FCC RF Test Report

APPLICANT	:	Comark LLC
EQUIPMENT	:	Tablet
BRAND NAME	:	COMARK
MODEL NAME	:	DLI5-M
FCC ID	:	2AO8O-DLI5M
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was received on Feb. 06, 2017 and testing was completed on Mar. 20, 2017. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR720610-04E	Rev. 01	Initial issue of report	Mar. 29, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 3.04 dB at 5352.240 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 9.80 dB at 0.550 MHz
3.6	15.407(g)	Frequency Stability	Within Operation Band	Pass	-
3.7	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.8	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

Note: Pursuant the Produce Equality Declaration provided from the applicant, the model DLI5-M, identified as FCC ID: 2AO8O-DLI5M, and the model N536, identified as FCC ID: P4Q-N536, are considered equivalent devices. The equipment authorization of DLI5-M will be done via change in FCC ID application. Therefore, all test data of model N536 filed under FCC ID: P4Q-N536 (Sporton Report No: FR720610E) are reused for the test reports for model DLI5-M filed under FCC ID: 2AO8O-DLI5M.

1 General Description

1.1 Applicant

Comark LLC
440 Fortune Boulevard Milford, MA 01757

1.2 Manufacturer

MITAC Computer (Kunshan) Co,. Ltd.
No. 269, 2nd Avenue, District A, Conprehensive Free Trade Zone, 300 Kunshan, China

1.3 Product Feature of Equipment Under Test

Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n, and NFC.

Product Specification subjective to this standard	
Sample 1	EUT with SKU 1
Sample 2	EUT with SKU 2
Antenna Type	WLAN: Holder with FPC Antenna Bluetooth: Holder with FPC Antenna NFC: Loop Antenna

Sample List		
SKU	**SKU 1**	**SKU 2**
WLAN	Support	Support
WWAN	Not Support	Not Support
RFID(13.56MHz)	Support	Support
Barcode	Support	Not Support

1.4 Modification of EUT

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

1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and 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 1st 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: +886-3-327-086 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH12-HY

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

1.6 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- 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 (Z 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

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

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
	-	-	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	-	-	128	5640

Note: The above Frequency and Channel in "*" were 802.11n HT40.

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

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

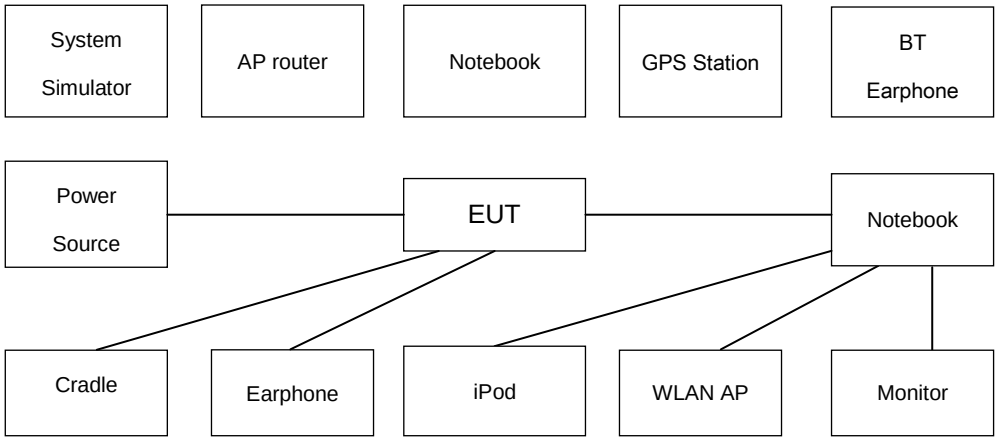
Test Cases	
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN (5GHz) Link + Earphone + Camera (Raer) + USB Cable (Charging from Adapter) for Sample 1
Remark: For Radiated Test Cases, The tests were performance with Sample 1	

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

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	52	100
M	Middle	44	60	116
H	High	48	64	140

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	54	102
M	Middle	-	-	110
H	High	46	62	134

2.3 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
2.	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
3.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
4.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A
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, “QRCT” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

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

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

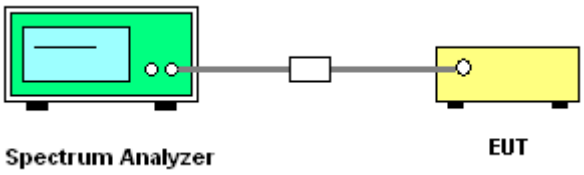
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW) ≥ 3 * RBW.
8. Measure and record the results in the test report.

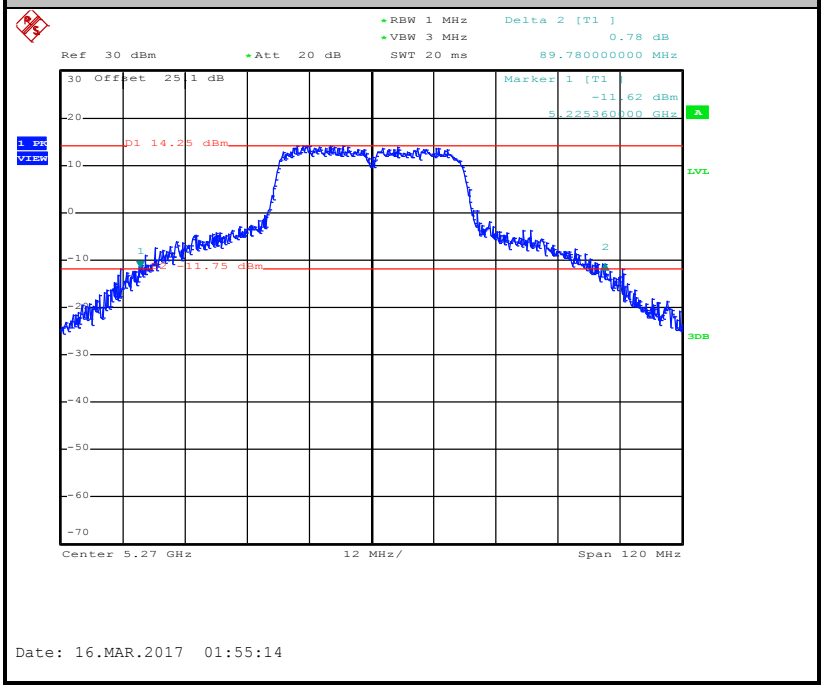
3.1.4 Test Setup



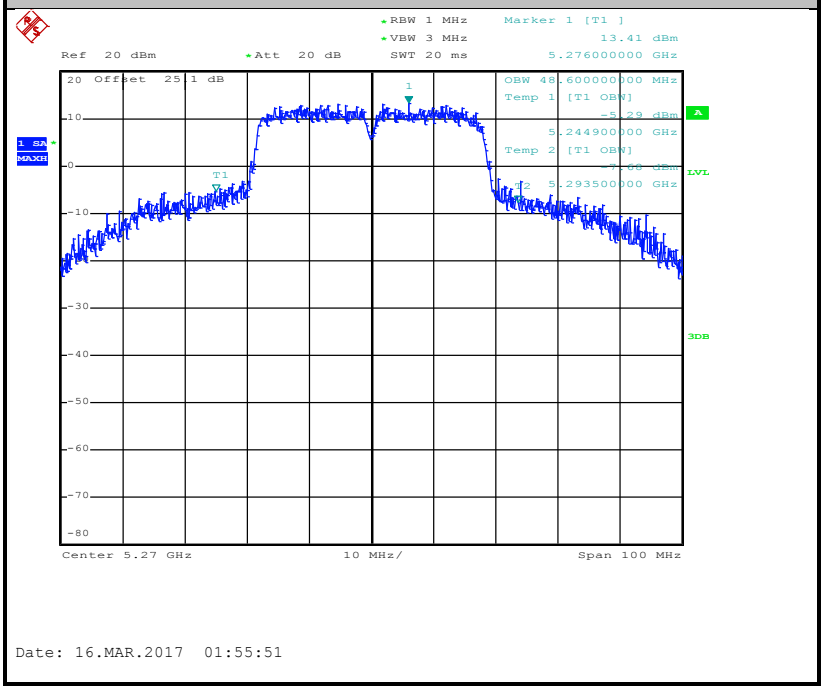
3.1.5 Test Result of 26dB & 99% Occupied Bandwidth Plots

Please refer to Appendix A.

Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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 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.

3.2.2 Measuring Instruments

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

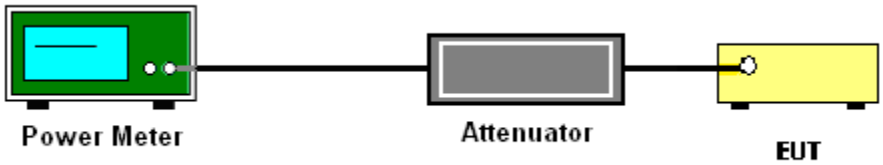
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.

For the 5.25–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

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.

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section F) Maximum power spectral density.

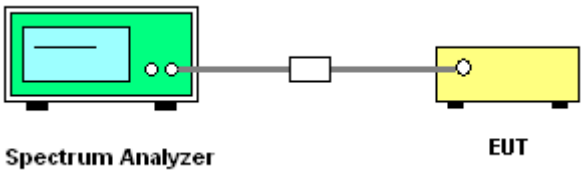
 # Method SA-2 #

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW ≥ 3 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

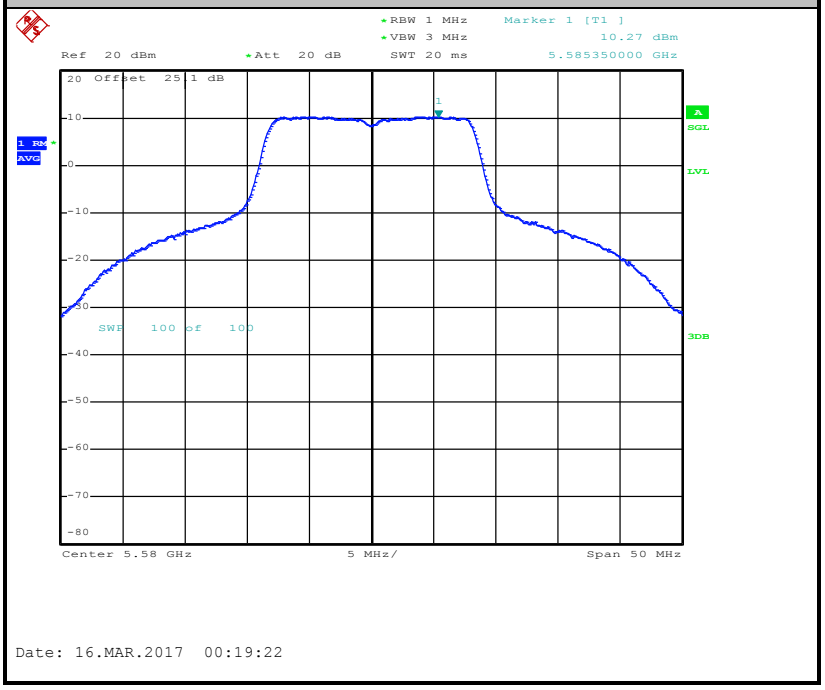
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Spectral Density(dBm/MHz)



Note: Average Power Density (dB) = Measured value+ Duty Factor

3.4 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.

3.4.1 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 shall comply with the general field strength limits 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.

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

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

(3) KDB789033 D02 v02r01 G)2)c)

(i) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits for the U-NII-1 and U-NII-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.[3]

(ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. 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 devices using the alternative limit.[4]

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).

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. 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 ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

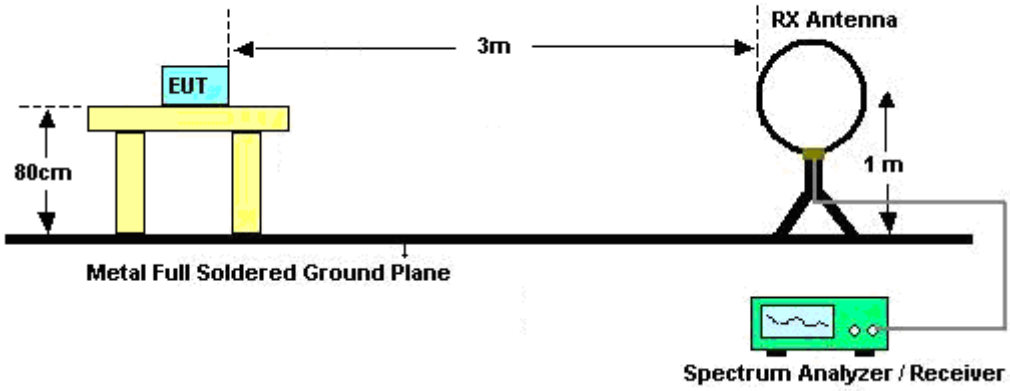
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 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.

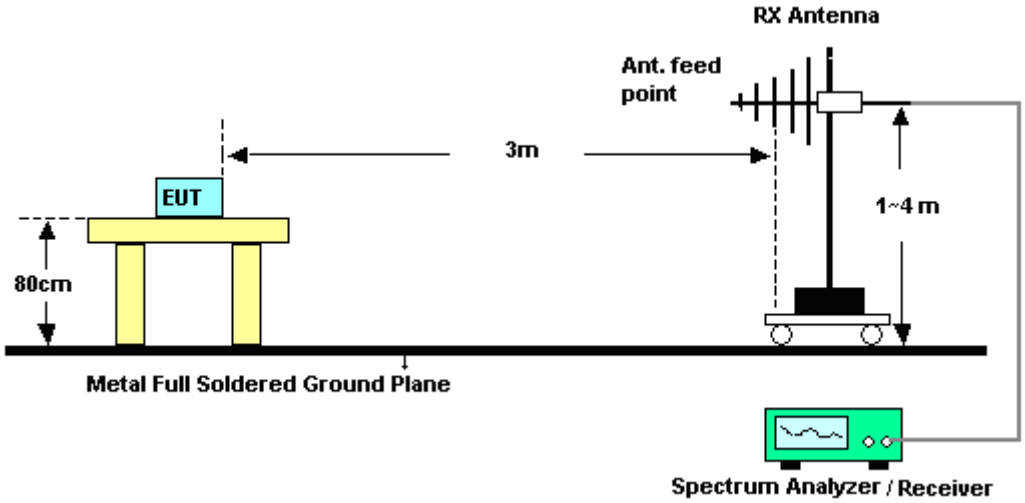
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband 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.

3.4.4 Test Setup

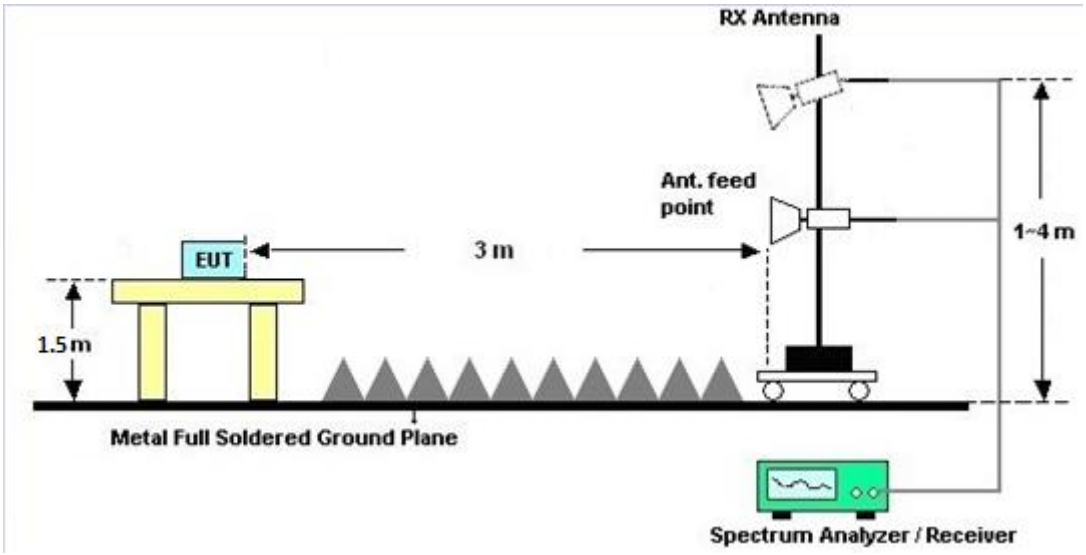
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.4.5 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 was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

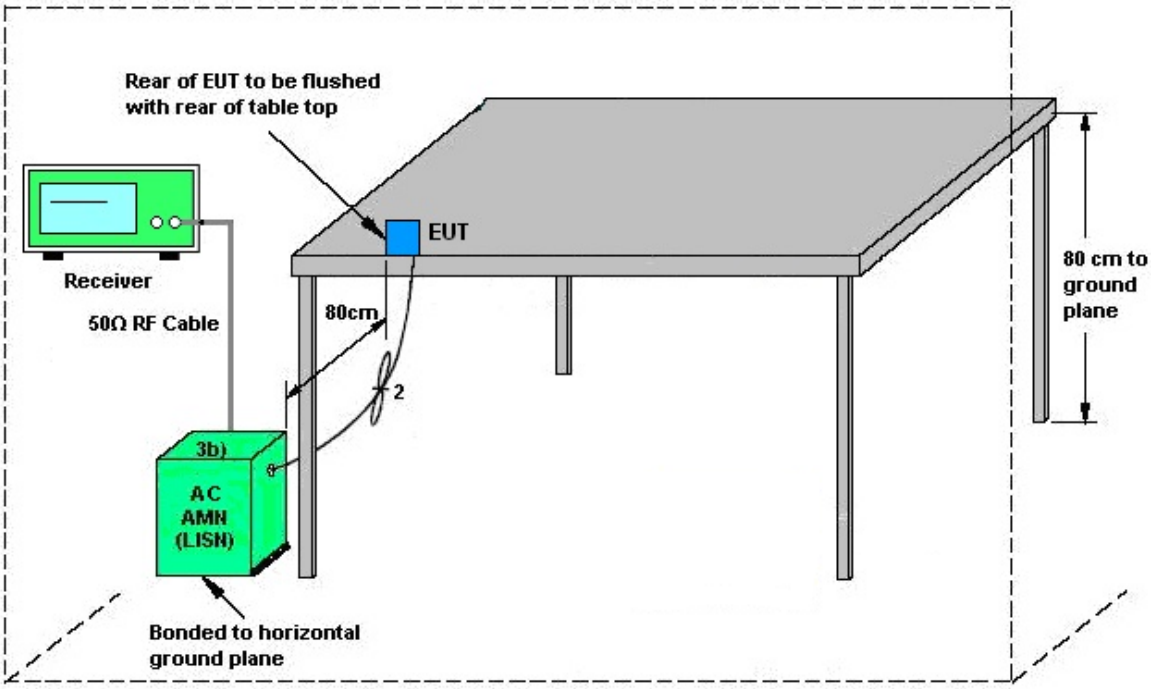
3.5.2 Measuring Instruments

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

3.5.3 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.

3.5.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.6 Frequency Stability Measurement

3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

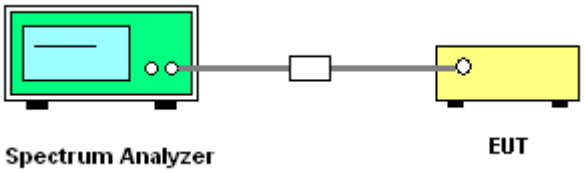
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.

3.7 Automatically Discontinue Transmission

3.7.1 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.

3.7.2 Measuring Instruments

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

3.7.3 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.

3.8 Antenna Requirements

3.8.1 Standard Applicable

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

3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.8.3 Antenna Gain

The antenna gain is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

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	Feb. 28, 2017 ~ Mar. 20, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 29, 2016	Feb. 28, 2017 ~ Mar. 20, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Jul. 17, 2016	Feb. 28, 2017 ~ Mar. 20, 2017	Jul. 16, 2017	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃ ~90℃	Sep. 01, 2016	Feb. 28, 2017 ~ Mar. 20, 2017	Aug. 31, 2017	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 11, 2016	Feb. 28, 2017 ~ Mar. 20, 2017	Oct. 10, 2017	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Mar. 11, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	Mar. 11, 2017	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	Mar. 11, 2017	Nov. 28, 2017	Conduction (CO05-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 10, 2016	Mar. 11, 2017 ~ Mar. 15, 2017	Nov. 09, 2017	Radiation (03CH12-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Oct. 20, 2016	Mar. 11, 2017 ~ Mar. 15, 2017	Oct. 19, 2018	Radiation (03CH12-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Oct. 12, 2016	Mar. 11, 2017 ~ Mar. 15, 2017	Oct. 11, 2017	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	37059&01	30MHz~1GHz	Oct. 15, 2016	Mar. 11, 2017 ~ Mar. 15, 2017	Oct. 14, 2017	Radiation (03CH12-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	Dec. 23, 2016	Mar. 11, 2017 ~ Mar. 15, 2017	Dec. 22, 2017	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Oct. 25, 2016	Mar. 11, 2017 ~ Mar. 15, 2017	Oct. 24, 2017	Radiation (03CH12-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800	2025787	1GHZ~18GHZ	Feb. 13, 2017	Mar. 11, 2017 ~ Mar. 15, 2017	Feb. 12, 2018	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY53270148	1GHz~26.5GHz	Jan. 12, 2017	Mar. 11, 2017 ~ Mar. 15, 2017	Jan. 11, 2018	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Mar. 11, 2017 ~ Mar. 15, 2017	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Mar. 11, 2017 ~ Mar. 15, 2017	N/A	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~ 40GHz	Apr. 15, 2016	Mar. 11, 2017 ~ Mar. 15, 2017	Apr. 14, 2017	Radiation (03CH12-HY)
Preamplifier	MITEQ	JS44-18004000-33-8P	1840917	18GHz ~ 40GHz	Jun. 14, 2016	Mar. 11, 2017 ~ Mar. 15, 2017	Jun. 13, 2017	Radiation (03CH12-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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.2

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.7

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Derek Hsu / Shiming Liu	Temperature:	21~25	°C
Test Date:	2017/02/28~2017/03/20	Relative Humidity:	51~54	%

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TEST RESULTS DATA
26dB and 99% OBW

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)		
11a	6Mbps	1	36	5180	21.85	44.60	-	23.01		
11a	6Mbps	1	44	5220	30.65	52.16	-	23.01		
11a	6Mbps	1	48	5240	19.05	41.20	-	22.80		
HT20	MCS0	1	36	5180	21.90	46.68	-	23.01		
HT20	MCS0	1	44	5220	31.80	52.84	-	23.01		
HT20	MCS0	1	48	5240	19.50	44.48	-	22.90		
HT40	MCS0	1	38	5190	36.60	44.93	-	23.01		
HT40	MCS0	1	46	5230	39.10	86.30	-	23.01		

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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
11a	6Mbps	1	36	5180	0.59	19.24	24.00	0.32		Pass
11a	6Mbps	1	44	5220	0.59	18.92	24.00	0.32		Pass
11a	6Mbps	1	48	5240	0.59	18.95	24.00	0.32		Pass
HT20	MCS0	1	36	5180	0.66	18.81	24.00	0.32		Pass
HT20	MCS0	1	44	5220	0.66	19.01	24.00	0.32		Pass
HT20	MCS0	1	48	5240	0.66	18.54	24.00	0.32		Pass
HT40	MCS0	1	38	5190	0.70	13.67	24.00	0.32		Pass
HT40	MCS0	1	46	5230	0.70	19.50	24.00	0.32		Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.59	7.71	11.00	0.32		Pass
11a	6Mbps	1	44	5220	0.59	7.55	11.00	0.32		Pass
11a	6Mbps	1	48	5240	0.59	7.19	11.00	0.32		Pass
HT20	MCS0	1	36	5180	0.66	7.48	11.00	0.32		Pass
HT20	MCS0	1	44	5220	0.66	7.52	11.00	0.32		Pass
HT20	MCS0	1	48	5240	0.66	6.65	11.00	0.32		Pass
HT40	MCS0	1	38	5190	0.70	-0.23	11.00	0.32		Pass
HT40	MCS0	1	46	5230	0.70	4.77	11.00	0.32		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	29.60	47.59	23.98	30.00	23.98	
11a	6M bps	1	60	5300	29.65	47.42	23.98	30.00	23.98	
11a	6M bps	1	64	5320	18.60	42.10	23.70	29.70	23.98	
HT20	MCS 0	1	52	5260	30.95	50.92	23.98	30.00	23.98	
HT20	MCS 0	1	60	5300	25.60	48.38	23.98	30.00	23.98	
HT20	MCS 0	1	64	5320	19.80	45.32	23.97	29.97	23.98	
HT40	MCS 0	1	54	5270	48.60	89.78	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.60	44.40	23.98	30.00	23.98	

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
11a	6M bps	1	52	5260	0.59	21.48	23.98	0.16	26.99	Pass
11a	6M bps	1	60	5300	0.59	21.39	23.98	0.16	26.99	Pass
11a	6M bps	1	64	5320	0.59	18.58	23.98	0.16	26.99	Pass
HT20	MCS 0	1	52	5260	0.66	21.50	23.98	0.16	26.99	Pass
HT20	MCS 0	1	60	5300	0.66	20.06	23.98	0.16	26.99	Pass
HT20	MCS 0	1	64	5320	0.66	18.76	23.98	0.16	26.99	Pass
HT40	MCS 0	1	54	5270	0.70	20.15	23.98	0.16	26.99	Pass
HT40	MCS 0	1	62	5310	0.70	8.80	23.98	0.16	26.99	Pass

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TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.59	9.38	11.00	0.16		Pass
11a	6M bps	1	60	5300	0.59	8.99	11.00	0.16		Pass
11a	6M bps	1	64	5320	0.59	6.54	11.00	0.16		Pass
HT20	MCS 0	1	52	5260	0.66	9.38	11.00	0.16		Pass
HT20	MCS 0	1	60	5300	0.66	7.96	11.00	0.16		Pass
HT20	MCS 0	1	64	5320	0.66	6.48	11.00	0.16		Pass
HT40	MCS 0	1	54	5270	0.70	5.31	11.00	0.16		Pass
HT40	MCS 0	1	62	5310	0.70	-6.29	11.00	0.16		Pass

Report Number : FR720610-04E

TEST RESULTS DATA
26dB and 99% OBW

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	18.95	42.06	23.78	29.78	23.98	
11a	6M bps	1	116	5580	21.30	43.74	23.98	30.00	23.98	
11a	6M bps	1	140	5700	17.95	23.88	23.54	29.54	23.98	
HT20	MCS 0	1	100	5500	19.60	43.60	23.92	29.92	23.98	
HT20	MCS 0	1	116	5580	21.65	47.38	23.98	30.00	23.98	
HT20	MCS 0	1	140	5700	18.95	24.52	23.78	29.78	23.98	
HT40	MCS 0	1	102	5510	36.50	44.64	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	37.40	78.78	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.50	47.40	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band III										
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
11a	6M bps	1	100	5500	0.59	19.94	23.98	0.49	26.99	Pass
11a	6M bps	1	116	5580	0.59	21.84	23.98	0.49	26.99	Pass
11a	6M bps	1	140	5700	0.59	15.44	23.98	0.49	26.99	Pass
HT20	MCS 0	1	100	5500	0.66	19.57	23.98	0.49	26.99	Pass
HT20	MCS 0	1	116	5580	0.66	21.93	23.98	0.49	26.99	Pass
HT20	MCS 0	1	140	5700	0.66	15.31	23.98	0.49	26.99	Pass
HT40	MCS 0	1	102	5510	0.70	17.15	23.98	0.49	26.99	Pass
HT40	MCS 0	1	110	5550	0.70	19.81	23.98	0.49	26.99	Pass
HT40	MCS 0	1	134	5670	0.70	17.99	23.98	0.49	26.99	Pass

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TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.59	9.15	11.00	0.49		Pass
11a	6M bps	1	116	5580	0.59	10.86	11.00	0.49		Pass
11a	6M bps	1	140	5700	0.59	3.59	11.00	0.49		Pass
HT20	MCS 0	1	100	5500	0.66	8.44	11.00	0.49		Pass
HT20	MCS 0	1	116	5580	0.66	10.79	11.00	0.49		Pass
HT20	MCS 0	1	140	5700	0.66	3.47	11.00	0.49		Pass
HT40	MCS 0	1	102	5510	0.70	3.31	11.00	0.49		Pass
HT40	MCS 0	1	110	5550	0.70	6.25	11.00	0.49		Pass
HT40	MCS 0	1	134	5670	0.70	3.49	11.00	0.49		Pass

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TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	50	3.8	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	-30	3.8	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	4.2	
11a	6Mbps	1	36	5180	5179.950	-0.050	-9.65	20	3.4	
11a	6Mbps	1	36	5180	5179.950	-0.050	-9.65	20	3.8	

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	50	3.8	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	-30	3.8	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	4.2	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.4	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.8	

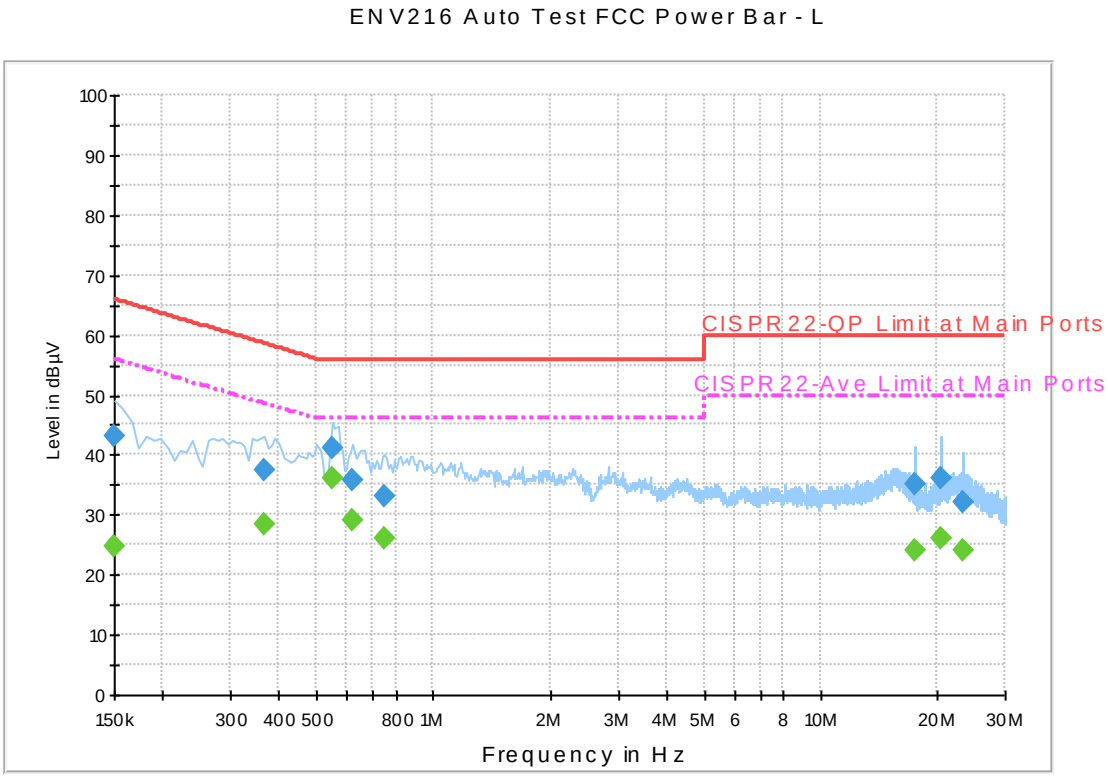
Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	50	3.8	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	-30	3.8	
11a	6Mbps	1	100	5500	5499.950	-0.050	-9.09	20	4.2	
11a	6Mbps	1	100	5500	5499.950	-0.050	-9.09	20	3.4	
11a	6Mbps	1	100	5500	5499.950	-0.050	-9.09	20	3.8	

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Arthur Hsieh	**Temperature :**	23~25℃
		Relative Humidity :	50~52%

EUT Information

Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	43.2	Off	L1	19.6	22.8	66.0
0.366000	37.3	Off	L1	19.6	21.3	58.6
0.550000	41.0	Off	L1	19.6	15.0	56.0
0.622000	35.7	Off	L1	19.6	20.3	56.0
0.750000	33.2	Off	L1	19.6	22.8	56.0
17.518000	35.2	Off	L1	20.5	24.8	60.0
20.454000	36.1	Off	L1	20.6	23.9	60.0
23.366000	32.0	Off	L1	20.7	28.0	60.0

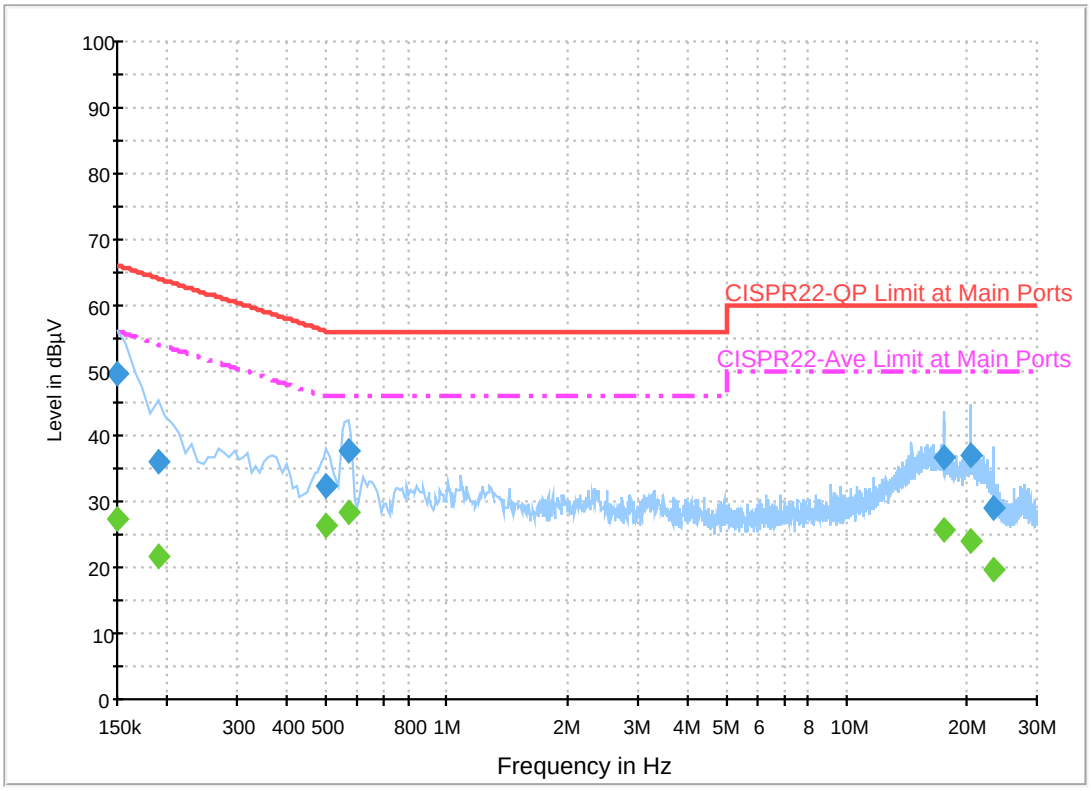
Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	24.8	Off	L1	19.6	31.2	56.0
0.366000	28.5	Off	L1	19.6	20.1	48.6
0.550000	36.2	Off	L1	19.6	9.8	46.0
0.622000	28.9	Off	L1	19.6	17.1	46.0
0.750000	26.2	Off	L1	19.6	19.8	46.0
17.518000	24.2	Off	L1	20.5	25.8	50.0
20.454000	26.1	Off	L1	20.6	23.9	50.0
23.366000	24.2	Off	L1	20.7	25.8	50.0

EUT Information

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)
0.150000	49.4	Off	N	19.5	16.6	66.0
0.190000	36.0	Off	N	19.5	28.0	64.0
0.502000	32.4	Off	N	19.5	23.6	56.0
0.566000	37.9	Off	N	19.5	18.1	56.0
17.494000	36.6	Off	N	20.5	23.4	60.0
20.414000	37.2	Off	N	20.7	22.8	60.0
23.334000	29.2	Off	N	20.9	30.8	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	27.3	Off	N	19.5	28.7	56.0
0.190000	21.7	Off	N	19.5	32.3	54.0
0.502000	26.6	Off	N	19.5	19.4	46.0
0.566000	28.6	Off	N	19.5	17.4	46.0
17.494000	25.6	Off	N	20.5	24.4	50.0
20.414000	24.2	Off	N	20.7	25.8	50.0
23.334000	19.6	Off	N	20.9	30.4	50.0

Appendix C. Radiated Spurious Emission

Test Engineer :	Peter Liao, Karl Hou, Nick Yu	Temperature :	21 ~ 23°C
		Relative Humidity :	53 ~ 55%

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5150	64.93	-9.07	74	52.2	32.47	11.21	30.95	101	126	P	H
		5150	50.29	-3.71	54	37.56	32.47	11.21	30.95	101	126	A	H
	*	5180	105.16	-	-	92.44	32.46	11.21	30.95	101	126	P	H
	*	5180	94.08	-	-	81.36	32.46	11.21	30.95	101	126	A	H
													H
													H
		5146.9	60.78	-13.22	74	48.05	32.47	11.21	30.95	203	87	P	V
		5150	49.22	-4.78	54	36.49	32.47	11.21	30.95	203	87	A	V
	*	5180	102.86	-	-	90.14	32.46	11.21	30.95	203	87	P	V
	*	5180	91.08	-	-	78.36	32.46	11.21	30.95	203	87	A	V
													V
													V
802.11a CH 44 5220MHz		5114.92	60.38	-13.62	74	47.61	32.48	11.24	30.95	207	133	P	H
		5016.38	48.34	-5.66	54	35.45	32.5	11.34	30.95	207	133	A	H
	*	5220	108.47	-	-	95.78	32.46	11.18	30.95	207	133	P	H
	*	5220	97.3	-	-	84.61	32.46	11.18	30.95	207	133	A	H
		5412.24	60.56	-13.44	74	47.49	32.42	11.6	30.95	207	133	P	H
		5372.16	48.79	-5.21	54	35.79	32.43	11.52	30.95	207	133	A	H
		5059.28	60.05	-13.95	74	47.2	32.49	11.31	30.95	300	96	P	V
		5141.7	48.37	-5.63	54	35.64	32.47	11.21	30.95	300	96	A	V
	*	5220	105.88	-	-	93.19	32.46	11.18	30.95	300	96	P	V
	*	5220	94.26	-	-	81.57	32.46	11.18	30.95	300	96	A	V
		5383.68	59.79	-14.21	74	46.72	32.42	11.6	30.95	300	96	P	V
		5406.24	48.82	-5.18	54	35.75	32.42	11.6	30.95	300	96	A	V

802.11a CH 48 5240MHz		5125.58	59.59	-14.41	74	46.83	32.47	11.24	30.95	217	127	P	H
		5015.86	48.34	-5.66	54	35.45	32.5	11.34	30.95	217	127	A	H
	*	5240	106.89	-	-	94.13	32.45	11.26	30.95	217	127	P	H
	*	5240	95.69	-	-	82.93	32.45	11.26	30.95	217	127	A	H
		5400	60.61	-13.39	74	47.54	32.42	11.6	30.95	217	127	P	H
		5380.32	48.67	-5.33	54	35.6	32.42	11.6	30.95	217	127	A	H
		5080.6	59.99	-14.01	74	47.19	32.48	11.27	30.95	296	96	P	V
		5037.7	48.32	-5.68	54	35.47	32.49	11.31	30.95	296	96	A	V
	*	5240	104.31	-	-	91.55	32.45	11.26	30.95	296	96	P	V
	*	5240	93.34	-	-	80.58	32.45	11.26	30.95	296	96	A	V
		5378.16	60.04	-13.96	74	47.05	32.42	11.52	30.95	296	96	P	V
		5433.6	48.67	-5.33	54	35.57	32.41	11.64	30.95	296	96	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10360	45.84	-28.16	74	54.16	39.75	17.13	65.2	100	0	P	H
		15540	47.52	-26.48	74	50.51	39.38	21.61	63.98	100	0	P	H
													H
													H
		10360	47.11	-26.89	74	55.43	39.75	17.13	65.2	100	0	P	V
		15540	45.9	-28.1	74	48.89	39.38	21.61	63.98	100	0	P	V
													V
													V
802.11a CH 44 5220MHz		10440	46.14	-27.86	74	54.23	39.89	17.22	65.2	100	0	P	H
		15660	45.23	-28.77	74	48.75	39.02	21.7	64.24	100	0	P	H
													H
													H
		10440	47.13	-26.87	74	55.22	39.89	17.22	65.2	100	0	P	V
		15660	45.37	-28.63	74	48.89	39.02	21.7	64.24	100	0	P	V
													V
													V
802.11a CH 48 5240MHz		10480	47.3	-26.7	74	55.27	39.96	17.27	65.2	100	0	P	H
		15720	45.54	-28.46	74	49.33	38.84	21.76	64.39	100	0	P	H
													H
													H
		10480	48.54	-25.46	74	56.51	39.96	17.27	65.2	100	0	P	V
		15720	44.31	-29.69	74	48.1	38.84	21.76	64.39	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 HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5148.46	63.22	-10.78	74	50.49	32.47	11.21	30.95	100	123	P	H
		5150	50.18	-3.82	54	37.45	32.47	11.21	30.95	100	123	A	H
	*	5180	104.77	-	-	92.05	32.46	11.21	30.95	100	123	P	H
	*	5180	93.7	-	-	80.98	32.46	11.21	30.95	100	123	A	H
													H
													H
		5148.46	60.56	-13.44	74	47.83	32.47	11.21	30.95	203	86	P	V
		5150	48.77	-5.23	54	36.04	32.47	11.21	30.95	203	86	A	V
	*	5180	101.34	-	-	88.62	32.46	11.21	30.95	203	86	P	V
	*	5180	90.21	-	-	77.49	32.46	11.21	30.95	203	86	A	V
													V
													V
802.11n HT20 CH 44 5220MHz		5146.12	59.94	-14.06	74	47.21	32.47	11.21	30.95	100	124	P	H
		5026.78	48.4	-5.6	54	35.55	32.49	11.31	30.95	100	124	A	H
	*	5220	108.09	-	-	95.4	32.46	11.18	30.95	100	124	P	H
	*	5220	96.5	-	-	83.81	32.46	11.18	30.95	100	124	A	H
		5424	59.79	-14.21	74	46.68	32.42	11.64	30.95	100	124	P	H
		5369.04	48.8	-5.2	54	35.8	32.43	11.52	30.95	100	124	A	H
		5131.56	60.27	-13.73	74	47.51	32.47	11.24	30.95	299	95	P	V
		5079.3	48.41	-5.59	54	35.61	32.48	11.27	30.95	299	95	A	V
	*	5220	105.58	-	-	92.89	32.46	11.18	30.95	299	95	P	V
	*	5220	93.9	-	-	81.21	32.46	11.18	30.95	299	95	A	V
		5431.92	60.12	-13.88	74	47.02	32.41	11.64	30.95	299	95	P	V
		5413.92	48.76	-5.24	54	35.69	32.42	11.6	30.95	299	95	A	V

802.11n HT20 CH 48 5240MHz		5008.32	59.8	-14.2	74	46.91	32.5	11.34	30.95	100	125	P	H
		5105.56	48.32	-5.68	54	35.55	32.48	11.24	30.95	100	125	A	H
	*	5240	106.64	-	-	93.88	32.45	11.26	30.95	100	125	P	H
	*	5240	95.01	-	-	82.25	32.45	11.26	30.95	100	125	A	H
		5449.44	59.76	-14.24	74	46.66	32.41	11.64	30.95	100	125	P	H
		5390.16	48.68	-5.32	54	35.61	32.42	11.6	30.95	100	125	A	H
		5070.72	59.8	-14.2	74	46.99	32.49	11.27	30.95	200	87	P	V
		5001.56	48.23	-5.77	54	35.34	32.5	11.34	30.95	200	87	A	V
	*	5240	103.2	-	-	90.44	32.45	11.26	30.95	200	87	P	V
	*	5240	92.35	-	-	79.59	32.45	11.26	30.95	200	87	A	V
		5409.84	59.57	-14.43	74	46.5	32.42	11.6	30.95	200	87	P	V
		5414.64	48.61	-5.39	54	35.54	32.42	11.6	30.95	200	87	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 HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		10360	45.81	-28.19	74	54.13	39.75	17.13	65.2	100	0	P	H
		15540	45.72	-28.28	74	48.71	39.38	21.61	63.98	100	0	P	H
													H
													H
		10360	46.72	-27.28	74	55.04	39.75	17.13	65.2	100	0	P	V
		15540	45.87	-28.13	74	48.86	39.38	21.61	63.98	100	0	P	V
													V
													V
802.11n HT20 CH 44 5220MHz		10440	46.59	-27.41	74	54.68	39.89	17.22	65.2	100	0	P	H
		15660	44.74	-29.26	74	48.26	39.02	21.7	64.24	100	0	P	H
													H
													H
		10440	48.36	-25.64	74	56.45	39.89	17.22	65.2	100	0	P	V
		15660	45.72	-28.28	74	49.24	39.02	21.7	64.24	100	0	P	V
													V
													V
802.11n HT20 CH 48 5240MHz		10480	46.57	-27.43	74	54.54	39.96	17.27	65.2	100	0	P	H
		15720	44.33	-29.67	74	48.12	38.84	21.76	64.39	100	0	P	H
													H
													H
		10480	47.33	-26.67	74	55.3	39.96	17.27	65.2	100	0	P	V
		15720	44.65	-29.35	74	48.44	38.84	21.76	64.39	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	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		5150	60.04	-13.96	74	47.31	32.47	11.21	30.95	218	128	P	H
		5141.96	50.72	-3.28	54	37.99	32.47	11.21	30.95	218	128	A	H
	*	5190	98.44	-	-	85.75	32.46	11.18	30.95	218	128	P	H
	*	5190	87.41	-	-	74.72	32.46	11.18	30.95	218	128	A	H
		5402.4	60.64	-13.36	74	47.57	32.42	11.6	30.95	218	128	P	H
		5366.64	49.36	-4.64	54	36.36	32.43	11.52	30.95	218	128	A	H
		5147.94	59.84	-14.16	74	47.11	32.47	11.21	30.95	215	285	P	V
		5142.22	50.68	-3.32	54	37.95	32.47	11.21	30.95	215	285	A	V
	*	5190	98.52	-	-	85.83	32.46	11.18	30.95	215	285	P	V
	*	5190	87.05	-	-	74.36	32.46	11.18	30.95	215	285	A	V
		5417.28	59.82	-14.18	74	46.75	32.42	11.6	30.95	215	285	P	V
		5418.72	49.16	-4.84	54	36.09	32.42	11.6	30.95	215	285	A	V
802.11n HT40 CH 46 5230MHz		5050.96	59.93	-14.07	74	47.08	32.49	11.31	30.95	100	122	P	H
		5094.9	49.02	-4.98	54	36.22	32.48	11.27	30.95	100	122	A	H
	*	5230	104.92	-	-	92.16	32.45	11.26	30.95	100	122	P	H
	*	5230	93.88	-	-	81.12	32.45	11.26	30.95	100	122	A	H
		5368.8	60.45	-13.55	74	47.45	32.43	11.52	30.95	100	122	P	H
		5432.16	49.34	-4.66	54	36.24	32.41	11.64	30.95	100	122	A	H
		5036.66	59.74	-14.26	74	46.89	32.49	11.31	30.95	211	285	P	V
		5127.4	49.23	-4.77	54	36.47	32.47	11.24	30.95	211	285	A	V
	*	5230	102.67	-	-	89.91	32.45	11.26	30.95	211	285	P	V
	*	5230	91.88	-	-	79.12	32.45	11.26	30.95	211	285	A	V
		5445.36	60.1	-13.9	74	47	32.41	11.64	30.95	211	285	P	V
		5408.4	49.36	-4.64	54	36.29	32.42	11.6	30.95	211	285	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	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	46.78	-27.22	74	55.07	39.78	17.13	65.2	100	0	P	H
		15570	46.88	-27.12	74	50	39.29	21.64	64.05	100	0	P	H
													H
													H
		10380	47.91	-26.09	74	56.2	39.78	17.13	65.2	100	0	P	V
		15570	45.47	-28.53	74	48.59	39.29	21.64	64.05	100	0	P	V
													V
													V
802.11n HT40 CH 46 5230MHz		10460	46.72	-27.28	74	54.77	39.93	17.22	65.2	100	0	P	H
		15690	45.86	-28.14	74	49.52	38.93	21.73	64.32	100	0	P	H
													H
													H
		10460	46.36	-27.64	74	54.41	39.93	17.22	65.2	100	0	P	V
		15690	44.54	-29.46	74	48.2	38.93	21.73	64.32	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 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5044.72	59.66	-14.34	74	46.81	32.49	11.31	30.95	214	73	P	H
		5136.24	48.37	-5.63	54	35.61	32.47	11.24	30.95	214	73	A	H
	*	5260	109.03	-	-	96.27	32.45	11.26	30.95	214	73	P	H
	*	5260	97.66	-	-	84.9	32.45	11.26	30.95	214	73	A	H
		5372.4	59.79	-14.21	74	46.79	32.43	11.52	30.95	214	73	P	H
		5446.56	49.1	-4.9	54	36	32.41	11.64	30.95	214	73	A	H
		5018.46	60.44	-13.56	74	47.55	32.5	11.34	30.95	294	96	P	V
		5010.4	48.4	-5.6	54	35.51	32.5	11.34	30.95	294	96	A	V
	*	5260	106.66	-	-	93.9	32.45	11.26	30.95	294	96	P	V
	*	5260	95.32	-	-	82.56	32.45	11.26	30.95	294	96	A	V
		5441.76	60.34	-13.66	74	47.24	32.41	11.64	30.95	294	96	P	V
		5377.2	48.82	-5.18	54	35.83	32.42	11.52	30.95	294	96	A	V
802.11a CH 60 5300MHz		5098.54	60.04	-13.96	74	47.24	32.48	11.27	30.95	214	73	P	H
		5078.26	48.25	-5.75	54	35.45	32.48	11.27	30.95	214	73	A	H
	*	5300	110.21	-	-	97.37	32.44	11.35	30.95	214	73	P	H
	*	5300	99	-	-	86.16	32.44	11.35	30.95	214	73	A	H
		5352.24	61.88	-12.12	74	48.88	32.43	11.52	30.95	214	73	P	H
		5352.24	50.96	-3.04	54	37.96	32.43	11.52	30.95	214	73	A	H
		5028.6	59.48	-14.52	74	46.63	32.49	11.31	30.95	290	98	P	V
		5010.92	48.33	-5.67	54	35.44	32.5	11.34	30.95	290	98	A	V
	*	5300	108.5	-	-	95.66	32.44	11.35	30.95	290	98	P	V
	*	5300	96.94	-	-	84.1	32.44	11.35	30.95	290	98	A	V
		5352.96	61.63	-12.37	74	48.63	32.43	11.52	30.95	290	98	P	V
		5352.48	50.18	-3.82	54	37.18	32.43	11.52	30.95	290	98	A	V

802.11a CH 64 5320MHz	*	5320	109.31	-	-	96.39	32.44	11.43	30.95	211	72	P	H
	*	5320	97.56	-	-	84.64	32.44	11.43	30.95	211	72	A	H
		5356.64	63.44	-10.56	74	50.44	32.43	11.52	30.95	211	72	P	H
		5350.08	50.41	-3.59	54	37.41	32.43	11.52	30.95	211	72	A	H
													H
													H
	*	5320	106.25	-	-	93.33	32.44	11.43	30.95	318	97	P	V
	*	5320	95.01	-	-	82.09	32.44	11.43	30.95	318	97	A	V
		5351.52	62.87	-11.13	74	49.87	32.43	11.52	30.95	318	97	P	V
		5350.08	49.66	-4.34	54	36.66	32.43	11.52	30.95	318	97	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 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		10520	45.94	-28.06	74	53.82	40.01	17.31	65.2	100	0	P	H
		15780	45.71	-28.29	74	49.77	38.66	21.79	64.51	100	0	P	H
													H
													H
		10520	46.55	-27.45	74	54.43	40.01	17.31	65.2	100	0	P	V
		15780	45.13	-28.87	74	49.19	38.66	21.79	64.51	100	0	P	V
													V
													V
802.11a CH 60 5300MHz		10600	47.87	-26.13	74	55.61	40.04	17.4	65.18	100	0	P	H
		15900	44.45	-29.55	74	49.04	38.3	21.88	64.77	100	0	P	H
													H
													H
		10600	47.18	-26.82	74	54.92	40.04	17.4	65.18	100	0	P	V
		15900	44.5	-29.5	74	49.09	38.3	21.88	64.77	100	0	P	V
													V
													V
802.11a CH 64 5320MHz		10640	46.12	-27.88	74	53.78	40.06	17.45	65.17	100	0	P	H
		15960	45.21	-28.79	74	50.07	38.12	21.94	64.92	100	0	P	H
													H
													H
		10640	46.1	-27.9	74	53.76	40.06	17.45	65.17	100	0	P	V
		15960	45.1	-28.9	74	49.96	38.12	21.94	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 HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5075.14	59.67	-14.33	74	46.87	32.48	11.27	30.95	217	73	P	H
		5113.36	48.4	-5.6	54	35.63	32.48	11.24	30.95	217	73	A	H
	*	5260	108.74	-	-	95.98	32.45	11.26	30.95	217	73	P	H
	*	5260	97.41	-	-	84.65	32.45	11.26	30.95	217	73	A	H
		5400.72	60.55	-13.45	74	47.48	32.42	11.6	30.95	217	73	P	H
		5386.32	48.96	-5.04	54	35.89	32.42	11.6	30.95	217	73	A	H
		5133.12	59.58	-14.42	74	46.82	32.47	11.24	30.95	200	94	P	V
		5146.38	48.32	-5.68	54	35.59	32.47	11.21	30.95	200	94	A	V
	*	5260	106.25	-	-	93.49	32.45	11.26	30.95	200	94	P	V
	*	5260	94.82	-	-	82.06	32.45	11.26	30.95	200	94	A	V
		5438.16	59.59	-14.41	74	46.49	32.41	11.64	30.95	200	94	P	V
		5378.64	48.74	-5.26	54	35.75	32.42	11.52	30.95	200	94	A	V
802.11n HT20 CH 60 5300MHz		5134.16	60.27	-13.73	74	47.51	32.47	11.24	30.95	205	127	P	H
		5074.1	48.39	-5.61	54	35.58	32.49	11.27	30.95	205	127	A	H
	*	5300	109.79	-	-	96.95	32.44	11.35	30.95	205	127	P	H
	*	5300	98.45	-	-	85.61	32.44	11.35	30.95	205	127	A	H
		5351.76	60.88	-13.12	74	47.88	32.43	11.52	30.95	205	127	P	H
		5351.76	50.85	-3.15	54	37.85	32.43	11.52	30.95	205	127	A	H
		5117	60.18	-13.82	74	47.41	32.48	11.24	30.95	208	93	P	V
		5015.6	48.34	-5.66	54	35.45	32.5	11.34	30.95	208	93	A	V
	*	5300	106.87	-	-	94.03	32.44	11.35	30.95	208	93	P	V
	*	5300	95.84	-	-	83	32.44	11.35	30.95	208	93	A	V
		5448.24	60.92	-13.08	74	47.82	32.41	11.64	30.95	208	93	P	V
		5351.52	49.68	-4.32	54	36.68	32.43	11.52	30.95	208	93	A	V

	*	5320	108.11	-	-	95.19	32.44	11.43	30.95	208	74	P	H
	*	5320	96.78	-	-	83.86	32.44	11.43	30.95	208	74	A	H
		5350.72	63.84	-10.16	74	50.84	32.43	11.52	30.95	208	74	P	H
		5350.4	50.62	-3.38	54	37.62	32.43	11.52	30.95	208	74	A	H
802.11n													H
HT20													H
CH 64	*	5320	106.6	-	-	93.68	32.44	11.43	30.95	287	97	P	V
5320MHz	*	5320	95.09	-	-	82.17	32.44	11.43	30.95	287	97	A	V
		5350.56	62.38	-11.62	74	49.38	32.43	11.52	30.95	287	97	P	V
		5350.88	50.19	-3.81	54	37.19	32.43	11.52	30.95	287	97	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	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 52 5260MHz		10520	46.18	-27.82	74	54.06	40.01	17.31	65.2	100	0	P	H
		15780	44.76	-29.24	74	48.82	38.66	21.79	64.51	100	0	P	H
													H
													H
		10520	46.54	-27.46	74	54.42	40.01	17.31	65.2	100	0	P	V
		15780	45.73	-28.27	74	49.79	38.66	21.79	64.51	100	0	P	V
													V
													V
802.11n HT20 CH 60 5300MHz		10600	47.5	-26.5	74	55.24	40.04	17.4	65.18	100	0	P	H
		15900	43.93	-30.07	74	48.52	38.3	21.88	64.77	100	0	P	H
													H
													H
		10600	47.09	-26.91	74	54.83	40.04	17.4	65.18	100	0	P	V
		15900	44.23	-29.77	74	48.82	38.3	21.88	64.77	100	0	P	V
													V
													V
802.11n HT20 CH 64 5320MHz		10640	45.93	-28.07	74	53.59	40.06	17.45	65.17	100	0	P	H
		15960	45.68	-28.32	74	50.54	38.12	21.94	64.92	100	0	P	H
													H
													H
		10640	46.4	-27.6	74	54.06	40.06	17.45	65.17	100	0	P	V
		15960	45.25	-28.75	74	50.11	38.12	21.94	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	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 54 5270MHz		5074.1	60.09	-13.91	74	47.28	32.49	11.27	30.95	217	128	P	H
		5069.16	48.98	-5.02	54	36.17	32.49	11.27	30.95	217	128	A	H
	*	5270	107.45	-	-	94.6	32.45	11.35	30.95	217	128	P	H
	*	5270	96.1	-	-	83.25	32.45	11.35	30.95	217	128	A	H
		5362.8	61.4	-12.6	74	48.4	32.43	11.52	30.95	217	128	P	H
		5350.32	50.84	-3.16	54	37.84	32.43	11.52	30.95	217	128	A	H
		5029.64	60.24	-13.76	74	47.39	32.49	11.31	30.95	307	96	P	V
		5096.46	49.18	-4.82	54	36.38	32.48	11.27	30.95	307	96	A	V
	*	5270	105.33	-	-	92.48	32.45	11.35	30.95	307	96	P	V
	*	5270	94.02	-	-	81.17	32.45	11.35	30.95	307	96	A	V
		5356.8	60.73	-13.27	74	47.73	32.43	11.52	30.95	307	96	P	V
		5352.48	50.44	-3.56	54	37.44	32.43	11.52	30.95	307	96	A	V
802.11n HT40 CH 62 5310MHz		5047.58	59.37	-14.63	74	46.52	32.49	11.31	30.95	210	128	P	H
		5137.54	49.1	-4.9	54	36.34	32.47	11.24	30.95	210	128	A	H
	*	5310	96.07	-	-	83.15	32.44	11.43	30.95	210	128	P	H
	*	5310	85.15	-	-	72.23	32.44	11.43	30.95	210	128	A	H
		5358	59.55	-14.45	74	46.55	32.43	11.52	30.95	210	128	P	H
		5358	50.19	-3.81	54	37.19	32.43	11.52	30.95	210	128	A	H
		5096.2	59.63	-14.37	74	46.83	32.48	11.27	30.95	289	98	P	V
		5057.46	49.1	-4.9	54	36.25	32.49	11.31	30.95	289	98	A	V
	*	5310	94.77	-	-	81.85	32.44	11.43	30.95	289	98	P	V
	*	5310	83.55	-	-	70.63	32.44	11.43	30.95	289	98	A	V
		5413.2	59.47	-14.53	74	46.4	32.42	11.6	30.95	289	98	P	V
		5358	49.97	-4.03	54	36.97	32.43	11.52	30.95	289	98	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	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 54 5270MHz		10540	47.13	-26.87	74	54.99	40.02	17.31	65.19	100	0	P	H
		15810	44.68	-29.32	74	48.87	38.57	21.82	64.58	100	0	P	H
													H
													H
		10540	47.29	-26.71	74	55.15	40.02	17.31	65.19	100	0	P	V
		15810	45.11	-28.89	74	49.3	38.57	21.82	64.58	100	0	P	V
													V
													V
802.11n HT40 CH 62 5310MHz		10620	45.43	-28.57	74	53.16	40.05	17.4	65.18	100	0	P	H
		15930	44.78	-29.22	74	49.51	38.21	21.91	64.85	100	0	P	H
													H
													H
		10620	45.3	-28.7	74	53.03	40.05	17.4	65.18	100	0	P	V
		15930	43.98	-30.02	74	48.71	38.21	21.91	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 3 - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5432.88	60.91	-13.09	74	47.81	32.41	11.64	30.95	100	125	P	H
		5470	65.07	-3.13	68.2	51.94	32.41	11.67	30.95	100	125	P	H
		5447.44	50.85	-3.15	54	37.75	32.41	11.64	30.95	100	125	A	H
	*	5500	111.7	-	-	98.58	32.4	11.67	30.95	100	125	P	H
	*	5500	100.74	-	-	87.62	32.4	11.67	30.95	100	125	A	H
													H
		5447.44	61.04	-12.96	74	47.94	32.41	11.64	30.95	297	99	P	V
		5468.72	64.63	-3.57	68.2	51.5	32.41	11.67	30.95	297	99	P	V
		5447.76	50.31	-3.69	54	37.21	32.41	11.64	30.95	297	99	A	V
	*	5500	111.6	-	-	98.48	32.4	11.67	30.95	297	99	P	V
	*	5500	100.47	-	-	87.35	32.4	11.67	30.95	297	99	A	V
													V
802.11a CH 116 5580MHz		5377.84	60.31	-13.69	74	47.32	32.42	11.52	30.95	209	71	P	H
		5466.16	60.26	-7.94	68.2	47.13	32.41	11.67	30.95	209	71	P	H
		5456.32	49.26	-4.74	54	36.16	32.41	11.64	30.95	209	71	A	H
	*	5580	114.38	-	-	101	32.62	11.74	30.98	209	71	P	H
	*	5580	103.22	-	-	89.84	32.62	11.74	30.98	209	71	A	H
		5754.325	60.5	-7.7	68.2	46.56	33.11	11.86	31.03	209	71	P	H
		5454.64	60.54	-13.46	74	47.44	32.41	11.64	30.95	279	91	P	V
		5466.88	59.95	-8.25	68.2	46.82	32.41	11.67	30.95	279	91	P	V
		5454.64	49.05	-4.95	54	35.95	32.41	11.64	30.95	279	91	A	V
	*	5580	114.01	-	-	100.63	32.62	11.74	30.98	279	91	P	V
	*	5580	103.05	-	-	89.67	32.62	11.74	30.98	279	91	A	V
		5732.8	60.71	-7.49	68.2	46.85	33.05	11.84	31.03	279	91	P	V

802.11a CH 140 5700MHz	*	5700	110.32	-	-	96.55	32.96	11.82	31.01	205	76	P	H
	*	5700	98.67	-	-	84.9	32.96	11.82	31.01	205	76	A	H
		5726.04	64.91	-3.29	68.2	51.06	33.03	11.84	31.02	205	76	P	H
													H
													H
													H
	*	5700	108.61	-	-	94.84	32.96	11.82	31.01	264	95	P	V
	*	5700	97.55	-	-	83.78	32.96	11.82	31.01	264	95	A	V
		5727.24	62.81	-5.39	68.2	48.95	33.04	11.84	31.02	264	95	P	V
													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 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		11000	47.59	-26.41	74	54.63	40.2	17.86	65.1	100	0	P	H
		16500	44.31	-23.89	68.2	47.49	39.5	22.42	65.1	100	0	P	H
													H
													H
		11000	47.64	-26.36	74	54.68	40.2	17.86	65.1	100	0	P	V
		16500	45.42	-22.78	68.2	48.6	39.5	22.42	65.1	100	0	P	V
													V
													V
802.11a CH 116 5580MHz		11160	49.19	-24.81	74	56.15	40.2	18.04	65.2	100	0	P	H
		16740	46.24	-21.96	68.2	48.04	40.41	22.65	64.86	100	0	P	H
													H
													H
		11160	48.14	-25.86	74	55.1	40.2	18.04	65.2	100	0	P	V
		16740	45.21	-22.99	68.2	47.01	40.41	22.65	64.86	100	0	P	V
													V
													V
802.11a CH 140 5700MHz		11400	46.31	-27.69	74	53.14	40.2	18.31	65.34	100	0	P	H
		17100	48.31	-19.89	68.2	48.16	41.62	22.99	64.46	100	0	P	H
													H
													H
		11400	47.12	-26.88	74	53.95	40.2	18.31	65.34	100	0	P	V
		17100	48.19	-20.01	68.2	48.04	41.62	22.99	64.46	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	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 100 5500MHz		5458.96	61.16	-12.84	74	48.06	32.41	11.64	30.95	212	71	P	H
		5470	64.97	-3.23	68.2	51.84	32.41	11.67	30.95	212	71	P	H
		5448.24	50.86	-3.14	54	37.76	32.41	11.64	30.95	212	71	A	H
	*	5500	111.49	-	-	98.37	32.4	11.67	30.95	212	71	P	H
	*	5500	99.87	-	-	86.75	32.4	11.67	30.95	212	71	A	H
													H
		5458.64	60.68	-13.32	74	47.58	32.41	11.64	30.95	302	97	P	V
		5469.84	64.09	-4.11	68.2	50.96	32.41	11.67	30.95	302	97	P	V
		5448.08	50.31	-3.69	54	37.21	32.41	11.64	30.95	302	97	A	V
	*	5500	110.58	-	-	97.46	32.4	11.67	30.95	302	97	P	V
	*	5500	99	-	-	85.88	32.4	11.67	30.95	302	97	A	V
													V
802.11n HT20 CH 116 5580MHz		5438.08	60.24	-13.76	74	47.14	32.41	11.64	30.95	205	71	P	H
		5464.96	60.96	-7.24	68.2	47.83	32.41	11.67	30.95	205	71	P	H
		5452.72	49.21	-4.79	54	36.11	32.41	11.64	30.95	205	71	A	H
	*	5580	114.76	-	-	101.38	32.62	11.74	30.98	205	71	P	H
	*	5580	103.2	-	-	89.82	32.62	11.74	30.98	205	71	A	H
		5752.925	60.85	-7.35	68.2	46.91	33.11	11.86	31.03	205	71	P	H
		5449.12	60.01	-13.99	74	46.91	32.41	11.64	30.95	298	97	P	V
		5463.04	60.93	-7.27	68.2	47.8	32.41	11.67	30.95	298	97	P	V
		5456.08	48.94	-5.06	54	35.84	32.41	11.64	30.95	298	97	A	V
	*	5580	113.87	-	-	100.49	32.62	11.74	30.98	298	97	P	V
	*	5580	102.21	-	-	88.83	32.62	11.74	30.98	298	97	A	V
		5754.325	60.74	-7.46	68.2	46.8	33.11	11.86	31.03	298	97	P	V

802.11n HT20 CH 140 5700MHz	*	5700	110.14	-	-	96.37	32.96	11.82	31.01	211	71	P	H
	*	5700	98.95	-	-	85.18	32.96	11.82	31.01	211	71	A	H
		5725	64.74	-3.46	68.2	50.89	33.03	11.84	31.02	211	71	P	H
													H
													H
													H
	*	5700	108.79	-	-	95.02	32.96	11.82	31.01	282	97	P	V
	*	5700	97.5	-	-	83.73	32.96	11.82	31.01	282	97	A	V
		5725.56	65.06	-3.14	68.2	51.21	33.03	11.84	31.02	282	97	P	V
													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 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		11000	47.98	-26.02	74	55.02	40.2	17.86	65.1	100	0	P	H
		16500	44.77	-23.43	68.2	47.95	39.5	22.42	65.1	100	0	P	H
													H
													H
		11000	48.07	-25.93	74	55.11	40.2	17.86	65.1	100	0	P	V
		16500	44.86	-23.34	68.2	48.04	39.5	22.42	65.1	100	0	P	V
													V
													V
802.11n HT20 CH 116 5580MHz		11160	48.53	-25.47	74	55.49	40.2	18.04	65.2	100	0	P	H
		16740	44.38	-23.82	68.2	46.18	40.41	22.65	64.86	100	0	P	H
													H
													H
		11160	50.14	-23.86	74	57.1	40.2	18.04	65.2	100	0	P	V
		16740	45.89	-22.31	68.2	47.69	40.41	22.65	64.86	100	0	P	V
													V
													V
802.11n HT20 CH 140 5700MHz		11400	47.31	-26.69	74	54.14	40.2	18.31	65.34	100	0	P	H
		17100	48.85	-19.35	68.2	48.7	41.62	22.99	64.46	100	0	P	H
													H
													H
		11400	47.95	-26.05	74	54.78	40.2	18.31	65.34	100	0	P	V
		17100	48.13	-20.07	68.2	47.98	41.62	22.99	64.46	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	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		5459.92	63.05	-10.95	74	49.95	32.41	11.64	30.95	210	71	P	H
		5468.32	64.81	-3.39	68.2	51.68	32.41	11.67	30.95	210	71	P	H
		5459.92	49.99	-4.01	54	36.89	32.41	11.64	30.95	210	71	A	H
	*	5510	107.44	-	-	94.27	32.43	11.7	30.96	210	71	P	H
	*	5510	95.95	-	-	82.78	32.43	11.7	30.96	210	71	A	H
		5745.05	60.85	-7.35	68.2	46.93	33.09	11.86	31.03	210	71	P	H
		5410.96	60.11	-13.89	74	47.04	32.42	11.6	30.95	295	97	P	V
		5467.36	63.22	-4.98	68.2	50.09	32.41	11.67	30.95	295	97	P	V
		5458.96	50.02	-3.98	54	36.92	32.41	11.64	30.95	295	97	A	V
	*	5510	106.22	-	-	93.05	32.43	11.7	30.96	295	97	P	V
	*	5510	95.17	-	-	82	32.43	11.7	30.96	295	97	A	V
		5749.95	59.86	-8.34	68.2	45.93	33.1	11.86	31.03	295	97	P	V
802.11n HT40 CH 110 5550MHz		5447.92	60.54	-13.46	74	47.44	32.41	11.64	30.95	206	72	P	H
		5469.76	60.22	-7.98	68.2	47.09	32.41	11.67	30.95	206	72	P	H
		5446.96	50.61	-3.39	54	37.51	32.41	11.64	30.95	206	72	A	H
	*	5550	111.01	-	-	97.7	32.54	11.74	30.97	206	72	P	H
	*	5550	99.56	-	-	86.25	32.54	11.74	30.97	206	72	A	H
		5732.1	60.96	-7.24	68.2	47.1	33.05	11.84	31.03	206	72	P	H
		5447.2	60.28	-13.72	74	47.18	32.41	11.64	30.95	283	98	P	V
		5464.72	60.44	-7.76	68.2	47.31	32.41	11.67	30.95	283	98	P	V
		5446.24	50.37	-3.63	54	37.27	32.41	11.64	30.95	283	98	A	V
	*	5550	109.31	-	-	96	32.54	11.74	30.97	283	98	P	V
	*	5550	98.4	-	-	85.09	32.54	11.74	30.97	283	98	A	V
		5752.4	60.6	-7.6	68.2	46.66	33.11	11.86	31.03	283	98	P	V

802.11n HT40 CH 134 5670MHz		5443.84	59.74	-14.26	74	46.64	32.41	11.64	30.95	211	71	P	H
		5461.6	59.83	-8.37	68.2	46.7	32.41	11.67	30.95	211	71	P	H
		5438.08	49.54	-4.46	54	36.44	32.41	11.64	30.95	211	71	A	H
	*	5670	110.95	-	-	97.26	32.88	11.82	31.01	211	71	P	H
	*	5670	99.5	-	-	85.81	32.88	11.82	31.01	211	71	A	H
		5725	64.23	-3.97	68.2	50.38	33.03	11.84	31.02	211	71	P	H
		5366.8	59.51	-14.49	74	46.51	32.43	11.52	30.95	289	97	P	V
		5462.8	59.68	-8.52	68.2	46.55	32.41	11.67	30.95	289	97	P	V
		5435.68	49.3	-4.7	54	36.2	32.41	11.64	30.95	289	97	A	V
	*	5670	108.72	-	-	95.03	32.88	11.82	31.01	289	97	P	V
	*	5670	97.67	-	-	83.98	32.88	11.82	31.01	289	97	A	V
		5728.25	62.18	-6.02	68.2	48.32	33.04	11.84	31.02	289	97	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	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	47.19	-26.81	74	54.24	40.2	17.86	65.11	100	0	P	H
		16530	45.46	-22.74	68.2	48.46	39.61	22.46	65.07	100	0	P	H
													H
													H
		11020	47.73	-26.27	74	54.78	40.2	17.86	65.11	100	0	P	V
		16530	44.71	-23.49	68.2	47.71	39.61	22.46	65.07	100	0	P	V
													V
													V
802.11n HT40 CH 110 5550MHz		11100	47.27	-26.73	74	54.28	40.2	17.95	65.16	100	0	P	H
		16650	44.62	-23.58	68.2	46.92	40.07	22.57	64.94	100	0	P	H
													H
													H
		11100	48.16	-25.84	74	55.17	40.2	17.95	65.16	100	0	P	V
		16650	44.57	-23.63	68.2	46.87	40.07	22.57	64.94	100	0	P	V
													V
													V
802.11n HT40 CH 134 5670MHz		11340	47.82	-26.18	74	54.7	40.2	18.22	65.3	100	0	P	H
		17010	47.18	-21.02	68.2	47.43	41.42	22.91	64.58	100	0	P	H
													H
													H
		11340	46.42	-27.58	74	53.3	40.2	18.22	65.3	100	0	P	V
		17010	46.53	-21.67	68.2	46.78	41.42	22.91	64.58	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

Emission below 1GHz

WIFI 802.11a (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a LF		65.1	29.63	-10.37	40	48.97	12.05	1.06	32.45	-	-	P	H
		152.04	31.07	-12.43	43.5	44.34	17.4	1.75	32.42	-	-	P	H
		204.42	31.66	-11.84	43.5	46.42	15.94	1.7	32.4	-	-	P	H
		463.8	30.67	-15.33	46	36.64	23.34	3.08	32.39	-	-	P	H
		518.4	30.38	-15.62	46	35.4	24.19	3.19	32.4	-	-	P	H
		798.4	38.88	-7.12	46	39.15	27.79	4.14	32.2	100	0	P	H
													H
													H
													H
													H
													H
													H
		61.86	31.61	-8.39	40	51.1	11.9	1.06	32.45	-	-	P	V
		65.1	33.75	-6.25	40	53.09	12.05	1.06	32.45	100	0	P	V
		144.48	32.1	-11.4	43.5	45.11	17.66	1.75	32.42	-	-	P	V
		494.6	34.19	-11.81	46	39.61	23.9	3.08	32.4	-	-	P	V
		612.2	37.24	-8.76	46	40.6	25.54	3.5	32.4	-	-	P	V
		731.9	36.19	-9.81	46	37.46	27.18	3.89	32.34	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

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

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		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

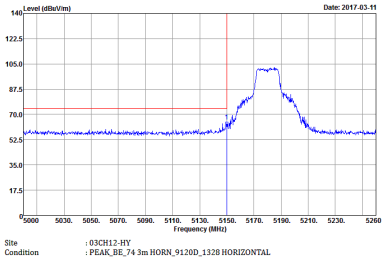
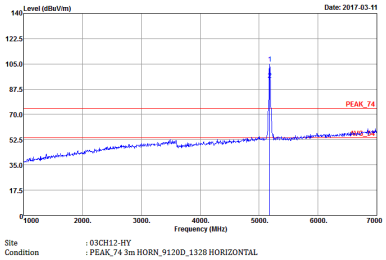
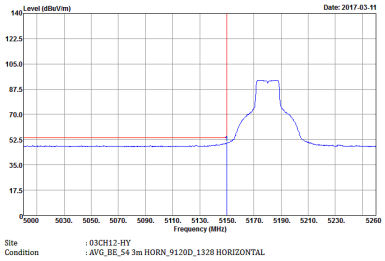
Test Engineer :	Peter Liao, Karl Hou, Nick Yu	**Temperature :**	21 ~ 23°C
		Relative Humidity :	53 ~ 55%

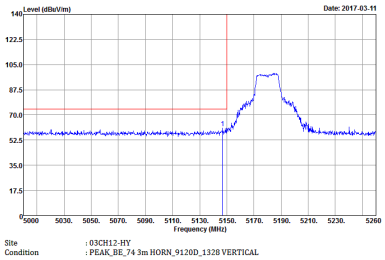
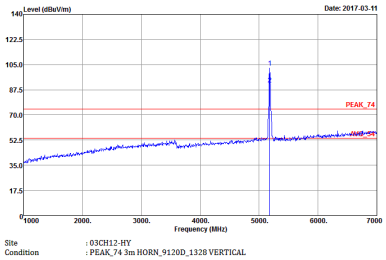
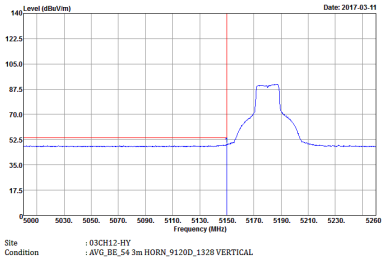
Note symbol

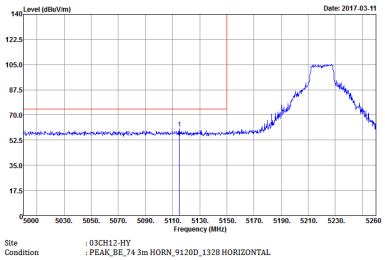
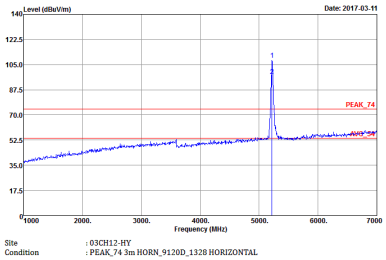
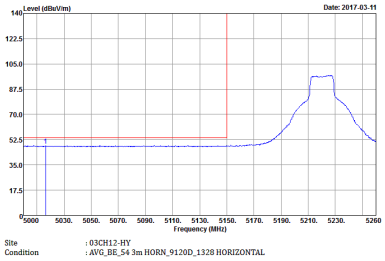
-L	**Low channel location**
-R	**High channel location**

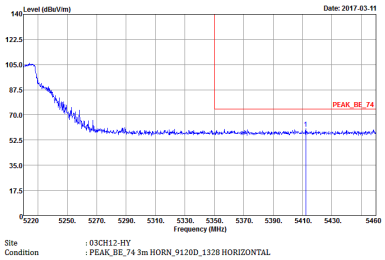
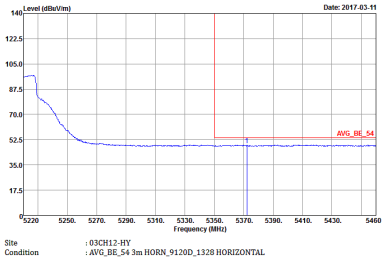
Band 1 - 5150~5250MHz

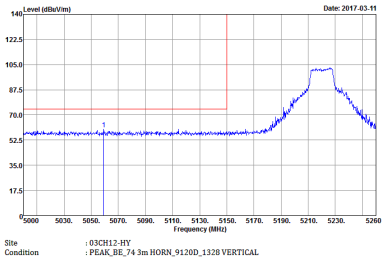
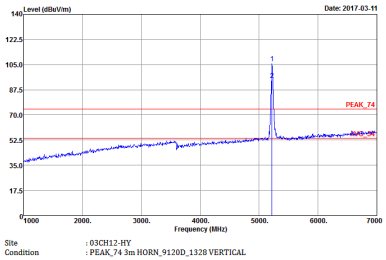
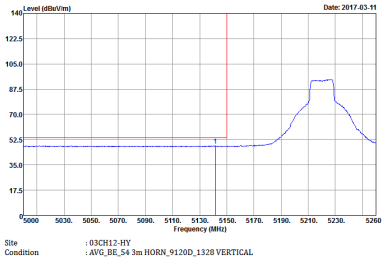
WIFI 802.11a (Band Edge @ 3m)

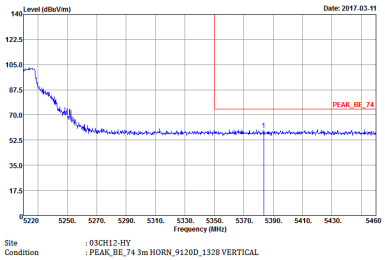
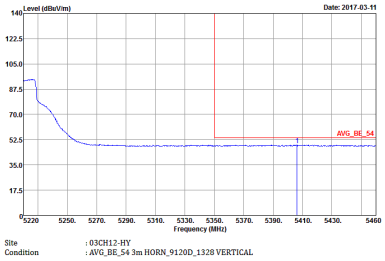
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

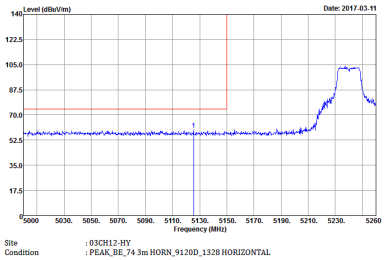
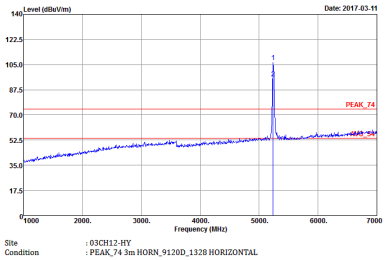
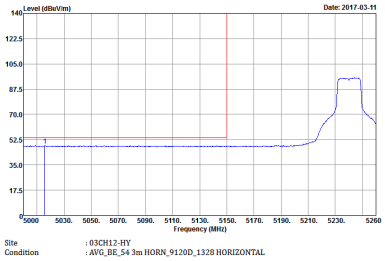
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

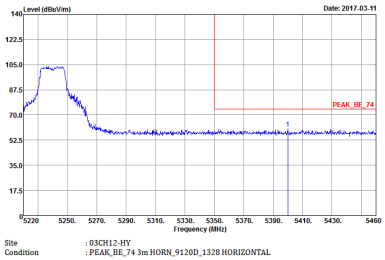
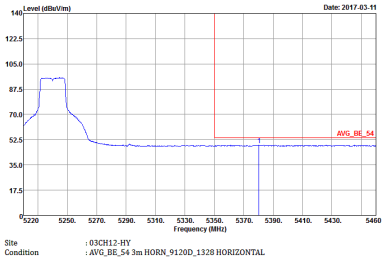
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

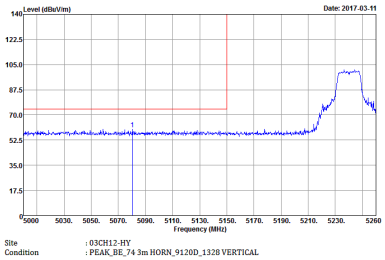
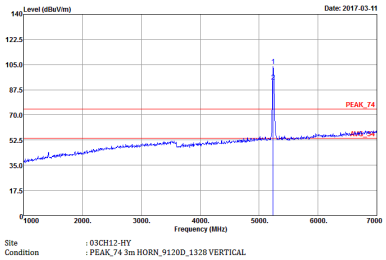
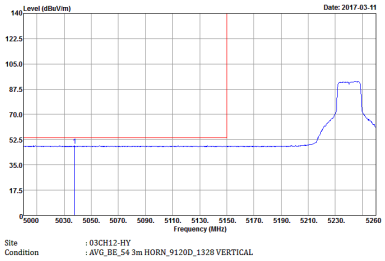
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

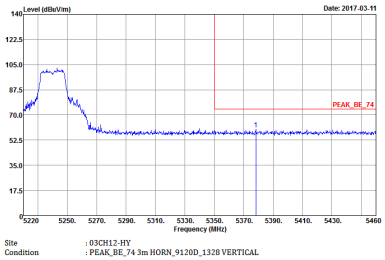
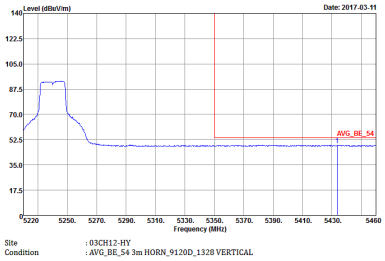
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

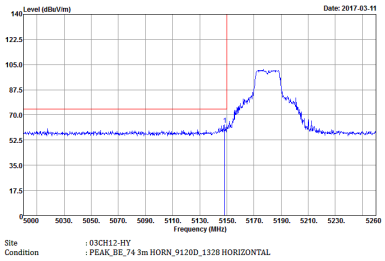
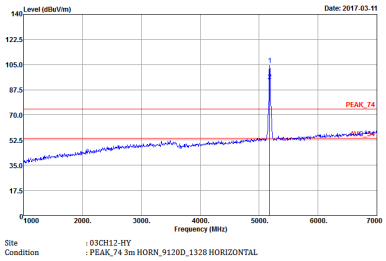
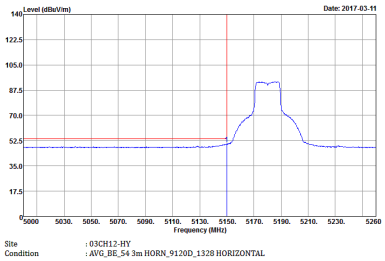
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

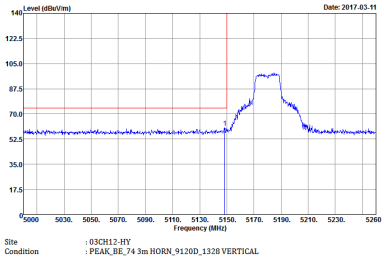
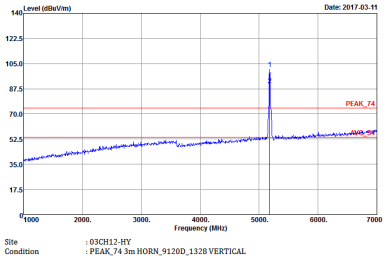
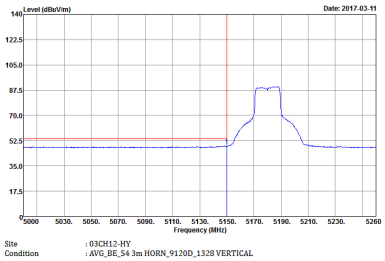
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

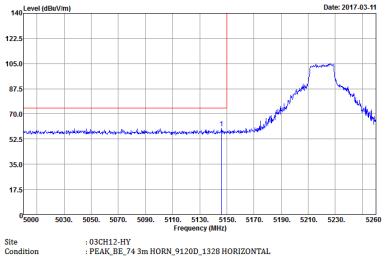
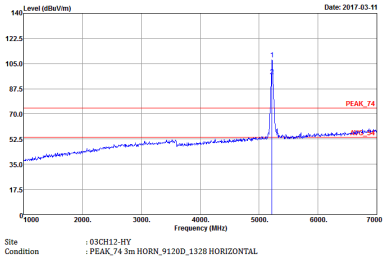
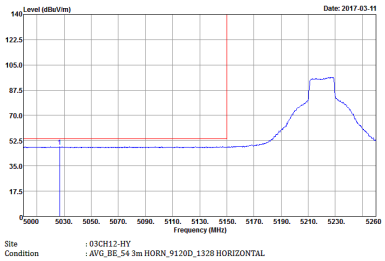
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

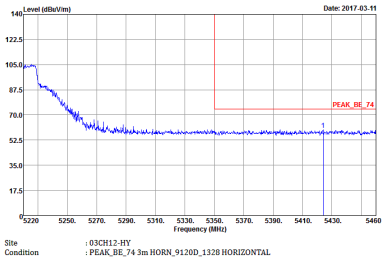
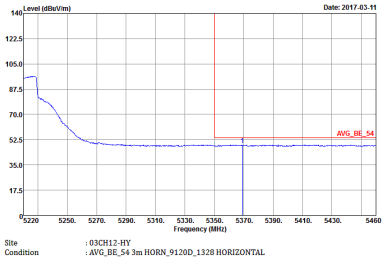
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

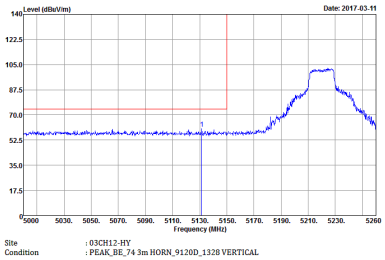
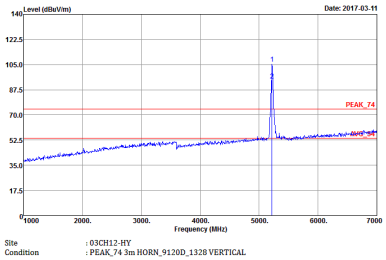
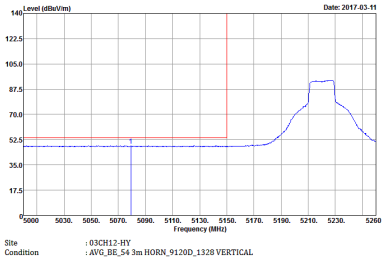
Band 1 5150~5250MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

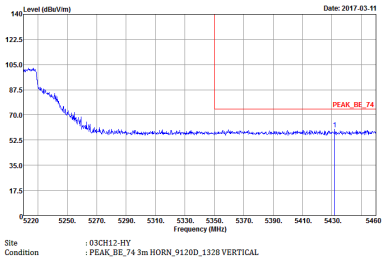
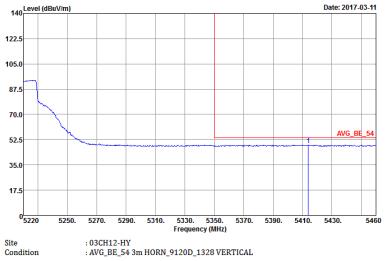
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

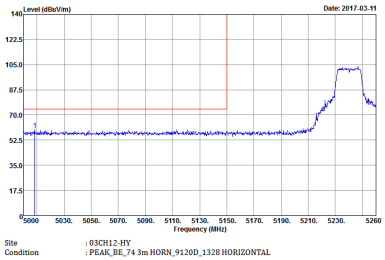
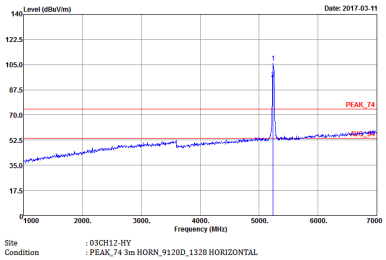
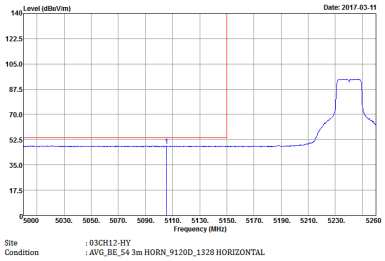
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

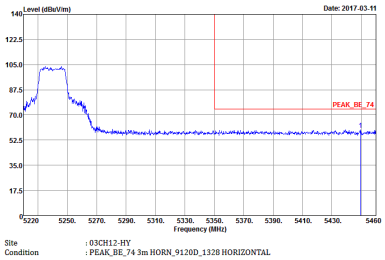
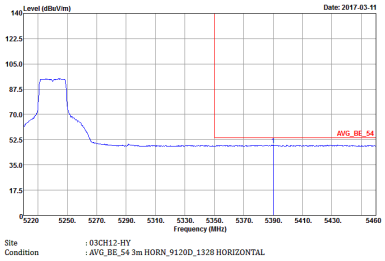
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

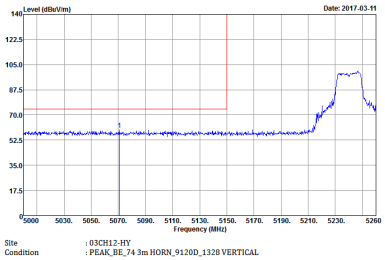
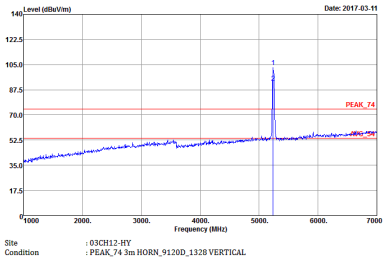
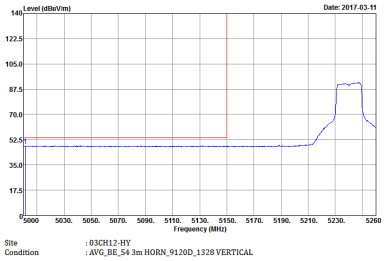
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

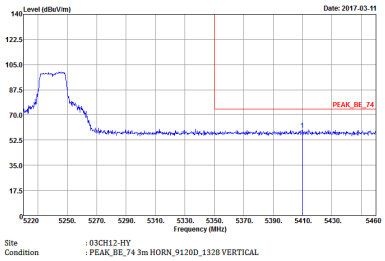
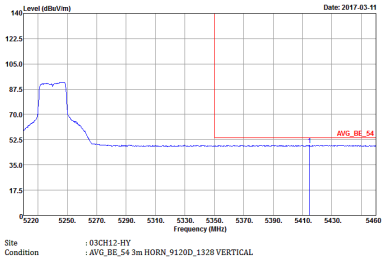
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

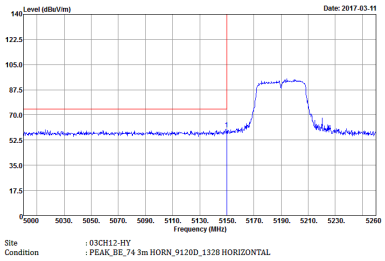
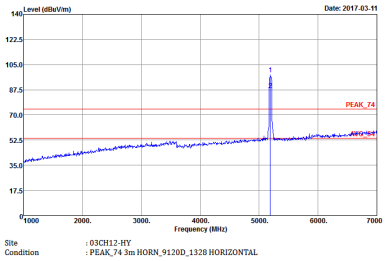
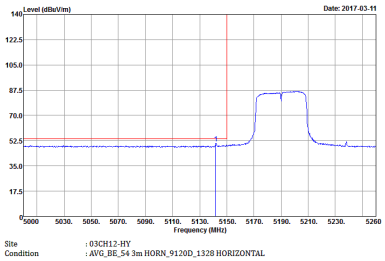
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

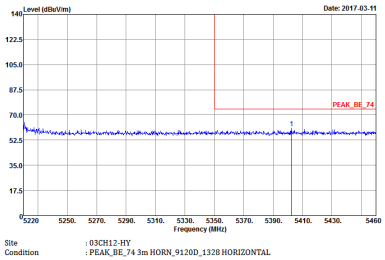
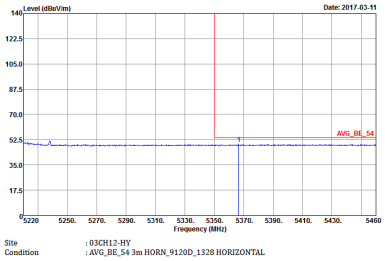
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

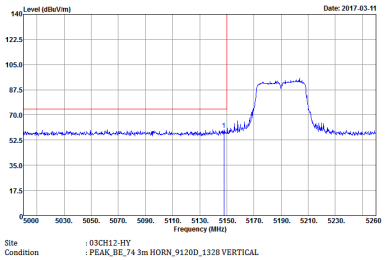
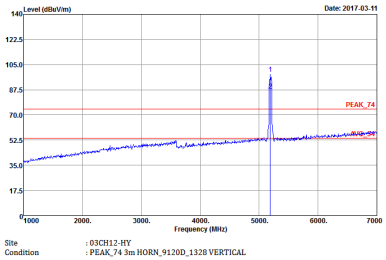
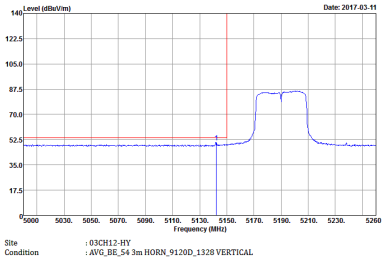
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

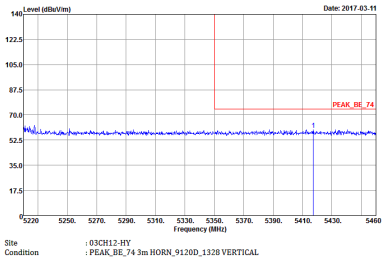
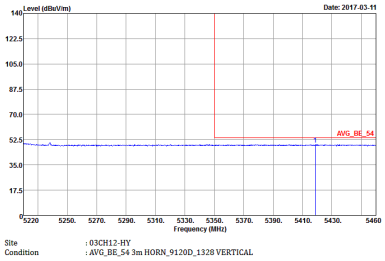
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

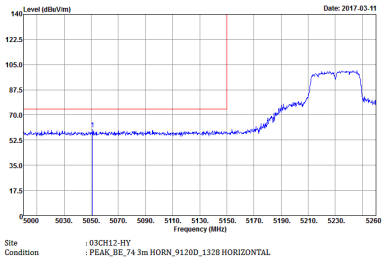
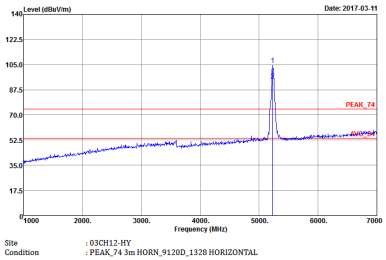
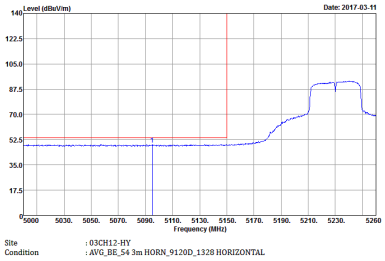
Band 1 5150~5250MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

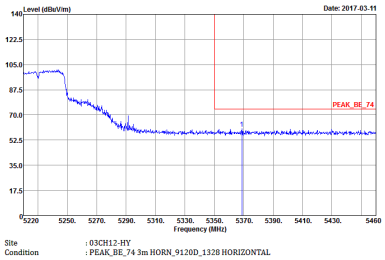
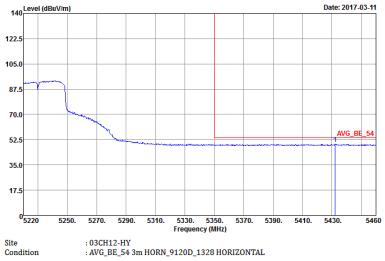
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

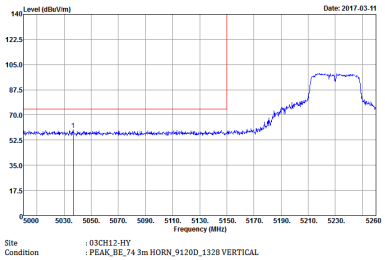
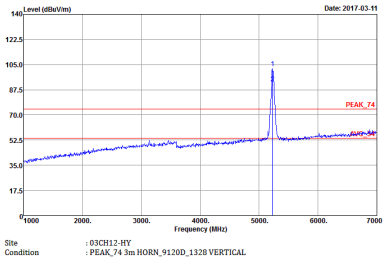
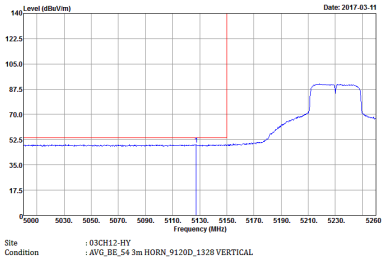
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

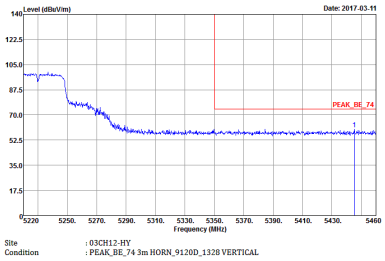
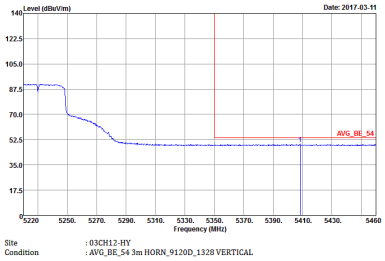
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

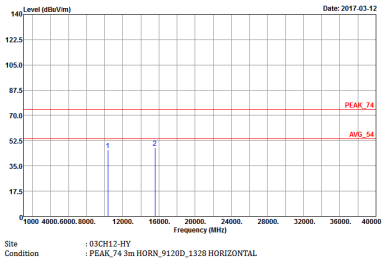
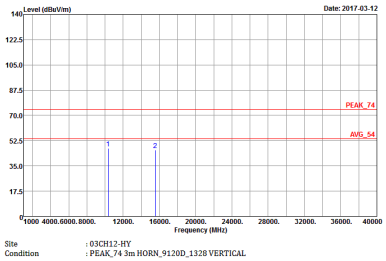
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

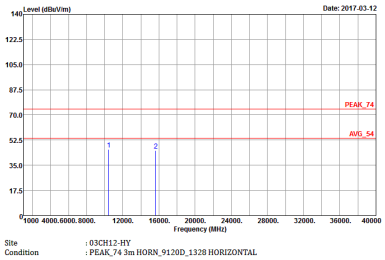
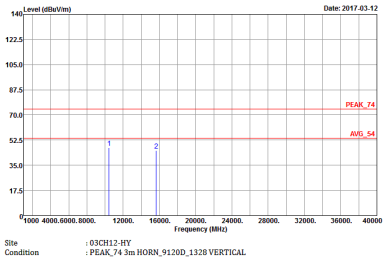
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

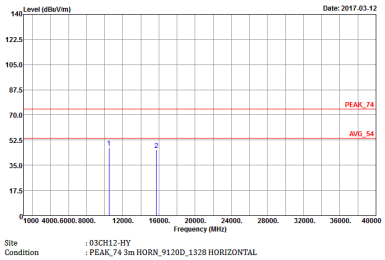
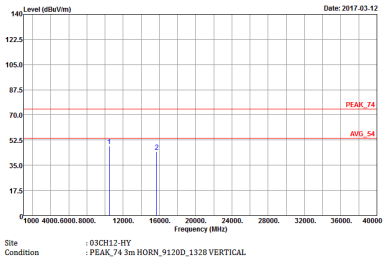
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 1 - 5150~5250MHz

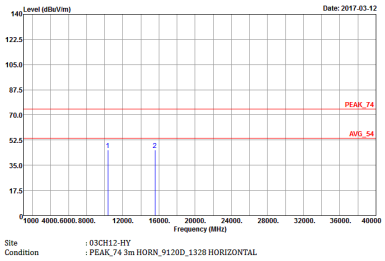
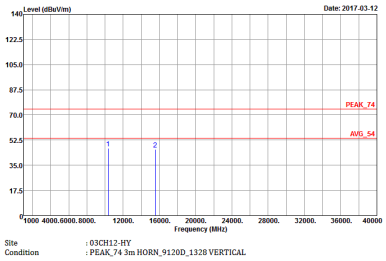
WIFI 802.11a (Harmonic @ 3m)

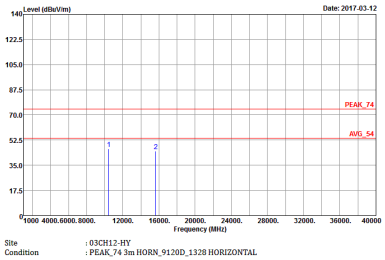
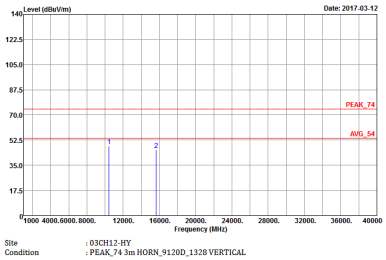
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

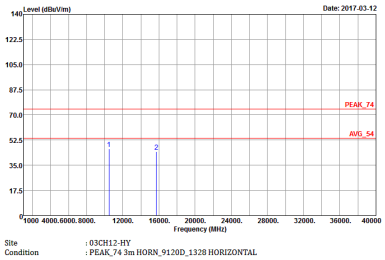
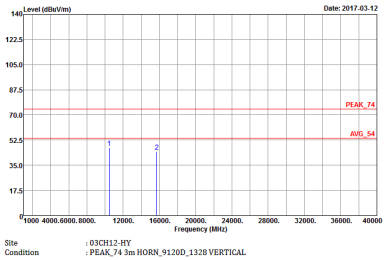
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.		

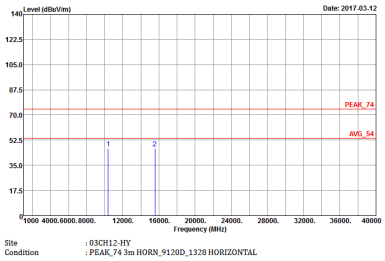
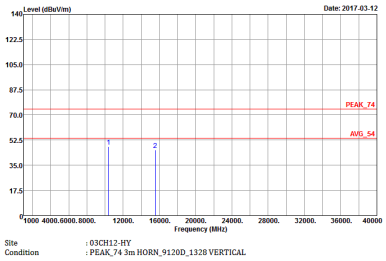
Band 1 5150~5250MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

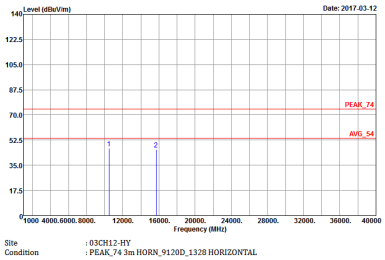
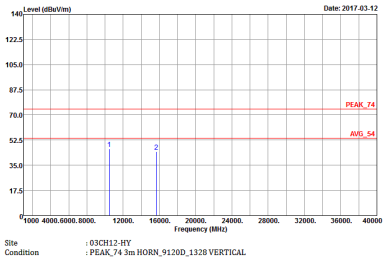
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.		

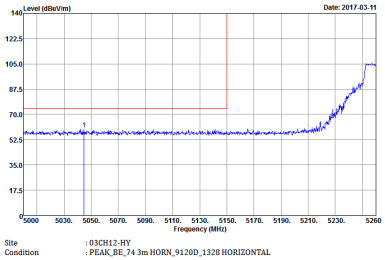
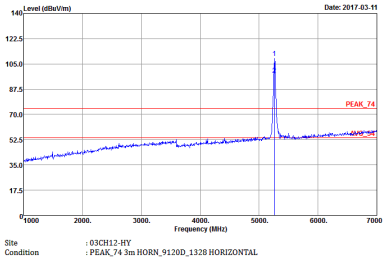
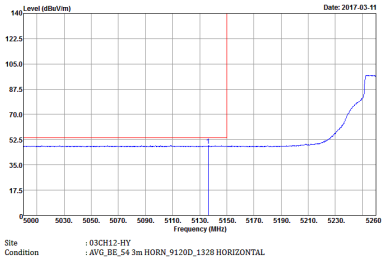
Band 1 5150~5250MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

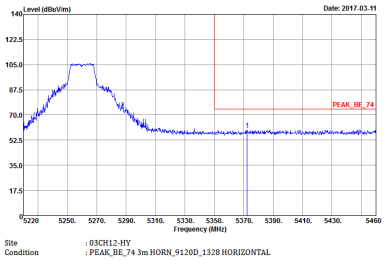
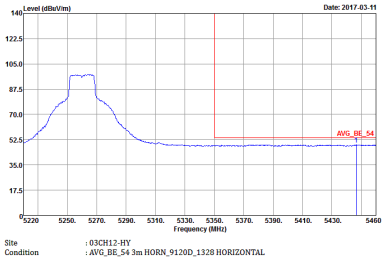
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH38 5190MHz	
1	Horizontal	Vertical
Peak Avg.		

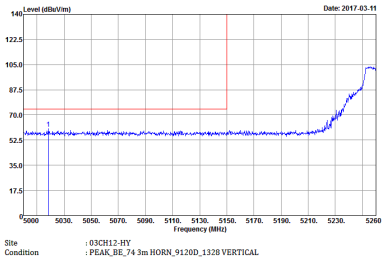
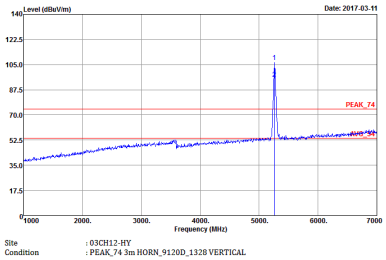
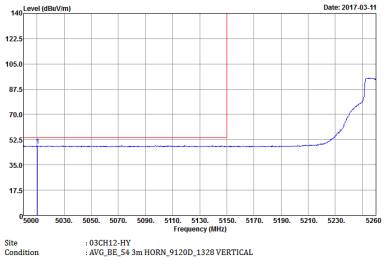
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH46 5230MHz	
1	Horizontal	Vertical
Peak Avg.		

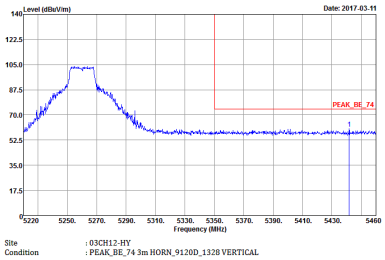
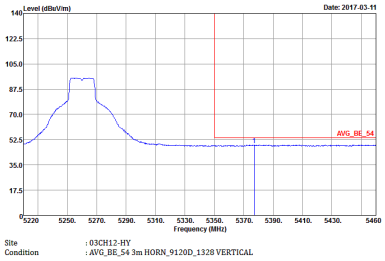
Band 2 - 5250~5350MHz

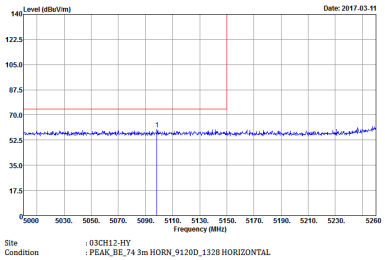
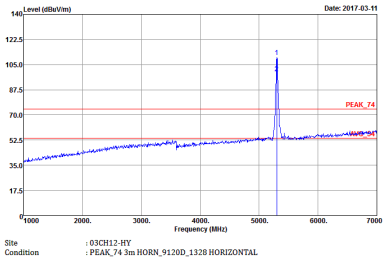
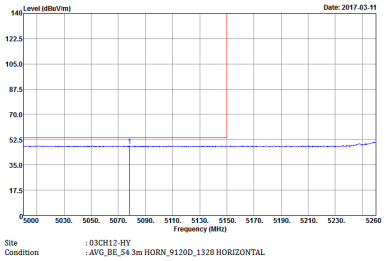
WIFI 802.11a (Band Edge @ 3m)

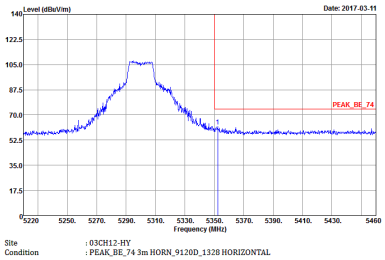
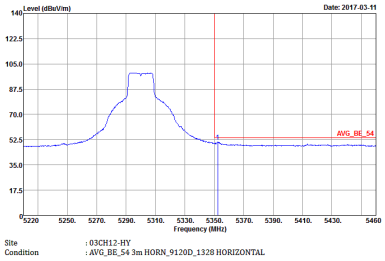
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

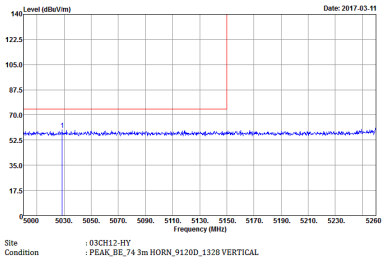
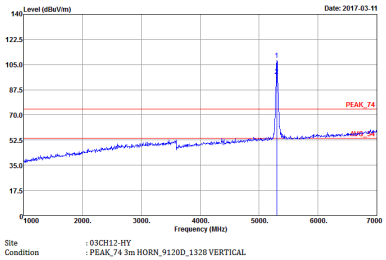
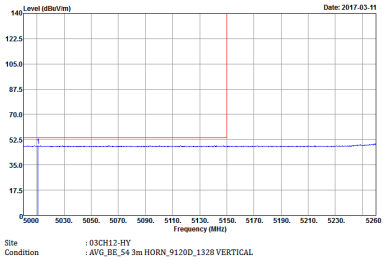
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

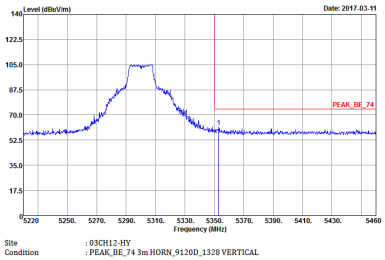
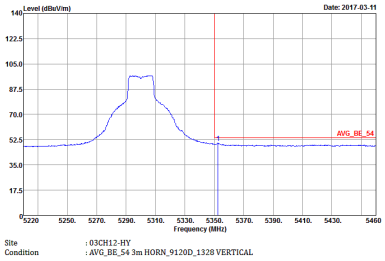
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

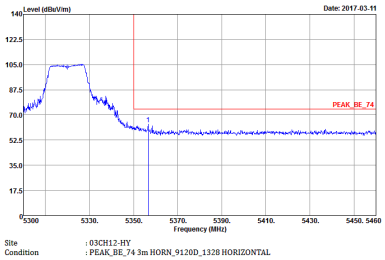
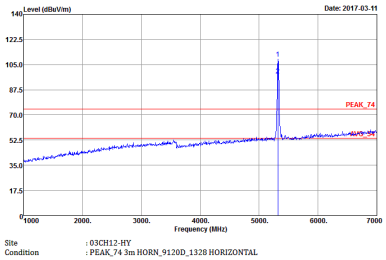
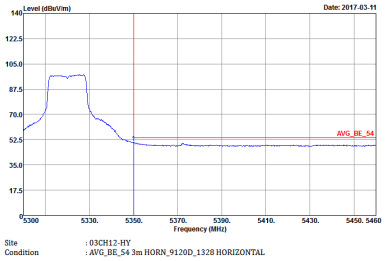
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

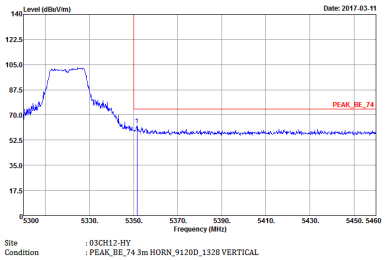
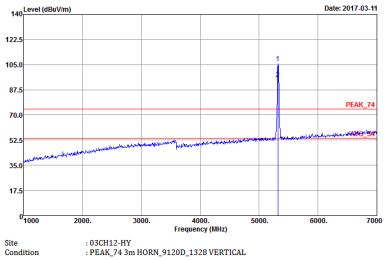
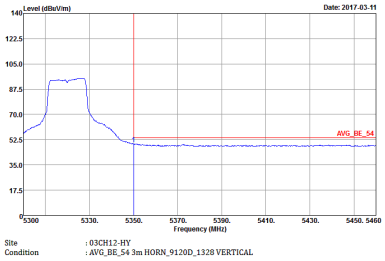
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

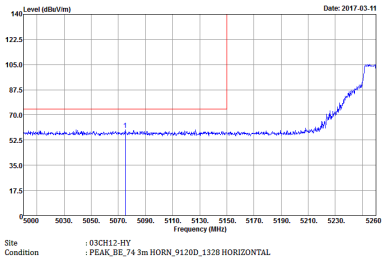
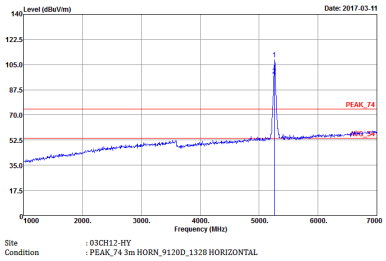
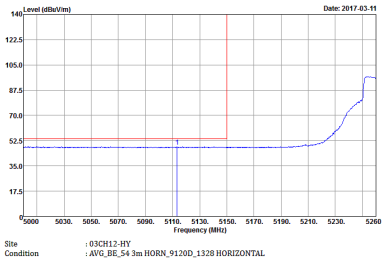
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

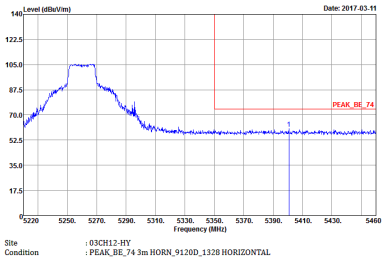
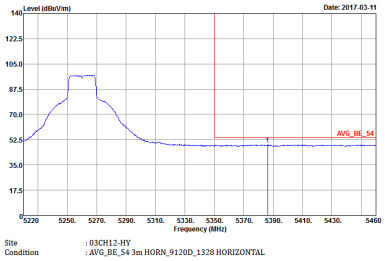
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

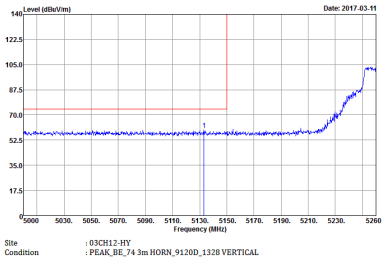
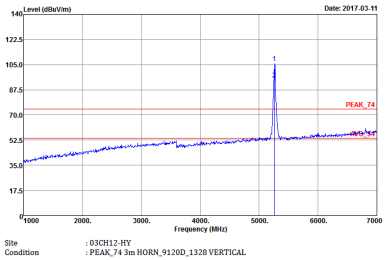
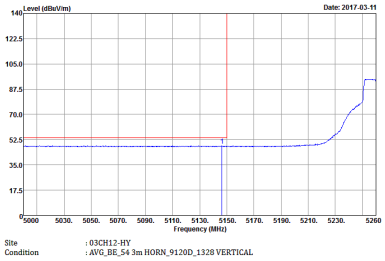
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

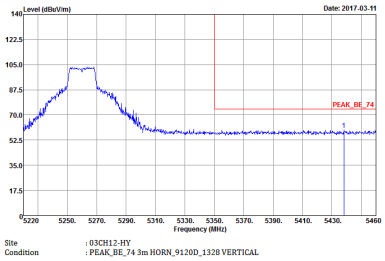
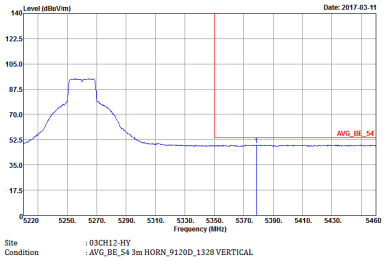
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

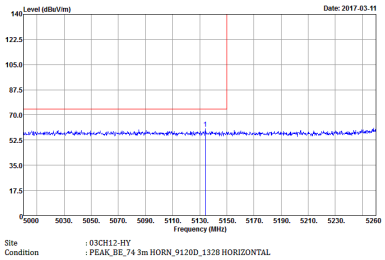
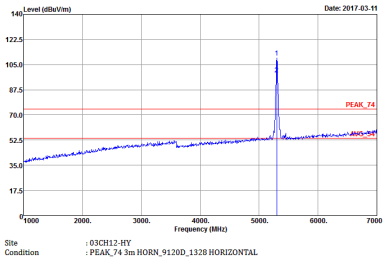
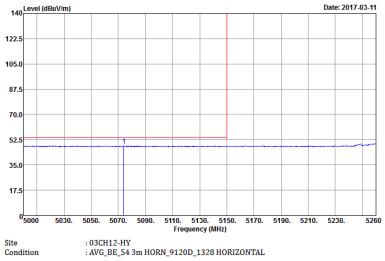
Band 2 5250~5350MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

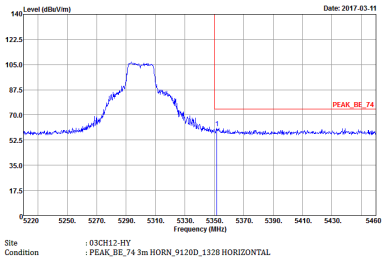
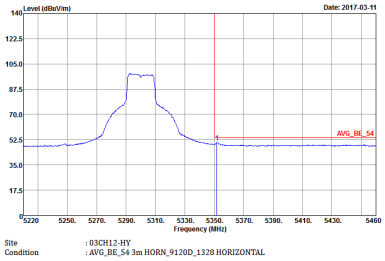
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

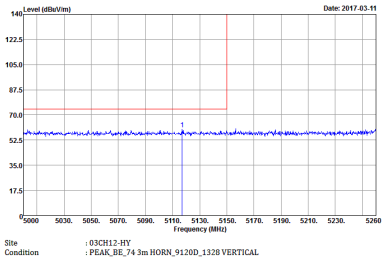
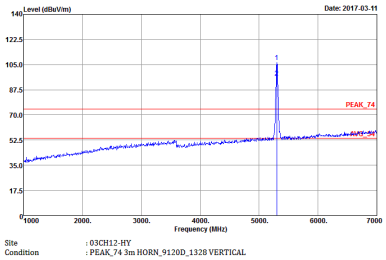
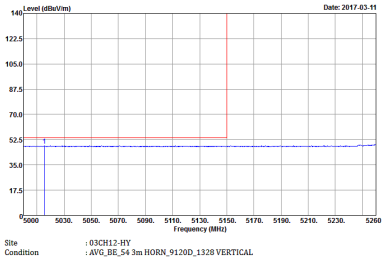
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

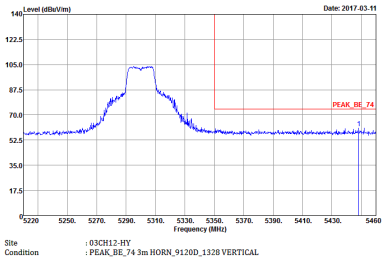
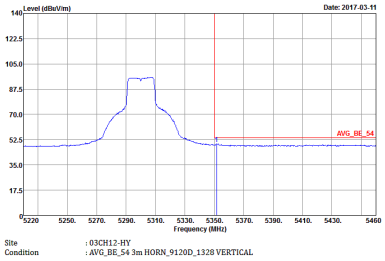
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

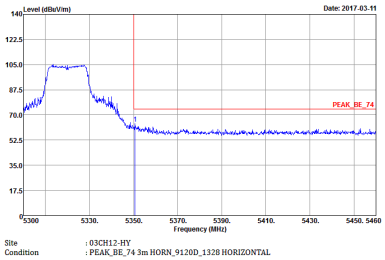
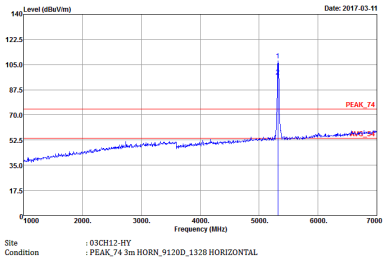
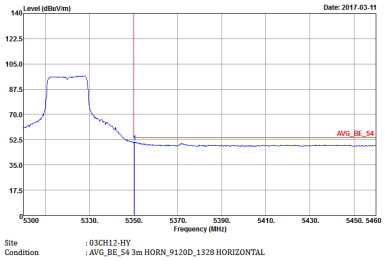
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

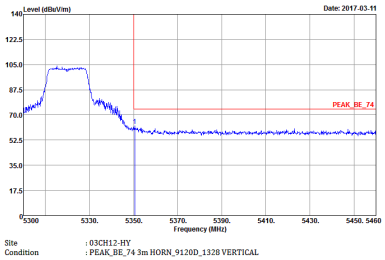
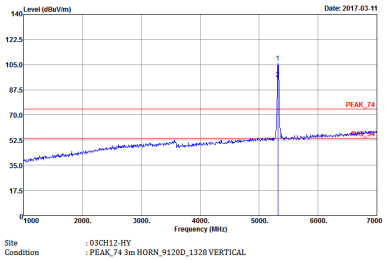
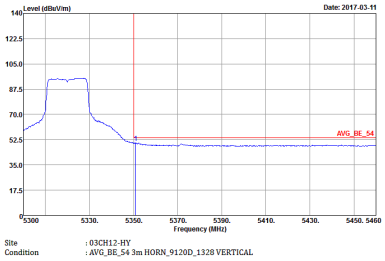
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - R	
1	Horizontal	Vertical
Peak		Left blank
Avg.		Left blank

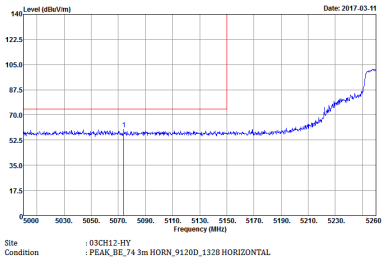
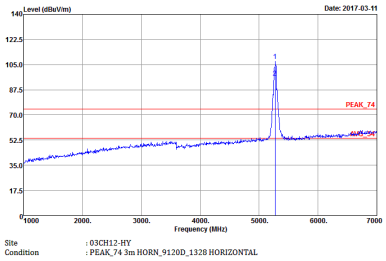
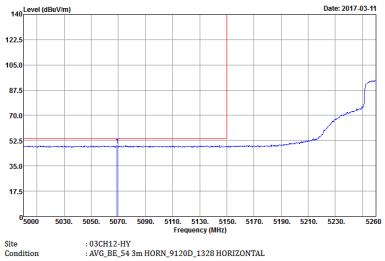
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

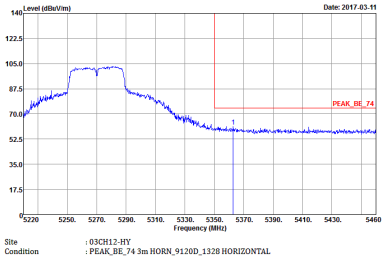
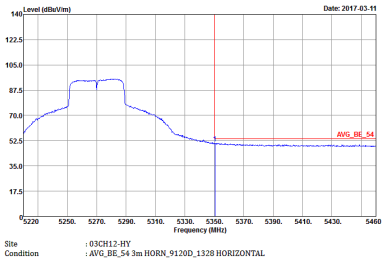
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

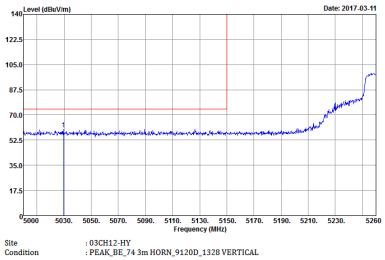
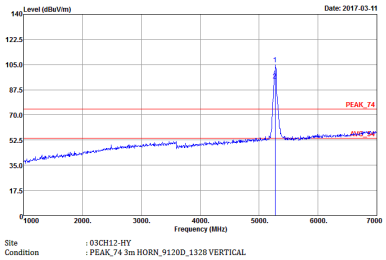
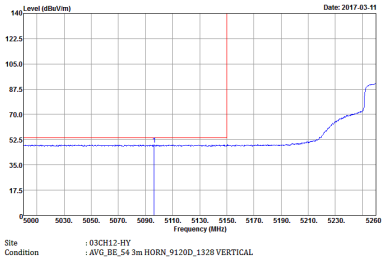
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

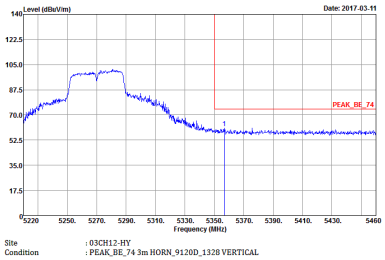
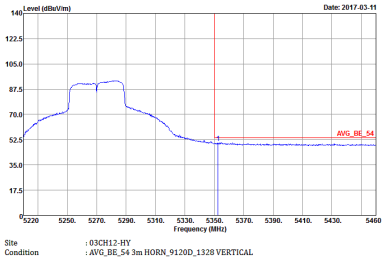
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

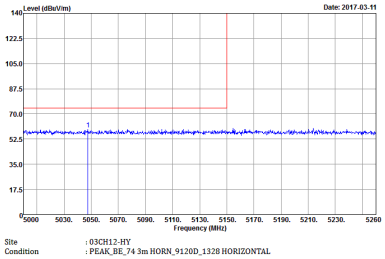
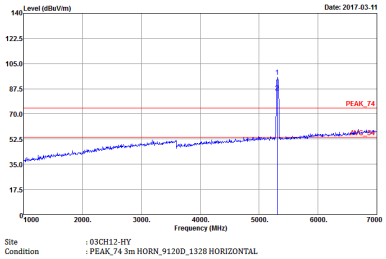
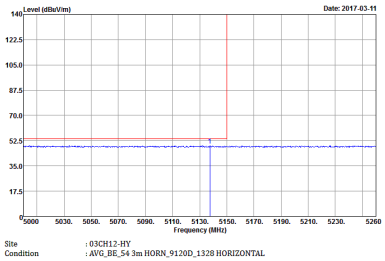
Band 2 5250~5350MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

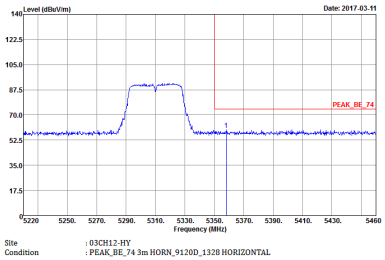
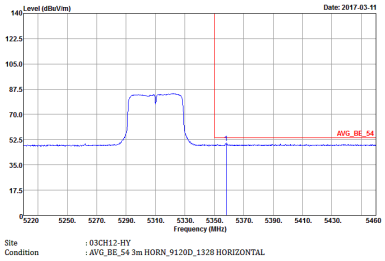
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

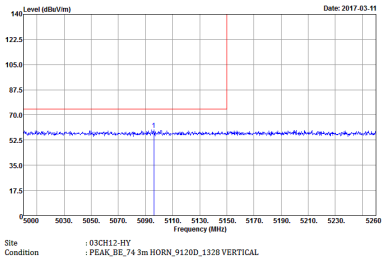
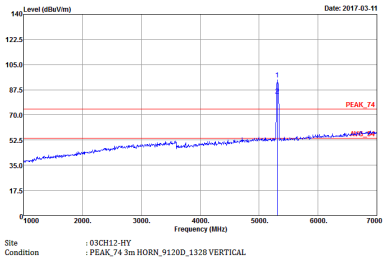
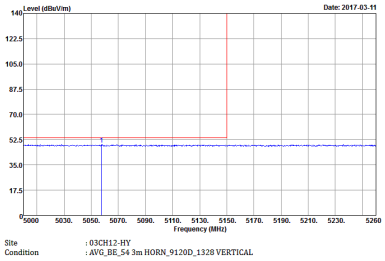
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

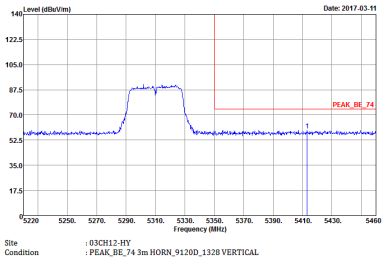
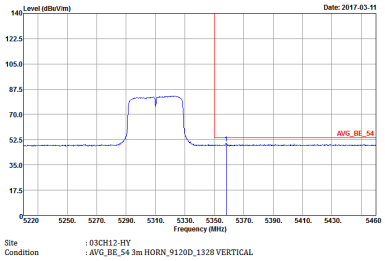
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - L	
1	Vertical	Vertical
Peak		
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - R	
1	Vertical	Vertical
Peak		Left blank
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

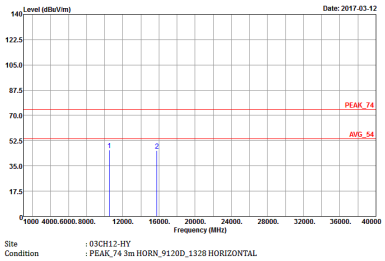
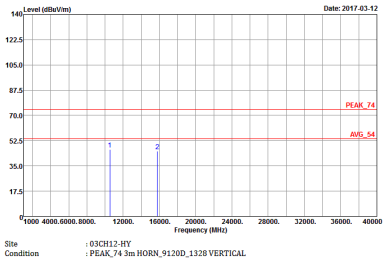
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

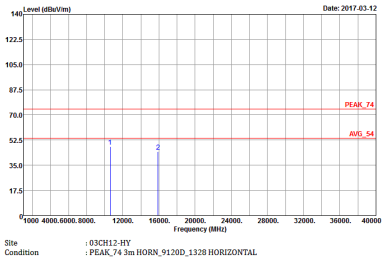
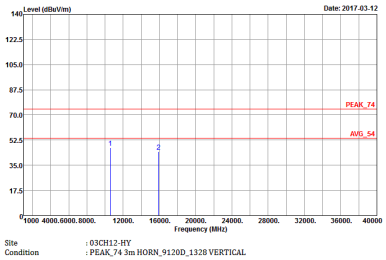
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

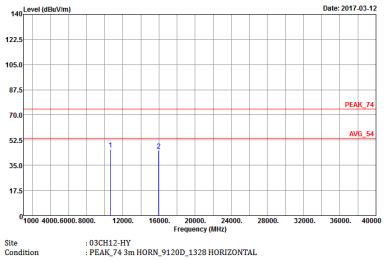
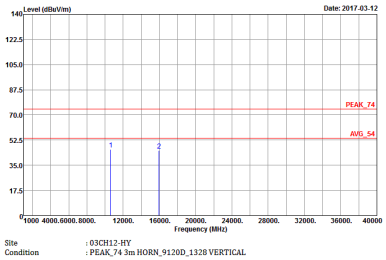
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 2 - 5250~5350MHz

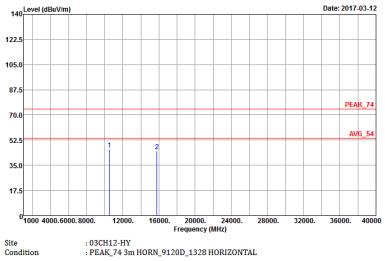
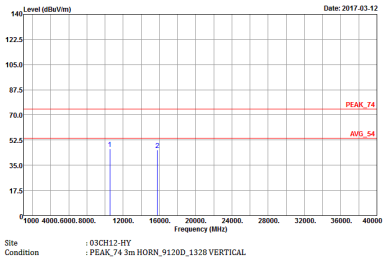
WIFI 802.11a (Harmonic @ 3m)

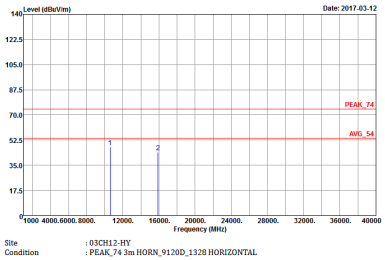
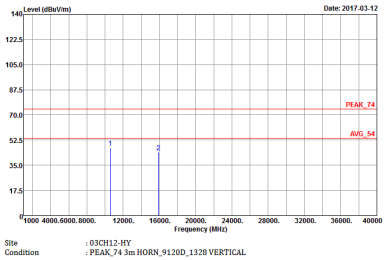
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH52 5260MHz	
1	Horizontal	Vertical
Peak Avg.		

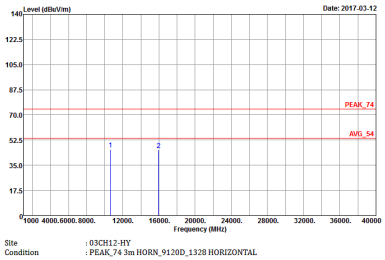
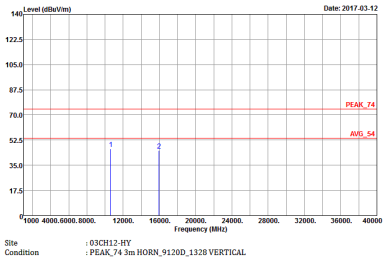
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH60 5300MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH64 5320MHz	
1	Horizontal	Vertical
Peak Avg.		

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

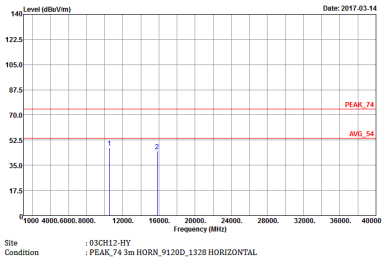
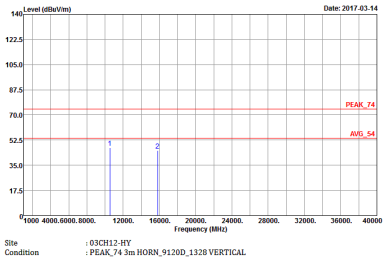
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH52 5260MHz	
1	Horizontal	Vertical
Peak Avg.		

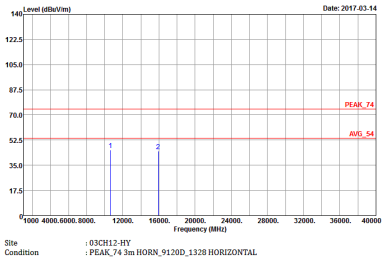
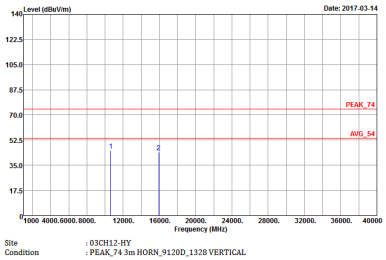
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH60 5300MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 2 5250~5350MHz

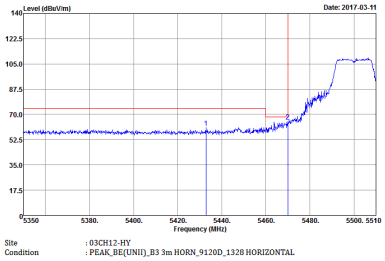
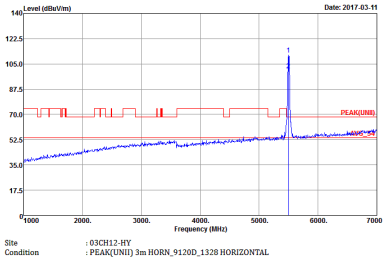
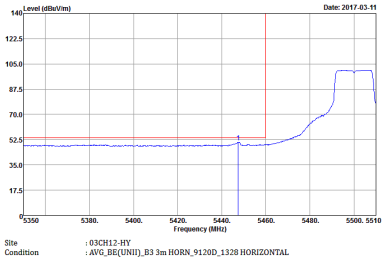
WIFI 802.11n HT40 (Harmonic @ 3m)

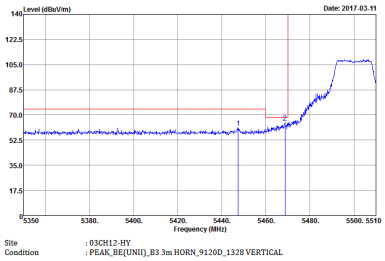
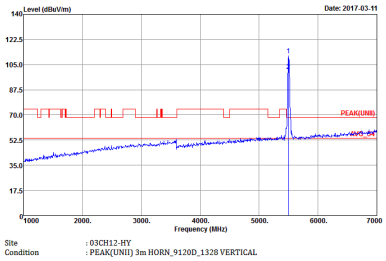
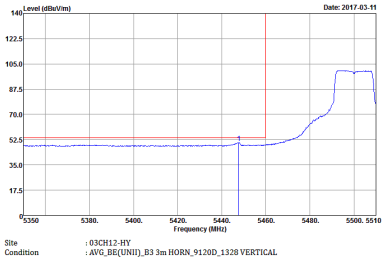
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT40 CH54 5270	
1	Horizontal	Vertical
Peak Avg.		

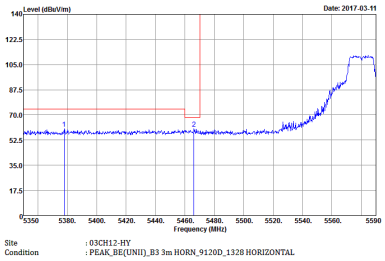
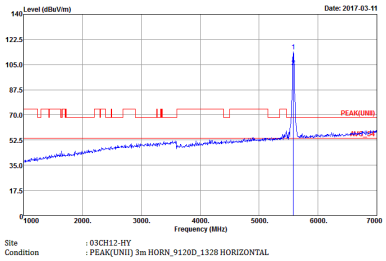
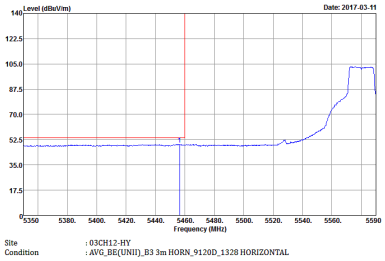
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT40 CH62 5310	
1	Horizontal	Vertical
Peak Avg.		

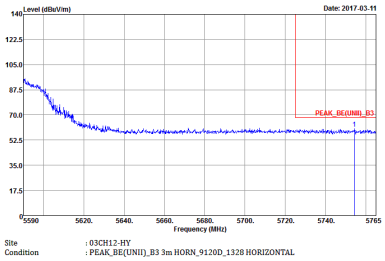
Band 3 - 5470~5725MHz

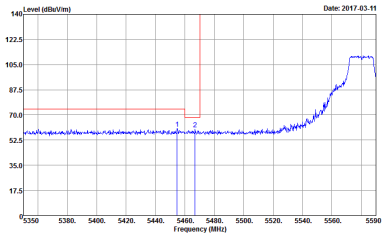
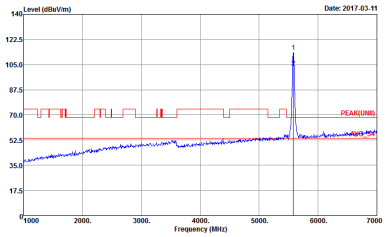
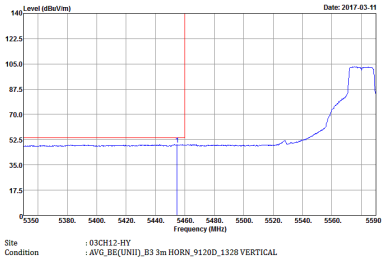
WIFI 802.11a (Band Edge @ 3m)

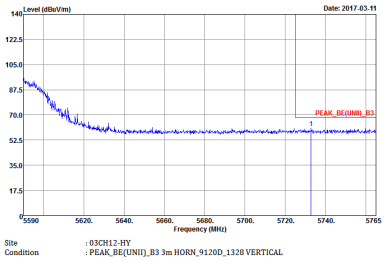
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

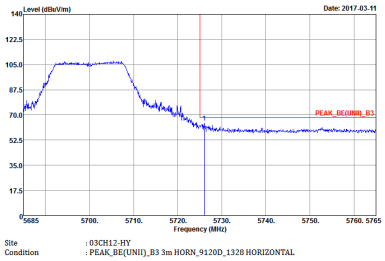
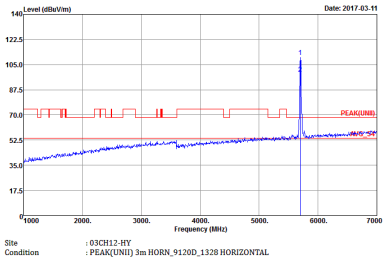
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

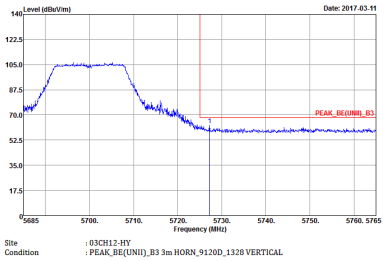
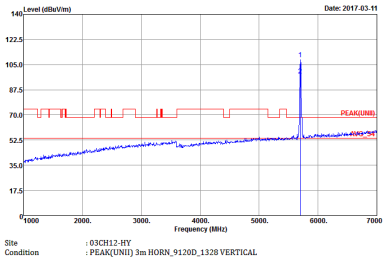
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - R	
1	Horizontal	Fundamental
Peak		Left blank

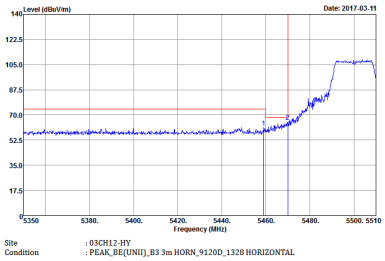
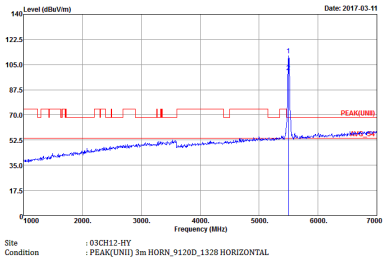
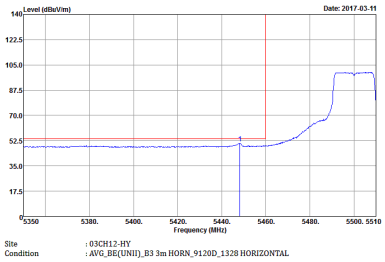
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

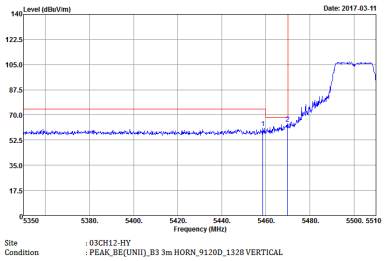
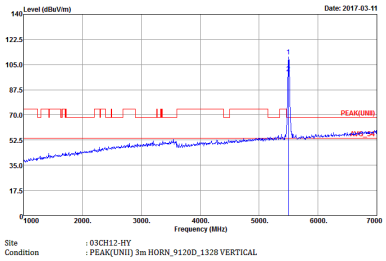
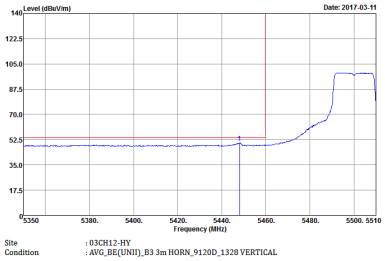
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - R	
1	Vertical	Fundamental
Peak		Left blank

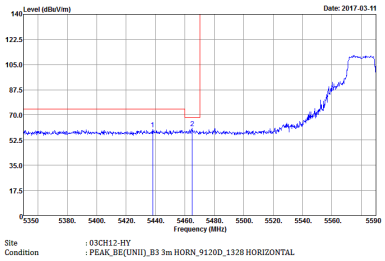
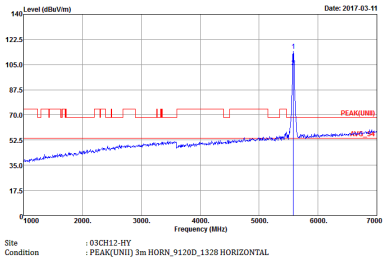
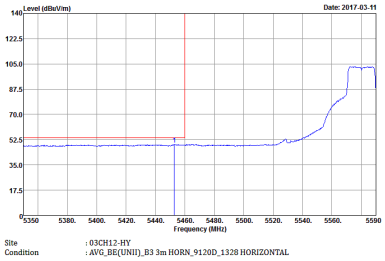
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1	Horizontal	Fundamental
Peak		

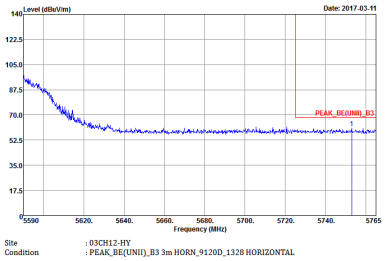
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1	Vertical	Fundamental
Peak		

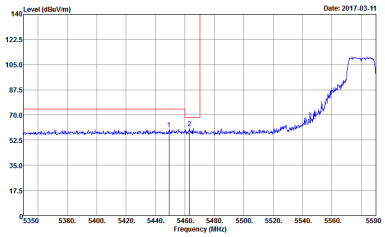
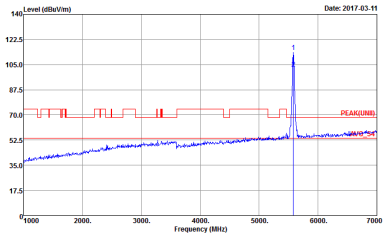
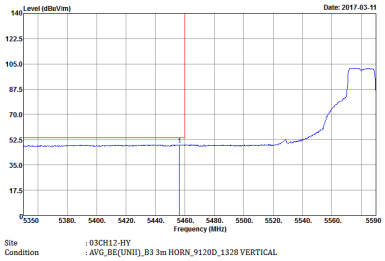
Band 3 5470~5725MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

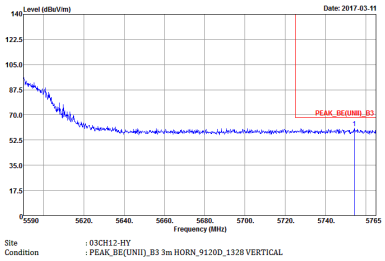
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

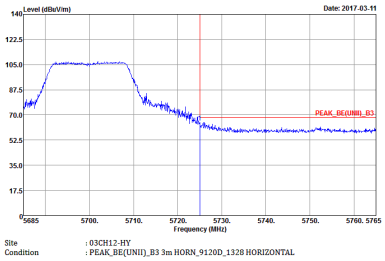
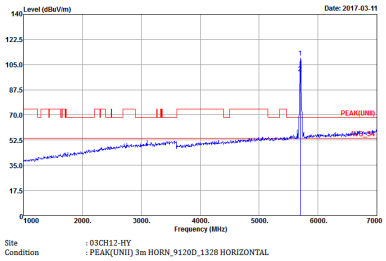
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

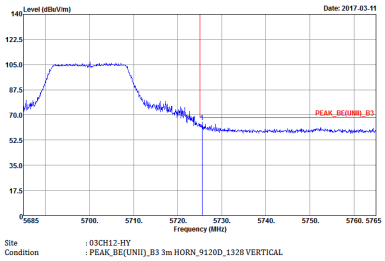
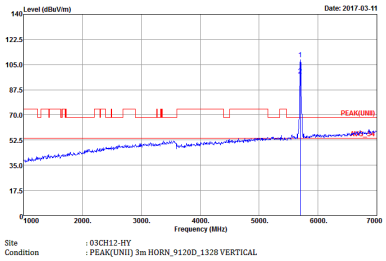
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1	Horizontal	Fundamental
Peak		Left blank

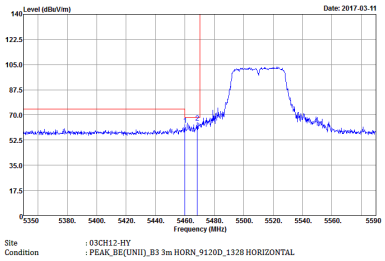
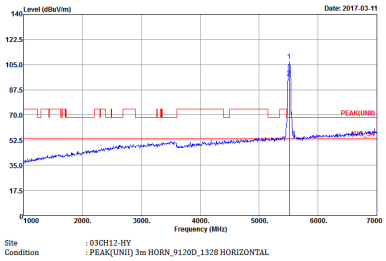
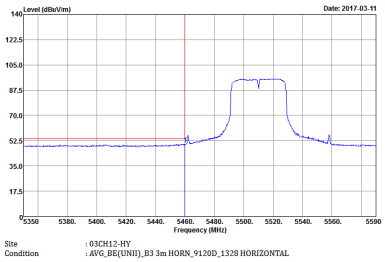
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

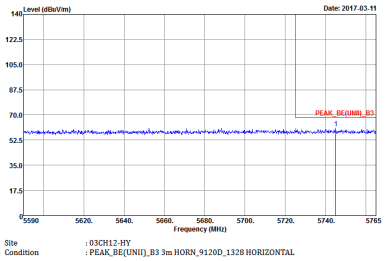
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1	Vertical	Fundamental
Peak		Left blank

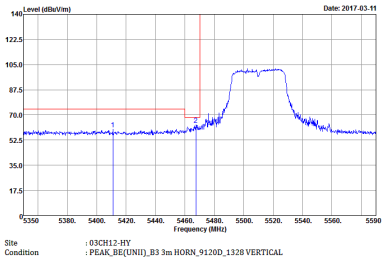
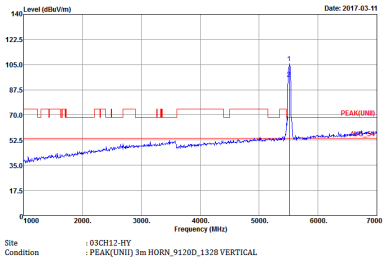
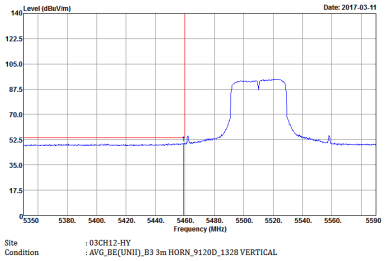
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1	Horizontal	Fundamental
Peak		

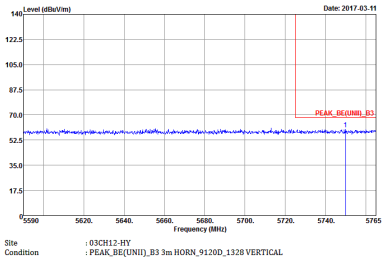
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1	Vertical	Fundamental
Peak.		

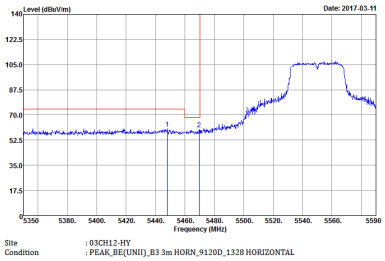
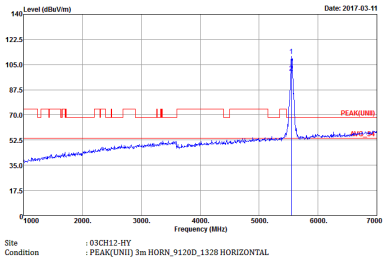
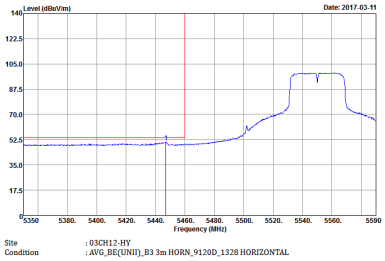
Band 3 5470~5725MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

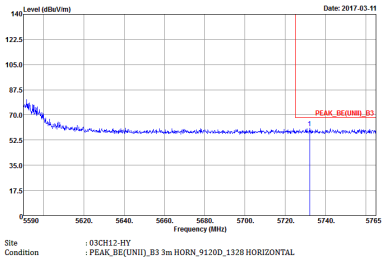
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

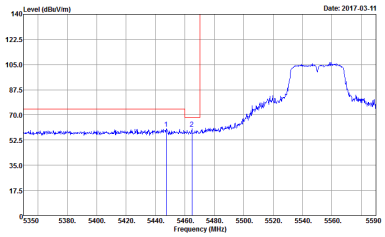
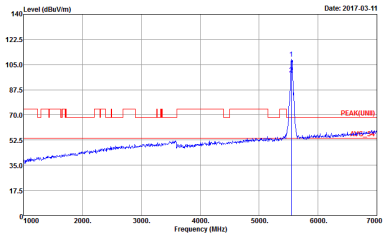
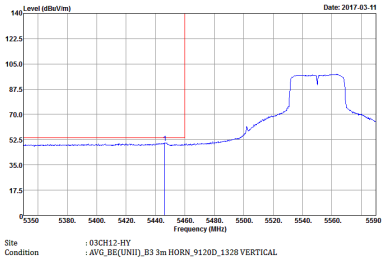
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1	Horizontal	Fundamental
Peak		Left blank

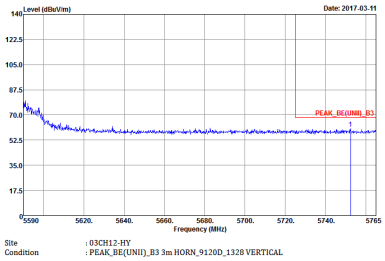
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

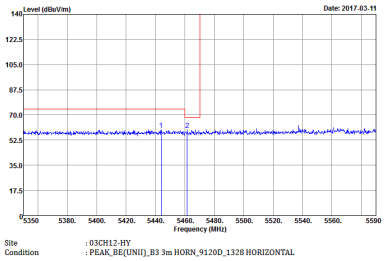
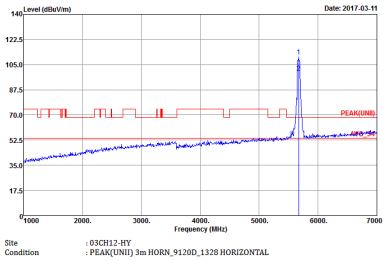
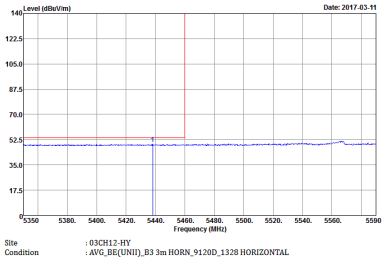
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1	Vertical	Fundamental
Peak		Left blank

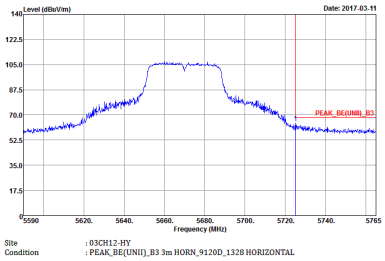
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

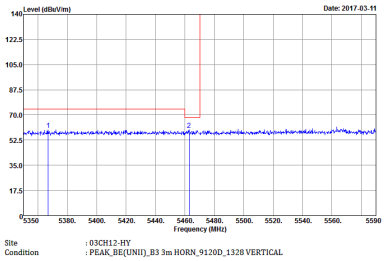
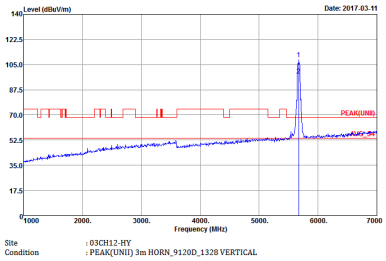
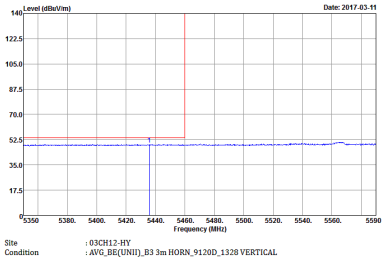
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - R	
1	Horizontal	Fundamental
Peak		Left blank

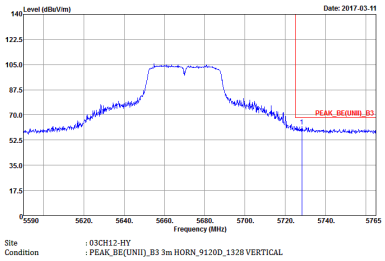
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - R	
1	Vertical	Fundamental
Peak		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

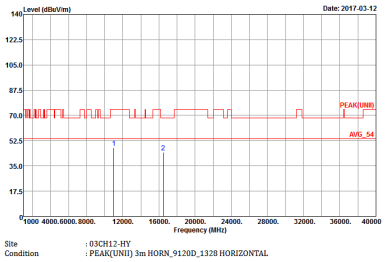
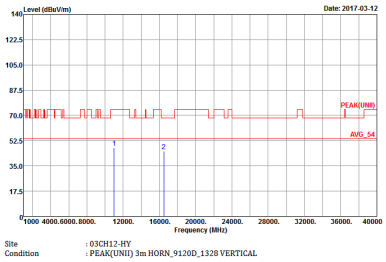
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
1	Horizontal	Fundamental
Peak		Left blank

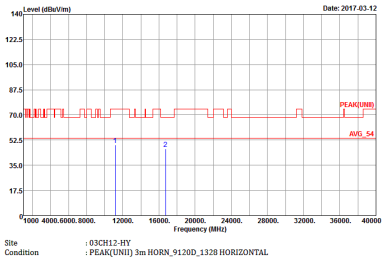
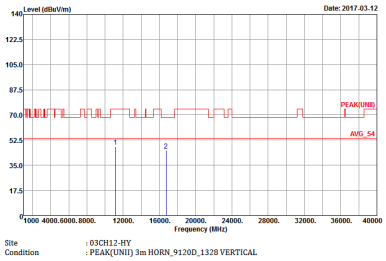
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

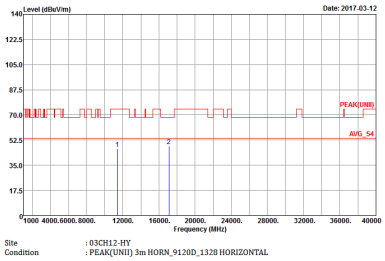
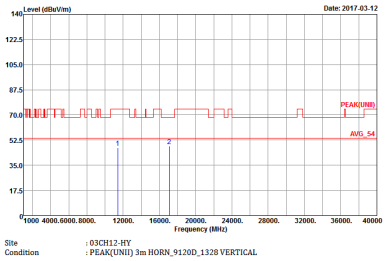
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
1	Vertical	Fundamental
Peak		Left blank

Band 3 - 5470~5725MHz

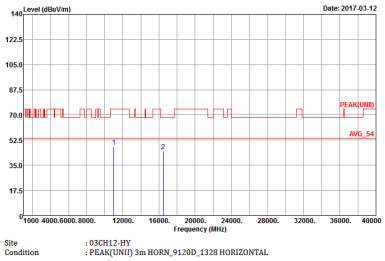
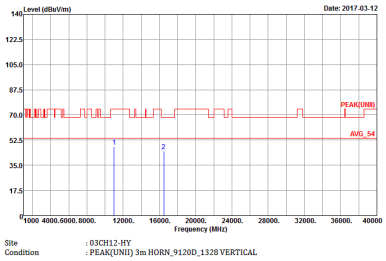
WIFI 802.11a (Harmonic @ 3m)

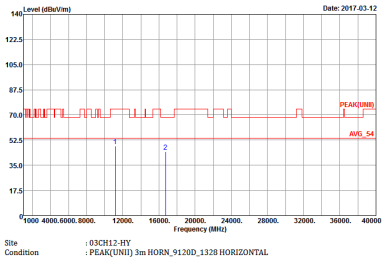
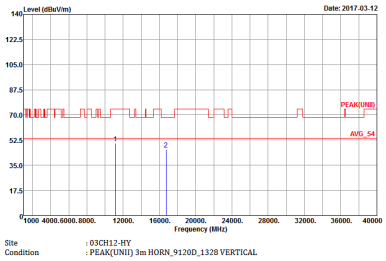
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH100 5500MHz	
1	Horizontal	Vertical
Peak Avg.		

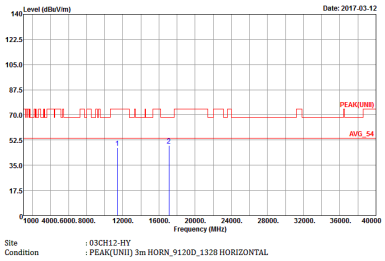
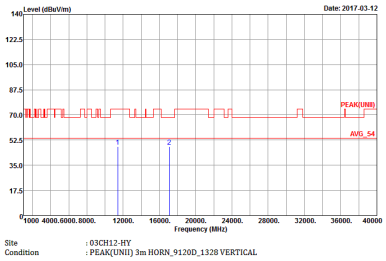
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH116 5580MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH140 5700MHz	
1	Horizontal	Vertical
Peak Avg.		

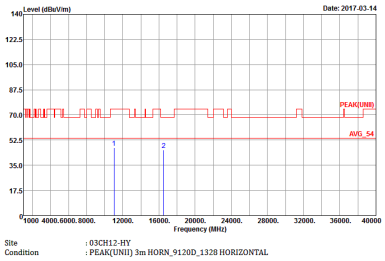
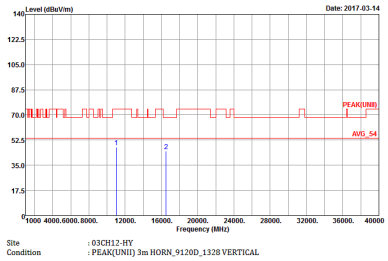
Band 3 5470~5725MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

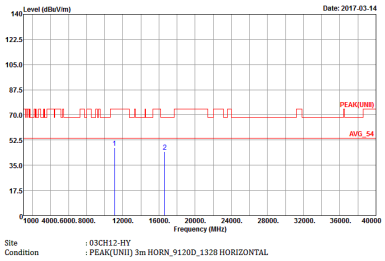
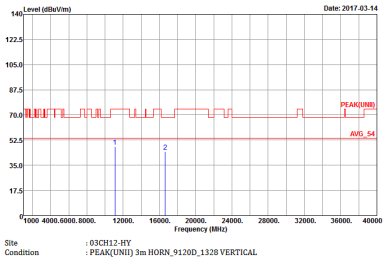
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Horizontal	Vertical
Peak Avg.		

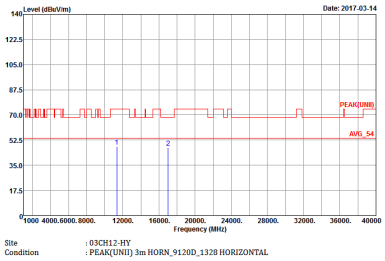
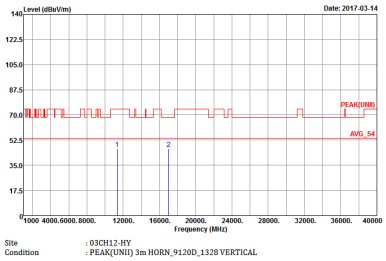
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH116 5580MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1	Horizontal	Vertical
Peak Avg.		

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

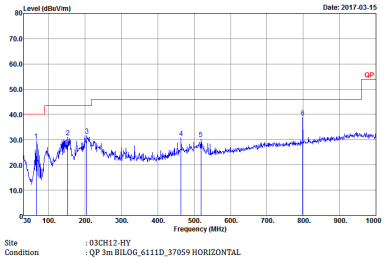
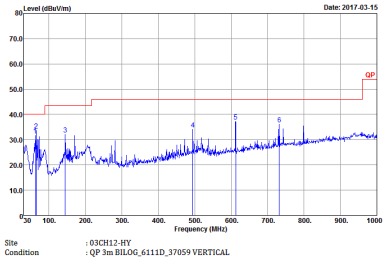
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH102 5510MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH110 5550MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH134 5670MHz	
1	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

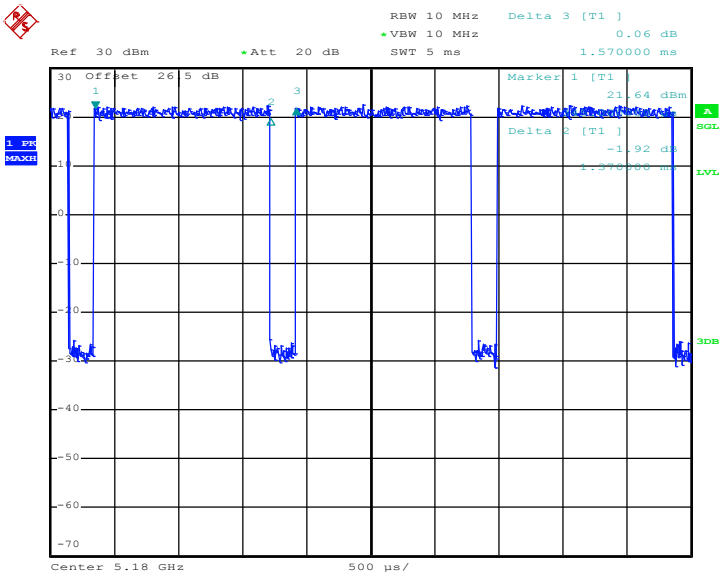
5GHz WIFI 802.11a (LF)

WIFI	5GHz WIFI	
ANT	802.11a LF	
1	Horizontal	Vertical
QP / Peak		

Appendix E. Duty Cycle Plots

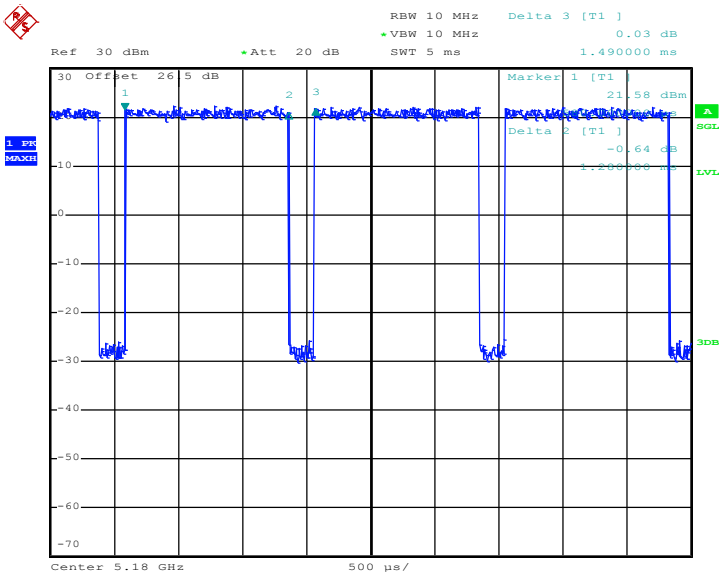
Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
802.11a	87.26	1370	0.73	1kHz
5GHz 802.11n HT20	85.91	1280	0.78	1kHz
5GHz 802.11n HT40	85.14	630	1.59	3kHz

802.11a



Date: 28.FEB.2017 13:36:24

802.11n HT20



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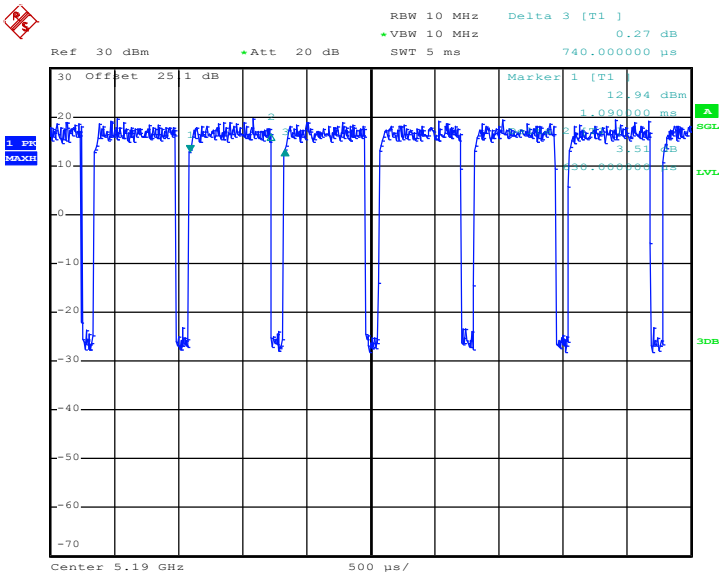
802.11n HT40



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