testing was completed on May 12, 2017. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

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FCC ID : APYHRO00249

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR740121E	Rev. 01	Initial issue of report	Jun. 12, 2017
FR740121E	Rev. 02	Remove WLAN 5GHz Band 4 information in section 1.4.2	Jun. 13, 2017



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm (depend on band)	Pass	-
3.2	15.407(b)	Unwanted Emissions	$\leq -17, -27$ dBm (depend on band) & 15.209(a)	Pass	Under limit 3.47 dB at 5350.080 MHz
3.3	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 4.00 dB at 0.518 MHz
3.4	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.5	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

SHARP CORPORATION

Takumi-Cho, Sakai-Ku, Sakai-Shi, 2, Osaka 590-852, Japan

1.2 Manufacturer

SHARP CORPORATION

Takumi-Cho, Sakai-Ku, Sakai-Shi, 2, Osaka 590-852, Japan

1.3 Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac, Wi-Fi 5GHz 802.11a/n/ac, NFC, and GPS

Product Specification subjective to this standard	
Sample 1	EUT with Memory 1
Sample 2	EUT with Memory 2
Antenna Type	WWAN: ILA Antenna WLAN: ILA Antenna Bluetooth: ILA Antenna GPS/Glonass/Beidou/Galileo: ILA Antenna NFC: Loop Antenna

Remark: The deviations between type name: Type-A and type name: Type-B which can be referred Product Equality Declaration. The deviations were switched by Hardware.



1.4 Re-use of Measured Data

1.4.1 Introduction Section

The original model (FCC ID: APYHRO00248) and the variant model (FCC ID: APYHRO00249) has identical PCB layout, antenna, SW implementation for Bluetooth/Wi-Fi/GPS. Based on their similarity, the FCC Part 15C & 15E (equipment class: DTS, DSS, DXX, NII) test data issued for original model also apply for the variant model.

The applicant takes full responsibility that the test data as referenced in section 4 below represent compliance for this FCC ID (FCC ID: APYHRO00249).

1.4.2 Difference Section

The original model (FCC ID: APYHRO00248) and the variant model (FCC ID: APYHRO00249) has identical PCB layout, antenna, SW implementation for Bluetooth/Wi-Fi/GPS. The details of similarity and difference can be found in the Operating Description.

The product specification is outlined in the following table:

FCC ID			APYHRO00248	APYHRO00249
Wireless Tech	Mode		Frequency (MHz)	
GSM	GSM Voice GPRS (GMSK) EDGE (8PSK)	Multi-Slot Class 11 DTM: Yes	850/1900	850/1900
UMTS	AMR/RCM12.2Kbps HSDPA/HSUPA/DC-HSDPA		B5	B2/B4
LTE	QPSK/16QAM VoLTE		B5	B2/B4/B17
Wi-Fi	11b/11g/11n(HT20)		2412-2462 MHz/	
	11a/11n(HT20)/11n(HT40)		5180-5240 MHz 5260-5320 MHz 5500-5700 MHz	
Bluetooth	BR/EDR/LE		2402-2480 MHz	
NFC	NFC		13.56 MHz	



1.4.3 Spot Check Verification Data Section

Summary of the spot check:

Test Item	Mode	APYHRO00248 Worst Result	APYHRO00249 Worst Result	Difference (dB)
Average Conducted Power (dBm)	802.11b	14.34	13.84	0.5
	802.11g	13.41	13.16	0.25
	11n HT20	13.39	13.21	0.18
	11n HT40	13.26	13.24	0.02
	20MHz BW 5150-5250MHz	13.77	13.61	0.16
	20MHz BW 5250-5350MHz	13.51	13.65	-0.14
	20MHz BW 5470-5725MHz	13.50	13.71	-0.21
	40MHz BW 5150-5250MHz	13.85	13.74	0.11
	40MHz BW 5250-5350MHz	13.81	13.79	0.02
	40MHz BW 5470-5725MHz	13.67	13.78	-0.11
	80MHz BW 5150-5250MHz	13.84	13.53	0.31
	80MHz BW 5250-5350MHz	13.55	13.57	-0.02
	80MHz BW 5470-5725MHz	13.35	13.60	-0.25
	BT (1Mbps)	6.15	5.29	0.86
	BT (2Mbps)	2.96	2.19	0.77
	BT (3Mbps)	2.91	2.10	0.81
	BT-LE	5.24	4.84	0.4
	Test date	2017/04/14 – 2017/05/04	2017/04/20 – 2017/05/12	
Peak Radiated Spurious Emission (Band Edge) (dBuV/m)	802.11b	51.38	51.56	-0.18
	802.11g	56.65	56.81	-0.16
	11n HT40	56.84	58.6	-1.76
	20MHz BW 5150-5250MHz	51.99	50.93	1.06
	20MHz BW 5250-5350MHz	57.92	56.97	0.95
	20MHz BW 5470-5725MHz	47.9	47.6	0.3
	40MHz BW 5150-5250MHz	52.04	53.45	-1.41
	40MHz BW 5250-5350MHz	62.35	60.48	1.87
	40MHz BW 5470-5725MHz	61.35	59.27	2.08
	80MHz BW 5150-5250MHz	49.51	49.37	0.14
	80MHz BW 5250-5350MHz	60.13	60.06	0.07
	80MHz BW 5470-5725MHz	57.75	56.6	1.15
	BT (1Mbps)	42.26	42.63	-0.37
	BT-LE	51.58	51.65	-0.07
	Test date	2017/04/14 – 2017/05/04	2017/04/20 – 2017/05/12	
Average Radiated Spurious Emission (Band Edge) (dBuV/m)	802.11b	40.10	40.14	-0.04
	802.11g	42.97	43.72	-0.75
	11n HT40	45.24	47.52	-2.28
	20MHz BW 5150-5250MHz	41.12	40.45	-0.67
	20MHz BW 5250-5350MHz	43.9	42.01	1.89
	20MHz BW 5470-5725MHz	43.76	43.26	0.5
	40MHz BW 5150-5250MHz	44.73	43.88	0.85
	40MHz BW 5250-5350MHz	50.41	50.53	-0.12
	40MHz BW 5470-5725MHz	47.14	46.8	0.34
	80MHz BW 5150-5250MHz	41.41	42.24	-0.83
	80MHz BW 5250-5350MHz	50.02	50.09	-0.07
	80MHz BW 5470-5725MHz	48.24	46.97	1.27
	BT (1Mbps)	17.50	17.84	-0.34
	BT-LE	41.90	41.97	-0.07
	Test date	2017/04/14 – 2017/05/04	2017/04/20 – 2017/05/12	



Test Item	Mode	APYHRO00248 Worst Result	APYHRO00249 Worst Result	Difference (dB)
Peak Radiated Spurious Emission (Harmonic) (dBuV/m)	802.11b	49.89	49.49	0.4
	802.11g	49.52	49.59	-0.07
	11n HT40	49.62	49.46	0.16
	20MHz BW 5150-5250MHz	46.36	45.78	0.58
	20MHz BW 5250-5350MHz	45.13	45.86	-0.73
	20MHz BW 5470-5725MHz	45.95	46.66	-0.71
	40MHz BW 5150-5250MHz	47.29	46.25	1.04
	40MHz BW 5250-5350MHz	45.4	45.68	-0.28
	40MHz BW 5470-5725MHz	47.28	47.4	-0.12
	80MHz BW 5150-5250MHz	47.02	45.91	1.11
	80MHz BW 5250-5350MHz	46.85	48.23	-1.38
	80MHz BW 5470-5725MHz	49.17	48.18	0.99
	BT (1Mbps)	49.88	49.47	0.41
	BT-LE	49.36	49.60	-0.24
	Test date	2017/02/11 – 2017/02/24	2017/03/03 – 2017/03/11	

Conclusion:

WLAN Radiated spurious emission test against the variant model for non-cellular part based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

Based on the spot check test result (power levels measured are within 1dB, and the worst case of RSE spot check verification based on the worst condition from the original model is within 3dB, and are compliance with the limits), the test data from the original model is representative for the variant model.

The unwanted, harmonics, radiated spurious emission is reported peak measurement only due to spurious lower than 20dB than the limit.

The detail test results can be found in this document, Appendix A, hereafter.

**1.4.4 Reference detail Section**

Equipment Class	Reference FCC ID	Type Grant/Permissive Change	Reference Application	Folder Test/RF Exposure	Report Title
DTS	APYHRO00248	Original Grant	FR740120B	Part 15C	All sections applicable
			FR740120C	Part 15C	All sections applicable
			FA740120	RF Exposure	All sections applicable
DSS	APYHRO00248	Original Grant	FR740120A	Part 15C	All sections applicable
			FA740120	RF Exposure	All sections applicable
NII	APYHRO00248	Original Grant	FR740120E FZ740120	Part 15E	All sections applicable
			FA740120	RF Exposure	All sections applicable

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. TW0007 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.	
	TH05-HY	CO05-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:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42 [#]	5210		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58 [#]	5290		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106 [#]	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5720

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	122 [#]	5610	128	5640

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 radiated spurious emissions are considering the modulation and worse data rates as below table.

Single Antenna

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

MIMO Antenna

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

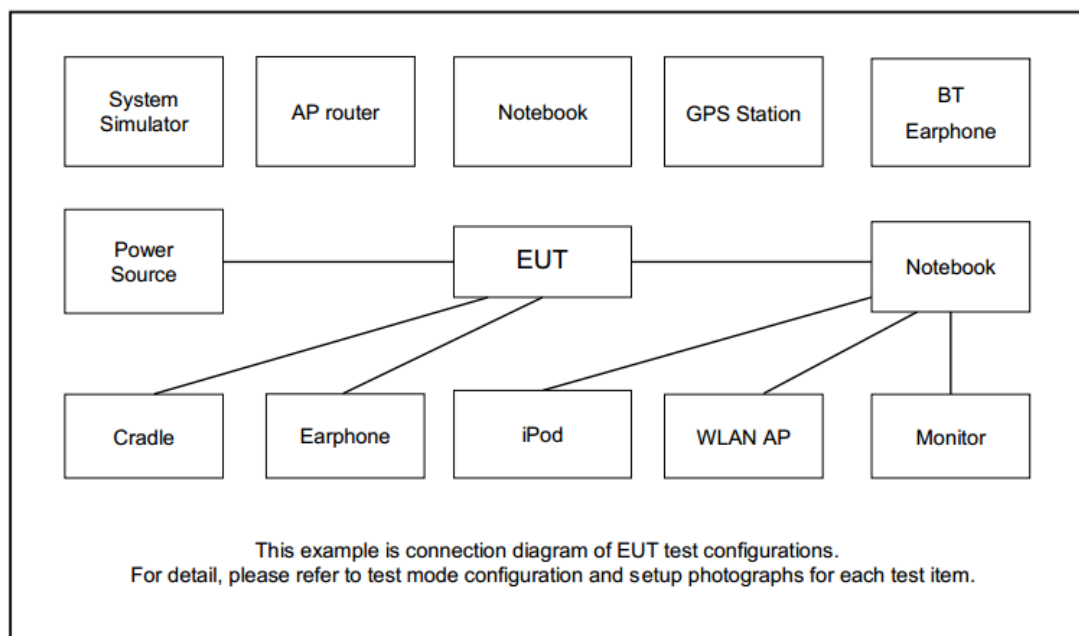
Test Cases	
AC Conducted Emission	Mode 1 : LTE Band 17 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + USB Cable (Charging from Adapter) + Camera (Front) for Sample 2
Remark: For Radiated Test Cases, The tests were performance with Sample 1.	

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	-	-
M	Middle	-	-	116
H	High	-	64	-

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	-	102
M	Middle	-	-	-
H	High	-	62	-

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	-
M	Middle	42	58	106
H	High	-	-	-

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
3.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,1.8m
4.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.5 EUT Operation Test Setup

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

3 Test Result

3.1 Maximum Conducted Output Power Measurement

3.1.1 Limit of Maximum Conducted Output Power

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW.

For the 5.25–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

3.1.2 Measuring Instruments

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

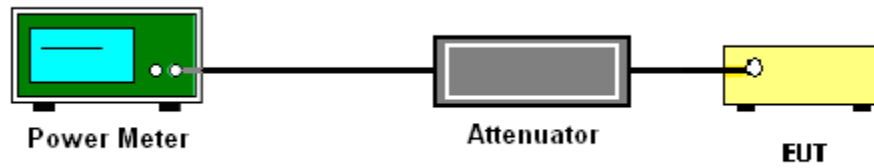
3.1.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x is the duty cycle.

3.1.4 Test Setup



3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.2 Unwanted Radiated Emission Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

3.2.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

- (2) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 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) KDB789033 D02 v01r03 G)2)c)

- (i) Section 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and 2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz. However, an out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz dBm/MHz peak emission limit.
- (ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the alternative limit.

Note 3: An out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.

Note 4: Only devices with antenna gains of 10 dBi or less may be approved using the emission limits specified in Section 15.247(d) till March 2, 2018; all other devices operating in this band must use the mask specified in Section 15.407(b)(4)(i).

3.2.2 Measuring Instruments

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

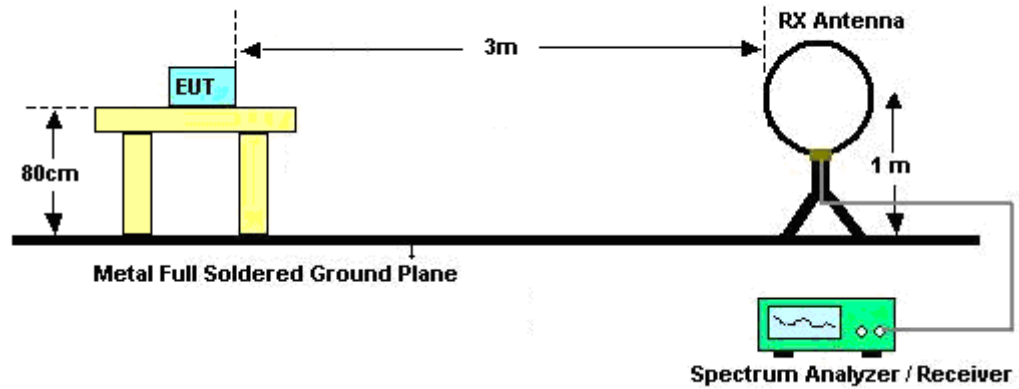


3.2.3 Test Procedures

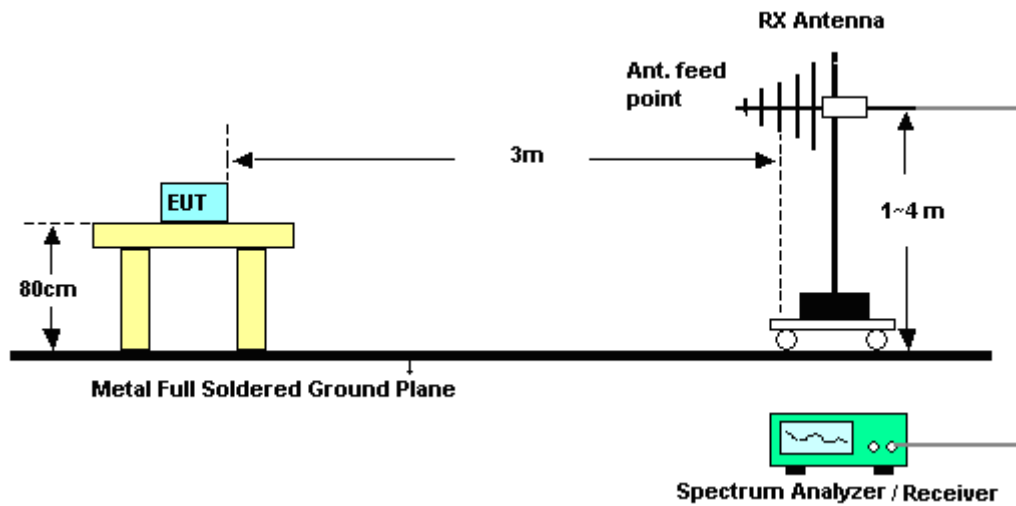
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak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

3.2.4 Test Setup

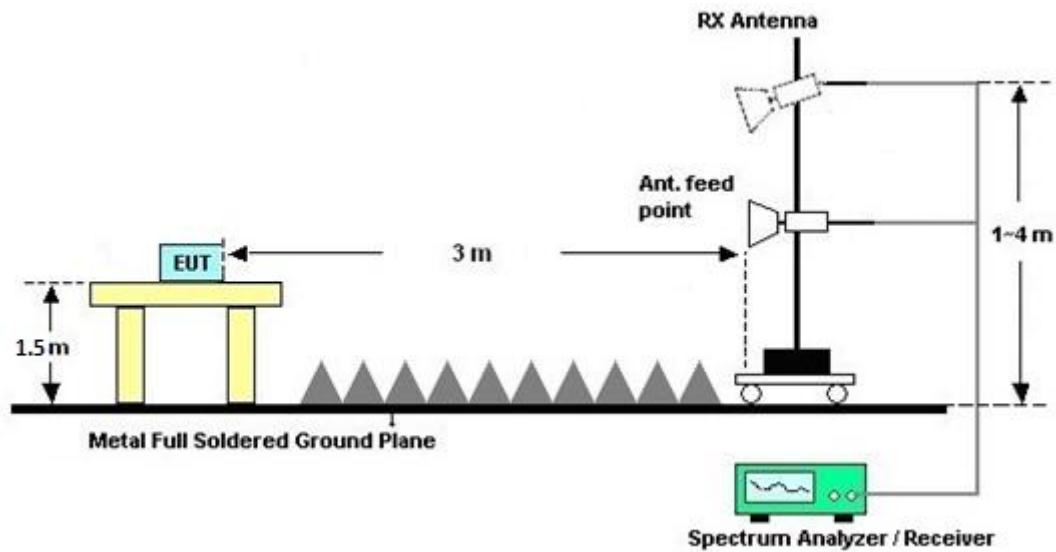
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.2.5 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.

3.2.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.2.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.3 AC Conducted Emission Measurement

3.3.1 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.

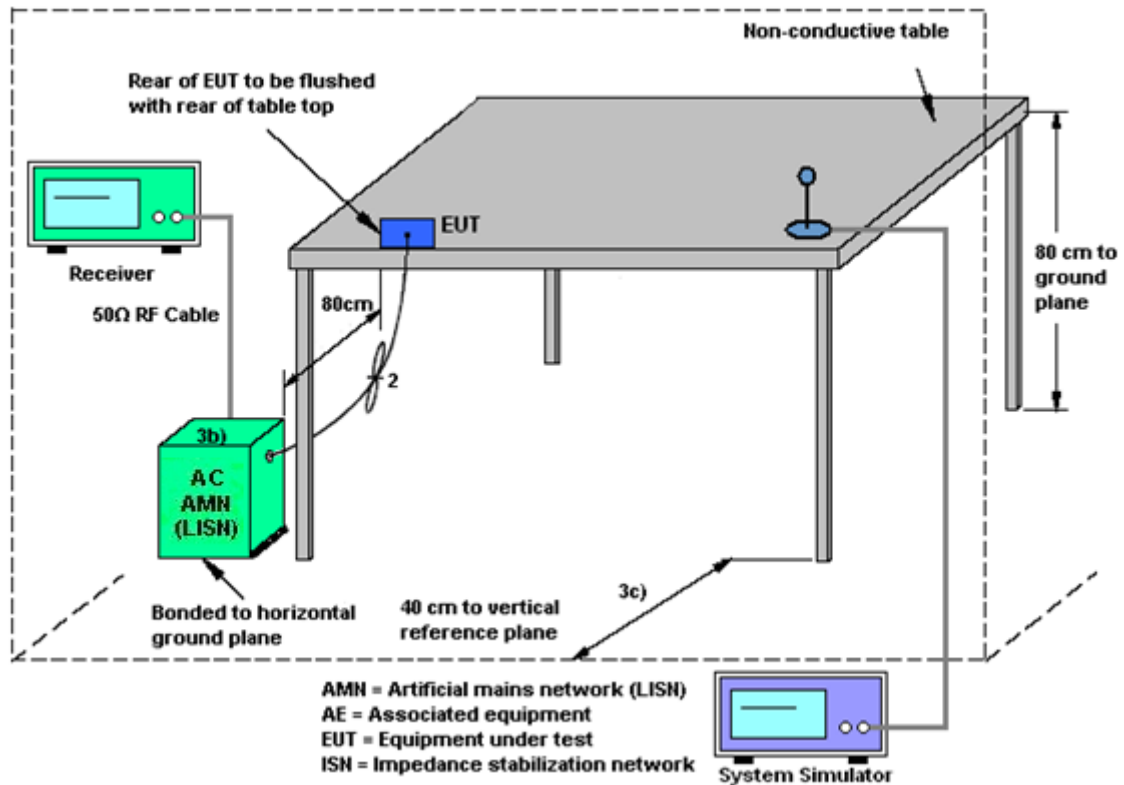
3.3.2 Measuring Instruments

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

3.3.3 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.

3.3.4 Test Setup



3.3.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.4 Automatically Discontinue Transmission

3.4.1 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.

3.4.2 Measuring Instruments

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

3.4.3 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.

3.5 Antenna Requirements

3.5.1 Standard Applicable

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.

3.5.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.5.3 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 (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant 1 (dBi)	Ant 2 (dBi)				
Band I	-1.90	-5.30	-1.90	-0.42	0.00	0.00
Band II	-1.90	-5.30	-1.90	-0.42	0.00	0.00
Band III	-1.90	-5.30	-1.90	-0.42	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 Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	0932001	300MHz~40GHz	Sep. 29, 2016	Apr. 20, 2017 ~ Apr. 29, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 29, 2016	Apr. 20, 2017 ~ Apr. 29, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Jul. 17, 2016	Apr. 20, 2017 ~ Apr. 29, 2017	Jul. 16, 2017	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃ ~90℃	Sep. 01, 2016	Apr. 20, 2017 ~ Apr. 29, 2017	Aug. 31, 2017	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 11, 2016	Apr. 20, 2017 ~ Apr. 29, 2017	Oct. 10, 2017	Conducted (TH05-HY)
AC Power Source	AC POWER	AFC-500W	F104070011	50Hz~60Hz	Dec 01.2016	Apr. 20, 2017 ~ Apr. 29, 2017	Nov 30 2017	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Apr. 30, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	Apr. 30, 2017	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	Apr. 30, 2017	Nov. 28, 2017	Conduction (CO05-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Oct. 26, 2016	May 09, 2017 ~ May 12, 2017	Oct. 25, 2017	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	35413&02	30MHz~1GHz	Jan. 07, 2017	May 09, 2017 ~ May 12, 2017	Jan. 06, 2018	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Sep. 30, 2016	May 09, 2017 ~ May 12, 2017	Sep. 29, 2017	Radiation (03CH10-HY)
Preamplifier	Keysight	83017A	MY53270078	1GHz~26.5GHz	Oct. 26, 2016	May 09, 2017 ~ May 12, 2017	Oct. 25, 2017	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 17, 2016	May 09, 2017 ~ May 12, 2017	Oct. 16, 2017	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	May 09, 2017 ~ May 12, 2017	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	May 09, 2017 ~ May 12, 2017	N/A	Radiation (03CH10-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Oct. 20, 2016	May 09, 2017 ~ May 12, 2017	Oct. 19, 2018	Radiation (03CH10-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY55420170	N/A	Mar. 03, 2017	May 09, 2017 ~ May 12, 2017	Mar. 02, 2018	Radiation (03CH10-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800	2025787	1GHz~18GHz	Feb. 13, 2017	May 09, 2017 ~ May 12, 2017	Feb. 12, 2019	Radiation (03CH10-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917057 6	18GHz ~ 40GHz	Apr. 27, 2017	May 09, 2017 ~ May 12, 2017	Apr. 26, 2018	Radiation (03CH10-HY)
Preamplifier	MITEQ	JS44-1800400 0-33-8P	1840917	18GHz ~ 40GHz	Jun. 14, 2016	May 09, 2017 ~ May 12, 2017	Jun. 13, 2017	Radiation (03CH10-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.7
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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. Conducted Test Results

Test Engineer:	Allen Lin	Temperature:	21~25	°C
Test Date:	2017/4/20~2017/4/29	Relative Humidity:	51~54	%

TEST RESULTS DATA
Average Power Table

FCC Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	0.25	0.25	9.97	10.81		21.00	21.00	-1.90	-5.30	Pass
11a	6Mbps	1	44	5220	0.25	0.25	9.96	10.55		21.00	21.00	-1.90	-5.30	Pass
11a	6Mbps	1	48	5240	0.25	0.25	10.19	10.56		21.00	21.00	-1.90	-5.30	Pass
HT20	MCS0	1	36	5180	0.27	0.27	10.42	10.89		21.00	21.00	-1.90	-5.30	Pass
HT20	MCS0	1	44	5220	0.27	0.27	10.15	10.63		21.00	21.00	-1.90	-5.30	Pass
HT20	MCS0	1	48	5240	0.27	0.27	10.34	10.59		21.00	21.00	-1.90	-5.30	Pass
HT40	MCS0	1	38	5190	0.49	0.44	10.58	10.96		21.00	21.00	-1.90	-5.30	Pass
HT40	MCS0	1	46	5230	0.49	0.44	10.31	10.75		21.00	21.00	-1.90	-5.30	Pass
VHT20	MCS0	1	36	5180	0.27	0.27	10.55	10.84		21.00	21.00	-1.90	-5.30	Pass
VHT20	MCS0	1	44	5220	0.27	0.27	10.31	10.57		21.00	21.00	-1.90	-5.30	Pass
VHT20	MCS0	1	48	5240	0.27	0.27	10.43	10.78		21.00	21.00	-1.90	-5.30	Pass
VHT40	MCS0	1	38	5190	0.48	0.48	10.56	10.99		21.00	21.00	-1.90	-5.30	Pass
VHT40	MCS0	1	46	5230	0.48	0.48	10.36	10.75		21.00	21.00	-1.90	-5.30	Pass
VHT80	MCS0	1	42	5210	0.23	0.18	10.40	10.80		21.00	21.00	-1.90	-5.30	Pass
11a	6Mbps	2	36	5180	0.25	0.30	10.09	10.75	13.44	21.00		-1.90		Pass
11a	6Mbps	2	44	5220	0.25	0.30	10.10	10.72	13.43	21.00		-1.90		Pass
11a	6Mbps	2	48	5240	0.25	0.30	10.12	10.81	13.49	21.00		-1.90		Pass
HT20	MCS0	2	36	5180	0.27	0.23	10.22	10.85	13.55	21.00		-1.90		Pass
HT20	MCS0	2	44	5220	0.27	0.23	10.07	10.97	13.55	21.00		-1.90		Pass
HT20	MCS0	2	48	5240	0.27	0.23	10.24	10.84	13.56	21.00		-1.90		Pass
HT40	MCS0	2	38	5190	0.44	0.49	10.07	10.99	13.57	21.00		-1.90		Pass
HT40	MCS0	2	46	5230	0.44	0.49	10.34	10.98	13.68	21.00		-1.90		Pass
VHT20	MCS0	2	36	5180	0.27	0.27	10.24	10.80	13.54	21.00		-1.90		Pass
VHT20	MCS0	2	44	5220	0.27	0.27	10.47	10.73	13.61	21.00		-1.90		Pass
VHT20	MCS0	2	48	5240	0.27	0.27	10.35	10.85	13.61	21.00		-1.90		Pass
VHT40	MCS0	2	38	5190	0.49	0.49	10.35	11.04	13.71	21.00		-1.90		Pass
VHT40	MCS0	2	46	5230	0.49	0.49	10.55	10.92	13.74	21.00		-1.90		Pass
VHT80	MCS0	2	42	5210	0.23	0.18	10.23	10.78	13.53	21.00		-1.90		Pass

TEST RESULTS DATA
Average Power Table

FCC Band II															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	52	5260	0.25	0.25	10.10	10.50		23.98	23.98	-1.90	-5.30	26.99	Pass
11a	6Mbps	1	60	5300	0.25	0.25	10.16	10.60		23.98	23.98	-1.90	-5.30	26.99	Pass
11a	6Mbps	1	64	5320	0.25	0.25	10.24	10.62		23.98	23.98	-1.90	-5.30	26.99	Pass
HT20	MCS0	1	52	5260	0.27	0.27	10.33	10.61		23.98	23.98	-1.90	-5.30	26.99	Pass
HT20	MCS0	1	60	5300	0.27	0.27	10.07	10.55		23.98	23.98	-1.90	-5.30	26.99	Pass
HT20	MCS0	1	64	5320	0.27	0.27	10.35	10.64		23.98	23.98	-1.90	-5.30	26.99	Pass
HT40	MCS0	1	54	5270	0.49	0.44	10.56	10.78		23.98	23.98	-1.90	-5.30	26.99	Pass
HT40	MCS0	1	62	5310	0.49	0.44	10.36	10.64		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT20	MCS0	1	52	5260	0.27	0.27	10.28	10.58		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT20	MCS0	1	60	5300	0.27	0.27	10.27	10.41		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT20	MCS0	1	64	5320	0.27	0.27	10.42	10.71		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT40	MCS0	1	54	5270	0.48	0.48	10.54	10.81		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT40	MCS0	1	62	5310	0.48	0.48	10.40	10.68		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT80	MCS0	1	58	5290	0.23	0.18	10.31	10.73		23.98	23.98	-1.90	-5.30	26.99	Pass
11a	6Mbps	2	52	5260	0.25	0.30	10.01	10.86	13.46	23.98		-1.90		26.99	Pass
11a	6Mbps	2	60	5300	0.25	0.30	9.89	10.84	13.40	23.98		-1.90		26.99	Pass
11a	6Mbps	2	64	5320	0.25	0.30	9.95	10.72	13.36	23.98		-1.90		26.99	Pass
HT20	MCS0	2	52	5260	0.27	0.23	10.25	10.76	13.52	23.98		-1.90		26.99	Pass
HT20	MCS0	2	60	5300	0.27	0.23	10.48	10.75	13.62	23.98		-1.90		26.99	Pass
HT20	MCS0	2	64	5320	0.27	0.23	9.73	10.76	13.28	23.98		-1.90		26.99	Pass
HT40	MCS0	2	54	5270	0.44	0.49	10.50	11.01	13.77	23.98		-1.90		26.99	Pass
HT40	MCS0	2	62	5310	0.44	0.49	10.33	10.93	13.65	23.98		-1.90		26.99	Pass
VHT20	MCS0	2	52	5260	0.27	0.27	10.25	11.00	13.65	23.98		-1.90		26.99	Pass
VHT20	MCS0	2	60	5300	0.27	0.27	9.94	10.95	13.48	23.98		-1.90		26.99	Pass
VHT20	MCS0	2	64	5320	0.27	0.27	10.00	10.88	13.47	23.98		-1.90		26.99	Pass
VHT40	MCS0	2	54	5270	0.49	0.49	10.40	11.14	13.79	23.98		-1.90		26.99	Pass
VHT40	MCS0	2	62	5310	0.49	0.49	10.39	10.93	13.67	23.98		-1.90		26.99	Pass
VHT80	MCS0	2	58	5290	0.23	0.18	10.21	10.87	13.57	23.98		-1.90		26.99	Pass

TEST RESULTS DATA
Average Power Table

FCC Band III															
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	100	5500	0.25	0.25	10.11	10.70		23.98	23.98	-1.90	-5.30	26.99	Pass
11a	6Mbps	1	116	5580	0.25	0.25	9.96	10.53		23.98	23.98	-1.90	-5.30	26.99	Pass
11a	6Mbps	1	140	5700	0.25	0.25	9.90	10.61		23.98	23.98	-1.90	-5.30	26.99	Pass
HT20	MCS0	1	100	5500	0.27	0.27	10.29	10.55		23.98	23.98	-1.90	-5.30	26.99	Pass
HT20	MCS0	1	116	5580	0.27	0.27	9.82	10.49		23.98	23.98	-1.90	-5.30	26.99	Pass
HT20	MCS0	1	140	5700	0.27	0.27	10.02	10.50		23.98	23.98	-1.90	-5.30	26.99	Pass
HT40	MCS0	1	102	5510	0.49	0.44	10.42	10.55		23.98	23.98	-1.90	-5.30	26.99	Pass
HT40	MCS0	1	110	5550	0.49	0.44	10.37	10.54		23.98	23.98	-1.90	-5.30	26.99	Pass
HT40	MCS0	1	134	5670	0.49	0.44	10.17	10.57		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT20	MCS0	1	100	5500	0.27	0.27	10.42	10.60		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT20	MCS0	1	116	5580	0.27	0.27	10.13	10.50		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT20	MCS0	1	140	5700	0.27	0.27	10.02	10.63		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT40	MCS0	1	102	5510	0.48	0.48	10.48	10.65		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT40	MCS0	1	110	5550	0.48	0.48	10.36	10.54		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT40	MCS0	1	134	5670	0.48	0.48	10.36	10.69		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT80	MCS0	1	106	5530	0.23	0.18	10.19	10.68		23.98	23.98	-1.90	-5.30	26.99	Pass
VHT80	MCS0	1	122	5610	0.23	0.18	10.17	9.83		23.98	23.98	-1.90	-5.30	26.99	Pass
11a	6Mbps	2	100	5500	0.25	0.30	10.08	10.84	13.49	23.98		-1.90		26.99	Pass
11a	6Mbps	2	116	5580	0.25	0.30	9.85	10.75	13.33	23.98		-1.90		26.99	Pass
11a	6Mbps	2	140	5700	0.25	0.30	9.71	10.63	13.20	23.98		-1.90		26.99	Pass
HT20	MCS0	2	100	5500	0.27	0.23	9.98	10.93	13.49	23.98		-1.90		26.99	Pass
HT20	MCS0	2	116	5580	0.27	0.23	9.75	10.77	13.30	23.98		-1.90		26.99	Pass
HT20	MCS0	2	140	5700	0.27	0.23	10.12	10.92	13.55	23.98		-1.90		26.99	Pass
HT40	MCS0	2	102	5510	0.44	0.49	10.44	11.01	13.75	23.98		-1.90		26.99	Pass
HT40	MCS0	2	110	5550	0.44	0.49	10.32	10.93	13.65	23.98		-1.90		26.99	Pass
HT40	MCS0	2	134	5670	0.44	0.49	10.03	10.97	13.54	23.98		-1.90		26.99	Pass
VHT20	MCS0	2	100	5500	0.27	0.27	10.40	10.98	13.71	23.98		-1.90		26.99	Pass
VHT20	MCS0	2	116	5580	0.27	0.27	10.10	10.77	13.46	23.98		-1.90		26.99	Pass
VHT20	MCS0	2	140	5700	0.27	0.27	10.14	10.69	13.43	23.98		-1.90		26.99	Pass
VHT40	MCS0	2	102	5510	0.49	0.49	10.49	11.05	13.78	23.98		-1.90		26.99	Pass
VHT40	MCS0	2	110	5550	0.49	0.49	10.41	11.01	13.73	23.98		-1.90		26.99	Pass
VHT40	MCS0	2	134	5670	0.49	0.49	10.20	11.00	13.62	23.98		-1.90		26.99	Pass
VHT80	MCS0	2	106	5530	0.23	0.18	10.35	10.81	13.60	23.98		-1.90		26.99	Pass
VHT80	MCS0	2	122	5610	0.23	0.18	10.03	10.76	13.42	23.98		-1.90		26.99	Pass



Appendix B. AC Conducted Emission Test Results

Test Engineer :	Arthur Hsieh	Temperature :	22~24°C
		Relative Humidity :	51~55%

EUT Information

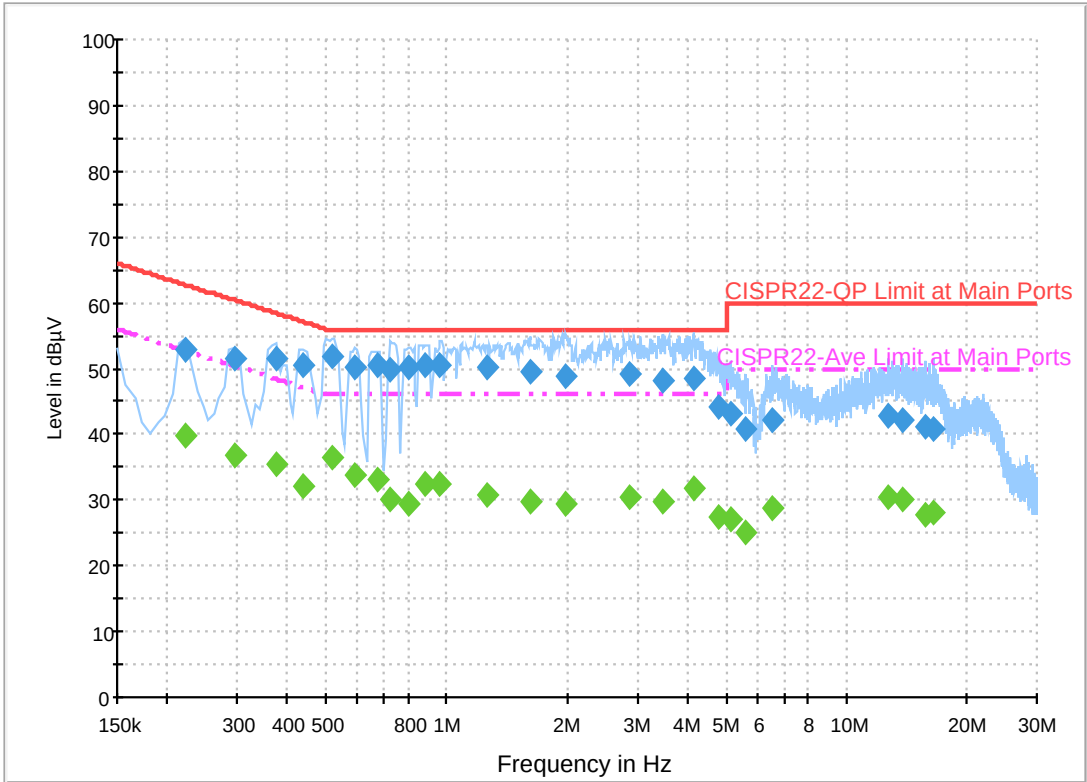
Report NO :740121

Test Mode :Mode 1

Test Voltage :120Vac/60Hz

Phase :Line

ENV216 Auto Test FCC Power Bar - L



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.222000	52.8	Off	L1	19.6	9.9	62.7
0.294000	51.4	Off	L1	19.6	9.0	60.4
0.374000	51.4	Off	L1	19.6	7.0	58.4
0.438000	50.4	Off	L1	19.6	6.7	57.1
0.518000	52.0	Off	L1	19.6	4.0	56.0
0.590000	50.1	Off	L1	19.6	5.9	56.0
0.670000	50.4	Off	L1	19.6	5.6	56.0
0.726000	49.8	Off	L1	19.6	6.2	56.0
0.806000	50.0	Off	L1	19.6	6.0	56.0
0.886000	50.6	Off	L1	19.6	5.4	56.0
0.966000	50.5	Off	L1	19.6	5.5	56.0
1.270000	50.2	Off	L1	19.6	5.8	56.0
1.622000	49.3	Off	L1	19.6	6.7	56.0
1.998000	48.8	Off	L1	19.6	7.2	56.0
2.862000	49.2	Off	L1	19.5	6.8	56.0
3.478000	48.3	Off	L1	19.7	7.7	56.0
4.166000	48.4	Off	L1	19.7	7.6	56.0
4.814000	44.1	Off	L1	19.8	11.9	56.0
5.158000	43.1	Off	L1	19.8	16.9	60.0
5.582000	40.7	Off	L1	19.8	19.3	60.0
6.518000	42.1	Off	L1	19.9	17.9	60.0
12.702000	42.9	Off	L1	20.2	17.1	60.0
13.798000	42.1	Off	L1	20.3	17.9	60.0
15.710000	41.2	Off	L1	20.4	18.8	60.0
16.462000	40.9	Off	L1	20.4	19.1	60.0

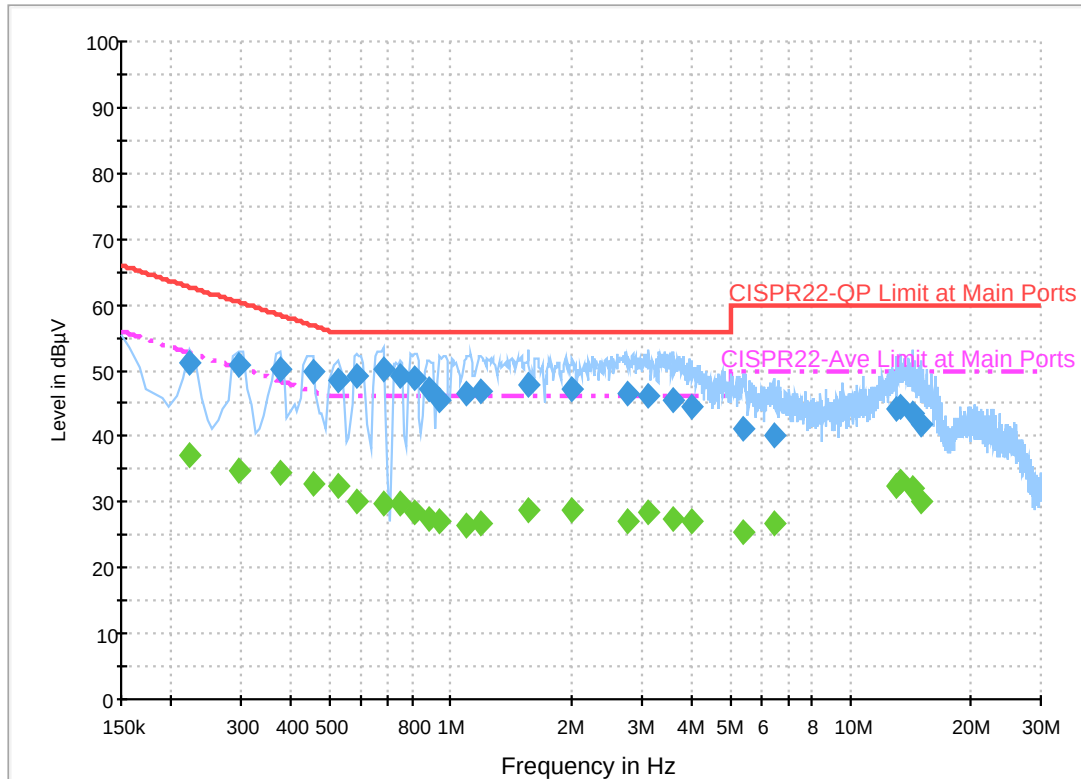
Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.222000	39.9	Off	L1	19.6	12.8	52.7
0.294000	36.9	Off	L1	19.6	13.5	50.4
0.374000	35.6	Off	L1	19.6	12.8	48.4
0.438000	32.2	Off	L1	19.6	14.9	47.1
0.518000	36.6	Off	L1	19.6	9.4	46.0
0.590000	33.7	Off	L1	19.6	12.3	46.0
0.670000	33.1	Off	L1	19.6	12.9	46.0
0.726000	30.2	Off	L1	19.6	15.8	46.0
0.806000	29.5	Off	L1	19.6	16.5	46.0
0.886000	32.5	Off	L1	19.6	13.5	46.0
0.966000	32.5	Off	L1	19.6	13.5	46.0
1.270000	30.8	Off	L1	19.6	15.2	46.0
1.622000	29.9	Off	L1	19.6	16.1	46.0
1.998000	29.3	Off	L1	19.6	16.7	46.0
2.862000	30.3	Off	L1	19.5	15.7	46.0
3.478000	29.7	Off	L1	19.7	16.3	46.0
4.166000	31.9	Off	L1	19.7	14.1	46.0
4.814000	27.5	Off	L1	19.8	18.5	46.0
5.158000	27.0	Off	L1	19.8	23.0	50.0
5.582000	25.0	Off	L1	19.8	25.0	50.0
6.518000	28.8	Off	L1	19.9	21.2	50.0
12.702000	30.5	Off	L1	20.2	19.5	50.0
13.798000	30.3	Off	L1	20.3	19.7	50.0
15.710000	27.8	Off	L1	20.4	22.2	50.0
16.462000	28.2	Off	L1	20.4	21.8	50.0

EUT Information

Report NO : 740121
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Neutral

ENV216 Auto Test FCC Power Bar - N



Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.222000	51.1	Off	N	19.5	11.6	62.7
0.294000	50.9	Off	N	19.5	9.5	60.4
0.374000	50.2	Off	N	19.5	8.2	58.4
0.454000	49.7	Off	N	19.5	7.1	56.8
0.526000	48.4	Off	N	19.5	7.6	56.0
0.582000	49.2	Off	N	19.5	6.8	56.0
0.678000	50.3	Off	N	19.5	5.7	56.0
0.750000	49.0	Off	N	19.6	7.0	56.0
0.814000	48.8	Off	N	19.6	7.2	56.0
0.886000	47.3	Off	N	19.5	8.7	56.0
0.942000	45.5	Off	N	19.6	10.5	56.0
1.102000	46.6	Off	N	19.6	9.4	56.0
1.190000	47.0	Off	N	19.6	9.0	56.0
1.566000	47.9	Off	N	19.6	8.1	56.0
2.022000	47.2	Off	N	19.6	8.8	56.0
2.766000	46.4	Off	N	19.4	9.6	56.0
3.142000	46.2	Off	N	19.6	9.8	56.0
3.606000	45.5	Off	N	19.7	10.5	56.0
4.014000	44.4	Off	N	19.7	11.6	56.0
5.406000	41.1	Off	N	19.8	18.9	60.0
6.438000	40.2	Off	N	19.8	19.8	60.0
13.038000	44.1	Off	N	20.3	15.9	60.0
13.358000	44.4	Off	N	20.3	15.6	60.0
14.334000	43.6	Off	N	20.3	16.4	60.0
15.046000	41.8	Off	N	20.4	18.2	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.222000	37.3	Off	N	19.5	15.4	52.7
0.294000	34.7	Off	N	19.5	15.7	50.4
0.374000	34.5	Off	N	19.5	13.9	48.4
0.454000	32.7	Off	N	19.5	14.1	46.8
0.526000	32.4	Off	N	19.5	13.6	46.0
0.582000	30.0	Off	N	19.5	16.0	46.0
0.678000	29.9	Off	N	19.5	16.1	46.0
0.750000	29.8	Off	N	19.6	16.2	46.0
0.814000	28.3	Off	N	19.6	17.7	46.0
0.886000	27.3	Off	N	19.5	18.7	46.0
0.942000	27.0	Off	N	19.6	19.0	46.0
1.102000	26.6	Off	N	19.6	19.4	46.0
1.190000	26.7	Off	N	19.6	19.3	46.0
1.566000	28.7	Off	N	19.6	17.3	46.0
2.022000	28.7	Off	N	19.6	17.3	46.0
2.766000	27.0	Off	N	19.4	19.0	46.0
3.142000	28.3	Off	N	19.6	17.7	46.0
3.606000	27.5	Off	N	19.7	18.5	46.0
4.014000	27.2	Off	N	19.7	18.8	46.0
5.406000	25.5	Off	N	19.8	24.5	50.0
6.438000	26.6	Off	N	19.8	23.4	50.0
13.038000	32.6	Off	N	20.3	17.4	50.0
13.358000	33.2	Off	N	20.3	16.8	50.0
14.334000	32.1	Off	N	20.3	17.9	50.0
15.046000	30.3	Off	N	20.4	19.7	50.0



Appendix C. Radiated Spurious Emission

Test Engineer :	Stan Hsieh and Kyle Chuang	Temperature :	22~25°C
		Relative Humidity :	44~45%

Band 1 5150~5250MHz

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 36 5180MHz		5146.9	50.93	-23.07	74	44.36	32.5	6.61	32.54	100	119	P	H
		5148.98	40.45	-13.55	54	33.88	32.5	6.61	32.54	100	119	A	H
	*	5180	101.58	-	-	94.98	32.5	6.64	32.54	100	119	P	H
	*	5180	95.32	-	-	88.72	32.5	6.64	32.54	100	119	A	H
													H
													H
		5078	47.91	-26.09	74	41.38	32.5	6.56	32.53	318	254	P	V
		5150	39.64	-14.36	54	33.07	32.5	6.61	32.54	318	254	A	V
	*	5180	100.38	-	-	93.78	32.5	6.64	32.54	318	254	P	V
	*	5180	92.07	-	-	85.47	32.5	6.64	32.54	318	254	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 1 5150~5250MHz****WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	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 36 5180MHz		10360	45.63	-28.37	74	61.09	38.87	10.33	65.2	100	0	P	H
		15540	45.27	-28.73	74	56.4	38.49	13.6	63.98	100	0	P	H
													H
													H
		10360	44.86	-29.14	74	60.32	38.87	10.33	65.2	100	0	P	V
		15540	45.78	-28.22	74	56.91	38.49	13.6	63.98	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

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 38 5190MHz		5149.5	53.45	-20.55	74	46.88	32.5	6.61	32.54	100	120	P	H
		5150	43.88	-10.12	54	37.31	32.5	6.61	32.54	100	120	A	H
	*	5190	99.02	-	-	92.42	32.5	6.64	32.54	100	120	P	H
	*	5190	92.47	-	-	85.87	32.5	6.64	32.54	100	120	A	H
		5372.92	47.42	-26.58	74	40.67	32.5	6.79	32.54	100	120	P	H
		5452.72	40.47	-13.53	54	33.66	32.5	6.86	32.55	100	120	A	H
		5150	47.97	-26.03	74	41.4	32.5	6.61	32.54	372	102	P	V
		5149.24	40.36	-13.64	54	33.79	32.5	6.61	32.54	372	102	A	V
	*	5190	96.78	-	-	90.18	32.5	6.64	32.54	372	102	P	V
	*	5190	89.12	-	-	82.52	32.5	6.64	32.54	372	102	A	V
		5441.52	46.72	-27.28	74	39.93	32.5	6.84	32.55	372	102	P	V
		5425.84	38.87	-15.13	54	32.09	32.5	6.83	32.55	372	102	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

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 38 5190MHz		10380	46.16	-27.84	74	61.62	38.88	10.32	65.2	100	0	P	H
		15570	45.5	-28.5	74	56.69	38.47	13.64	64.05	100	0	P	H
													H
													H
		10380	46.25	-27.75	74	61.71	38.88	10.32	65.2	100	0	P	V
		15570	44.27	-29.73	74	55.46	38.47	13.64	64.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

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 42 5210MHz		5140.14	49.37	-24.63	74	42.81	32.5	6.6	32.54	100	119	P	H
		5137.02	42.24	-11.76	54	35.68	32.5	6.6	32.54	100	119	A	H
	*	5210	97.13	-	-	90.52	32.5	6.65	32.54	100	119	P	H
	*	5210	90.37	-	-	83.76	32.5	6.65	32.54	100	119	A	H
		5364.8	47.97	-26.03	74	41.22	32.5	6.79	32.54	100	119	P	H
		5452.72	40.78	-13.22	54	33.97	32.5	6.86	32.55	100	119	A	H
		5123.5	48.52	-25.48	74	41.97	32.5	6.59	32.54	385	95	P	V
		5144.82	40.74	-13.26	54	34.17	32.5	6.61	32.54	385	95	A	V
	*	5210	92.51	-	-	85.9	32.5	6.65	32.54	385	95	P	V
	*	5210	85.12	-	-	78.51	32.5	6.65	32.54	385	95	A	V
		5391.12	46.86	-27.14	74	40.11	32.5	6.8	32.55	385	95	P	V
		5376	38.32	-15.68	54	31.58	32.5	6.79	32.55	385	95	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

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 42 5210MHz		10420	45.61	-28.39	74	61.05	38.92	10.3	65.2	100	0	P	H
		15630	45.91	-28.09	74	57.23	38.44	13.69	64.2	100	0	P	H
													H
													H
		10420	44.76	-29.24	74	60.2	38.92	10.3	65.2	100	0	P	V
		15630	45.51	-28.49	74	56.83	38.44	13.69	64.2	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

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 64 5320MHz	*	5320	105.54	-	-	98.84	32.5	6.74	32.54	100	117	P	H
	*	5320	99.09	-	-	92.39	32.5	6.74	32.54	100	117	A	H
		5352	56.97	-17.03	74	50.24	32.5	6.77	32.54	100	117	P	H
		5350.88	42.01	-11.99	54	35.28	32.5	6.77	32.54	100	117	A	H
													H
													H
	*	5320	99.83	-	-	93.13	32.5	6.74	32.54	305	263	P	V
	*	5320	92.71	-	-	86.01	32.5	6.74	32.54	305	263	A	V
		5410.24	47.24	-26.76	74	40.47	32.5	6.82	32.55	305	263	P	V
		5352	38.29	-15.71	54	31.56	32.5	6.77	32.54	305	263	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

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 64 5320MHz		10640	45.86	-28.14	74	60.9	39.41	10.19	65.17	100	0	P	H
		15960	43.56	-30.44	74	55.46	38.31	13.99	64.92	100	0	P	H
													H
													H
		10640	45.84	-28.16	74	60.88	39.41	10.19	65.17	100	0	P	V
		15960	45.07	-28.93	74	56.97	38.31	13.99	64.92	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

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 62 5310MHz		5048.62	46.78	-27.22	74	40.27	32.5	6.54	32.53	100	117	P	H
		5104.38	39.88	-14.12	54	33.34	32.5	6.57	32.53	100	117	A	H
	*	5310	102.83	-	-	96.13	32.5	6.74	32.54	100	117	P	H
	*	5310	95.24	-	-	88.54	32.5	6.74	32.54	100	117	A	H
		5356.56	60.48	-13.52	74	53.75	32.5	6.77	32.54	100	117	P	H
		5350.08	50.53	-3.47	54	43.8	32.5	6.77	32.54	100	117	A	H
		5080.58	47.79	-26.21	74	41.26	32.5	6.56	32.53	305	265	P	V
		5070.38	39.42	-14.58	54	32.9	32.5	6.55	32.53	305	265	A	V
	*	5310	96.43	-	-	89.73	32.5	6.74	32.54	305	265	P	V
	*	5310	89.37	-	-	82.67	32.5	6.74	32.54	305	265	A	V
		5356.56	54.44	-19.56	74	47.71	32.5	6.77	32.54	305	265	P	V
		5357.52	41.77	-12.23	54	35.04	32.5	6.77	32.54	305	265	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

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 62 5310MHz		10620	44.43	-29.57	74	59.52	39.36	10.2	65.18	100	0	P	H
		15930	45.34	-28.66	74	57.16	38.33	13.97	64.85	100	0	P	H
													H
													H
		10620	45.37	-28.63	74	60.46	39.36	10.2	65.18	100	0	P	V
		15930	45.68	-28.32	74	57.5	38.33	13.97	64.85	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

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 58 5290MHz		5069.42	48	-26	74	41.48	32.5	6.55	32.53	100	119	P	H
		5089.96	38.8	-15.2	54	32.26	32.5	6.57	32.53	100	119	A	H
	*	5290	98.77	-	-	92.08	32.5	6.73	32.54	100	119	P	H
	*	5290	91.97	-	-	85.28	32.5	6.73	32.54	100	119	A	H
		5355	60.06	-13.94	74	53.33	32.5	6.77	32.54	100	119	P	H
		5355.56	50.09	-3.91	54	43.36	32.5	6.77	32.54	100	119	A	H
		5023.4	48.14	-25.86	74	41.65	32.5	6.52	32.53	357	100	P	V
		5112.58	38.97	-15.03	54	32.41	32.5	6.59	32.53	357	100	A	V
	*	5290	93.69	-	-	87	32.5	6.73	32.54	357	100	P	V
	*	5290	87.07	-	-	80.38	32.5	6.73	32.54	357	100	A	V
		5351.92	48.63	-25.37	74	41.9	32.5	6.77	32.54	357	100	P	V
		5350	42.04	-11.96	54	35.31	32.5	6.77	32.54	357	100	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

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 58 5290MHz		10580	46.37	-27.63	74	61.54	39.26	10.21	65.18	100	0	P	H
		15870	48.23	-25.77	74	59.98	38.35	13.9	64.73	100	0	P	H
													H
													H
		10580	45.45	-28.55	74	60.62	39.26	10.21	65.18	100	0	P	V
		15870	46.17	-27.83	74	57.92	38.35	13.9	64.73	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

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 116 5580MHz		5377.6	47.1	-26.9	74	40.35	32.5	6.8	32.55	100	119	P	H
		5452.72	41.33	-12.67	54	34.52	32.5	6.86	32.55	100	119	A	H
	*	5580	103.54	-	-	96.58	32.61	6.94	32.59	100	119	P	H
	*	5580	96.54	-	-	89.58	32.61	6.94	32.59	100	119	A	H
		5757.125	47.6	-26.4	74	40.29	32.91	7.06	32.66	100	119	P	H
		5741.375	41.74	-12.26	54	34.46	32.89	7.04	32.65	100	119	A	H
		5463.76	46.54	-27.46	74	39.73	32.5	6.86	32.55	363	84	P	V
		5452.72	39.22	-14.78	54	32.41	32.5	6.86	32.55	363	84	A	V
	*	5580	99.71	-	-	92.75	32.61	6.94	32.59	363	84	P	V
	*	5580	92.97	-	-	86.01	32.61	6.94	32.59	363	84	A	V
		5754.605	46.97	-27.03	74	39.65	32.91	7.06	32.65	363	84	P	V
		5740.115	43.26	-10.74	54	35.98	32.89	7.04	32.65	363	84	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

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 116 5580MHz		11160	46.66	-27.34	74	60.99	40.07	10.28	65.2	100	0	P	H
		16740	46.27	-27.73	74	56.9	39.62	13.94	64.86	100	0	P	H
													H
													H
		11160	46.26	-27.74	74	60.59	40.07	10.28	65.2	100	0	P	V
		16740	45.71	-28.29	74	56.34	39.62	13.94	64.86	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz

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 102 5510MHz		5458.5	52.83	-21.17	74	46.02	32.5	6.86	32.55	100	116	P	H
		5469	59.27	-8.93	68.2	52.45	32.5	6.87	32.55	100	116	P	H
		5456.05	46.8	-7.2	54	39.99	32.5	6.86	32.55	100	116	A	H
	*	5510	101.85	-	-	95.02	32.5	6.89	32.56	100	116	P	H
	*	5510	94.83	-	-	88	32.5	6.89	32.56	100	116	A	H
		5751.77	48.19	-20.01	68.2	40.89	32.91	7.04	32.65	100	116	P	H
		5457.45	46.61	-27.39	74	39.8	32.5	6.86	32.55	374	87	P	V
		5468.65	53.15	-15.05	68.2	46.33	32.5	6.87	32.55	374	87	P	V
		5456.05	40.91	-13.09	54	34.1	32.5	6.86	32.55	374	87	A	V
	*	5510	96.15	-	-	89.32	32.5	6.89	32.56	374	87	P	V
	*	5510	90.36	-	-	83.53	32.5	6.89	32.56	374	87	A	V
		5725	46.8	-21.4	68.2	39.55	32.86	7.03	32.64	374	87	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

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 102 5510MHz		11020	47.05	-26.95	74	61.12	40.46	10.06	65.11	100	0	P	H
		16530	47.25	-26.75	74	58.66	39	13.97	65.07	100	0	P	H
													H
													H
		11020	47.4	-26.6	74	61.47	40.46	10.06	65.11	100	0	P	V
		16530	46.07	-27.93	74	57.48	39	13.97	65.07	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 5470~5725MHz

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 106 5530MHz		5448.64	56.6	-17.4	74	49.79	32.5	6.86	32.55	100	119	P	H
		5466.88	46.97	-7.03	54	40.15	32.5	6.87	32.55	100	119	A	H
	*	5530	98.43	-	-	91.57	32.53	6.9	32.57	100	119	P	H
	*	5530	91.01	-	-	84.15	32.53	6.9	32.57	100	119	A	H
		5737.28	49.36	-24.64	74	42.08	32.89	7.04	32.65	100	119	P	H
		5748.935	42.41	-11.59	54	35.13	32.89	7.04	32.65	100	119	A	H
		5466.16	49.62	-24.38	74	42.8	32.5	6.87	32.55	392	95	P	V
		5461.12	42.15	-11.85	54	35.34	32.5	6.86	32.55	392	95	A	V
	*	5530	94.04	-	-	87.18	32.53	6.9	32.57	392	95	P	V
	*	5530	87.38	-	-	80.52	32.53	6.9	32.57	392	95	A	V
		5739.485	48.07	-25.93	74	40.79	32.89	7.04	32.65	392	95	P	V
		5737.595	45.73	-8.27	54	38.45	32.89	7.04	32.65	392	95	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 5470~5725MHz

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 106 5530MHz		11060	47.69	-26.31	74	61.86	40.33	10.12	65.14	100	0	P	H
		16590	45.2	-28.8	74	56.41	39.16	13.96	65.01	100	0	P	H
													H
													H
		11060	46.78	-27.22	74	60.95	40.33	10.12	65.14	100	0	P	V
		16590	48.18	-25.82	74	59.39	39.16	13.96	65.01	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

WIFI 802.11n HT20 Ch36 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 LF		30.54	22.63	-17.37	40	31	23.78	0.53	32.76	-	-	P	H
		58.08	17.99	-22.01	40	37.77	12.05	0.77	32.74	-	-	P	H
		95.88	22.06	-21.44	43.5	38.15	15.47	0.97	32.77	-	-	P	H
		517	24.61	-21.39	46	30.83	24.05	2.11	32.9	-	-	P	H
		752.9	29.85	-16.15	46	31.42	28.26	2.51	32.94	-	-	P	H
		958	32.75	-13.25	46	29.76	31.05	2.79	31.66	100	0	P	H
													H
													H
													H
													H
													H
													H
		30.54	26.83	-13.17	40	35.2	23.78	0.53	32.76	-	-	P	V
		76.44	27.12	-12.88	40	45.97	12.88	0.86	32.76	100	0	P	V
		87.51	24.87	-15.13	40	42.27	14.25	0.86	32.76	-	-	P	V
		571.6	26.83	-19.17	46	31.15	25.86	2.21	32.97	-	-	P	V
		836.9	31.28	-14.72	46	31.72	28.93	2.65	32.67	-	-	P	V
		950.3	32.95	-13.05	46	30.35	30.76	2.78	31.75	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Emission below 1GHz

WIFI 802.11n HT20 Ch64 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 LF		30	22.28	-17.72	40	30.21	24.22	0.53	32.76	-	-	P	H
		58.89	16.32	-23.68	40	36.24	11.92	0.77	32.75	-	-	P	H
		95.88	20.51	-22.99	43.5	36.6	15.47	0.97	32.77	-	-	P	H
		563.9	26.97	-19.03	46	31.05	26.09	2.21	32.96	-	-	P	H
		843.9	30.55	-15.45	46	30.77	29.1	2.65	32.63	-	-	P	H
		958	32.92	-13.08	46	29.93	31.05	2.79	31.66	100	0	P	H
													H
													H
													H
													H
													H
													H
		30.81	26.99	-13.01	40	35.35	23.78	0.53	32.75	-	-	P	V
		42.96	24.67	-15.33	40	38.77	17.85	0.69	32.75	-	-	P	V
		65.91	29.29	-10.71	40	49.13	11.98	0.77	32.75	100	0	P	V
		550.6	26.14	-19.86	46	30.95	25.36	2.18	32.94	-	-	P	V
		751.5	29.61	-16.39	46	31.18	28.26	2.51	32.94	-	-	P	V
		959.4	32.97	-13.03	46	29.94	31.08	2.79	31.65	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Emission below 1GHz

WIFI 802.11n HT20 Ch116 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 LF		30.54	21.31	-18.69	40	29.68	23.78	0.53	32.76	-	-	P	H
		63.21	16.18	-23.82	40	36.16	11.85	0.77	32.75	-	-	P	H
		96.15	18.55	-24.95	43.5	34.64	15.47	0.97	32.77	-	-	P	H
		447.7	23.84	-22.16	46	31.19	23.04	1.98	32.82	-	-	P	H
		729.1	30.71	-15.29	46	32.9	27.7	2.48	32.96	-	-	P	H
		944.7	33.45	-12.55	46	31.13	30.54	2.78	31.8	100	0	P	H
													H
													H
													H
													H
													H
													H
		30	25.05	-14.95	40	32.98	24.22	0.53	32.76	-	-	P	V
		67.26	27.56	-12.44	40	47.31	12.07	0.77	32.75	100	0	P	V
		72.12	21.14	-18.86	40	40.5	12.45	0.77	32.75	-	-	P	V
		451.9	23.3	-22.7	46	30.58	23.11	1.98	32.82	-	-	P	V
		729.1	30.09	-15.91	46	32.28	27.7	2.48	32.96	-	-	P	V
		958.7	33.19	-12.81	46	30.19	31.05	2.79	31.65	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	3. No other spurious found. 4. All results are PASS against limit line.												



Emission below 1GHz

WIFI 802.11n HT40 Ch38(LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 LF		30.54	21.86	-18.14	40	30.23	23.78	0.53	32.76	-	-	P	H
		66.45	18.59	-21.41	40	38.34	12.07	0.77	32.75	-	-	P	H
		95.88	19.27	-24.23	43.5	35.36	15.47	0.97	32.77	-	-	P	H
		462.4	24.04	-21.96	46	31.11	23.29	2.01	32.83	-	-	P	H
		729.1	31.39	-14.61	46	33.58	27.7	2.48	32.96	-	-	P	H
		958.7	32.61	-13.39	46	29.61	31.05	2.79	31.65	100	0	P	H
													H
													H
													H
													H
													H
													H
		30	24.31	-15.69	40	32.24	24.22	0.53	32.76	-	-	P	V
		59.97	25.17	-14.83	40	45.23	11.78	0.77	32.75	-	-	P	V
		72.93	29.49	-10.51	40	48.8	12.5	0.77	32.75	100	0	P	V
		443.5	24.26	-21.74	46	31.69	22.96	1.98	32.81	-	-	P	V
		734.7	29.37	-16.63	46	31.35	27.91	2.48	32.96	-	-	P	V
		956.6	32.43	-13.57	46	29.52	30.98	2.79	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.												



Emission below 1GHz

WIFI 802.11n HT40 Ch62(LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 LF		30	22.21	-17.79	40	30.14	24.22	0.53	32.76	-	-	P	H
		63.48	15.15	-24.85	40	35.11	11.87	0.77	32.75	-	-	P	H
		95.88	18.59	-24.91	43.5	34.68	15.47	0.97	32.77	-	-	P	H
		460.3	24.19	-21.81	46	31.29	23.26	2.01	32.83	-	-	P	H
		768.3	30.27	-15.73	46	31.73	28.32	2.54	32.93	-	-	P	H
		955.9	33.61	-12.39	46	30.72	30.98	2.79	31.69	100	0	P	H
													H
													H
													H
													H
													H
													H
		30.54	24.59	-15.41	40	32.96	23.78	0.53	32.76	-	-	P	V
		42.15	25.04	-14.96	40	39.14	17.85	0.69	32.75	-	-	P	V
		62.67	28.31	-11.69	40	48.29	11.85	0.77	32.75	100	0	P	V
		444.9	23.44	-22.56	46	30.83	22.99	1.98	32.81	-	-	P	V
		724.2	29.9	-16.1	46	32.32	27.48	2.48	32.97	-	-	P	V
		946.1	33.35	-12.65	46	30.98	30.58	2.78	31.79	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	3. No other spurious found. 4. All results are PASS against limit line.												

Emission below 1GHz

WIFI 802.11n HT40 Ch102(LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 LF		30.54	21.49	-18.51	40	29.86	23.78	0.53	32.76	-	-	P	H
		65.64	18.2	-21.8	40	38.04	11.98	0.77	32.75	-	-	P	H
		85.89	19.52	-20.48	40	37.06	14.11	0.86	32.76	-	-	P	H
		510	24.68	-21.32	46	30.96	23.99	2.11	32.89	-	-	P	H
		839.7	31.26	-14.74	46	31.56	29.05	2.65	32.66	-	-	P	H
		959.4	33.07	-12.93	46	30.04	31.08	2.79	31.65	100	0	P	H
													H
													H
													H
													H
													H
													H
		30	27.2	-12.8	40	35.13	24.22	0.53	32.76	-	-	P	V
		44.04	23.75	-16.25	40	38.36	17.33	0.69	32.74	-	-	P	V
		52.41	27.83	-12.17	40	46.22	13.52	0.69	32.74	100	0	P	V
		424.6	23.35	-22.65	46	31.09	22.69	1.93	32.79	-	-	P	V
		737.5	30.05	-15.95	46	31.9	28.04	2.48	32.96	-	-	P	V
		959.4	33.38	-12.62	46	30.35	31.08	2.79	31.65	-	-	P	V
													V
													V
												V	
												V	
												V	
												V	
Remark	5. No other spurious found.												
	6. All results are PASS against limit line.												

Emission below 1GHz

WIFI 802.11ac VHT80 Ch42(LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 LF		31.62	21.71	-18.29	40	30.51	23.34	0.53	32.75	-	-	P	H
		64.83	19.76	-20.24	40	39.7	11.89	0.77	32.75	-	-	P	H
		85.89	21.01	-18.99	40	38.55	14.11	0.86	32.76	-	-	P	H
		481.3	24.04	-21.96	46	30.75	23.63	2.05	32.86	-	-	P	H
		741.7	29.55	-16.45	46	31.21	28.18	2.51	32.95	-	-	P	H
		946.8	32.93	-13.07	46	30.52	30.61	2.78	31.78	100	0	P	H
													H
													H
													H
													H
													H
													H
		31.62	28.76	-11.24	40	37.56	23.34	0.53	32.75	100	0	P	V
		40.26	22	-18	40	35.05	18.9	0.69	32.75	-	-	P	V
		58.89	25.1	-14.9	40	45.02	11.92	0.77	32.75	-	-	P	V
		463.1	24.31	-21.69	46	31.39	23.29	2.01	32.84	-	-	P	V
		773.2	29.8	-16.2	46	31.23	28.33	2.54	32.92	-	-	P	V
		955.2	33.12	-12.88	46	30.29	30.94	2.78	31.7	-	-	P	V
													V
													V
												V	
												V	
												V	
												V	
												V	
Remark	7. No other spurious found. 8. All results are PASS against limit line.												



Emission below 1GHz

WIFI 802.11ac VHT80 Ch58(LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 LF		31.35	21.73	-18.27	40	30.09	23.78	0.53	32.75	-	-	P	H
		66.99	16.14	-23.86	40	35.89	12.07	0.77	32.75	-	-	P	H
		78.33	20.07	-19.93	40	38.64	13.15	0.86	32.76	-	-	P	H
		478.5	24.53	-21.47	46	31.28	23.58	2.05	32.85	-	-	P	H
		741.7	29.97	-16.03	46	31.63	28.18	2.51	32.95	-	-	P	H
		953.1	32.9	-13.1	46	30.16	30.87	2.78	31.72	100	0	P	H
													H
													H
													H
													H
													H
													H
		30	27.87	-12.13	40	35.8	24.22	0.53	32.76	-	-	P	V
		45.93	20.85	-19.15	40	36.41	16.37	0.69	32.74	-	-	P	V
		53.22	28.31	-11.69	40	47.06	13.17	0.69	32.74	100	0	P	V
		468	23.25	-22.75	46	30.22	23.4	2.01	32.84	-	-	P	V
		736.8	28.87	-17.13	46	30.72	28.04	2.48	32.96	-	-	P	V
		938.4	32.59	-13.41	46	30.63	30.27	2.78	31.88	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	9. No other spurious found. 10. All results are PASS against limit line.												

Emission below 1GHz

WIFI 802.11ac VHT80 Ch106(LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT80 LF		30	22.07	-17.93	40	30	24.22	0.53	32.76	-	-	P	H
		62.4	17.24	-22.76	40	37.26	11.82	0.77	32.75	-	-	P	H
		76.71	18.39	-21.61	40	37.24	12.88	0.86	32.76	-	-	P	H
		468.7	23.9	-22.1	46	30.87	23.4	2.01	32.84	-	-	P	H
		725.6	30.23	-15.77	46	32.6	27.53	2.48	32.97	-	-	P	H
		958.7	33.18	-12.82	46	30.18	31.05	2.79	31.65	100	0	P	H
													H
													H
													H
													H
													H
													H
													H
		30	26.11	-13.89	40	34.04	24.22	0.53	32.76	-	-	P	V
		49.44	23.49	-16.51	40	40.74	14.66	0.69	32.74	-	-	P	V
		58.35	26.8	-13.2	40	46.58	12.05	0.77	32.74	-	-	P	V
		442.1	23.25	-22.75	46	30.7	22.94	1.98	32.81	-	-	P	V
		776	30.33	-15.67	46	31.72	28.33	2.58	32.92	-	-	P	V
		956.6	33.06	-12.94	46	30.15	30.98	2.79	31.67	100	0	P	V
													V
												V	
												V	
												V	
												V	
												V	
Remark	11. No other spurious found.												
	12. 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”.



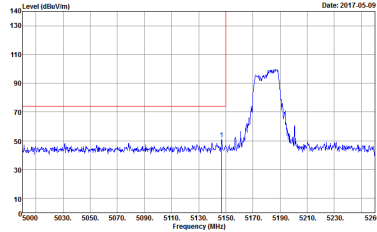
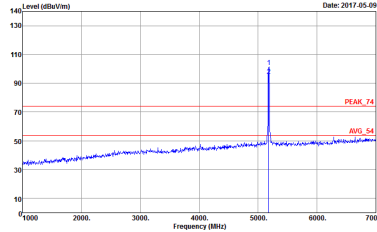
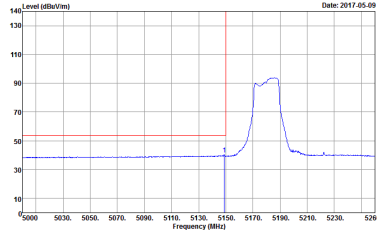
Appendix D. Radiated Spurious Emission Plots

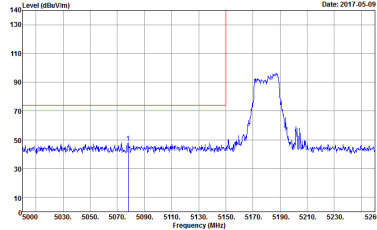
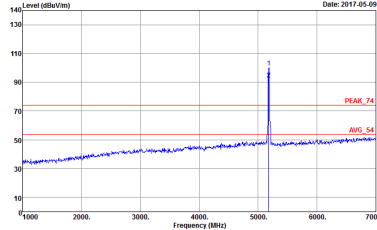
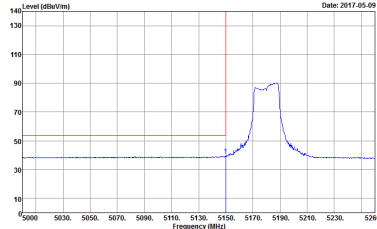
Test Engineer :	Stan Hsieh and Kyle Chuang	Temperature :	22~25°C
		Relative Humidity :	44~45%

Note symbol

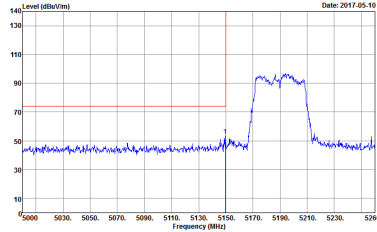
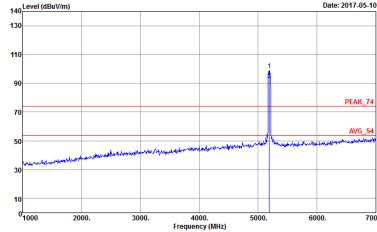
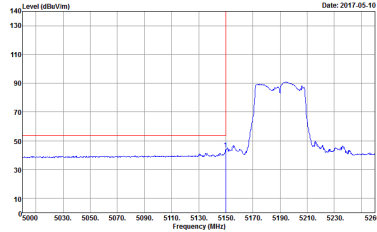
-L	Low channel location
-R	High channel location

Band 1 5150~5250MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

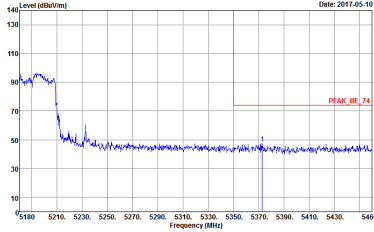
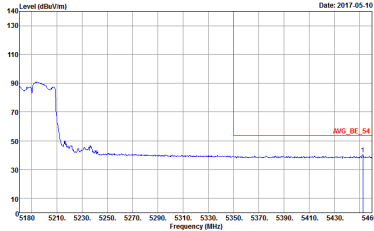
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 1	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 1
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 1	Left blank

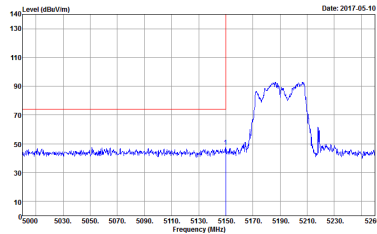
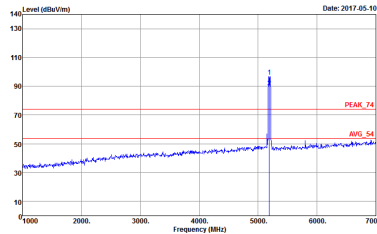
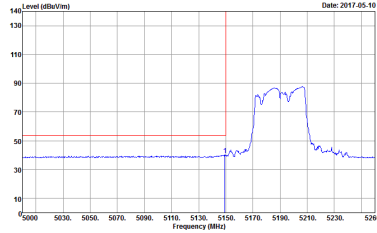
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 740121 Mode : 1	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 740121 Mode : 1
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Project : 740121 Mode : 1	Left blank

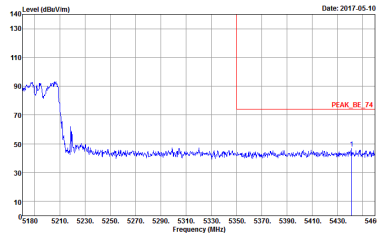
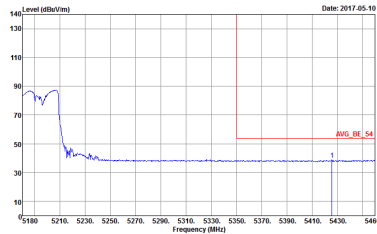
Band 1 5150~5250MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 4	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 4
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 4	Left blank

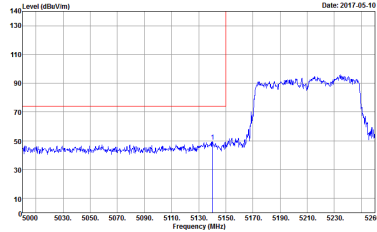
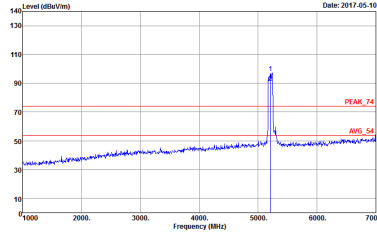
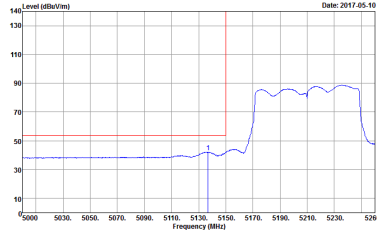


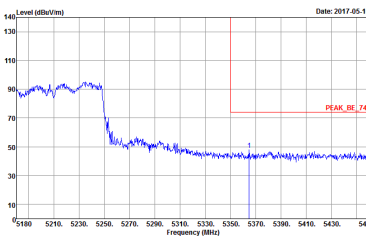
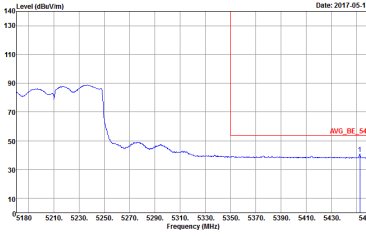
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 4	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 4	Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 4	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 4
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 4	Left blank

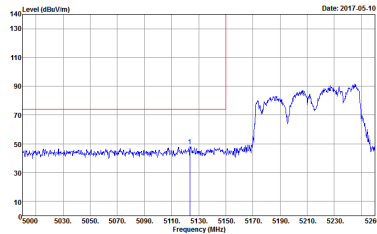
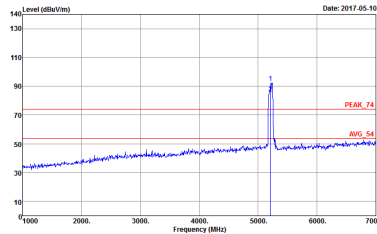
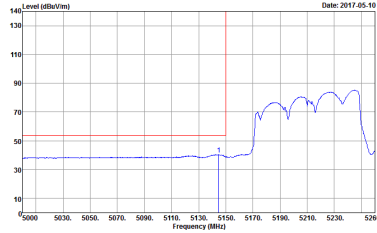
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 4	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 4	Left blank

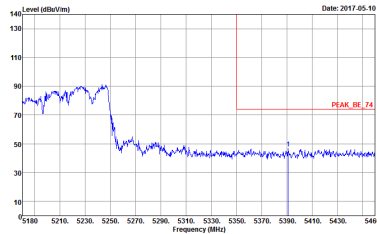
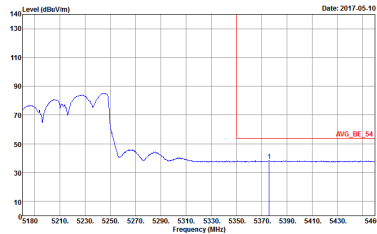
Band 1 5150~5250MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 7	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 7
	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 7	Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 7	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 7	Left blank



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 7	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 7
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 7	Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 7	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 7	Left blank



Band 1 5150~5250MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

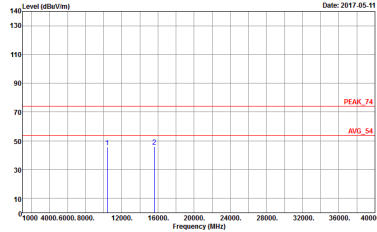
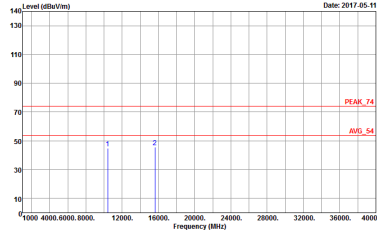
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2017.05.10 Frequency (MHz) Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 1	Level (dBuV/m) Date: 2017.05.10 Frequency (MHz) Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 740121 Mode : 1



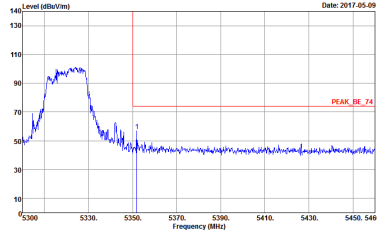
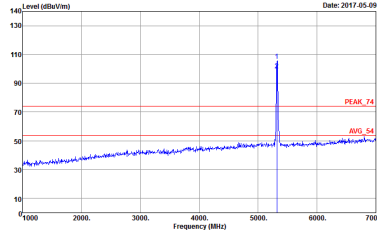
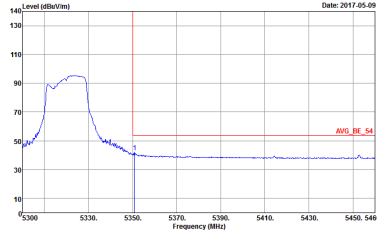
Band 1 5150~5250MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH38 5190MHz	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2017.05.10 Frequency (MHz) Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 4	Level (dBuV/m) Date: 2017.05.10 Frequency (MHz) Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 740121 Mode : 4

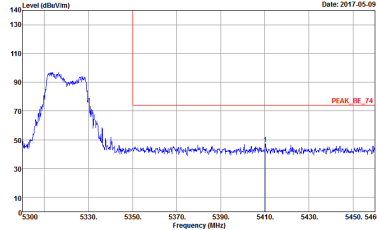
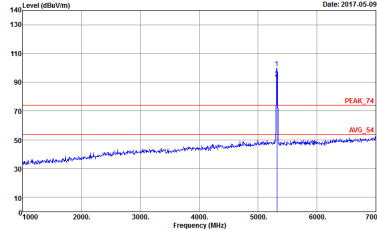
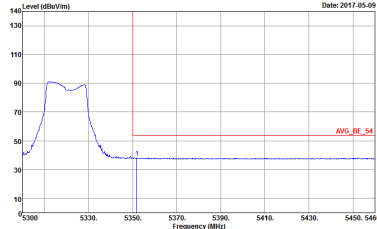
Band 1 5150~5250MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 7	 Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 740121 Mode : 7

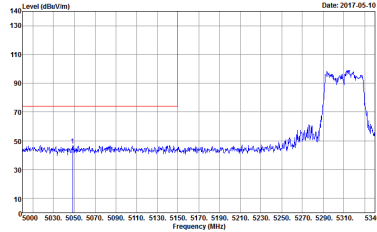
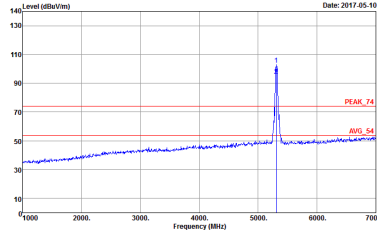
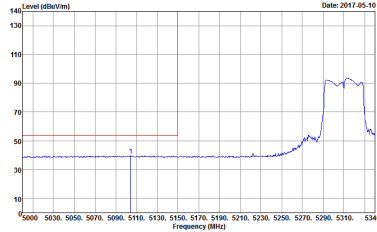
Band 2 5250~5350MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

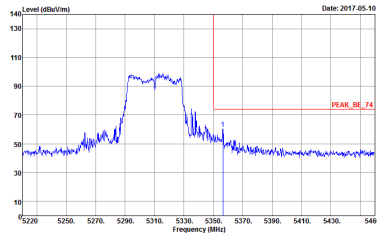
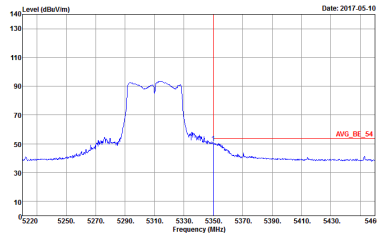
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 2	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 2
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 2	Left blank



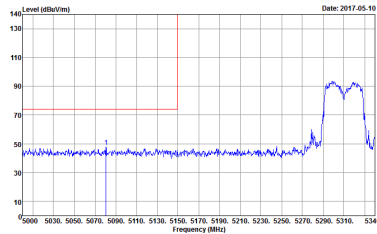
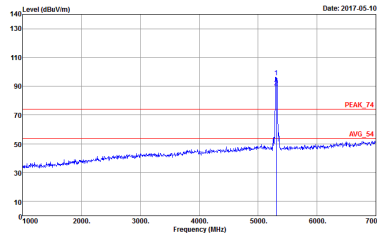
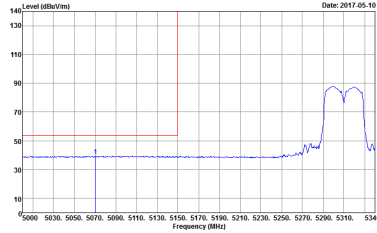
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 740121 Mode : 2	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 740121 Mode : 2
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Project : 740121 Mode : 2	Left blank

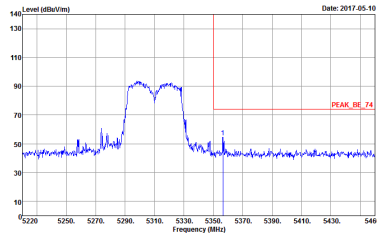
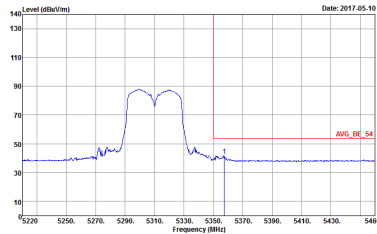
Band 2 5250~5350MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 5	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 5
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 5	Left blank

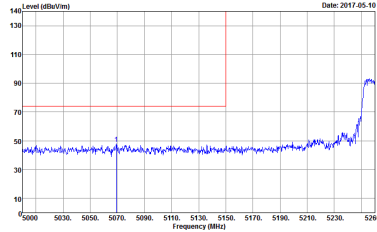
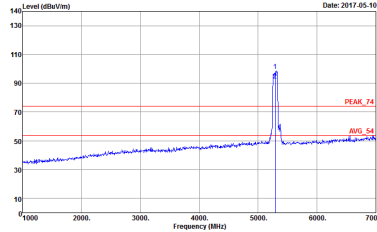
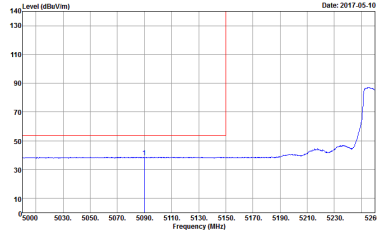
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 5	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 5	Left blank



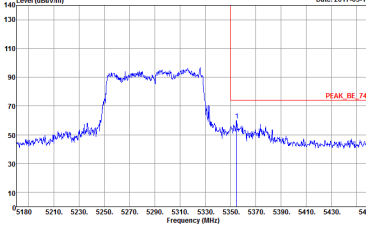
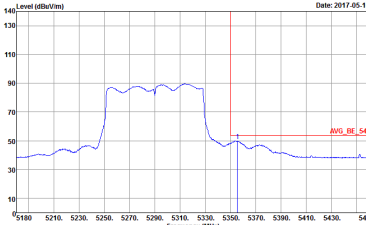
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 5	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 5
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 5	Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 5	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 5	Left blank

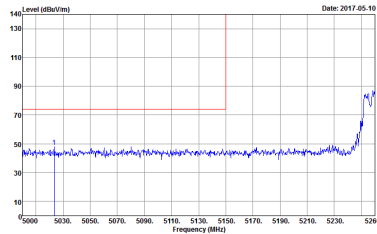
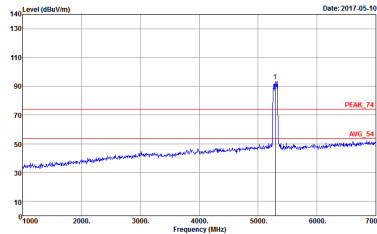
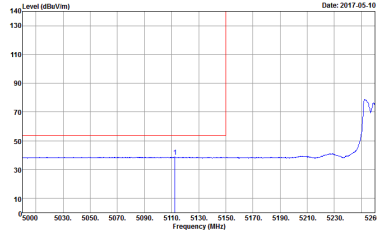
Band 2 5250~5350MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

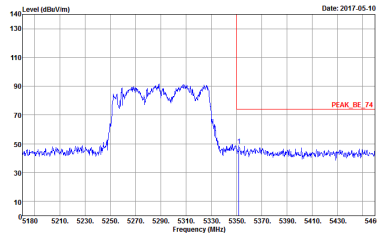
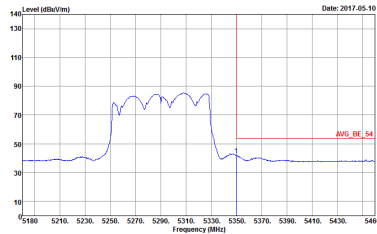
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : B	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : B
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : B	Left blank



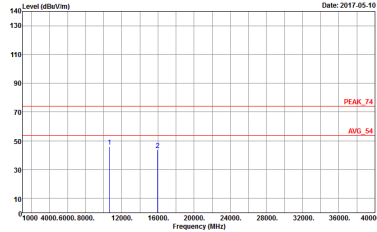
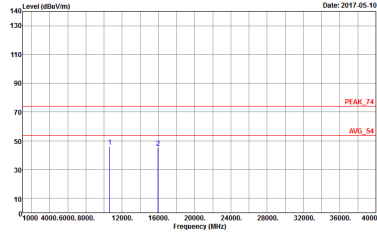
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : B	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : B	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : B	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : B
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : B	Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : B	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : B	Left blank

Band 2 5250~5350MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

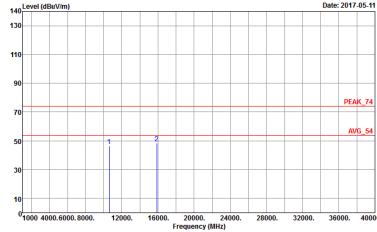
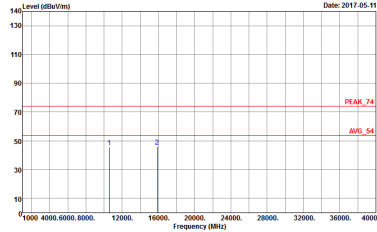
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 2	 Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 740121 Mode : 2



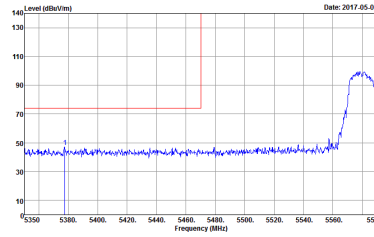
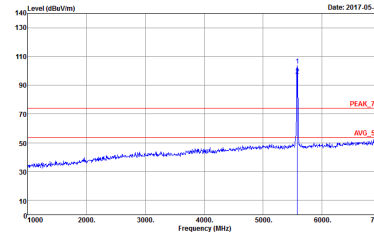
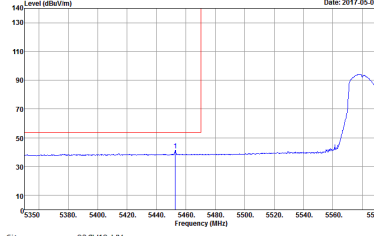
Band 2 5250~5350MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

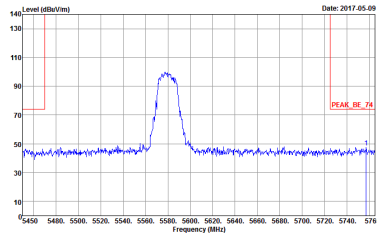
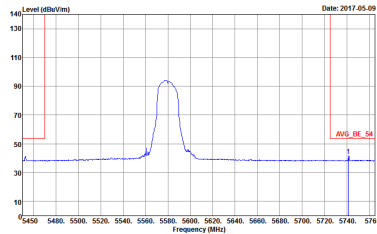
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT40 CH62 5310MHz	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2017.05.10 Frequency (MHz) Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : S	Level (dBuV/m) Date: 2017.05.10 Frequency (MHz) Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 740121 Mode : S

Band 2 5250~5350MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

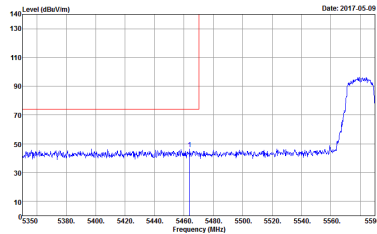
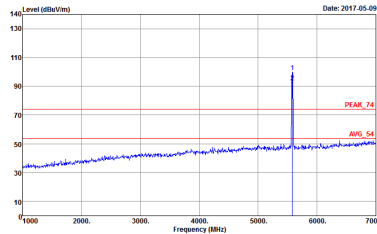
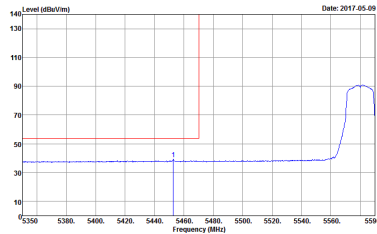
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 8	 Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 740121 Mode : 8

Band 3 5470~5725MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

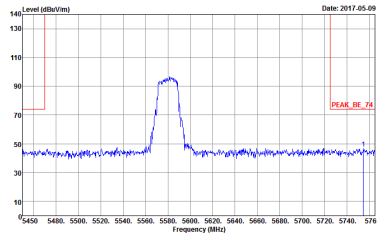
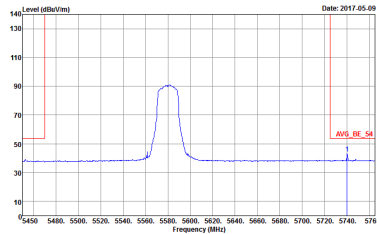
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 3	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 3
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 3	Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 3	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 3	Left blank

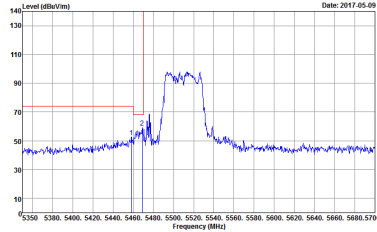
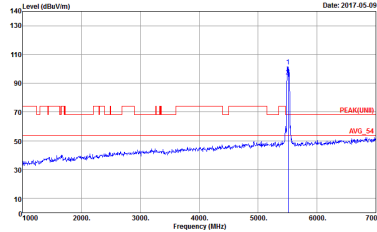
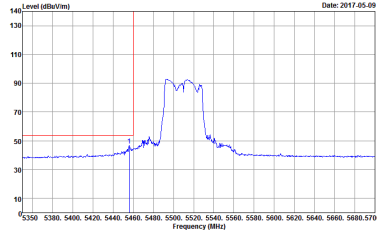


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 3	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 3
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 3	Left blank

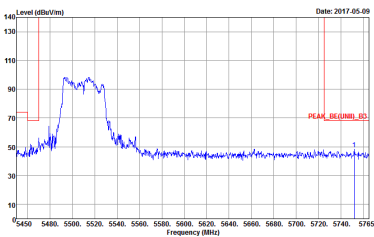


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 3 Date: 2017.05.09	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 3 Date: 2017.05.09	Left blank

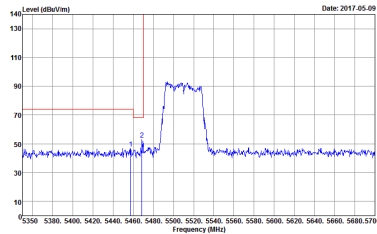
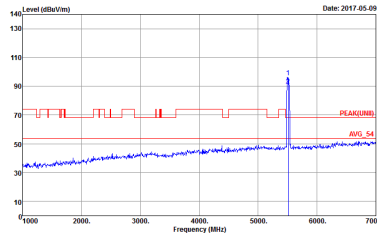
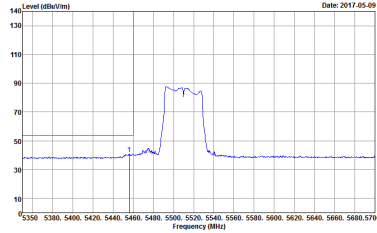
Band 3 5470~5725MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

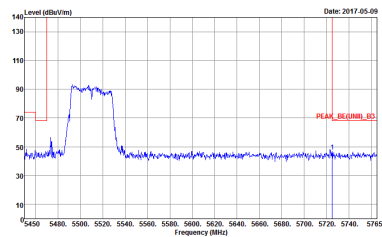
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(UNIT1), B3 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 6	 Site : 03CH10-HY Condition : PEAK(UNIT1) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 6
Avg.	 Site : 03CH10-HY Condition : AVG_BE(UNIT1), B3 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 6	Left blank



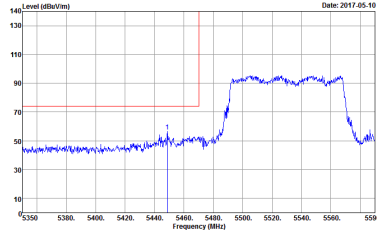
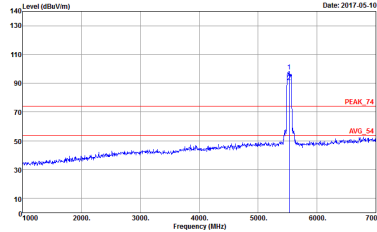
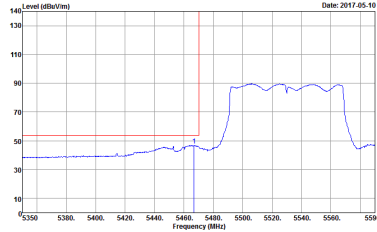
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : USCH102-10V Condition : PEAK_BE([UNIT]), B3 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 6 Date: 2017.05.09	Left blank



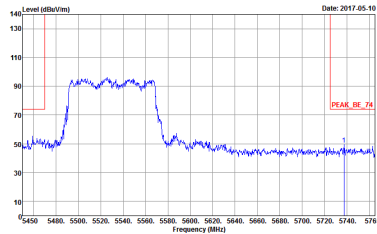
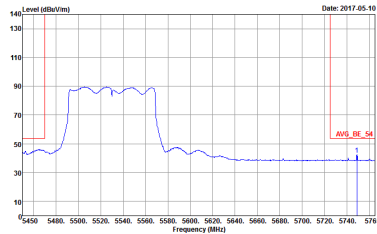
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(UNIT1), B3 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 740121 Mode : 6	 Site : 03CH10-HY Condition : PEAK(UNIT1) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 740121 Mode : 6
Avg.	 Site : 03CH10-HY Condition : AVG_BE(UNIT1), B3 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 740121 Mode : 6	Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1+2	Vertical	Fundamental
Peak	 Site: USCH102-10V Condition: PEAK_BE[UNIT], B3 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector: Peak Project: 740121 Mode: 6	Left blank

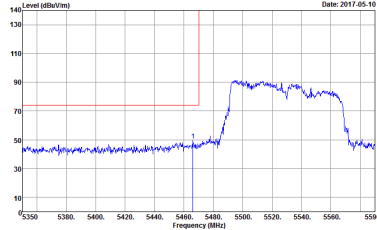
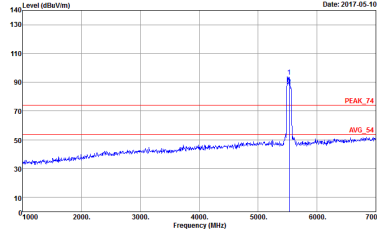
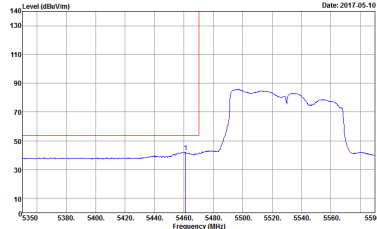
Band 3 5470~5725MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

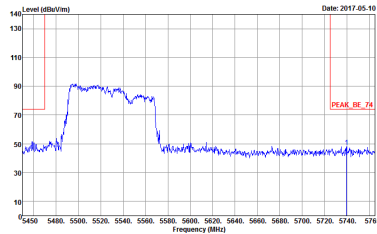
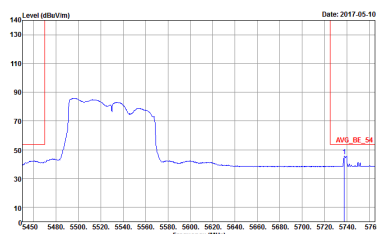
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak Project : 740121 Mode : 9	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak Project : 740121 Mode : 9
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SWT:Auto Detector : Peak Project : 740121 Mode : 9	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 9	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 9	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 9	 Site : 03CH10-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 9
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 740121 Mode : 9	Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 740121 Mode : 9	Left blank
Avg.	 Site : 03CH10-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 740121 Mode : 9	Left blank



Band 3 5470~5725MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH116 5580MHz	
1+2	Horizontal	Vertical
Peak Avg.	Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 3	Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 740121 Mode : 3



Band 3 5470~5725MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH102 5510MHz	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2017.05.10 Frequency (MHz) Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 6	Level (dBuV/m) Date: 2017.05.10 Frequency (MHz) Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 740121 Mode : 6

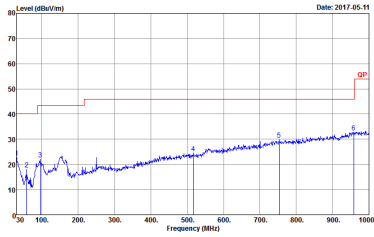
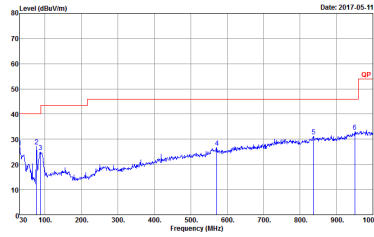


Band 3 5470~5725MHz

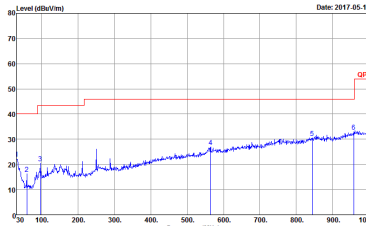
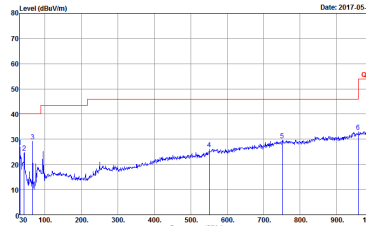
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2017-05-11 Frequency (MHz) Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 740121 Mode : 9	Level (dBuV/m) Date: 2017-05-11 Frequency (MHz) Site : 03CH10-11Y Condition : PEAK_74 3m HORN 91200-HF VERTICAL Detector : Peak Project : 740121 Mode : 9

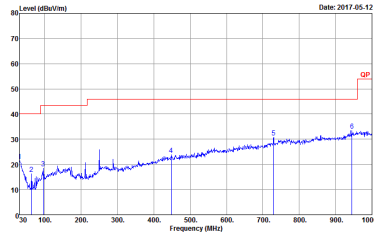
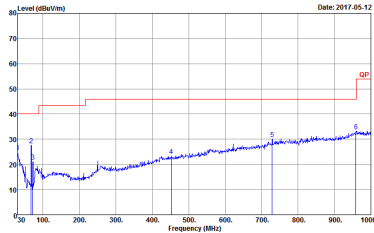
Emission below 1GHz
5GHz WIFI 802.11n HT20 (LF)

WIFI	5GHz WIFI	
ANT	802.11n HT20 Ch36 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-44Y Condition : QP 3m BT-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 740121 Mode : 1	 Site : 03CH10-44Y Condition : QP 3m BT-LOG 6111D-LF VERTICAL Detector : Peak Project : 740121 Mode : 1

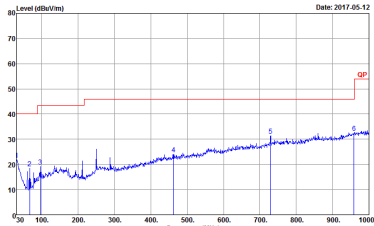
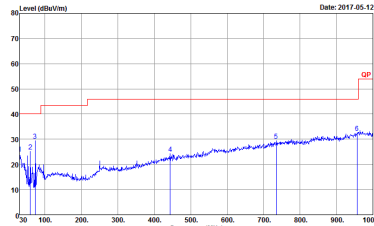
Emission below 1GHz
5GHz WIFI 802.11n HT20 (LF)

WIFI	5GHz WIFI	
ANT	802.11n HT20 Ch64 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 740121 Mode : 2	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF VERTICAL Detector : Peak Project : 740121 Mode : 2

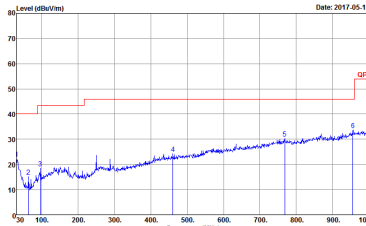
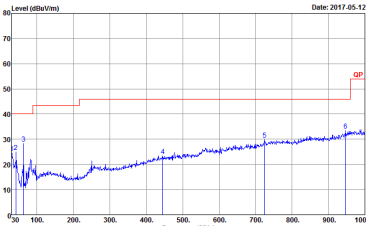
Emission below 1GHz
5GHz WIFI 802.11n HT20 (LF)

WIFI	5GHz WIFI	
ANT	802.11n HT20 Ch116 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 740121 Mode : 3	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF VERTICAL Detector : Peak Project : 740121 Mode : 3

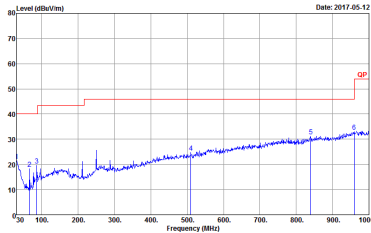
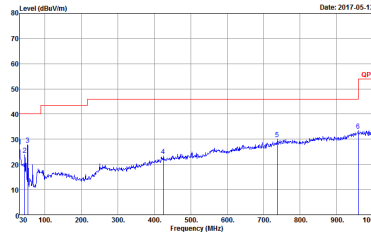
Emission below 1GHz
5GHz WIFI 802.11n HT40 (LF)

WIFI	5GHz WIFI	
ANT	802.11n HT40 Ch38 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 740121 Mode : 4	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF VERTICAL Detector : Peak Project : 740121 Mode : 4

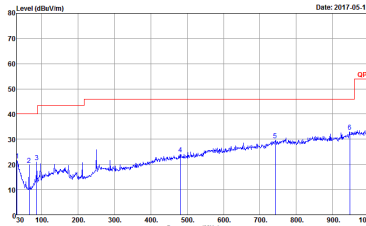
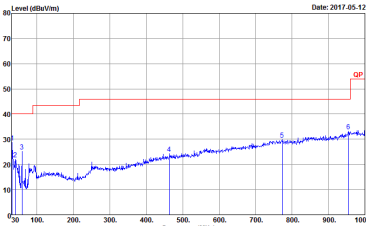
Emission below 1GHz
5GHz WIFI 802.11n HT40 (LF)

WIFI	5GHz WIFI	
ANT	802.11n HT40 Ch62 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 740121 Mode : 5	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF VERTICAL Detector : Peak Project : 740121 Mode : 5

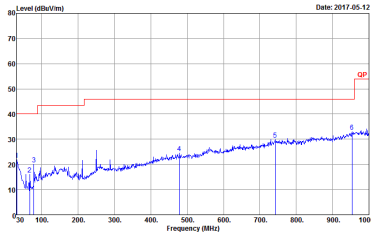
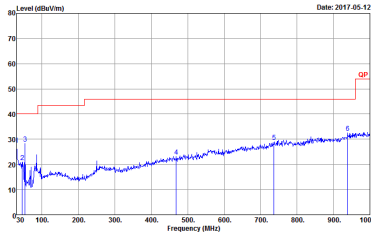
Emission below 1GHz
5GHz WIFI 802.11n HT40 (LF)

WIFI	5GHz WIFI	
ANT	802.11n HT40 Ch102 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 740121 Mode : 6	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF VERTICAL Detector : Peak Project : 740121 Mode : 6

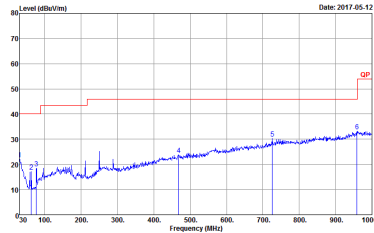
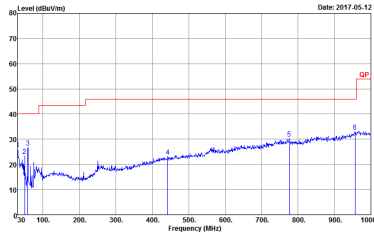
Emission below 1GHz
WIFI 802.11ac VHT80 (LF)

WIFI	5GHz WIFI	
ANT	802.11ac VHT80 Ch42 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 740121 Mode : 7	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF VERTICAL Detector : Peak Project : 740121 Mode : 7

Emission below 1GHz
WIFI 802.11ac VHT80 (LF)

WIFI	5GHz WIFI	
ANT	802.11ac VHT80 Ch58 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 740121 Mode : 8	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF VERTICAL Detector : Peak Project : 740121 Mode : 8

Emission below 1GHz
WIFI 802.11ac VHT80 (LF)

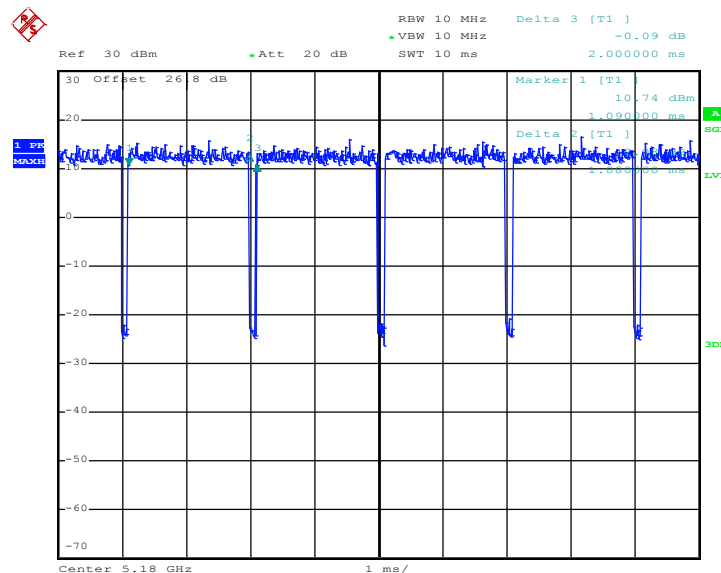
WIFI	5GHz WIFI	
ANT	802.11ac VHT80 Ch106 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 740121 Mode : 9	 Site : 03CH10-HY Condition : QP 3m BE-LOG 6111D-LF VERTICAL Detector : Peak Project : 740121 Mode : 9

Appendix E. Duty Cycle Plots

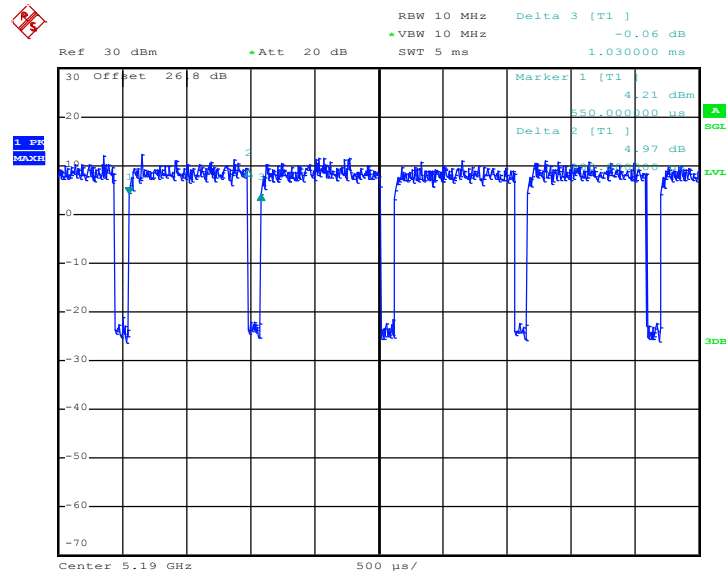
Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	5GHz 802.11n HT20 for Ant 1	94	1880.00	0.53	1kHz
1+2	5GHz 802.11n HT20 for Ant 2	94.95	1880.00	0.53	1kHz
1+2	5GHz 802.11n HT40 for Ant 1	90.29	930.00	1.075	3kHz
1+2	5GHz 802.11n HT40 for Ant 2	89.32	920.00	1.087	3kHz
1+2	5GHz 802.11ac VHT80 for Ant 1	94.85	2760.00	0.36	1kHz
1+2	5GHz 802.11ac VHT80 for Ant 2	95.83	2760.00	0.36	1kHz

MIMO <Ant. 1+2(1)>

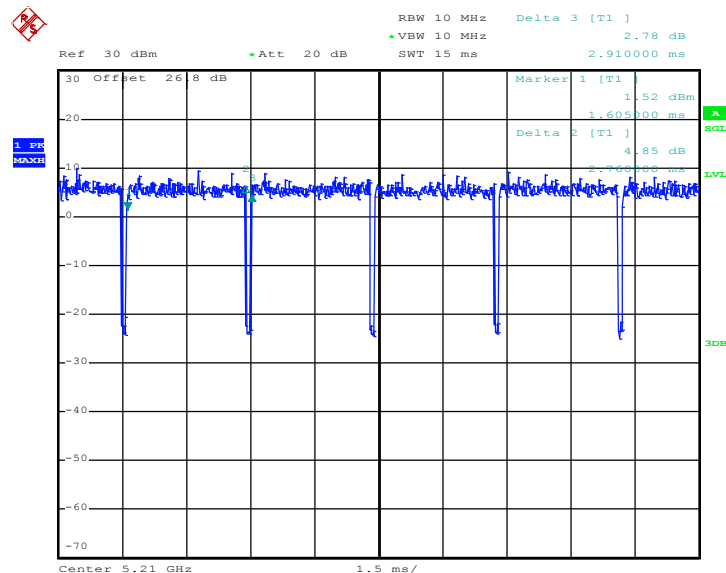
802.11n HT20



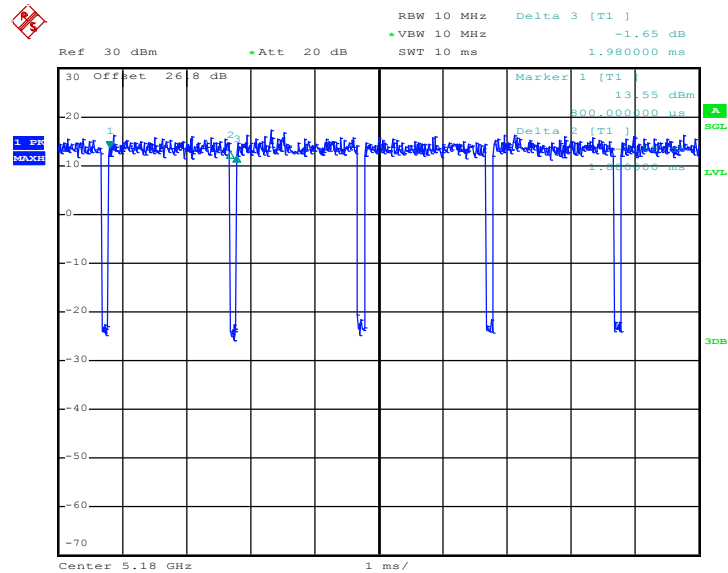
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802.11n HT40


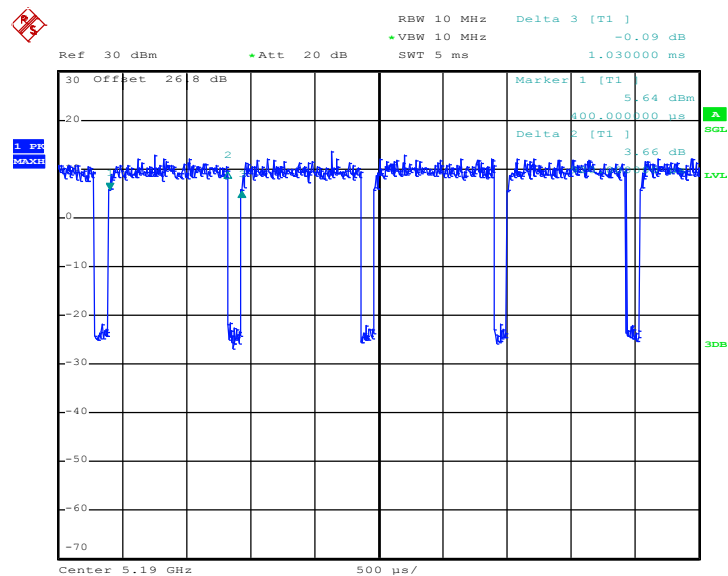
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802.11ac VHT80


Date: 20.APR.2017 14:01:18

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


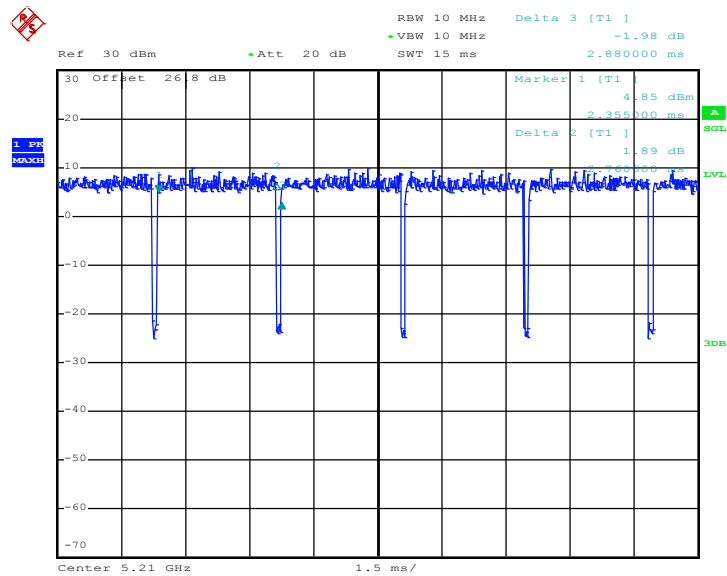
Date: 20.APR.2017 11:57:51

802.11n HT40


Date: 20.APR.2017 12:03:50



802.11ac VHT80



Date: 20.APR.2017 14:02:02



Appendix G. Original Report

Please refer to Sporton report number FR740120E.