FCC RF Test Report

APPLICANT	:	Nest Labs Inc.
EQUIPMENT	:	Nest Cam IQ
MODEL NAME	:	A0053
FCC ID	:	ZQANC31
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was completed on Mar. 08, 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

TABLE OF CONTENTS

REVISION HISTORY **3**

SUMMARY OF TEST RESULT **4**

1 GENERAL DESCRIPTION **5**

1.1 Applicant 5
1.2 Product Feature of Equipment Under Test 5
1.3 Modification of EUT 5
1.4 Testing Location 6
1.5 Applicable Standards 7

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST **8**

2.1 Carrier Frequency and Channel 8
2.2 Test Mode 9
2.3 Connection Diagram of Test System 10
2.4 Support Unit used in test configuration and system 11
2.5 EUT Operation Test Setup 11
2.6 Measurement Results Explanation Example 11

3 TEST RESULT **12**

3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement 12
3.2 Maximum Conducted Output Power Measurement 17
3.3 Power Spectral Density Measurement 18
3.4 Unwanted Emissions Measurement 22
3.5 AC Conducted Emission Measurement 28
3.6 Automatically Discontinue Transmission 30
3.7 Antenna Requirements 32

4 LIST OF MEASURING EQUIPMENT **34**

5 UNCERTAINTY OF EVALUATION **35**

APPENDIX A. CONDUCTED TEST RESULTS

APPENDIX B. AC CONDUCTED EMISSION TEST RESULT

APPENDIX C. RADIATED SPURIOUS EMISSION

APPENDIX D. RADIATED SPURIOUS EMISSION PLOTS

APPENDIX E. DUTY CYCLE PLOTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR630207-02E	Rev. 01	Initial issue of report	Apr. 19, 2017
FR630207-02E	Rev. 02	Add remark description of test mode in section 2.2, and antenna information in section 1.2, and add loop antenna information in section 4, and add description of radiated spurious emissions below 30MHz in section 3.4.5.	May 05, 2017
FR630207-02E	Rev. 03	Add Zigbee information in section 1.2 and revising connection diagram of test system in section 2.3.	May 09, 2017
FR630207-02E	Rev. 04	Revising PSD test data in appendix a and remover frequency stability description and test data in report and appendix a.	May 15, 2017

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result
3.1	15.403(i)	6dB, 26dB and 99% Occupied Bandwidth	> 500kHz	Pass
3.2	15.407(a)	Maximum Conducted Output Power	≤ 30 dBm	Pass
3.3	15.407(a)	Power Spectral Density	≤ 30 dBm/500kHz	Pass
3.4	15.407(b)	Unwanted Emissions	15.407(b)(4)(i) &15.209(a)	Pass
3.5	15.207	AC Conducted Emission	15.207(a)	Pass
-	15.407(g)	Frequency Stability	Within Operation Band	Not Required
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass
3.7	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass

1 General Description

1.1 Applicant

Nest Labs Inc.
3400 Hillview Ave.Palo Alto, CA 94304 USA

1.2 Product Feature of Equipment Under Test

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

Product Specification subjective to this standard	
Antenna Type	ANT FPC 1 2.4G/5G : Fixed Internal Antenna ANT FPC 2 2.4G/5G : Fixed Internal Antenna ANT FPC 15.4 2.4G : Fixed Internal Antenna

1.3 Modification of EUT

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

1.4 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. 2353 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 (SHENZHEN) INC.
Test Site Location	No. 101, Complex Building C, Guanlong Village, Xili Town, Nanshan District, Shenzhen, Guangdong, P.R.C. TEL: +86-755-8637-9589 (TAF Code: 2353)
Test Site No.	**Sporton Site No.**
	03CH02-SZ

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

1.5 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01
- ANSI C63.10-2013

Remark:

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

2 Test Configuration of Equipment Under Test

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 (Y plane) were recorded in this report.

b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

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

Note:

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

2.2 Test Mode

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

Single Antenna

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

MIMO Antenna

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

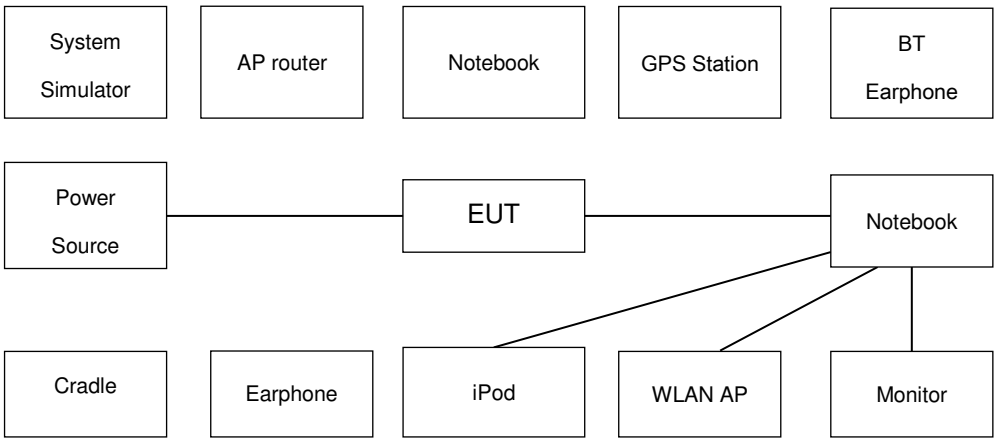
Remark: WLAN (STBC) only support MIMO mode operation.

Test Cases	
AC Conducted Emission	Mode 1 : WLAN Tx + Bluetooth Idle + Zigbee Idle + Y Cable + Adapter 1
Remark: For radiated spurious emissions, the tests were performed with Y Cable and Adapter 1.	

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

Ch. #		Band IV：5725-5850 MHz		
		802.11ac VHT20	802.11ac VHT40	802.11ac VHT80
L	Low	149	151	-
M	Middle	157	-	155
H	High	165	159	-

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 E3340	FCC DoC/ Contains FCC ID: PD97260NGU	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
4.	Y Cable	N/A	N/A	N/A	Unshielded, 1.93 m	Unshielded, 1.93 m

2.5 EUT Operation Test Setup

For WLAN function, programmed RF utility, “ADB” 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 6dB and 26dB and 99% Occupied Bandwidth Measurement

3.1.1 Description of 6dB and 26dB and 99% Occupied Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

26dB and 99% Occupied bandwidth are reporting only.

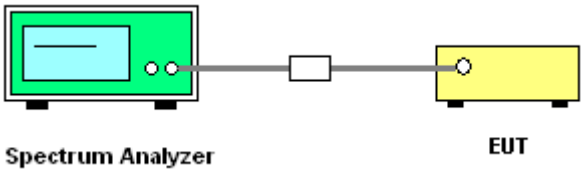
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03. Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW ≥ 3 x RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

3.1.4 Test Setup

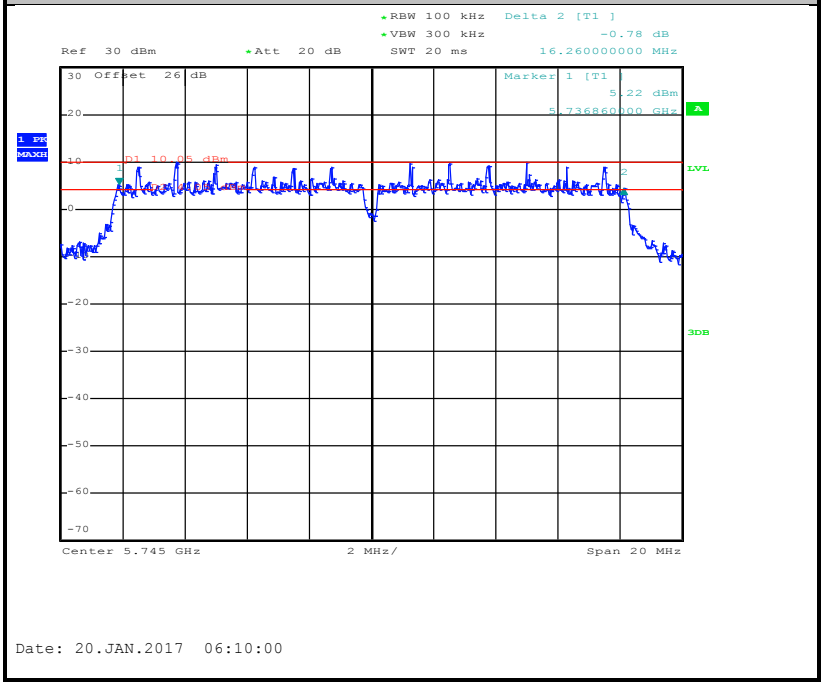


3.1.5 Test Result of 6dB Bandwidth

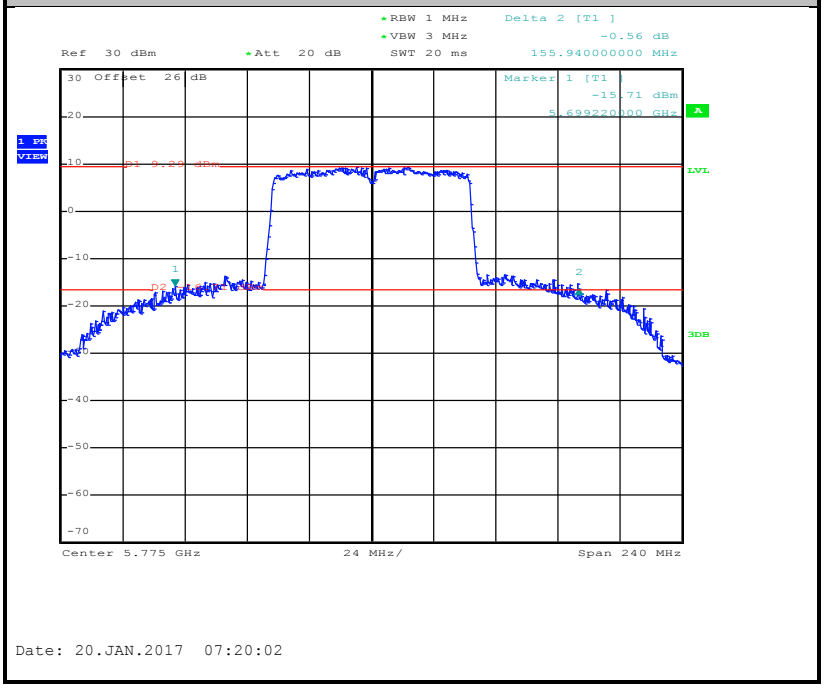
Please refer to Appendix A.

<CDD Modes>

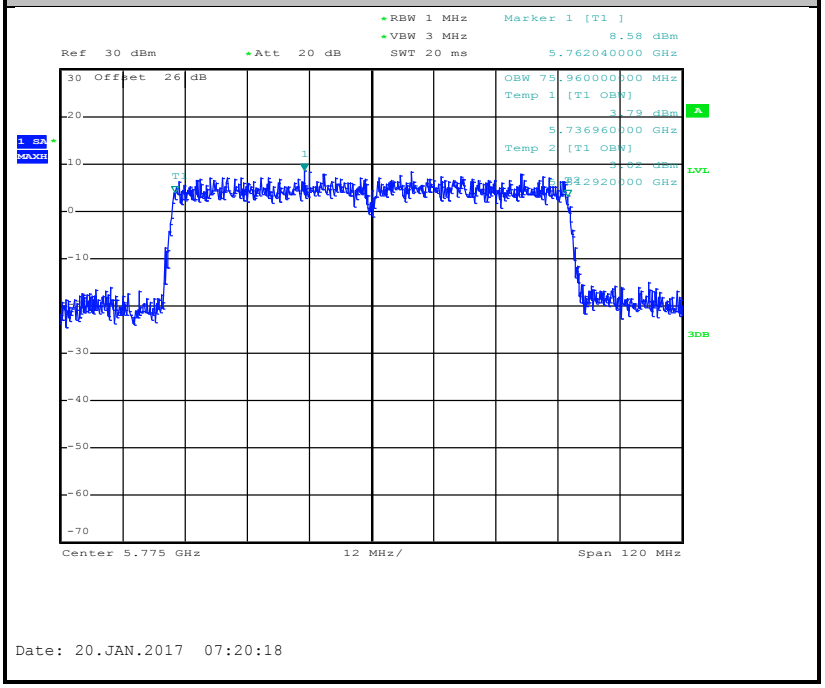
Minimum 6dB Bandwidth



Maximum 26dB Bandwidth



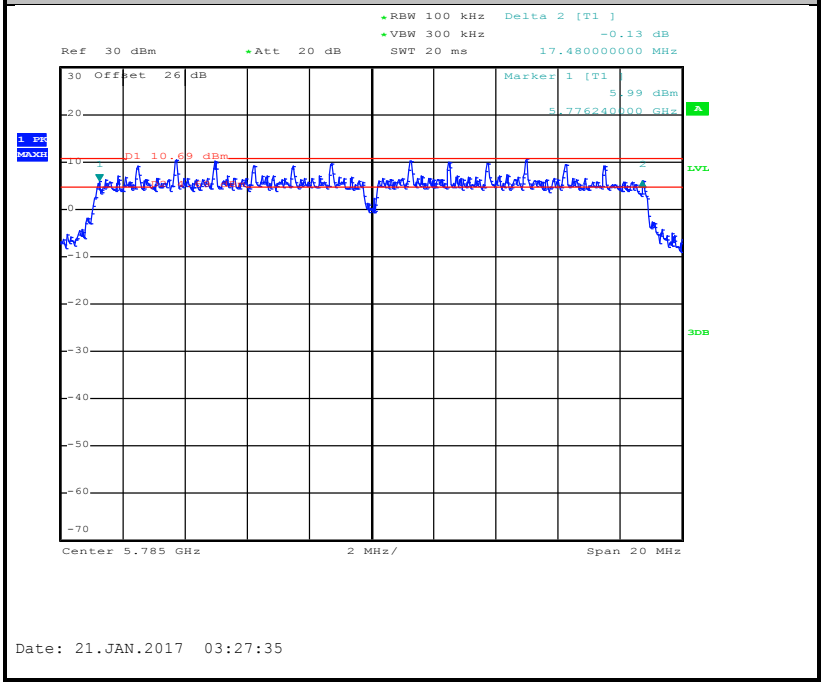
Maximum 99% Occupied Bandwidth



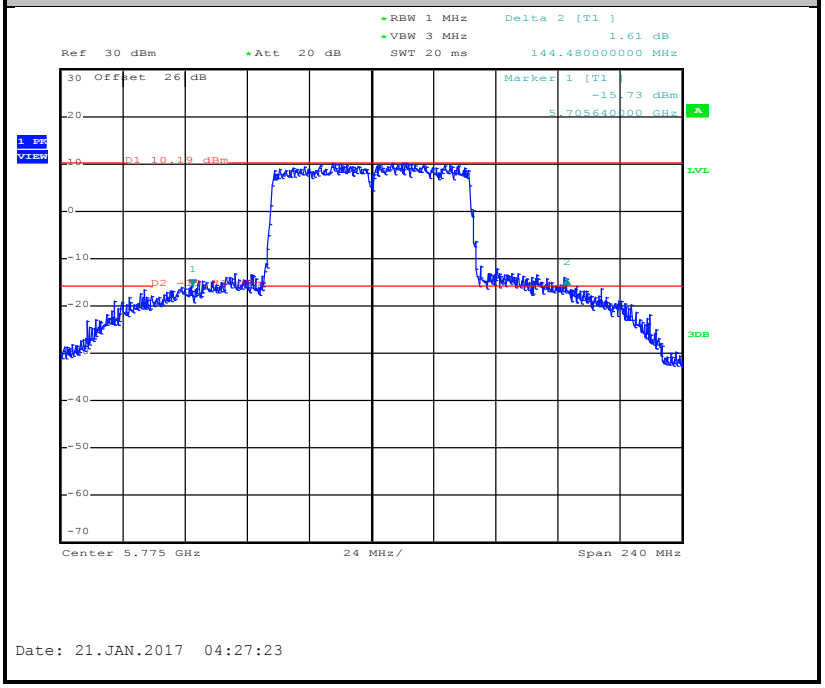
Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<STBC Modes>

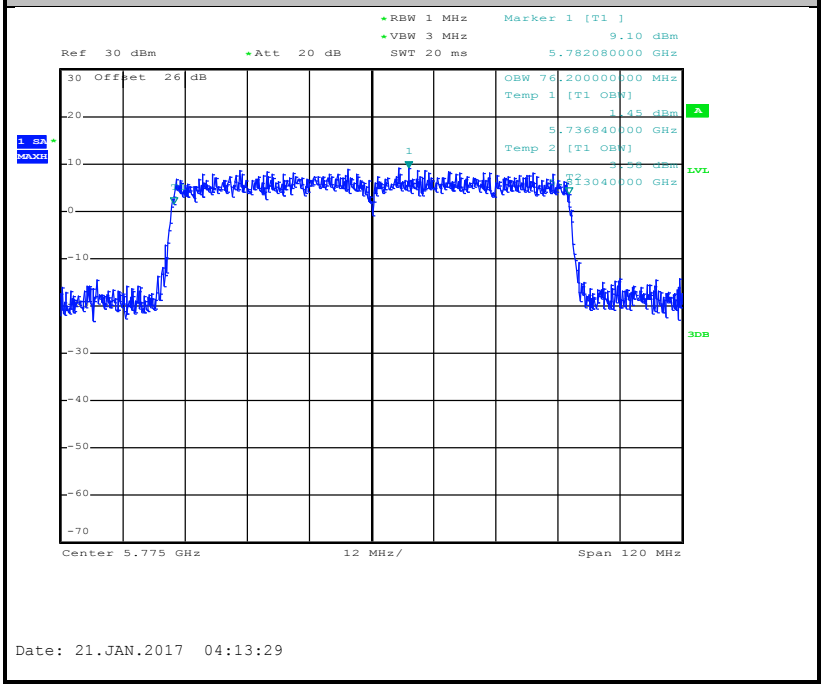
Minimum 6dB Bandwidth



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

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

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.

3.2.2 Measuring Instruments

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

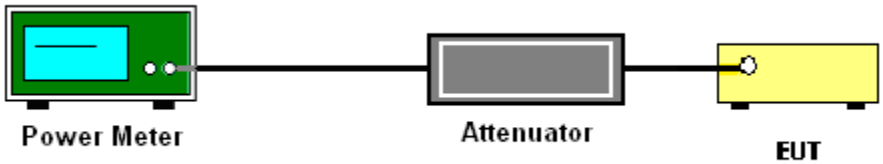
3.2.3 Test Procedures

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

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

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

3.2.4 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

For the band 5.725–5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz 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 v01r03. 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 = 300 kHz.
- Set VBW ≥ 1 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(500kHz/RBW) to the test result.
- 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.

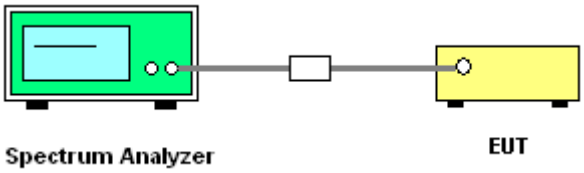
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

   Method (c): Measure and add 10 log(N_{ANT}) dB.

   With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity 10 log(N_{ANT}) dB is added to each spectrum value before comparing to the emission limit. The addition of 10 log(N_{ANT}) dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{ANT}$ th of the PSD limit.

3.3.4 Test Setup

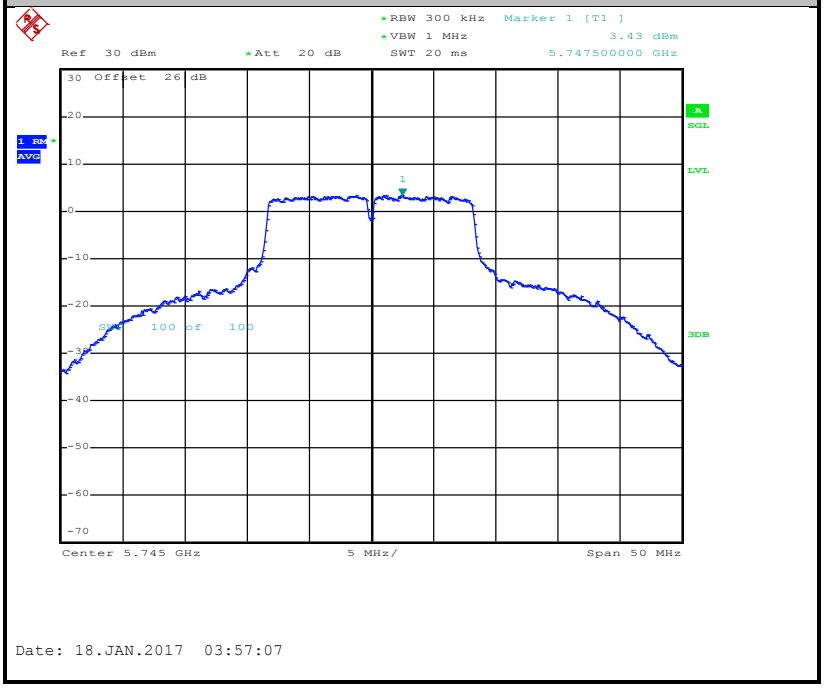


3.3.5 Test Result of Power Spectral Density

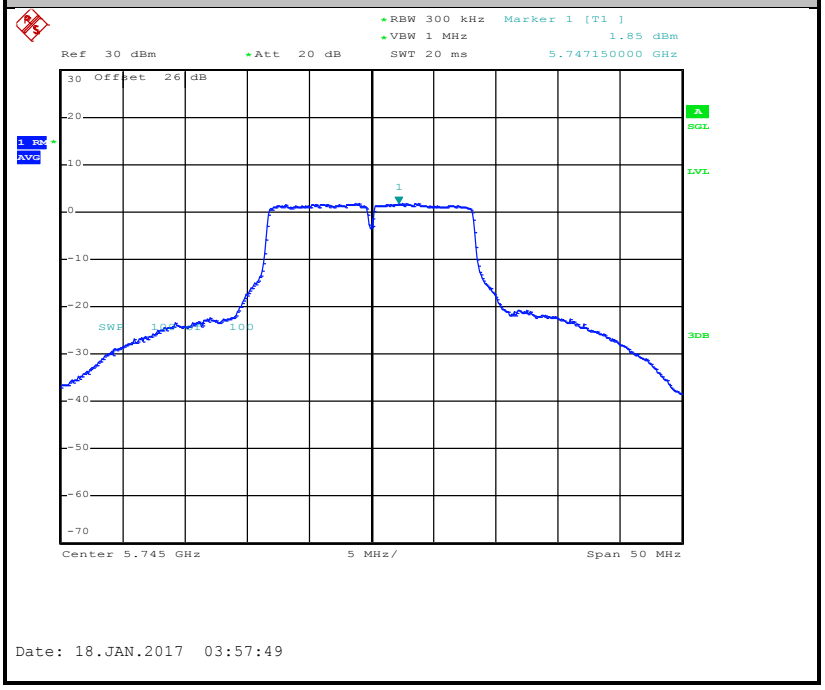
Please refer to Appendix A.

<CDD Modes>

Worst Case Power Density (dBm/300kHz) for Ant. 1

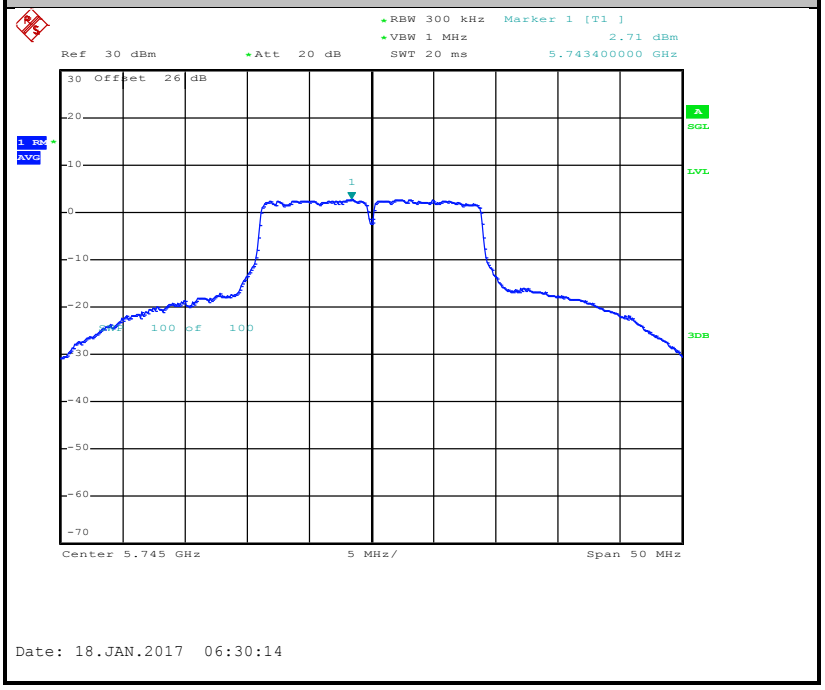


Worst Case Power Density (dBm/300kHz) for Ant. 2

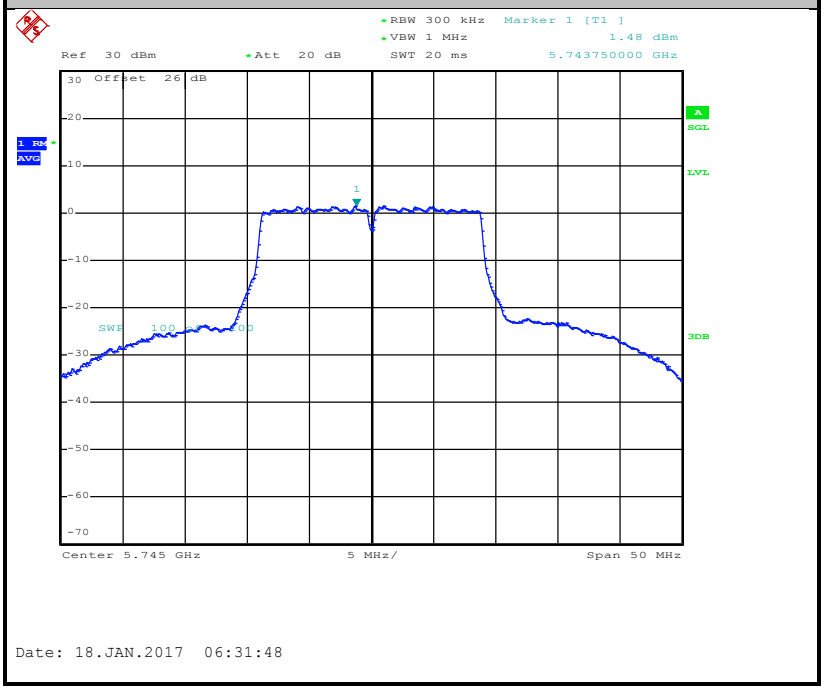


<STBC Modes>

Worst Case Power Density (dBm/300kHz) for Ant. 1



Worst Case Power Density (dBm/300kHz) for Ant. 2



3.4 Unwanted Emissions Measurement

This section 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 5.725-5.85 GHz band:

15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2) Unwanted spurious emissions fallen in restricted bands 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 v01r03 G)2)c)

(i) Section 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and 2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz. However, an out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz dBm/MHz peak emission limit.

(ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the alternative limit

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 v01r03. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

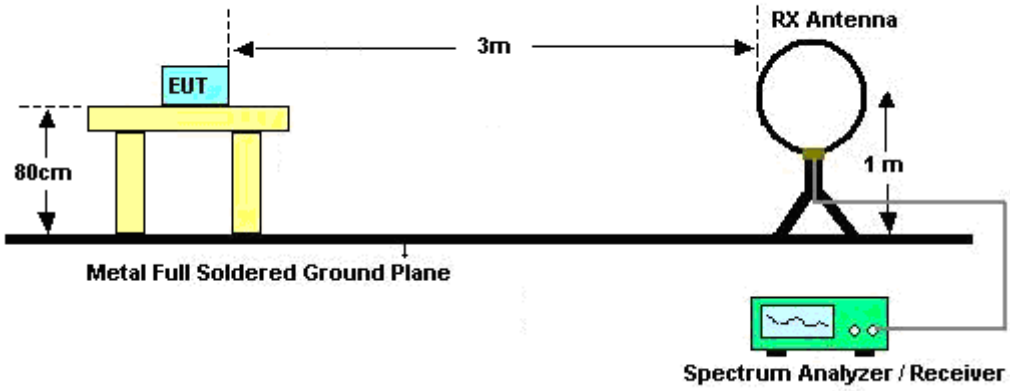
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

   - 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.

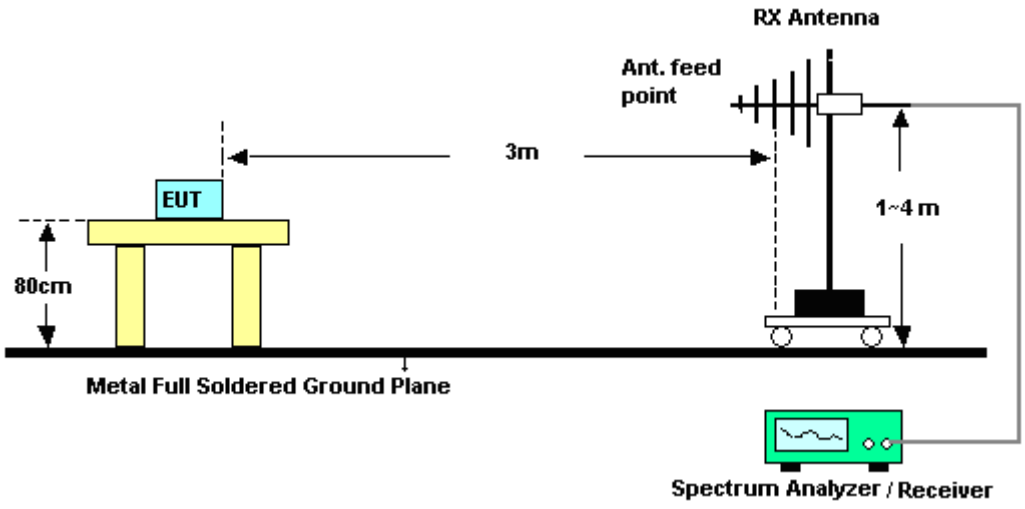
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

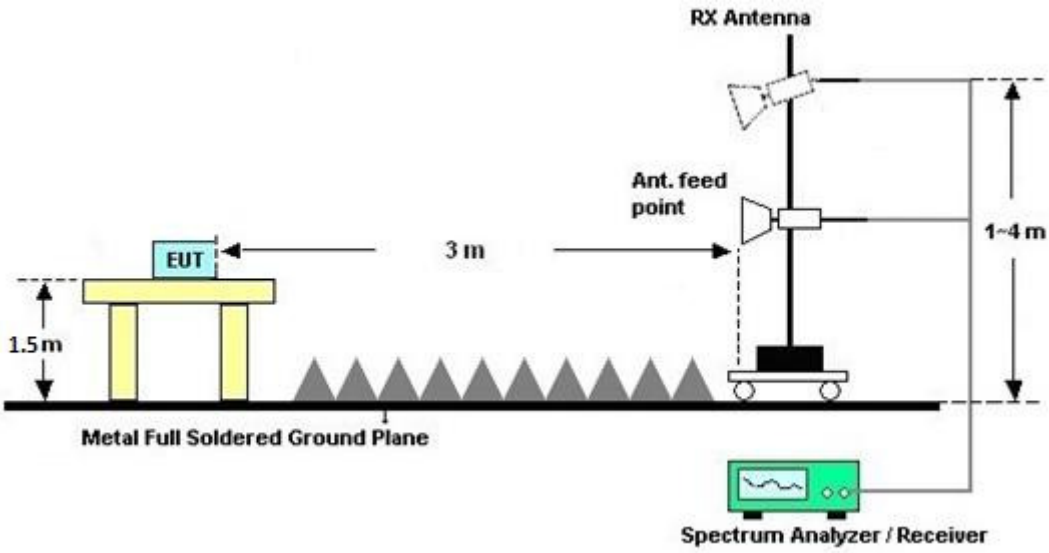
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.4.5 Test Results of Radiated 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.

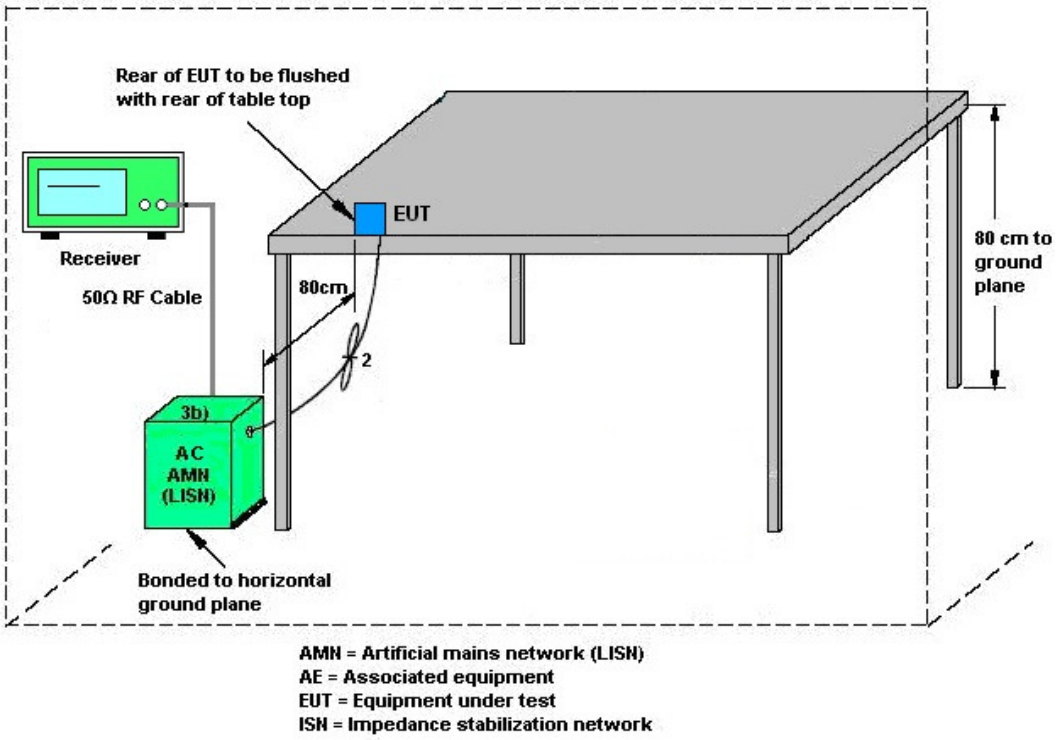
3.5.2 Measuring Instruments

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



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.6 Automatically Discontinue Transmission

3.6.1 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.

3.6.2 Measuring Instruments

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

3.6.3 Test Result of Automatically Discontinue Transmission

EUT is verified this characteristic during the function check of normal sample associated with an access point:

A. Information start: make EUT supply information to the access point.

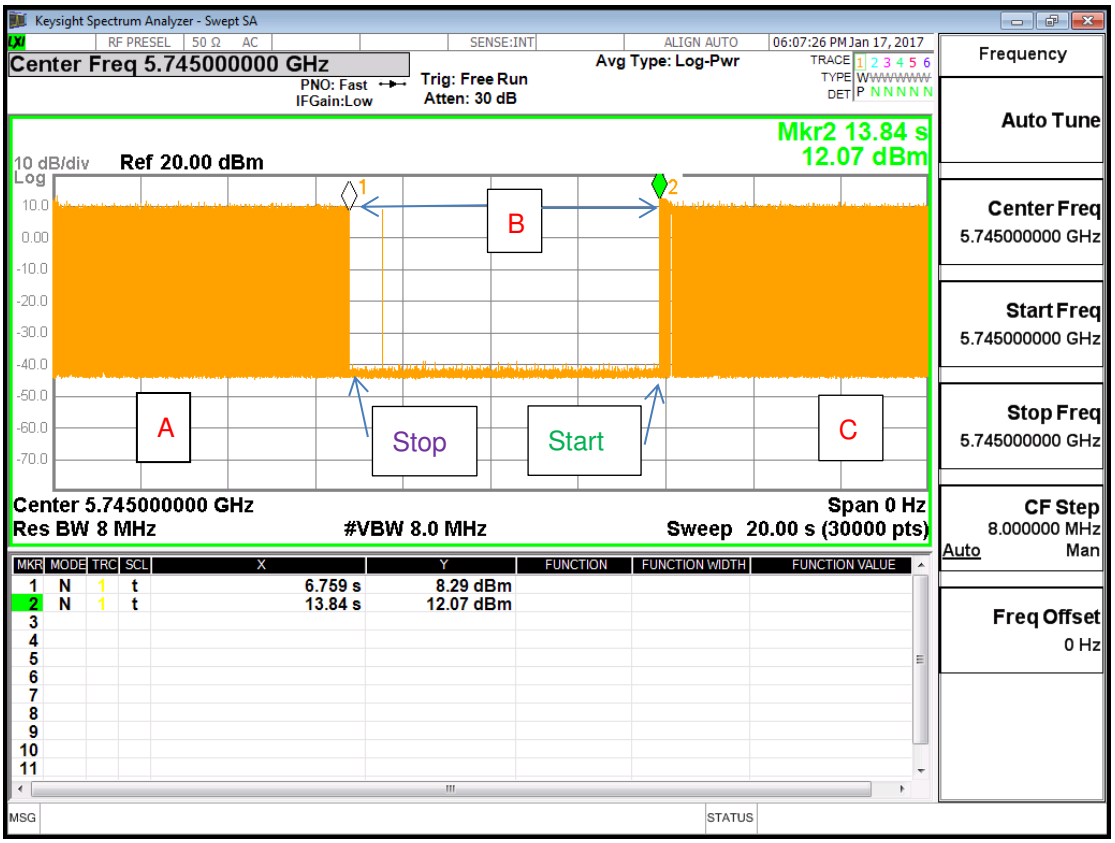
B. Information stop: stop supplying information to the access point.

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving.

C. Information start: make EUT supply information to the access point again.

The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

5745MHz



Note : The control / signalling information during the period B is precluded.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

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

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

For power measurements on IEEE 802.11 devices,

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

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

The EUT supports CDD mode.

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

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

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

The directional gain “DG” is calculated as following table.

<CDD Modes>

	Ant 1 (dBi)	Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	2.71	2.15	2.71	5.44	0.00	0.00

<STBC Modes>

	Ant 1 (dBi)	Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	2.71	2.15	2.71	2.71	0.00	0.00

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

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	0932001	300MHz~40GHz	Sep. 29, 2016	Dec. 30, 2016 ~ Mar. 08, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 29, 2016	Dec. 30, 2016 ~ Mar. 08, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Jul. 17, 2016	Dec. 30, 2016 ~ Mar. 08, 2017	Jul. 16, 2017	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃ ~90℃	Sep. 01, 2016	Dec. 30, 2016 ~ Mar. 08, 2017	Aug. 31, 2017	Conducted (TH05-HY)
AC Power Source	AC POWER	AFC-500W	F104070011	50Hz~60Hz	Dec. 01, 2016	Dec. 30, 2016 ~ Mar. 08, 2017	Nov. 30, 2017	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jan. 24, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	Jan. 24, 2017	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	Jan. 24, 2017	Nov. 28, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 06, 2016	Jan. 24, 2017	Dec. 05, 2017	Conduction (CO05-HY)
EXA Spectrum Anaiyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	May 07, 2016	Jan. 12, 2017 ~ Jan. 21, 2017	May 06, 2017	Radiation (03CH02-SZ
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	May 07, 2016	Jan. 12, 2017 ~ Jan. 21, 2017	May 06, 2017	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	May 21, 2016	Jan. 12, 2017 ~ Jan. 21, 2017	May 20, 2017	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Jan. 12, 2017	Jan. 12, 2017 ~ Jan. 21, 2017	Jan. 11, 2018	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 16, 2016	Jan. 12, 2017 ~ Jan. 21, 2017	Jul. 15, 2017	Radiation (03CH02-SZ
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Aug. 10, 2016	Jan. 12, 2017 ~ Jan. 21, 2017	Aug. 09, 2017	Radiation (03CH02-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Jan. 06, 2017	Jan. 12, 2017 ~ Jan. 21, 2017	Jan. 05, 2018	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1707137	1GHz~18GHz	Oct. 11, 2016	Jan. 12, 2017 ~ Jan. 21, 2017	Oct. 10, 2017	Radiation (03CH02-SZ)
Amplifier	Burgeon	BPA-530	102210	0.01Hz ~3000MHz	Oct. 11, 2016	Jan. 12, 2017 ~ Jan. 21, 2017	Oct. 10, 2017	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	N/A	Jan. 12, 2017 ~ Jan. 21, 2017	N/A	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	N/A	Jan. 12, 2017 ~ Jan. 21, 2017	N/A	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	N/A	Jan. 12, 2017 ~ Jan. 21, 2017	N/A	Radiation (03CH02-SZ)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100321	9kHz~30MHz	Oct. 23, 2016	Jan. 06, 2017~ Jan. 21, 2017	Oct. 22, 2017	Radiation (03CH02-SZ)

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))	5.0

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

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

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

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

Appendix A. Test Result of Conducted Test Items

<CDD>

Test Engineer:	Derek Hsu	Temperature:	21~25	°C
Test Date:	2016/12/30~2017/03/08	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 26dB EBW and 99% OBW

Band IV													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	CDD	149	5745	23.20	18.75	44.49	37.56	16.26	16.26	0.5		Pass
11a	6Mbps	CDD	157	5785	23.40	18.35	44.88	36.24	16.32	16.32	0.5		Pass
11a	6Mbps	CDD	165	5825	25.10	18.60	45.24	37.50	16.28	16.30	0.5		Pass
HT20	MCS0	CDD	149	5745	24.15	19.50	48.42	46.19	17.56	17.54	0.5		Pass
HT20	MCS0	CDD	157	5785	25.15	19.45	49.07	45.06	17.52	17.52	0.5		Pass
HT20	MCS0	CDD	165	5825	25.60	19.50	49.68	44.76	17.54	17.52	0.5		Pass
HT40	MCS0	CDD	151	5755	51.90	37.80	97.92	92.76	35.96	36.28	0.5		Pass
HT40	MCS0	CDD	159	5795	54.30	37.70	97.56	94.89	36.32	36.32	0.5		Pass
VHT80	MCS0	CDD	155	5775	75.96	75.96	155.94	139.44	75.36	75.36	0.5		Pass

TEST RESULTS DATA
Average Power Table

Band IV															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	SISO	149	5745	0.57	0.57	20.41	20.10		30.00	30.00	2.71	2.15		Pass
11a	6Mbps	SISO	157	5785	0.57	0.57	20.37	20.03		30.00	30.00	2.71	2.15		Pass
11a	6Mbps	SISO	165	5825	0.57	0.57	20.26	19.98		30.00	30.00	2.71	2.15		Pass
HT20	MCS0	SISO	149	5745	0.63	0.64	20.33	20.10		30.00	30.00	2.71	2.15		Pass
HT20	MCS0	SISO	157	5785	0.63	0.64	20.27	20.09		30.00	30.00	2.71	2.15		Pass
HT20	MCS0	SISO	165	5825	0.63	0.64	20.07	20.04		30.00	30.00	2.71	2.15		Pass
HT40	MCS0	SISO	151	5755	1.20	1.20	19.76	20.03		30.00	30.00	2.71	2.15		Pass
HT40	MCS0	SISO	159	5795	1.20	1.20	19.71	20.00		30.00	30.00	2.71	2.15		Pass
VHT20	MCS0	SISO	149	5745	0.63	0.63	19.64	20.08		30.00	30.00	2.71	2.15		Pass
VHT20	MCS0	SISO	157	5785	0.63	0.63	19.59	20.07		30.00	30.00	2.71	2.15		Pass
VHT20	MCS0	SISO	165	5825	0.63	0.63	19.57	20.03		30.00	30.00	2.71	2.15		Pass
VHT40	MCS0	SISO	151	5755	1.13	1.16	19.71	20.00		30.00	30.00	2.71	2.15		Pass
VHT40	MCS0	SISO	159	5795	1.13	1.16	19.66	19.96		30.00	30.00	2.71	2.15		Pass
VHT80	MCS0	SISO	155	5775	2.05	2.05	18.38	18.34		30.00	30.00	2.71	2.15		Pass
11a	6Mbps	CDD	149	5745	0.60	0.58	21.10	19.65	23.44	30.00		2.71			Pass
11a	6Mbps	CDD	157	5785	0.60	0.58	21.05	19.54	23.37	30.00		2.71			Pass
11a	6Mbps	CDD	165	5825	0.60	0.58	21.04	19.29	23.26	30.00		2.71			Pass
HT20	MCS0	CDD	149	5745	0.63	0.64	21.03	19.48	23.33	30.00		2.71			Pass
HT20	MCS0	CDD	157	5785	0.63	0.64	20.92	19.47	23.27	30.00		2.71			Pass
HT20	MCS0	CDD	165	5825	0.63	0.64	20.80	19.20	23.08	30.00		2.71			Pass
HT40	MCS0	CDD	151	5755	1.13	1.13	20.81	19.31	23.14	30.00		2.71			Pass
HT40	MCS0	CDD	159	5795	1.13	1.13	20.66	19.24	23.02	30.00		2.71			Pass
VHT20	MCS0	CDD	149	5745	0.63	0.63	20.86	19.24	23.14	30.00		2.71			Pass
VHT20	MCS0	CDD	157	5785	0.63	0.63	20.79	19.21	23.08	30.00		2.71			Pass
VHT20	MCS0	CDD	165	5825	0.63	0.63	20.79	19.18	23.07	30.00		2.71			Pass
VHT40	MCS0	CDD	151	5755	1.18	1.18	20.84	19.19	23.11	30.00		2.71			Pass
VHT40	MCS0	CDD	159	5795	1.18	1.18	20.73	19.09	23.00	30.00		2.71			Pass
VHT80	MCS0	CDD	155	5775	2.05	2.05	18.40	18.35	21.38	30.00		2.71			Pass

TEST RESULTS DATA
Power Spectral Density

Band IV																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	CDD	149	5745	0.60	0.58	2.22		6.24	4.65	9.25	30.00		5.44		Pass
11a	6Mbps	CDD	157	5785	0.60	0.58	2.22		5.79	4.34	8.80	30.00		5.44		Pass
11a	6Mbps	CDD	165	5825	0.60	0.58	2.22		5.90	4.46	8.91	30.00		5.44		Pass
HT20	MCS0	CDD	149	5745	0.63	0.64	2.22		5.74	4.06	8.75	30.00		5.44		Pass
HT20	MCS0	CDD	157	5785	0.63	0.64	2.22		5.55	4.15	8.56	30.00		5.44		Pass
HT20	MCS0	CDD	165	5825	0.63	0.64	2.22		5.66	4.14	8.67	30.00		5.44		Pass
HT40	MCS0	CDD	151	5755	1.13	1.13	2.22		2.90	1.06	5.91	30.00		5.44		Pass
HT40	MCS0	CDD	159	5795	1.13	1.13	2.22		2.47	0.98	5.48	30.00		5.44		Pass
VHT80	MCS0	CDD	155	5775	2.05	2.05	2.22		-1.71	-2.13	1.30	30.00		5.44		Pass

Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)

<STBC>

Test Engineer:	Derek Hsu	Temperature:	21~25	°C
Test Date:	2016/12/30~2017/03/08	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 26dB EBW and 99% OBW

Band IV													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
HT20	MCS0	STBC	149	5745	28.20	19.35	49.38	47.28	17.50	17.54	0.5		Pass
HT20	MCS0	STBC	157	5785	26.70	19.55	48.65	46.17	17.48	17.52	0.5		Pass
HT20	MCS0	STBC	165	5825	26.45	19.70	49.74	45.14	17.52	17.54	0.5		Pass
HT40	MCS0	STBC	151	5755	53.10	37.70	101.88	93.66	36.08	36.32	0.5		Pass
HT40	MCS0	STBC	159	5795	55.00	38.30	102.72	92.88	36.32	36.32	0.5		Pass
VHT80	MCS0	STBC	155	5775	76.20	76.20	144.48	139.20	75.28	75.04	0.5		Pass

TEST RESULTS DATA
Average Power Table

Band IV															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
HT20	MCS0	STBC	149	5745	0.63	0.63	21.08	19.56	23.39	30.00		2.71			Pass
HT20	MCS0	STBC	157	5785	0.63	0.63	20.92	19.44	23.25	30.00		2.71			Pass
HT20	MCS0	STBC	165	5825	0.63	0.63	20.99	19.36	23.26	30.00		2.71			Pass
HT40	MCS0	STBC	151	5755	1.13	1.12	20.84	19.37	23.18	30.00		2.71			Pass
HT40	MCS0	STBC	159	5795	1.13	1.12	20.76	19.23	23.07	30.00		2.71			Pass
VHT20	MCS0	STBC	149	5745	0.63	0.63	20.99	19.43	23.29	30.00		2.71			Pass
VHT20	MCS0	STBC	157	5785	0.63	0.63	20.94	19.36	23.23	30.00		2.71			Pass
VHT20	MCS0	STBC	165	5825	0.63	0.63	20.93	19.31	23.20	30.00		2.71			Pass
VHT40	MCS0	STBC	151	5755	1.18	1.18	20.78	19.28	23.11	30.00		2.71			Pass
VHT40	MCS0	STBC	159	5795	1.18	1.18	20.74	19.20	23.05	30.00		2.71			Pass
VHT80	MCS0	STBC	155	5775	2.06	2.06	18.66	18.44	21.56	30.00		2.71			Pass

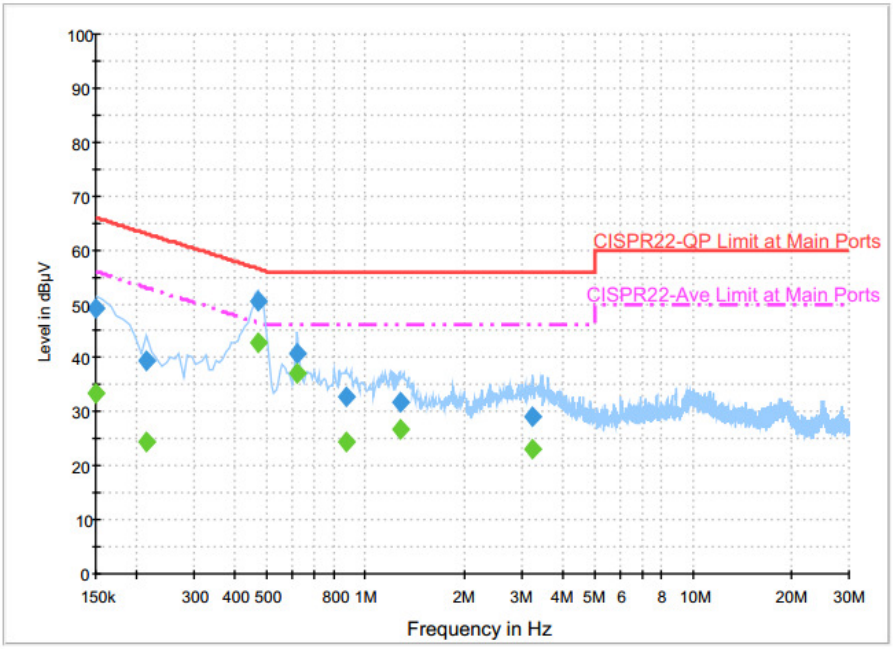
TEST RESULTS DATA
Power Spectral Density

Band IV																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
HT20	MCS0	STBC	149	5745	0.63	0.63	2.22		5.56	4.33	8.57	30.00		2.71		Pass
HT20	MCS0	STBC	157	5785	0.63	0.63	2.22		5.44	3.91	8.45	30.00		2.71		Pass
HT20	MCS0	STBC	165	5825	0.63	0.63	2.22		5.41	3.85	8.42	30.00		2.71		Pass
HT40	MCS0	STBC	151	5755	1.13	1.12	2.22		2.68	1.02	5.69	30.00		2.71		Pass
HT40	MCS0	STBC	159	5795	1.13	1.12	2.22		2.21	1.16	5.22	30.00		2.71		Pass
VHT80	MCS0	STBC	155	5775	2.06	2.06	2.22		-1.96	-2.50	1.05	30.00		2.71		Pass

Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Kai-Chun Chu	**Temperature :**	21~22℃
		Relative Humidity :	48~49%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line



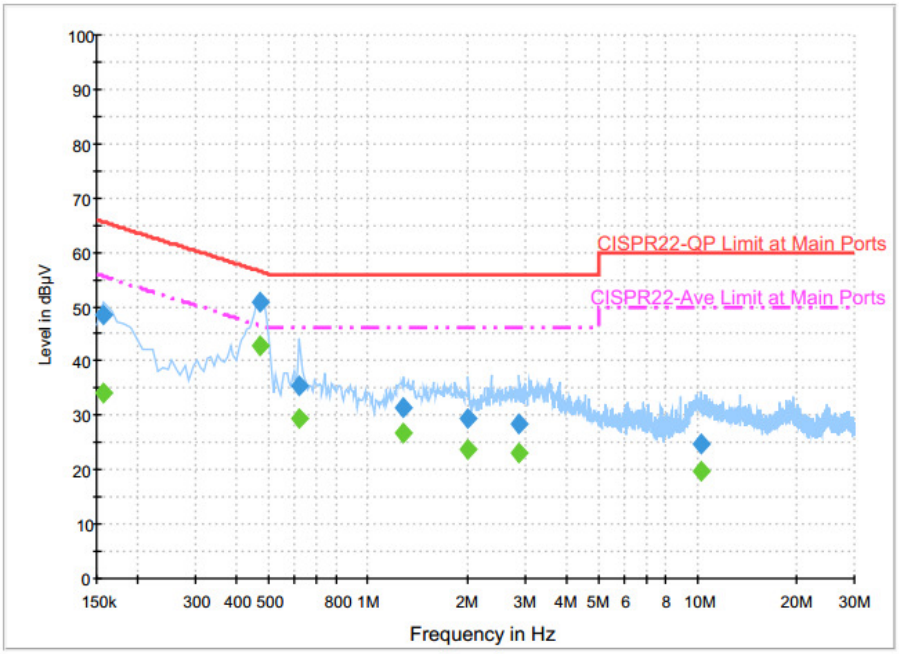
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	49.2	Off	L1	19.6	16.8	66.0
0.214000	39.3	Off	L1	19.6	23.7	63.0
0.470000	50.6	Off	L1	19.6	5.9	56.5
0.622000	40.9	Off	L1	19.6	15.1	56.0
0.870000	32.6	Off	L1	19.6	23.4	56.0
1.278000	31.7	Off	L1	19.6	24.3	56.0
3.246000	29.1	Off	L1	19.6	26.9	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	33.3	Off	L1	19.6	22.7	56.0
0.214000	24.6	Off	L1	19.6	28.4	53.0
0.470000	42.7	Off	L1	19.6	3.8	46.5
0.622000	37.2	Off	L1	19.6	8.8	46.0
0.870000	24.5	Off	L1	19.6	21.5	46.0
1.278000	26.8	Off	L1	19.6	19.2	46.0
3.246000	23.2	Off	L1	19.6	22.8	46.0

Test Engineer :	Kai-Chun Chu	**Temperature :**	21~22℃
		Relative Humidity :	48~49%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	48.5	Off	N	19.6	17.1	65.6
0.470000	50.8	Off	N	19.6	5.7	56.5
0.622000	35.5	Off	N	19.6	20.5	56.0
1.286000	31.5	Off	N	19.6	24.5	56.0
2.022000	29.3	Off	N	19.6	26.7	56.0
2.886000	28.5	Off	N	19.5	27.5	56.0
10.270000	24.7	Off	N	20.1	35.3	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	34.1	Off	N	19.6	21.5	55.6
0.470000	42.7	Off	N	19.6	3.8	46.5
0.622000	29.3	Off	N	19.6	16.7	46.0
1.286000	26.8	Off	N	19.6	19.2	46.0
2.022000	23.8	Off	N	19.6	22.2	46.0
2.886000	23.0	Off	N	19.5	23.0	46.0
10.270000	19.6	Off	N	20.1	30.4	50.0

Appendix C. Radiated Spurious Emission

Test Engineer :	Jeff Yao	Temperature :	20~24°C
		Relative Humidity :	48~50%

Band 4 - 5725~5850MHz

WIFI 802.11a CDD (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+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5633.2	54.48	-13.72	68.2	48.09	33.16	6.23	33	225	144	P	H
		5696.8	68.08	-34.76	102.84	61.59	33.23	6.26	33	225	144	P	H
		5718.2	77.43	-32.87	110.3	70.9	33.27	6.26	33	225	144	P	H
		5723	87.14	-30.5	117.64	80.61	33.27	6.26	33	225	144	P	H
	*	5745	115.75	-	-	109.18	33.29	6.28	33	225	144	P	H
	*	5745	106.94	-	-	100.37	33.29	6.28	33	225	144	A	H
		5648.6	48.85	-19.35	68.2	42.44	33.16	6.25	33	190	40	P	V
		5699	64.03	-40.43	104.46	57.54	33.23	6.26	33	190	40	P	V
		5719.8	72.51	-38.23	110.74	65.98	33.27	6.26	33	190	40	P	V
		5725	86.28	-35.92	122.2	79.75	33.27	6.26	33	190	40	P	V
	*	5745	110.64	-	-	104.07	33.29	6.28	33	190	40	P	V
	*	5745	101.58	-	-	95.01	33.29	6.28	33	190	40	A	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 157 5785MHz		5646.4	49.23	-18.97	68.2	42.82	33.16	6.25	33	224	139	P	H
		5693	55.81	-44.23	100.04	49.32	33.23	6.26	33	224	139	P	H
		5719.8	58.63	-52.11	110.74	52.1	33.27	6.26	33	224	139	P	H
		5725	61.36	-60.84	122.2	54.83	33.27	6.26	33	224	139	P	H
	*	5785	116.43	-	-	109.8	33.33	6.3	33	224	139	P	H
	*	5785	107.3	-	-	100.67	33.33	6.3	33	224	139	A	H
		5852	61.69	-55.95	117.64	54.94	33.42	6.33	33	224	139	P	H
		5858	60.22	-49.74	109.96	53.45	33.44	6.33	33	224	139	P	H
		5889.6	51.98	-42.38	94.36	45.15	33.48	6.35	33	224	139	P	H
		5938.4	50.81	-17.39	68.2	43.93	33.52	6.36	33	224	139	P	H
		5649.2	45.97	-22.23	68.2	39.56	33.16	6.25	33	154	29	P	V
		5698.6	49.59	-54.58	104.17	43.1	33.23	6.26	33	154	29	P	V
		5718.4	53.65	-56.7	110.35	47.12	33.27	6.26	33	154	29	P	V
		5725	57.06	-65.14	122.2	50.53	33.27	6.26	33	154	29	P	V
	*	5785	109.63	-	-	103	33.33	6.3	33	154	29	P	V
	*	5785	100.95	-	-	94.32	33.33	6.3	33	154	29	A	V
		5850	55.44	-66.76	122.2	48.69	33.42	6.33	33	154	29	P	V
		5855.6	54.26	-56.37	110.63	47.49	33.44	6.33	33	154	29	P	V
		5884.6	48.23	-49.84	98.07	41.44	33.46	6.33	33	154	29	P	V
		5930	47.21	-20.99	68.2	40.33	33.52	6.36	33	154	29	P	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 165 5825MHz	*	5825	115.52	-	-	108.82	33.39	6.31	33	244	146	P	H
	*	5825	107.3	-	-	100.6	33.39	6.31	33	244	146	A	H
		5850.6	80.94	-39.89	120.83	74.19	33.42	6.33	33	244	146	P	H
		5856.8	76.57	-33.73	110.3	69.8	33.44	6.33	33	244	146	P	H
		5876.6	67.43	-36.58	104.01	60.64	33.46	6.33	33	244	146	P	H
		5925.4	51.28	-16.92	68.2	44.41	33.52	6.35	33	244	146	P	H
	*	5825	111.31	-	-	104.61	33.39	6.31	33	190	40	P	V
	*	5825	102.16	-	-	95.46	33.39	6.31	33	190	40	A	V
		5852.2	76.43	-40.75	117.18	69.68	33.42	6.33	33	190	40	P	V
		5855.6	69.69	-40.94	110.63	62.92	33.44	6.33	33	190	40	P	V
		5878.2	62.96	-39.86	102.82	56.17	33.46	6.33	33	190	40	P	V
		5928	46.55	-21.65	68.2	39.67	33.52	6.36	33	190	40	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11a CDD (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	49.94	-24.06	74	57.43	39.6	8.93	56.02	160	360	P	H
		17235	51.18	-17.02	68.2	55.58	39.1	11.95	55.45	170	360	P	H
		11490	49.61	-24.39	74	57.1	39.6	8.93	56.02	160	360	P	V
		17235	50.23	-17.97	68.2	54.63	39.1	11.95	55.45	170	360	P	V
802.11a CH 157 5785MHz		11570	49.13	-24.87	74	56.74	39.57	8.93	56.11	175	198	P	H
		17355	50.97	-17.23	68.2	56.12	38.89	11.97	56.01	189	185	P	H
		11570	50.01	-23.99	74	57.62	39.57	8.93	56.11	175	198	P	V
		17355	49.85	-18.35	68.2	55	38.89	11.97	56.01	189	185	P	V
802.11a CH 165 5825MHz		11650	50.01	-23.99	74	57.73	39.54	8.93	56.19	156	347	P	H
		17475	50.2	-18	68.2	56.08	38.69	12	56.57	150	360	P	H
		11650	50.26	-23.74	74	57.98	39.54	8.93	56.19	156	347	P	V
		17475	49.56	-18.64	68.2	55.44	38.69	12	56.57	150	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 CDD (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		5633.6	54.76	-13.44	68.2	48.37	33.16	6.23	33	204	144	P	H
		5697.2	72.13	-31.01	103.14	65.64	33.23	6.26	33	204	144	P	H
		5718.8	80.27	-30.19	110.46	73.74	33.27	6.26	33	204	144	P	H
		5724.2	90.11	-30.27	120.38	83.58	33.27	6.26	33	204	144	P	H
	*	5745	114.71	-	-	108.14	33.29	6.28	33	204	144	P	H
	*	5745	106.58	-	-	100.01	33.29	6.28	33	204	144	A	H
		5632.8	50.6	-17.6	68.2	44.21	33.16	6.23	33	192	46	P	V
		5697.2	67.89	-35.25	103.14	61.4	33.23	6.26	33	192	46	P	V
		5719.8	77.09	-33.65	110.74	70.56	33.27	6.26	33	192	46	P	V
		5724.4	90.38	-30.45	120.83	83.85	33.27	6.26	33	192	46	P	V
	*	5745	109.6	-	-	103.03	33.29	6.28	33	192	46	P	V
	*	5745	101.58	-	-	95.01	33.29	6.28	33	192	46	A	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 157 5785MHz		5643.2	49.82	-18.38	68.2	43.43	33.16	6.23	33	232	142	P	H
		5698.8	54.84	-49.48	104.32	48.35	33.23	6.26	33	232	142	P	H
		5711.2	60.12	-48.22	108.34	53.61	33.25	6.26	33	232	142	P	H
		5723.8	65.24	-54.22	119.46	58.71	33.27	6.26	33	232	142	P	H
	*	5785	115.41	-	-	108.78	33.33	6.3	33	232	142	P	H
	*	5785	106.29	-	-	99.66	33.33	6.3	33	232	142	A	H
		5851.8	51.43	-66.67	118.1	44.68	33.42	6.33	33	160	36	P	H
		5863	50.73	-57.83	108.56	43.96	33.44	6.33	33	160	36	P	H
		5896.8	46.69	-42.34	89.03	39.86	33.48	6.35	33	160	36	P	H
		5939.8	42.36	-25.84	68.2	35.46	33.54	6.36	33	160	36	P	H
		5648.8	47.04	-21.16	68.2	40.63	33.16	6.25	33	160	36	P	V
		5699.4	49.9	-54.86	104.76	43.41	33.23	6.26	33	160	36	P	V
		5719.4	55.01	-55.62	110.63	48.48	33.27	6.26	33	160	36	P	V
		5725	57.41	-64.79	122.2	50.88	33.27	6.26	33	160	36	P	V
	*	5785	110.1	-	-	103.47	33.33	6.3	33	160	36	P	V
	*	5785	101.61	-	-	94.98	33.33	6.3	33	160	36	A	V
		5852	54.6	-63.04	117.64	47.85	33.42	6.33	33	160	36	P	V
		5856.8	55.24	-55.06	110.3	48.47	33.44	6.33	33	160	36	P	V
		5876	49.29	-55.17	104.46	42.5	33.46	6.33	33	160	36	P	V
		5945	45.72	-22.48	68.2	38.82	33.54	6.36	33	160	36	P	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 165 5825MHz	*	5825	115.14	-	-	108.44	33.39	6.31	33	206	142	P	H
	*	5825	106.74	-	-	100.04	33.39	6.31	33	206	142	A	H
		5850.6	83.49	-37.34	120.83	76.74	33.42	6.33	33	206	142	P	H
		5856.2	78.72	-31.74	110.46	71.95	33.44	6.33	33	206	142	P	H
		5876	68.82	-35.64	104.46	62.03	33.46	6.33	33	206	142	P	H
		5935.4	52.5	-15.7	68.2	45.62	33.52	6.36	33	206	142	P	H
	*	5825	109.42	-	-	102.72	33.39	6.31	33	192	46	P	V
	*	5825	100.6	-	-	93.9	33.39	6.31	33	192	46	A	V
		5851.6	74.49	-44.06	118.55	67.74	33.42	6.33	33	192	46	P	V
		5859.6	71.19	-38.32	109.51	64.42	33.44	6.33	33	192	46	P	V
		5876.6	62.29	-41.72	104.01	55.5	33.46	6.33	33	192	46	P	V
		5930.2	47.37	-20.83	68.2	40.49	33.52	6.36	33	192	46	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 CDD (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11490	49.54	-24.46	74	57.03	39.6	8.93	56.02	160	360	P	H
HT20		17235	50.53	-17.67	68.2	54.93	39.1	11.95	55.45	170	360	P	H
CH 149		11490	50.4	-23.6	74	57.89	39.6	8.93	56.02	160	360	P	V
5745MHz		17235	49.36	-18.84	68.2	53.76	39.1	11.95	55.45	170	360	P	V
802.11n		11570	49.5	-24.5	74	57.11	39.57	8.93	56.11	175	198	P	H
HT20		17355	51.05	-17.15	68.2	56.2	38.89	11.97	56.01	189	185	P	H
CH 157		11570	50.36	-23.64	74	57.97	39.57	8.93	56.11	175	198	P	V
5785MHz		17355	49.12	-19.08	68.2	54.27	38.89	11.97	56.01	189	185	P	V
802.11n		11650	49.77	-24.23	74	57.49	39.54	8.93	56.19	156	347	P	H
HT20		17475	49.75	-18.45	68.2	55.63	38.69	12	56.57	150	360	P	H
CH 165		11650	50.45	-23.55	74	58.17	39.54	8.93	56.19	156	347	P	V
5825MHz		17475	49.35	-18.85	68.2	55.23	38.69	12	56.57	150	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 CDD (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		5648.2	62.6	-5.6	68.2	56.19	33.16	6.25	33	202	140	P	H
		5696.2	79.07	-23.33	102.4	72.58	33.23	6.26	33	202	140	P	H
		5717.6	92.67	-17.46	110.13	86.14	33.27	6.26	33	202	140	P	H
		5721	92.81	-20.27	113.08	86.28	33.27	6.26	33	202	140	P	H
	*	5755	112.59	-	-	106	33.31	6.28	33	202	140	P	H
	*	5755	105	-	-	98.41	33.31	6.28	33	202	140	A	H
		5850.2	64.09	-57.65	121.74	57.34	33.42	6.33	33	202	140	P	H
		5858.4	63.56	-46.29	109.85	56.79	33.44	6.33	33	202	140	P	H
		5875.2	57.29	-47.76	105.05	50.5	33.46	6.33	33	202	140	P	H
		5931.6	52.38	-15.82	68.2	45.5	33.52	6.36	33	202	140	P	H
		5648.8	55.12	-13.08	68.2	48.71	33.16	6.25	33	192	46	P	V
		5698.8	74.41	-29.91	104.32	67.92	33.23	6.26	33	192	46	P	V
		5717.4	86.82	-23.25	110.07	80.31	33.25	6.26	33	192	46	P	V
		5722.2	91.29	-24.53	115.82	84.76	33.27	6.26	33	192	46	P	V
	*	5755	107.34	-	-	100.75	33.31	6.28	33	192	46	P	V
	*	5755	99.06	-	-	92.47	33.31	6.28	33	192	46	A	V
		5852.2	55.48	-61.7	117.18	48.73	33.42	6.33	33	192	46	P	V
		5867.4	58.41	-48.92	107.33	51.64	33.44	6.33	33	192	46	P	V
		5896.8	50.78	-38.25	89.03	43.95	33.48	6.35	33	192	46	P	V
		5930.2	46.8	-21.4	68.2	39.92	33.52	6.36	33	192	46	P	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 159 5795MHz		5645.6	55.52	-12.68	68.2	49.13	33.16	6.23	33	239	143	P	H
		5697.4	65.59	-37.69	103.28	59.1	33.23	6.26	33	239	143	P	H
		5719.6	70.47	-40.22	110.69	63.94	33.27	6.26	33	239	143	P	H
		5723.8	68.94	-50.52	119.46	62.41	33.27	6.26	33	239	143	P	H
	*	5795	112.53	-	-	105.88	33.35	6.3	33	239	143	P	H
	*	5795	104.65	-	-	98	33.35	6.3	33	239	143	A	H
		5852.6	79.71	-36.56	116.27	72.96	33.42	6.33	33	239	143	P	H
		5855.8	79.43	-31.15	110.58	72.66	33.44	6.33	33	239	143	P	H
		5875.8	69.84	-34.77	104.61	63.05	33.46	6.33	33	239	143	P	H
		5936.8	57.2	-11	68.2	50.32	33.52	6.36	33	239	143	P	H
		5647.4	47.87	-20.33	68.2	41.46	33.16	6.25	33	192	46	P	V
		5699	54.03	-50.43	104.46	47.54	33.23	6.26	33	192	46	P	V
		5718.4	62.18	-48.17	110.35	55.65	33.27	6.26	33	192	46	P	V
		5723.2	63.91	-54.19	118.1	57.38	33.27	6.26	33	192	46	P	V
	*	5795	104.6	-	-	97.95	33.35	6.3	33	192	46	P	V
	*	5795	96.39	-	-	89.74	33.35	6.3	33	192	46	A	V
		5852.2	72.78	-44.4	117.18	66.03	33.42	6.33	33	192	46	P	V
		5856.2	72.45	-38.01	110.46	65.68	33.44	6.33	33	192	46	P	V
		5875.8	62.23	-42.38	104.61	55.44	33.46	6.33	33	192	46	P	V
		5927.4	52.09	-16.11	68.2	45.21	33.52	6.36	33	192	46	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11510	49.75	-24.25	74	57.25	39.6	8.93	56.03	160	360	P	H
HT40		17265	49.66	-18.54	68.2	54.28	39.04	11.95	55.61	170	360	P	H
CH 151		11510	48.96	-25.04	74	56.46	39.6	8.93	56.03	160	360	P	V
5755MHz		17265	49.38	-18.82	68.2	54	39.04	11.95	55.61	170	360	P	V
802.11n		11590	49.39	-24.61	74	57.03	39.56	8.93	56.13	170	300	P	H
HT40		17385	48.34	-19.86	68.2	53.69	38.84	11.98	56.17	150	200	P	H
CH 159		11590	49.04	-24.96	74	56.68	39.56	8.93	56.13	170	300	P	V
5795MHz		17385	48.76	-19.44	68.2	54.11	38.84	11.98	56.17	150	200	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 CDD (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		5638.4	64.09	-4.11	68.2	57.7	33.16	6.23	33	217	141	P	H
		5699	78.59	-25.87	104.46	72.1	33.23	6.26	33	217	141	P	H
		5718.4	82.32	-28.03	110.35	75.79	33.27	6.26	33	217	141	P	H
		5721.4	80.55	-33.44	113.99	74.02	33.27	6.26	33	217	141	P	H
	*	5775	107.09	-	-	100.46	33.33	6.3	33	217	141	P	H
	*	5775	97.87	-	-	91.24	33.33	6.3	33	217	141	A	H
		5851.6	79.1	-39.45	118.55	72.35	33.42	6.33	33	217	141	P	H
		5857.2	78.29	-31.89	110.18	71.52	33.44	6.33	33	217	141	P	H
		5875.4	73.29	-31.61	104.9	66.5	33.46	6.33	33	217	141	P	H
		5931.2	57.7	-10.5	68.2	50.82	33.52	6.36	33	217	141	P	H
		5647.2	60.33	-7.87	68.2	53.92	33.16	6.25	33	190	40	P	V
		5699.2	73.25	-31.36	104.61	66.76	33.23	6.26	33	190	40	P	V
		5711.6	75.2	-33.25	108.45	68.69	33.25	6.26	33	190	40	P	V
		5723.4	73.43	-45.12	118.55	66.9	33.27	6.26	33	190	40	P	V
	*	5775	101.23	-	-	94.6	33.33	6.3	33	190	40	P	V
	*	5775	93.22	-	-	86.59	33.33	6.3	33	190	40	A	V
		5854.8	73.27	-37.99	111.26	66.5	33.44	6.33	33	190	40	P	V
		5859.8	71.68	-37.77	109.45	64.91	33.44	6.33	33	190	40	P	V
		5875	66.68	-38.52	105.2	59.89	33.46	6.33	33	190	40	P	V
		5926.6	52.37	-15.83	68.2	45.49	33.52	6.36	33	190	40	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 CDD (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11550	50.46	-23.54	74	58.04	39.58	8.93	56.09	160	360	P	H
VHT80		17325	48.97	-19.23	68.2	53.9	38.95	11.97	55.85	170	360	P	H
CH 155		11550	50.2	-23.8	74	57.78	39.58	8.93	56.09	160	360	P	V
5775MHz		17325	48.26	-19.94	68.2	53.19	38.95	11.97	55.85	170	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 CDD (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
5GHz 802.11ac VHT80 LF		30	26.03	-13.97	40	31.47	25.1	0.65	31.19	100	0	P	H
		53.76	22.38	-17.62	40	38.69	14.1	0.83	31.24	-	-	P	H
		268.68	24.52	-21.48	46	35.5	18.43	1.37	30.78	-	-	P	H
		316.1	27.79	-18.21	46	37.45	19.7	1.44	30.8	-	-	P	H
		542.9	27.02	-18.98	46	32.02	24.14	1.86	31	-	-	P	H
		953.1	31.46	-14.54	46	31.53	28.93	2.41	31.41	-	-	P	H
		49.44	27.67	-12.33	40	42.55	15.72	0.65	31.25	400	0	P	V
		149.34	22.8	-20.7	43.5	34.84	17.97	1.08	31.09	-	-	P	V
		255.99	24.89	-21.11	46	36.3	18	1.37	30.78	-	-	P	V
		560.4	26.2	-19.8	46	30.92	24.45	1.86	31.03	-	-	P	V
		685.7	27.75	-18.25	46	31.44	25.6	2.05	31.34	-	-	P	V
		917.4	31.13	-14.87	46	31.66	28.58	2.35	31.46	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 STBC (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		5638	52.47	-15.73	68.2	46.08	33.16	6.23	33	212	140	P	H
		5697.8	71.51	-32.07	103.58	65.02	33.23	6.26	33	212	140	P	H
		5719.8	79.8	-30.94	110.74	73.27	33.27	6.26	33	212	140	P	H
		5725	89.93	-32.27	122.2	83.4	33.27	6.26	33	212	140	P	H
	*	5745	114.85	-	-	108.28	33.29	6.28	33	212	140	P	H
	*	5745	106.6	-	-	100.03	33.29	6.28	33	212	140	A	H
		5648.4	49.13	-19.07	68.2	42.72	33.16	6.25	33	203	45	P	V
		5698.8	65.65	-38.67	104.32	59.16	33.23	6.26	33	203	45	P	V
		5719.6	74.31	-36.38	110.69	67.78	33.27	6.26	33	203	45	P	V
		5724.8	85.9	-35.84	121.74	79.37	33.27	6.26	33	203	45	P	V
	*	5745	110.77	-	-	104.2	33.29	6.28	33	203	45	P	V
	*	5745	103.17	-	-	96.6	33.29	6.28	33	203	45	A	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 157 5785MHz		5642	49.84	-18.36	68.2	43.45	33.16	6.23	33	218	142	P	H
		5696.8	53.1	-49.74	102.84	46.61	33.23	6.26	33	218	142	P	H
		5718.6	59.37	-51.04	110.41	52.84	33.27	6.26	33	218	142	P	H
		5724.2	62.11	-58.27	120.38	55.58	33.27	6.26	33	218	142	P	H
	*	5785	113.69	-	-	107.06	33.33	6.3	33	218	142	P	H
	*	5785	104.78	-	-	98.15	33.33	6.3	33	218	142	A	H
		5851.4	62.09	-56.92	119.01	55.34	33.42	6.33	33	218	142	P	H
		5858	59.5	-50.46	109.96	52.73	33.44	6.33	33	218	142	P	H
		5879.6	52.66	-49.12	101.78	45.87	33.46	6.33	33	218	142	P	H
		5932.2	51.18	-17.02	68.2	44.3	33.52	6.36	33	218	142	P	H
		5649.2	46.97	-21.23	68.2	40.56	33.16	6.25	33	143	37	P	V
		5698.6	50.59	-53.58	104.17	44.1	33.23	6.26	33	143	37	P	V
		5718.4	54.65	-55.7	110.35	48.12	33.27	6.26	33	143	37	P	V
		5725	58.06	-64.14	122.2	51.53	33.27	6.26	33	143	37	P	V
	*	5785	109.63	-	-	103	33.33	6.3	33	143	37	P	V
	*	5785	99.95	-	-	93.32	33.33	6.3	33	143	37	A	V
		5850	55.44	-66.76	122.2	48.69	33.42	6.33	33	143	37	P	V
		5855.6	55.26	-55.37	110.63	48.49	33.44	6.33	33	143	37	P	V
		5884.6	49.23	-48.84	98.07	42.44	33.46	6.33	33	143	37	P	V
		5930	48.21	-19.99	68.2	41.33	33.52	6.36	33	143	37	P	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 165 5825MHz	*	5825	115.69	-	-	108.99	33.39	6.31	33	234	141	P	H
	*	5825	106.74	-	-	100.04	33.39	6.31	33	234	141	A	H
		5850.2	83.88	-37.86	121.74	77.13	33.42	6.33	33	234	141	P	H
		5855	79.57	-31.23	110.8	72.8	33.44	6.33	33	234	141	P	H
		5876.8	71.07	-32.79	103.86	64.28	33.46	6.33	33	234	141	P	H
		5934.4	52.83	-15.37	68.2	45.95	33.52	6.36	33	234	141	P	H
	*	5825	108.39	-	-	101.69	33.39	6.31	33	151	38	P	V
	*	5825	99.57	-	-	92.87	33.39	6.31	33	151	38	A	V
		5850	78.26	-43.94	122.2	71.51	33.42	6.33	33	151	38	P	V
		5855.4	75.66	-35.03	110.69	68.89	33.44	6.33	33	151	38	P	V
		5876.4	63.8	-40.36	104.16	57.01	33.46	6.33	33	151	38	P	V
		5927	47.84	-20.36	68.2	40.96	33.52	6.36	33	151	38	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 STBC (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11490	50.31	-23.69	74	57.8	39.6	8.93	56.02	160	360	P	H
HT20		17235	50.92	-17.28	68.2	55.32	39.1	11.95	55.45	170	360	P	H
CH 149		11490	50.36	-23.64	74	57.85	39.6	8.93	56.02	160	360	P	V
5745MHz		17235	50.9	-17.3	68.2	55.3	39.1	11.95	55.45	170	360	P	V
802.11n		11570	49.6	-24.4	74	57.21	39.57	8.93	56.11	175	198	P	H
HT20		17355	50.39	-17.81	68.2	55.54	38.89	11.97	56.01	189	185	P	H
CH 157		11570	49.77	-24.23	74	57.38	39.57	8.93	56.11	175	198	P	V
5785MHz		17355	48.77	-19.43	68.2	53.92	38.89	11.97	56.01	189	185	P	V
802.11n		11650	49.5	-24.5	74	57.22	39.54	8.93	56.19	156	347	P	H
HT20		17475	49.62	-18.58	68.2	55.5	38.69	12	56.57	150	360	P	H
CH 165		11650	50.64	-23.36	74	58.36	39.54	8.93	56.19	156	347	P	V
5825MHz		17475	49.68	-18.52	68.2	55.56	38.69	12	56.57	150	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 STBC (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		5650	61.21	-6.99	68.2	54.77	33.19	6.25	33	221	143	P	H
		5697.6	76.06	-27.37	103.43	69.57	33.23	6.26	33	221	143	P	H
		5717.2	91.82	-18.2	110.02	85.31	33.25	6.26	33	221	143	P	H
		5722.4	91.79	-24.48	116.27	85.26	33.27	6.26	33	221	143	P	H
	*	5755	111.73	-	-	105.14	33.31	6.28	33	221	143	P	H
	*	5755	103.57	-	-	96.98	33.31	6.28	33	221	143	A	H
		5852.2	64.3	-52.88	117.18	57.55	33.42	6.33	33	221	143	P	H
		5864.6	62.74	-45.37	108.11	55.97	33.44	6.33	33	221	143	P	H
		5876.4	59.23	-44.93	104.16	52.44	33.46	6.33	33	221	143	P	H
		5935	51.76	-16.44	68.2	44.88	33.52	6.36	33	221	143	P	H
		5645.2	55.79	-12.41	68.2	49.4	33.16	6.23	33	186	44	P	V
		5698.2	73.83	-30.04	103.87	67.34	33.23	6.26	33	186	44	P	V
		5717.6	84.09	-26.04	110.13	77.56	33.27	6.26	33	186	44	P	V
		5723.8	87.09	-32.37	119.46	80.56	33.27	6.26	33	186	44	P	V
	*	5755	106.22	-	-	99.63	33.31	6.28	33	186	44	P	V
	*	5755	98.01	-	-	91.42	33.31	6.28	33	186	44	A	V
		5850	59.02	-63.18	122.2	52.27	33.42	6.33	33	186	44	P	V
		5856.4	55.96	-54.45	110.41	49.19	33.44	6.33	33	186	44	P	V
		5876	51.35	-53.11	104.46	44.56	33.46	6.33	33	186	44	P	V
		5945.2	48.1	-20.1	68.2	41.2	33.54	6.36	33	186	44	P	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 159 5795MHz		5624.8	57.59	-10.61	68.2	51.22	33.14	6.23	33	224	143	P	H
		5699.8	66.03	-39.02	105.05	59.54	33.23	6.26	33	224	143	P	H
		5718.4	71.63	-38.72	110.35	65.1	33.27	6.26	33	224	143	P	H
		5724.8	74.22	-47.52	121.74	67.69	33.27	6.26	33	224	143	P	H
	*	5795	112.91	-	-	106.26	33.35	6.3	33	224	143	P	H
	*	5795	104.23	-	-	97.58	33.35	6.3	33	224	143	A	H
		5852.8	80.23	-35.59	115.82	73.48	33.42	6.33	33	224	143	P	H
		5855.4	78.06	-32.63	110.69	71.29	33.44	6.33	33	224	143	P	H
		5875.2	69.19	-35.86	105.05	62.4	33.46	6.33	33	224	143	P	H
		5927.4	57.11	-11.09	68.2	50.23	33.52	6.36	33	224	143	P	H
		5645	51.26	-16.94	68.2	44.87	33.16	6.23	33	176	40	P	V
		5694.8	60.51	-40.86	101.37	54.02	33.23	6.26	33	176	40	P	V
		5718.2	65.67	-44.63	110.3	59.14	33.27	6.26	33	176	40	P	V
		5723.6	67.42	-51.59	119.01	60.89	33.27	6.26	33	176	40	P	V
	*	5795	106.86	-	-	100.21	33.35	6.3	33	176	40	P	V
	*	5795	98.91	-	-	92.26	33.35	6.3	33	176	40	A	V
		5852.8	74.04	-41.78	115.82	67.29	33.42	6.33	33	176	40	P	V
		5856.2	71.86	-38.6	110.46	65.09	33.44	6.33	33	176	40	P	V
		5875.4	63.1	-41.8	104.9	56.31	33.46	6.33	33	176	40	P	V
		5947.4	51.79	-16.41	68.2	44.89	33.54	6.36	33	176	40	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 STBC (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	49.48	-24.52	74	56.98	39.6	8.93	56.03	160	360	P	H
		17265	49.59	-18.61	68.2	54.21	39.04	11.95	55.61	170	360	P	H
		11510	48.82	-25.18	74	56.32	39.6	8.93	56.03	160	360	P	V
		17265	48.74	-19.46	68.2	53.36	39.04	11.95	55.61	170	360	P	V
802.11n HT40 CH 159 5795MHz		11590	49.5	-24.5	74	57.14	39.56	8.93	56.13	170	300	P	H
		17385	48.39	-19.81	68.2	53.74	38.84	11.98	56.17	150	200	P	H
		11590	50.07	-23.93	74	57.71	39.56	8.93	56.13	170	300	P	V
		17385	48.6	-19.6	68.2	53.95	38.84	11.98	56.17	150	200	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 STBC (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		5628.8	64.68	-3.52	68.2	58.31	33.14	6.23	33	231	144	P	H
		5692.2	78.02	-21.43	99.45	71.53	33.23	6.26	33	231	144	P	H
		5716.2	77.98	-31.76	109.74	71.47	33.25	6.26	33	231	144	P	H
		5720.8	78.01	-34.61	112.62	71.48	33.27	6.26	33	231	144	P	H
	*	5775	107.98	-	-	101.35	33.33	6.3	33	231	144	P	H
	*	5775	99.28	-	-	92.65	33.33	6.3	33	231	144	A	H
		5854.8	80	-31.26	111.26	73.23	33.44	6.33	33	231	144	P	H
		5859.4	77.03	-32.54	109.57	70.26	33.44	6.33	33	231	144	P	H
		5877.4	69.3	-34.12	103.42	62.51	33.46	6.33	33	231	144	P	H
		5935.4	59.25	-8.95	68.2	52.37	33.52	6.36	33	231	144	P	H
		5640	58.09	-10.11	68.2	51.7	33.16	6.23	33	192	43	P	V
		5699.4	71.89	-32.87	104.76	65.4	33.23	6.26	33	192	43	P	V
		5707.8	73.49	-33.9	107.39	66.98	33.25	6.26	33	192	43	P	V
		5722.2	73.23	-42.59	115.82	66.7	33.27	6.26	33	192	43	P	V
	*	5775	101.12	-	-	94.49	33.33	6.3	33	192	43	P	V
	*	5775	92.53	-	-	85.9	33.33	6.3	33	192	43	A	V
		5850.4	71.43	-49.86	121.29	64.68	33.42	6.33	33	192	43	P	V
		5858.8	73.12	-36.61	109.73	66.35	33.44	6.33	33	192	43	P	V
		5879.6	62.5	-39.28	101.78	55.71	33.46	6.33	33	192	43	P	V
		5933.2	53.94	-14.26	68.2	47.06	33.52	6.36	33	192	43	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 STBC (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11550	49.23	-24.77	74	56.81	39.58	8.93	56.09	160	360	P	H
VHT80		17325	50.48	-17.72	68.2	55.41	38.95	11.97	55.85	170	360	P	H
CH 155		11550	50.09	-23.91	74	57.67	39.58	8.93	56.09	160	360	P	V
5775MHz		17325	48.6	-19.6	68.2	53.53	38.95	11.97	55.85	170	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 STBC (LF @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
5GHz 802.11ac VHT80 LF		30.54	24.72	-15.28	40	30.74	24.52	0.65	31.19	-	-	P	H
		150.42	29.94	-13.56	43.5	41.95	18	1.08	31.09	-	-	P	H
		207.66	30.39	-13.11	43.5	44.54	15.52	1.17	30.84	400	0	P	H
		329.4	28.3	-17.7	46	37.82	19.86	1.44	30.82	-	-	P	H
		568.1	27.17	-18.83	46	31.79	24.56	1.86	31.04	-	-	P	H
		916	30.4	-15.6	46	30.96	28.56	2.35	31.47	-	-	P	H
		49.17	26.37	-13.63	40	41.25	15.72	0.65	31.25	400	0	P	V
		150.15	23.02	-20.48	43.5	35.03	18	1.08	31.09	-	-	P	V
		208.47	22.32	-21.18	43.5	36.41	15.57	1.17	30.83	-	-	P	V
		579.3	26.98	-19.02	46	31.39	24.7	1.94	31.05	-	-	P	V
		706	28.18	-17.82	46	31.64	25.82	2.1	31.38	-	-	P	V
		986	30.83	-23.17	54	30.54	29.19	2.47	31.37	-	-	P	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+2		(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)

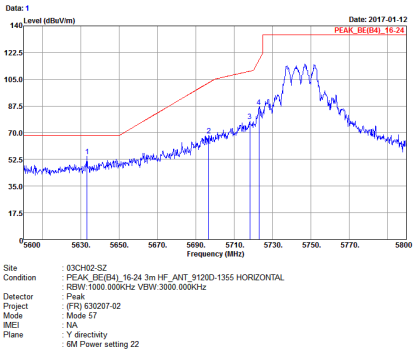
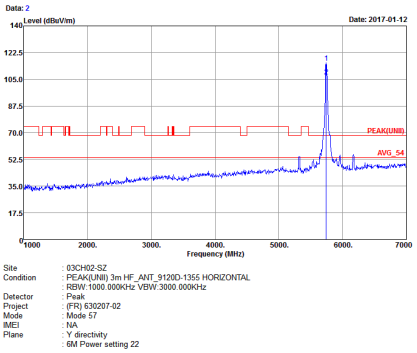
Both peak and average measured complies with the limit line, so test result is “PASS”.

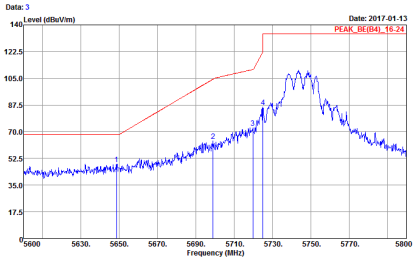
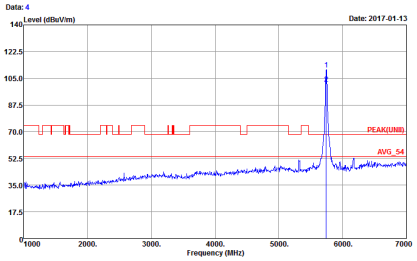
Appendix D. Radiated Spurious Emission Plots

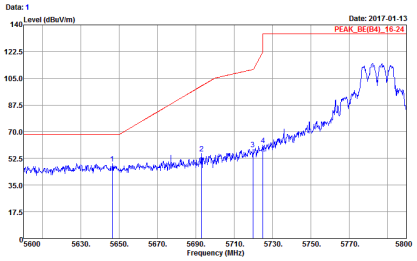
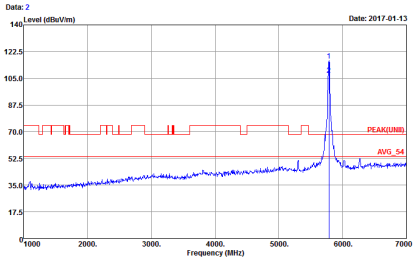
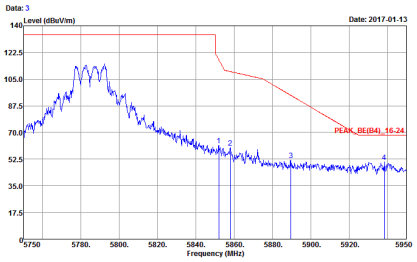
Test Engineer :	Jeff Yao	Temperature :	20~24°C
		Relative Humidity :	48~50%

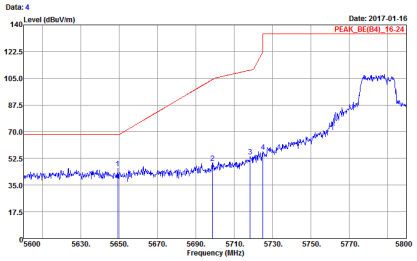
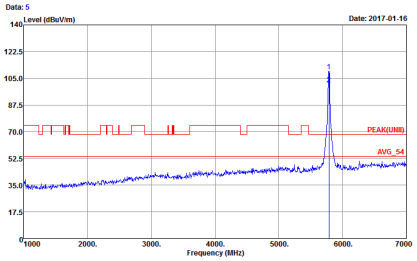
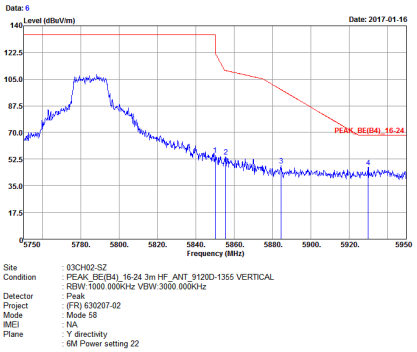
Band 4 - 5725~5850MHz

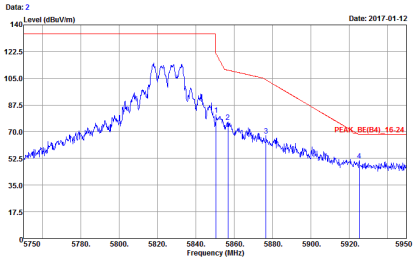
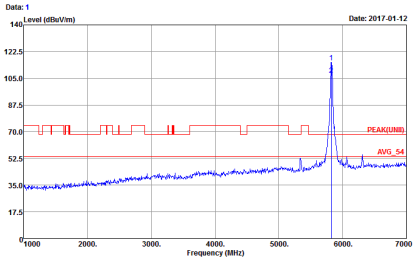
WIFI 802.11a CDD (Band Edge @ 3m)

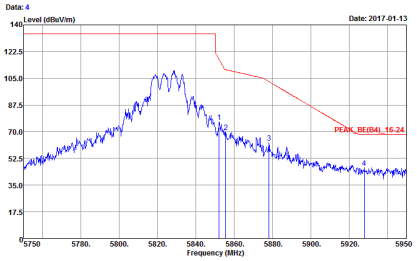
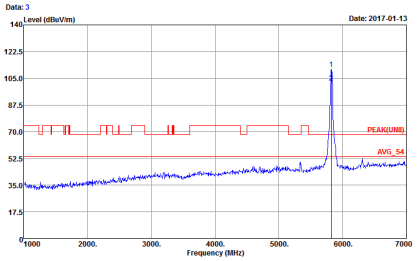
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CDD CH149 5745MHz	
1+2	Horizontal	Fundamental
Peak		

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CDD CH149 5745MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 57 IMEI : NA Plane : Y directivity : 6M Power setting 22	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 57 IMEI : NA Plane : Y directivity : 6M Power setting 22

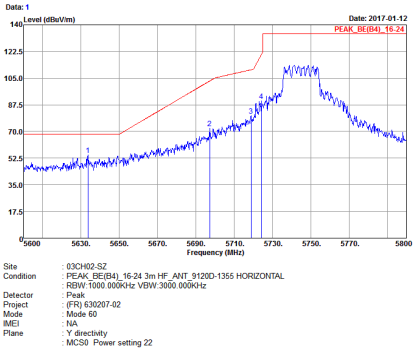
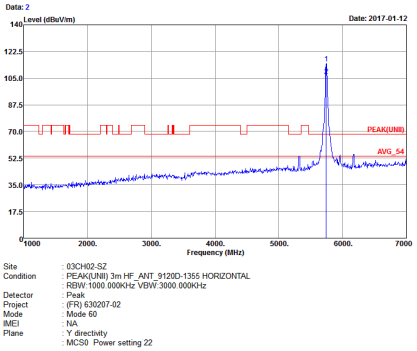
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CDD CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 58 IMEI : NA Plane : Y directivity : 6M Power setting 22	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 58 IMEI : NA Plane : Y directivity : 6M Power setting 22
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 58 IMEI : NA Plane : Y directivity : 6M Power setting 22	Left blank

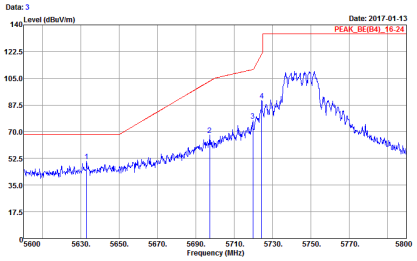
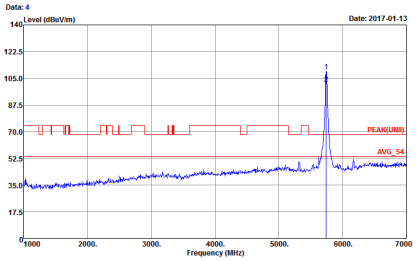
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CDD CH157 5785MHz	
1+2	Vertical	Fundamental
Peak		
Peak		Left blank

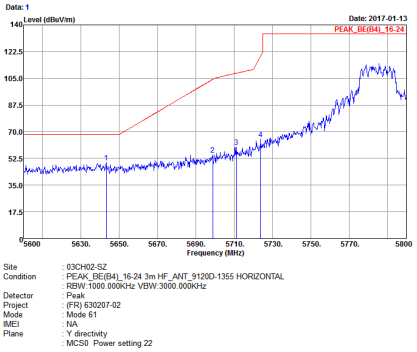
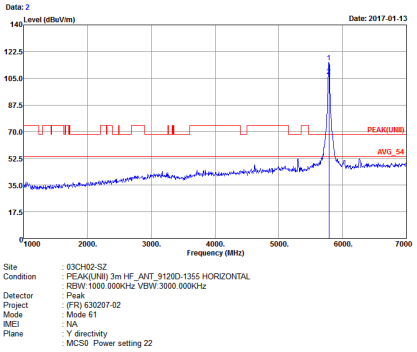
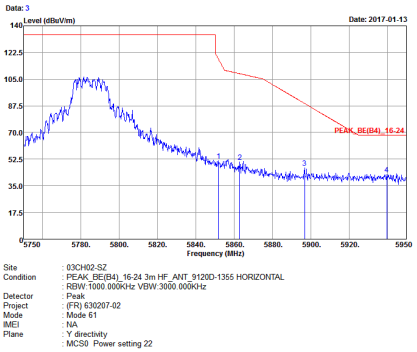
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CDD CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak		

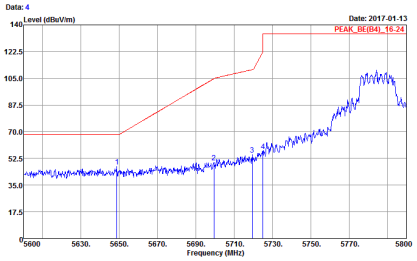
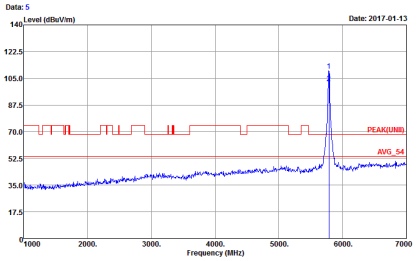
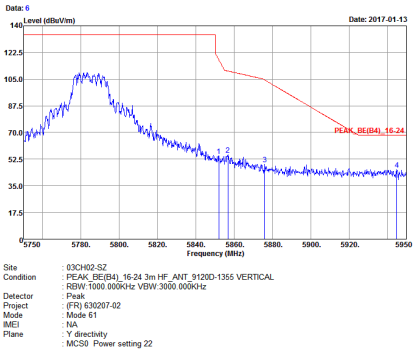
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CDD CH165 5825MHz	
1+2	Vertical	Fundamental
Peak		

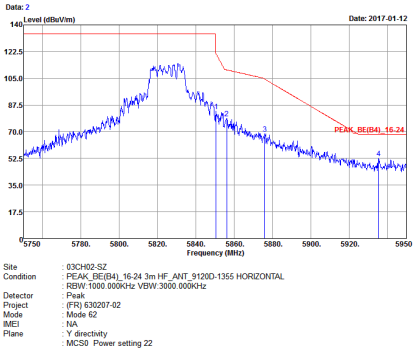
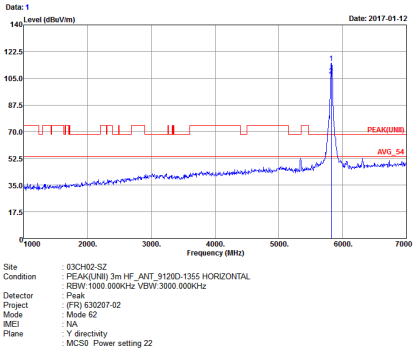
Band 4 5725~5850MHz
WIFI 802.11n HT20 CDD (Band Edge @ 3m)

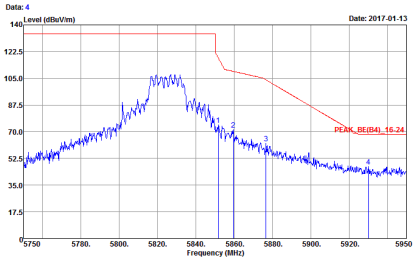
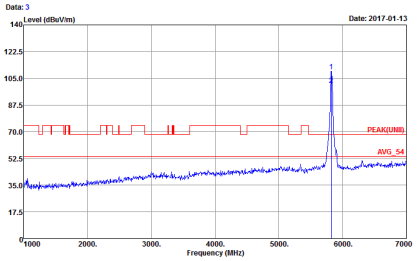
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CDD CH149 5745MHz	
1+2	Horizontal	Fundamental
Peak		

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CDD CH149 5745MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 60 IMEI : NA Plane : Y directivity : MCS0 Power setting 22	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 60 IMEI : NA Plane : Y directivity : MCS0 Power setting 22

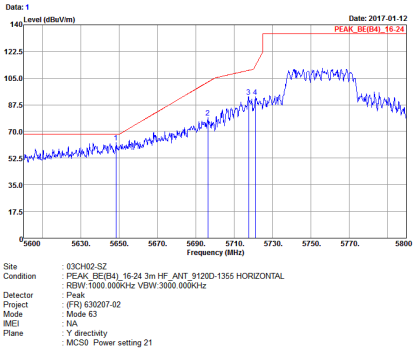
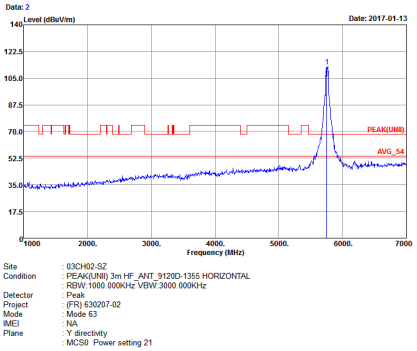
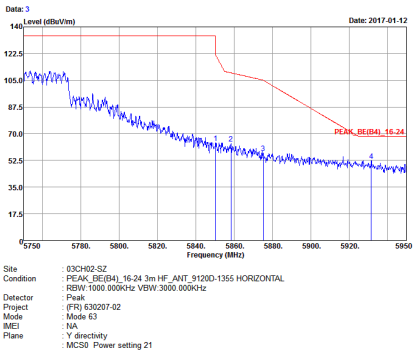
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CDD CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak		
Peak		Left blank

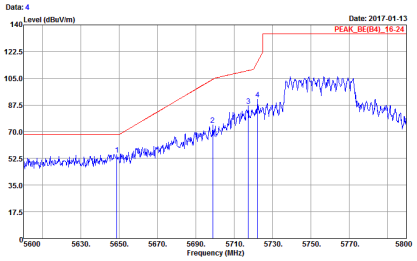
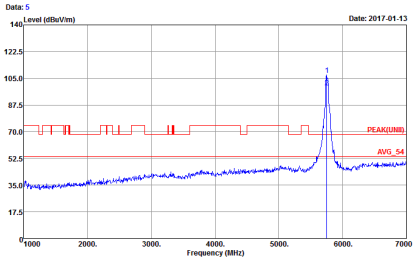
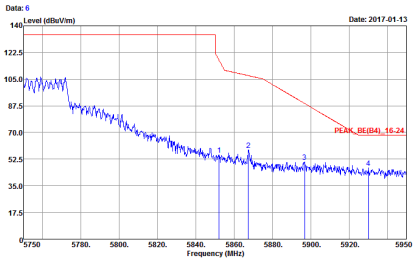
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CDD CH157 5785MHz	
1+2	Vertical	Fundamental
Peak		
Peak		Left blank

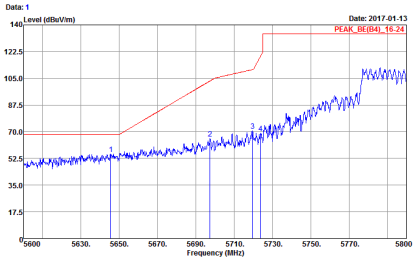
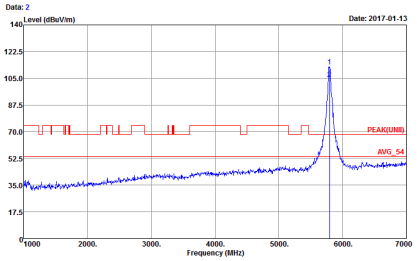
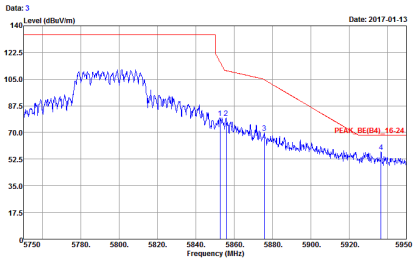
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CDD CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak		

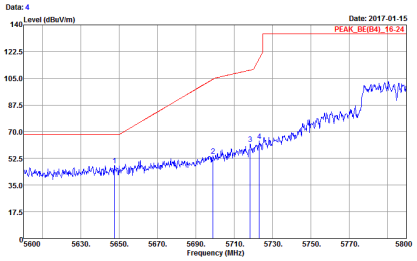
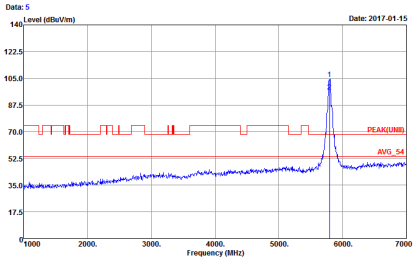
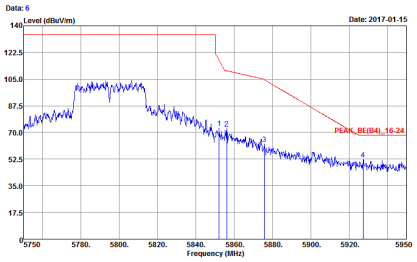
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CDD CH165 5825MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 62 IMEI : NA Plane : Y directivity : MCS0 Power setting 22	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 62 IMEI : NA Plane : Y directivity : MCS0 Power setting 22

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

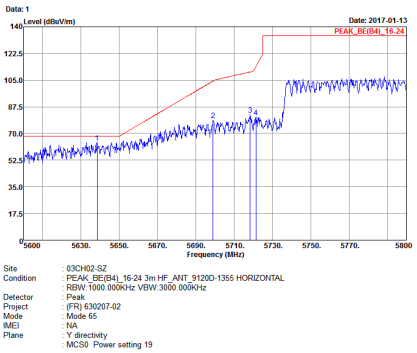
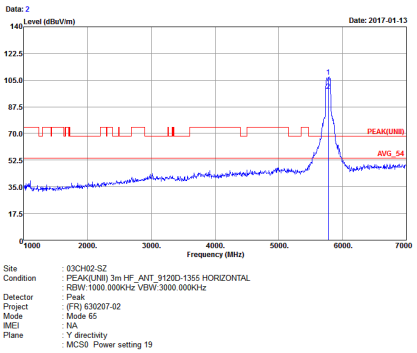
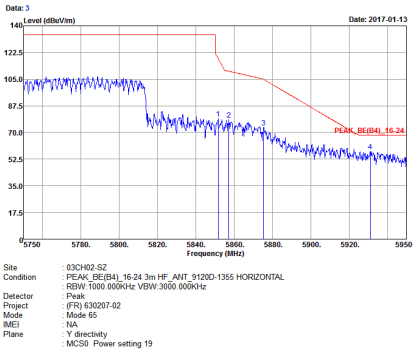
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CDD CH151 5755MHz	
1+2	Horizontal	Fundamental
Peak		
Peak		Left blank

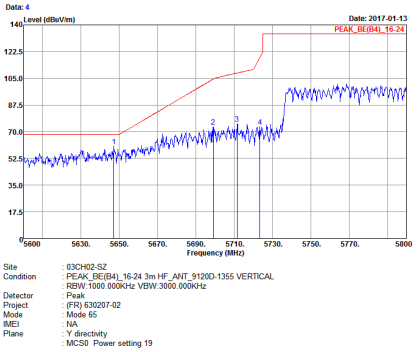
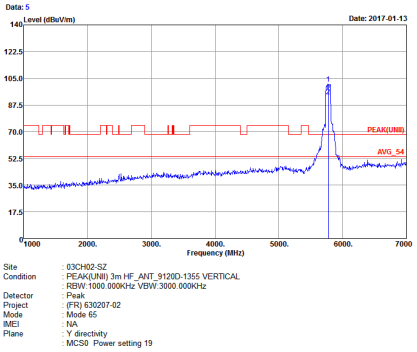
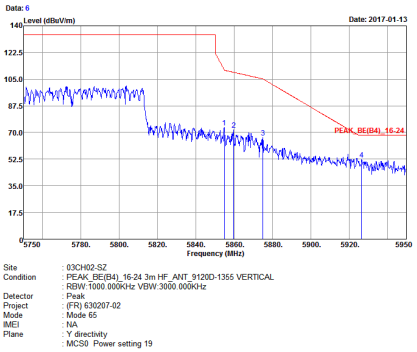
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CDD CH151 5755MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 63 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 63 IMEI : NA Plane : Y directivity : MCS0 Power setting 21
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 63 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CDD CH159 5795MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 64 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 64 IMEI : NA Plane : Y directivity : MCS0 Power setting 21
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 64 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CDD CH159 5795MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 64 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 64 IMEI : NA Plane : Y directivity : MCS0 Power setting 21
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 64 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	Left blank

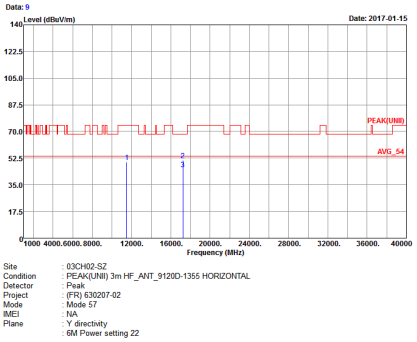
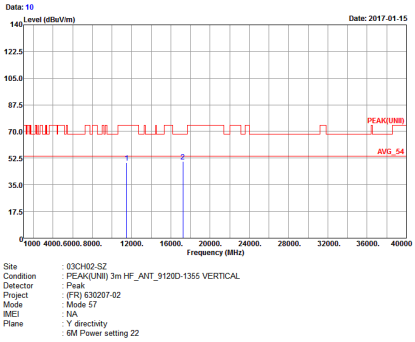
Band 4 5725~5850MHz
WIFI 802.11ac VHT80 CDD (Band Edge @ 3m)

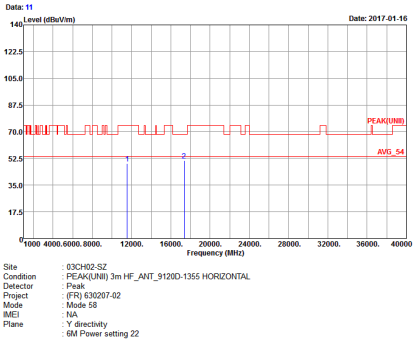
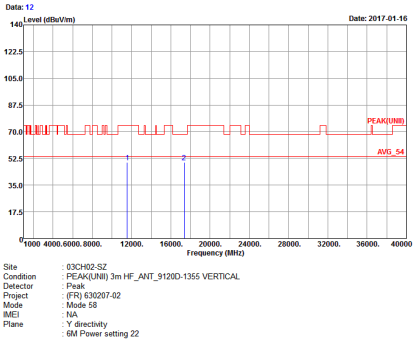
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CDD CH155 5775MHz	
1+2	Horizontal	Fundamental
Peak		
Peak		Left blank

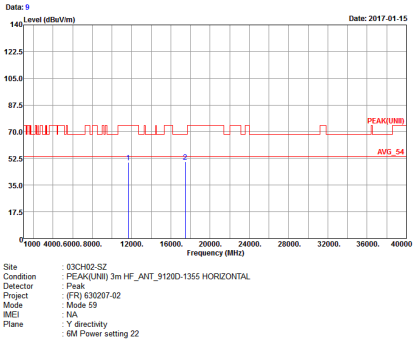
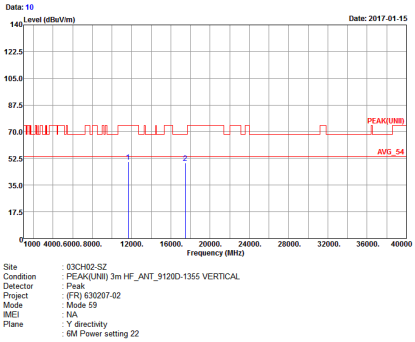
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CDD CH155 5775MHz	
1+2	Vertical	Fundamental
Peak		
Peak		Left blank

Band 4 - 5725~5850MHz

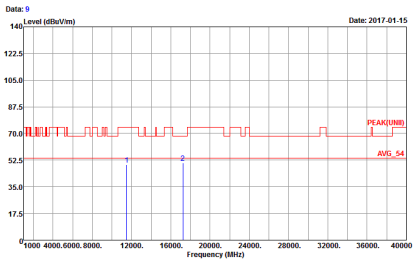
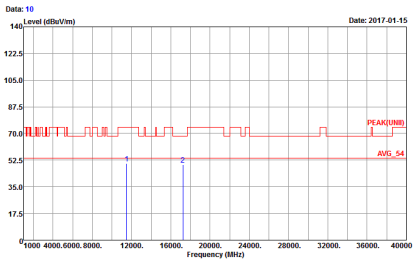
WIFI 802.11a CDD (Harmonic @ 3m)

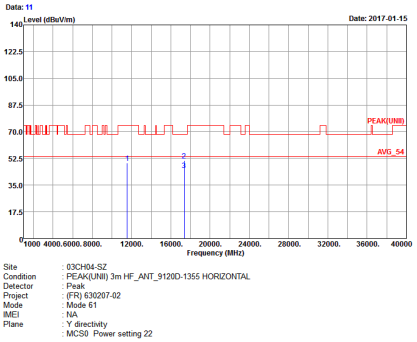
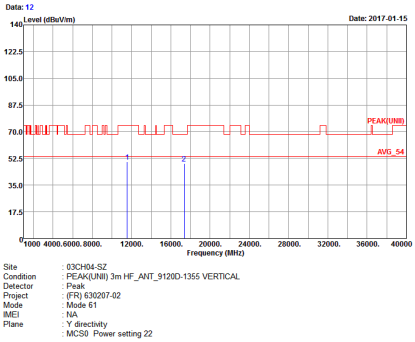
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CDD CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.		

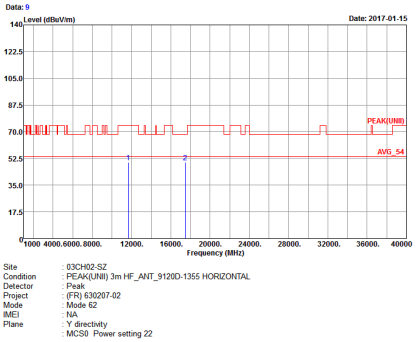
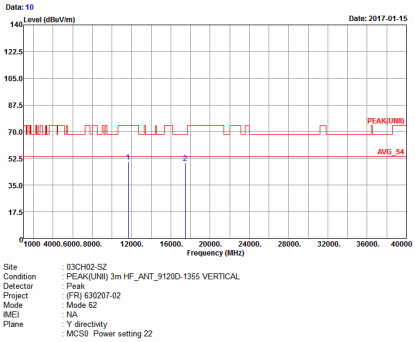
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CDD CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.	 	

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CDD CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.		

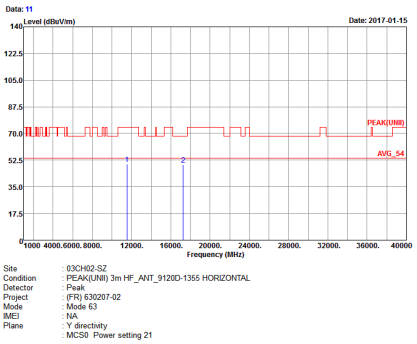
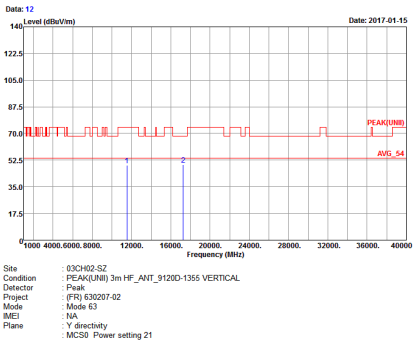
Band 4 5725~5850MHz
WIFI 802.11n HT20 CDD (Harmonic @ 3m)

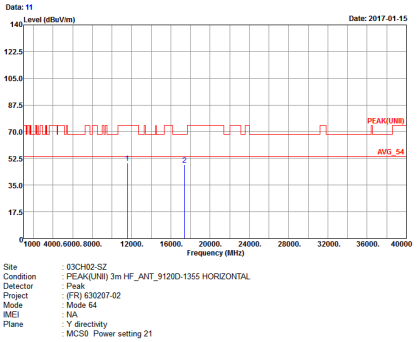
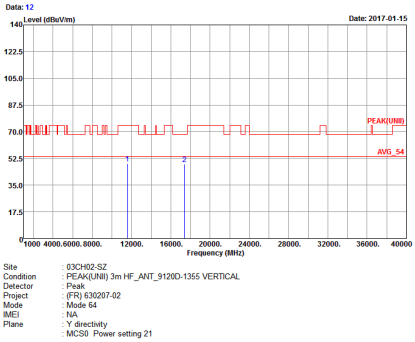
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CDD CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CDD CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH04-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 HORIZONTAL Detector : Peak Project : (FR) 630207-02 Mode : Mode 61 IMEI : NA Plane : Y directivity : MCS0 Power setting 22	 Site : 03CH04-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL Detector : Peak Project : (FR) 630207-02 Mode : Mode 61 IMEI : NA Plane : Y directivity : MCS0 Power setting 22

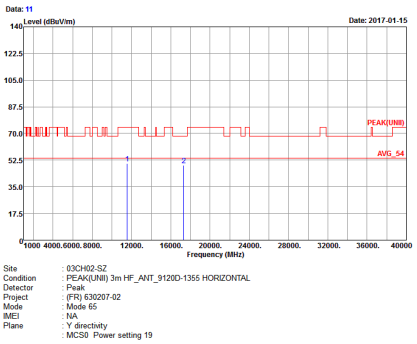
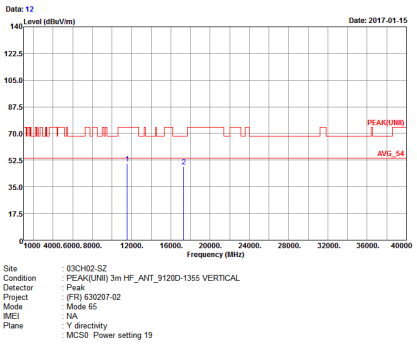
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CDD CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 HORIZONTAL Detector : Peak Project : (FR) 630207-02 Mode : Mode 62 IMEI : NA Plane : Y directivity : MCS0 Power setting 22	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL Detector : Peak Project : (FR) 630207-02 Mode : Mode 62 IMEI : NA Plane : Y directivity : MCS0 Power setting 22

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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CDD CH151 5755MHz	
1+2	Horizontal	Vertical
Peak Avg.		

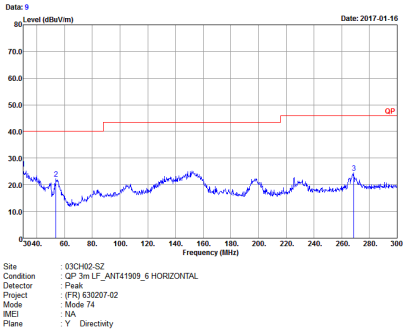
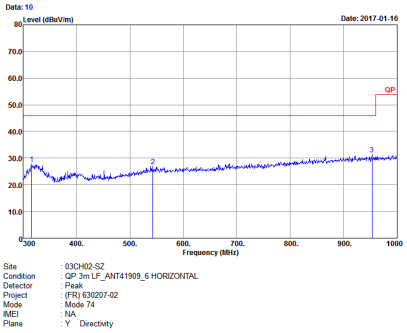
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CDD CH159 5795MHz	
1+2	Horizontal	Vertical
Peak Avg.		

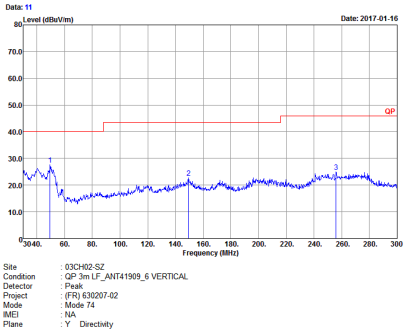
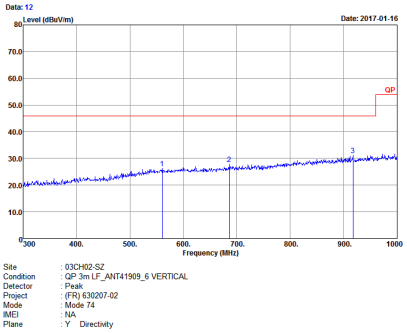
Band 4 5725~5850MHz
WIFI 802.11ac VHT80 CDD (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CDD CH155 5775MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

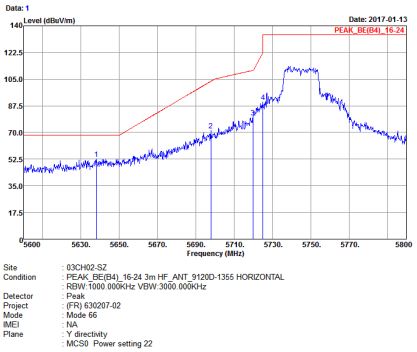
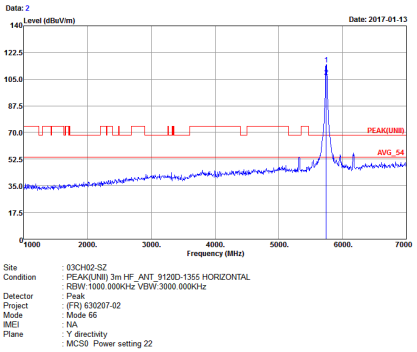
5GHz WIFI 802.11ac VHT80 CDD (LF)

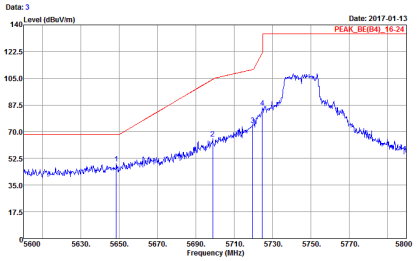
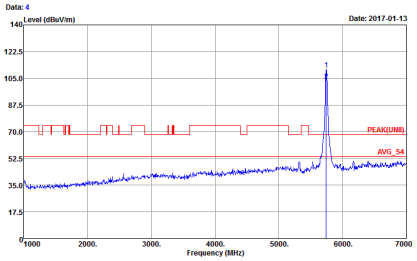
WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 CDD LF	
1+2	Horizontal	Horizontal
QP / Peak		

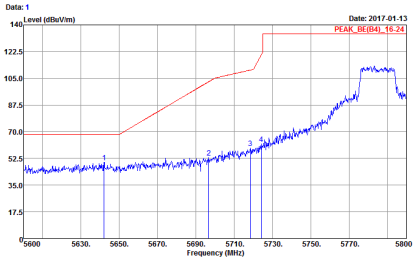
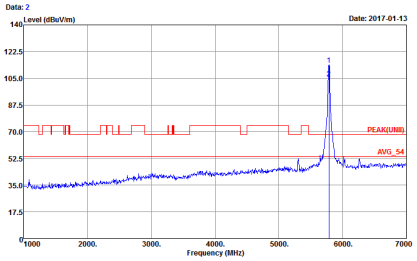
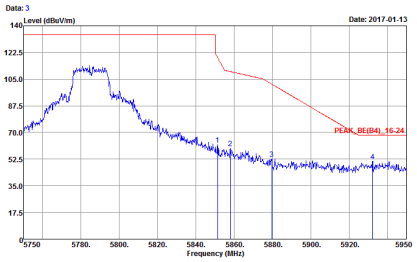
WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 CDD LF	
1+2	Vertical	Vertical
QP / Peak		

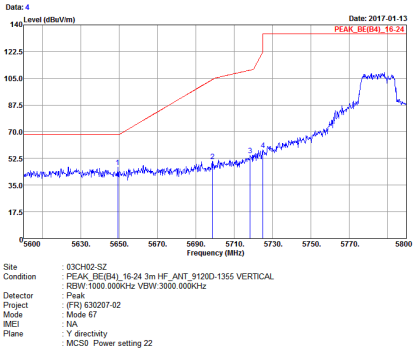
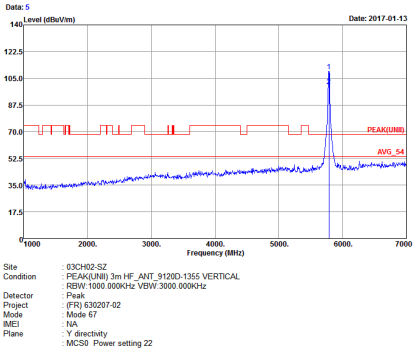
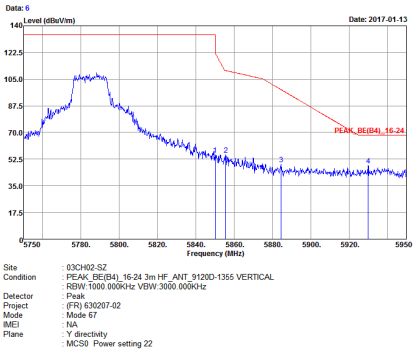
Band 4 5725~5850MHz

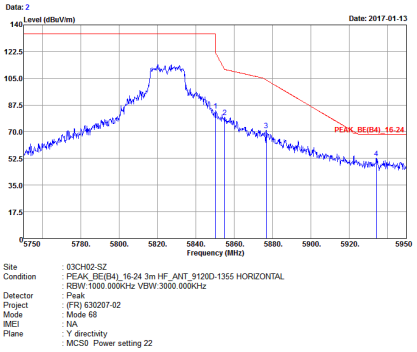
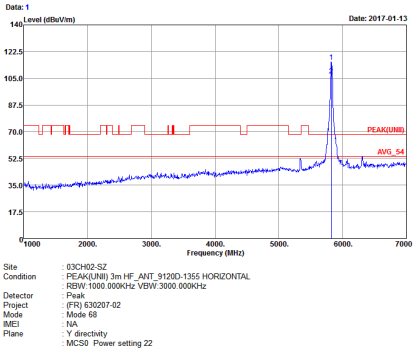
WIFI 802.11n HT20 STBC (Band Edge @ 3m)

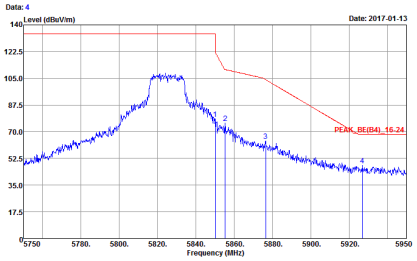
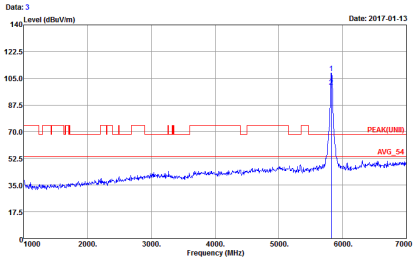
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 STBC CH149 5745MHz	
1+2	Horizontal	Fundamental
Peak		

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 STBC CH149 5745MHz	
1+2	Vertical	Fundamental
Peak		

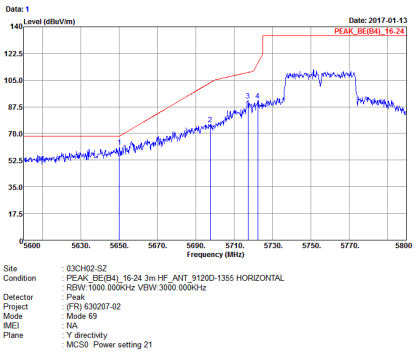
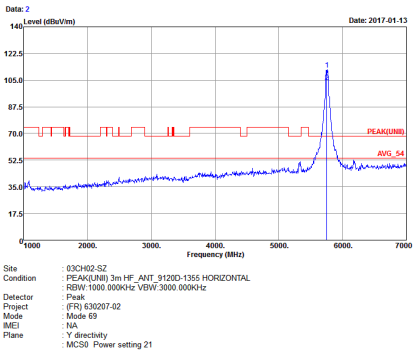
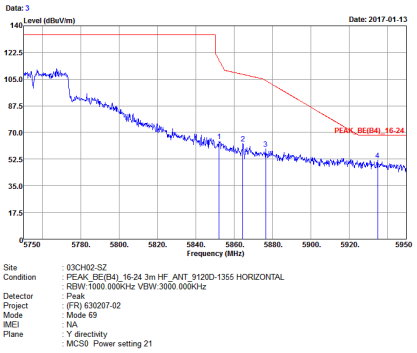
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 STBC CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 67 IMEI : NA Plane : Y directivity : MCS0 Power setting 22	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 67 IMEI : NA Plane : Y directivity : MCS0 Power setting 22
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 67 IMEI : NA Plane : Y directivity : MCS0 Power setting 22	Left blank

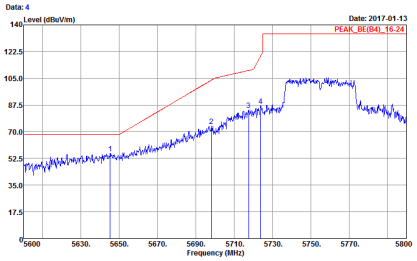
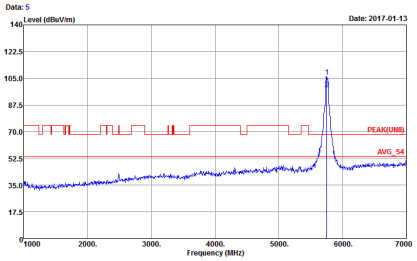
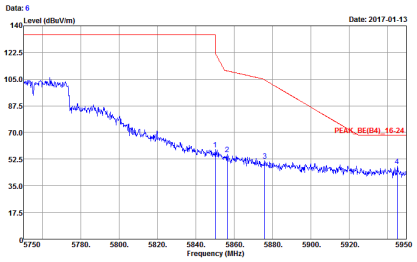
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 STBC CH157 5785MHz	
1+2	Vertical	Fundamental
Peak		
Peak		Left blank

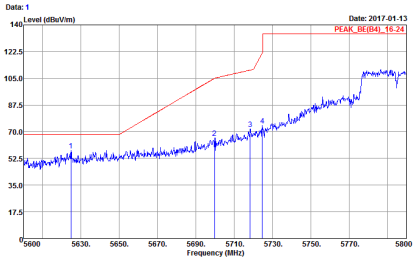
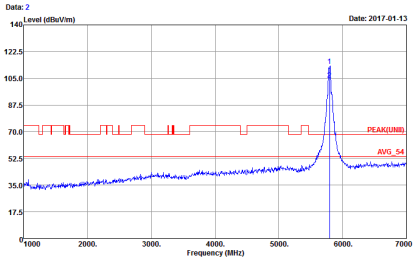
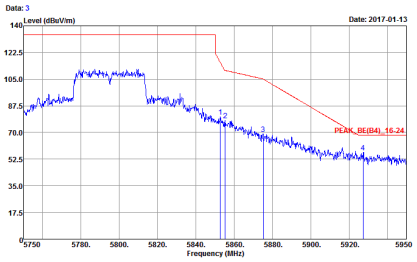
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 STBC CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak		

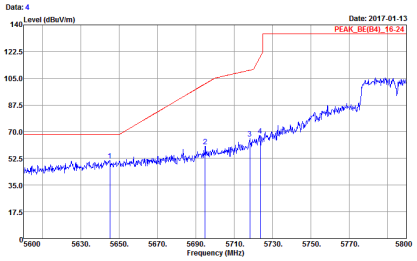
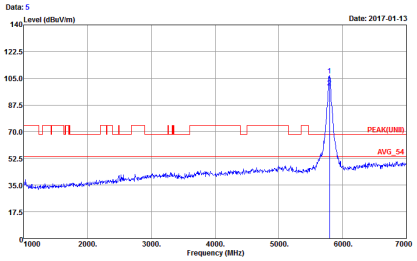
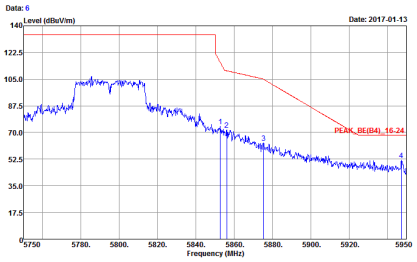
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 STBC CH165 5825MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 68 IMEI : NA Plane : Y directivity : MCS0 Power setting 22	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 68 IMEI : NA Plane : Y directivity : MCS0 Power setting 22

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

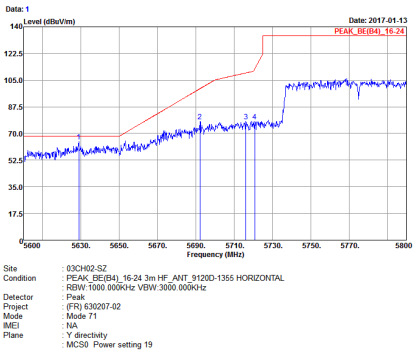
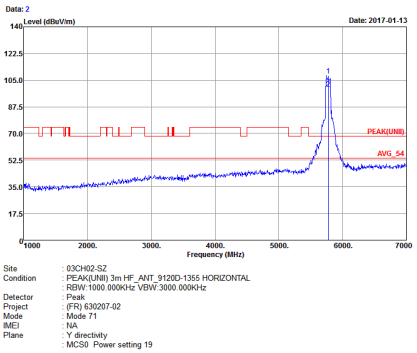
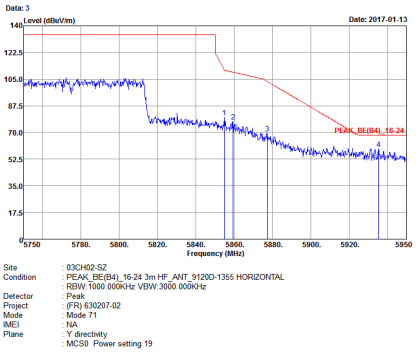
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 STBC CH151 5755MHz	
1+2	Horizontal	Fundamental
Peak		
Peak		Left blank

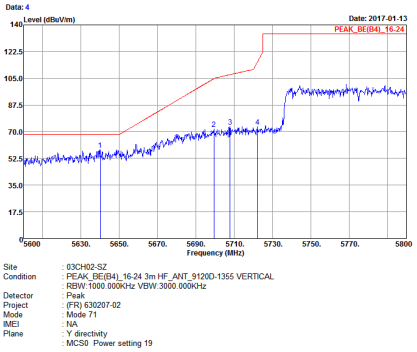
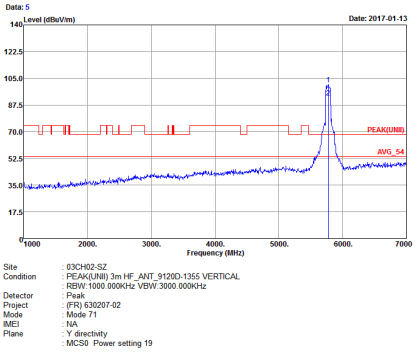
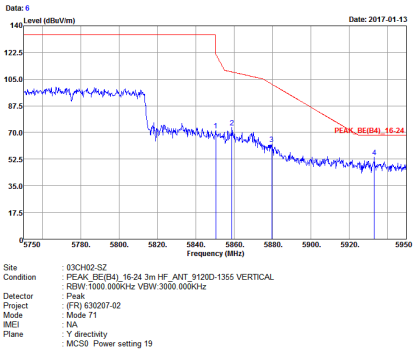
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 STBC CH151 5755MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 69 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 69 IMEI : NA Plane : Y directivity : MCS0 Power setting 21
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 69 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 STBC CH159 5795MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 70 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 70 IMEI : NA Plane : Y directivity : MCS0 Power setting 21
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 70 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	Left blank

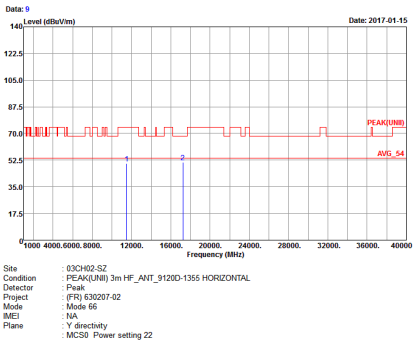
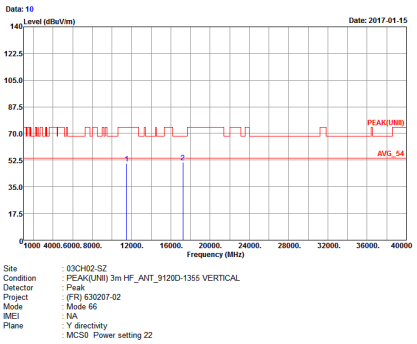
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 STBC CH159 5795MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 70 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 70 IMEI : NA Plane : Y directivity : MCS0 Power setting 21
Peak	 Site : 03CH02-SZ Condition : PEAK_BE(B4)_16-24 3m HF_ANT_9120D-1355 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz Detector : Peak Project : (FR) 630207-02 Mode : Mode 70 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	Left blank

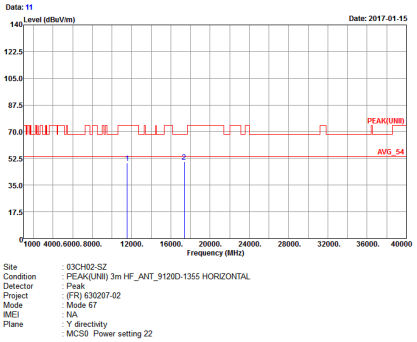
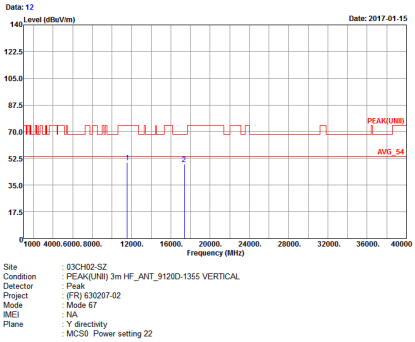
Band 4 5725~5850MHz
WIFI 802.11ac VHT80 STBC (Band Edge @ 3m)

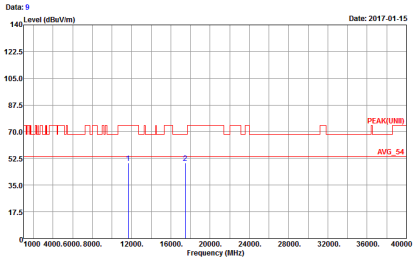
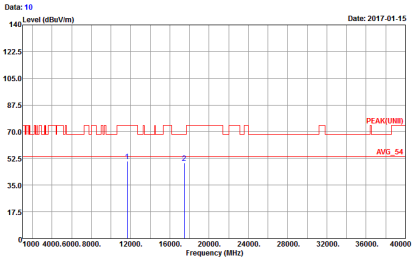
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 STBC CH155 5775MHz	
1+2	Horizontal	Fundamental
Peak		
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 STBC CH155 5775MHz	
1+2	Vertical	Fundamental
Peak		
Peak		Left blank

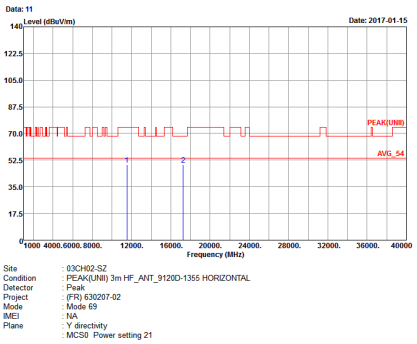
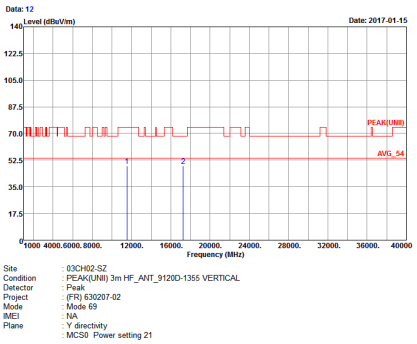
Band 4 5725~5850MHz
WIFI 802.11n HT20 STBC (Harmonic @ 3m)

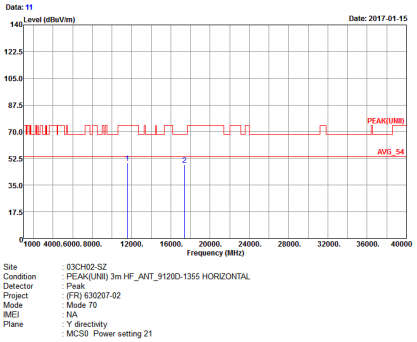
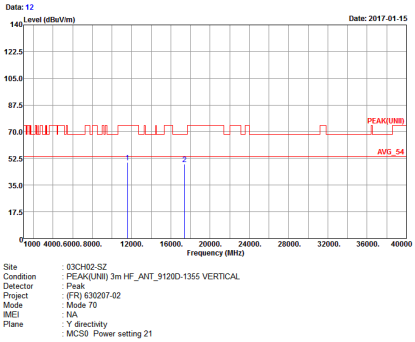
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 STBC CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 STBC CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 HORIZONTAL Detector : Peak Project : (FR) 630207-02 Mode : Mode 67 IMEI : NA Plane : Y directivity : MCS0 Power setting 22	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL Detector : Peak Project : (FR) 630207-02 Mode : Mode 67 IMEI : NA Plane : Y directivity : MCS0 Power setting 22

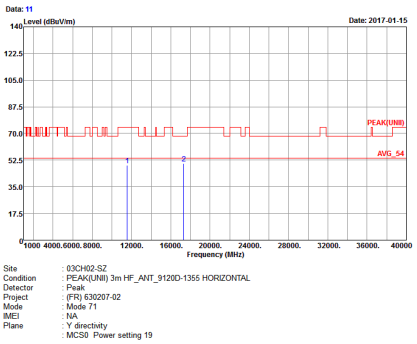
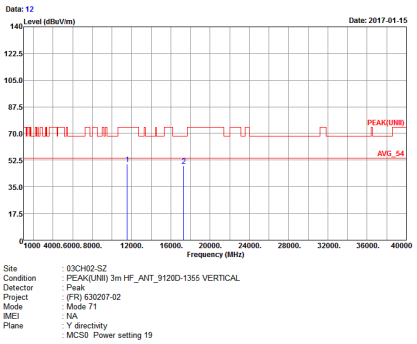
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 STBC CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 HORIZONTAL Detector : Peak Project : (FR) 630207-02 Mode : Mode 68 IMEI : NA Plane : Y directivity : MCS0 Power setting 22	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL Detector : Peak Project : (FR) 630207-02 Mode : Mode 68 IMEI : NA Plane : Y directivity : MCS0 Power setting 22

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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 STBC CH151 5755MHz	
1+2	Horizontal	Vertical
Peak Avg.		

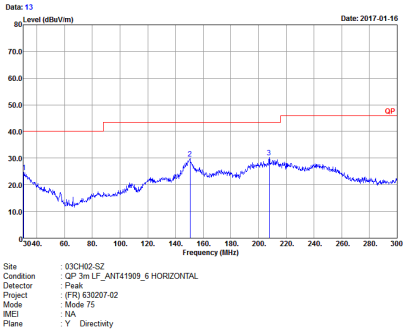
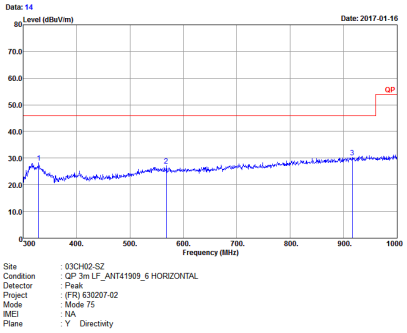
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 STBC CH159 5795MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 HORIZONTAL Detector : Peak Project : (FR) 630207-02 Mode : Mode 70 IMEI : NA Plane : Y directivity : MCS0 Power setting 21	 Site : 03CH02-SZ Condition : PEAK(UNII) 3m HF_ANT_9120D-1355 VERTICAL Detector : Peak Project : (FR) 630207-02 Mode : Mode 70 IMEI : NA Plane : Y directivity : MCS0 Power setting 21

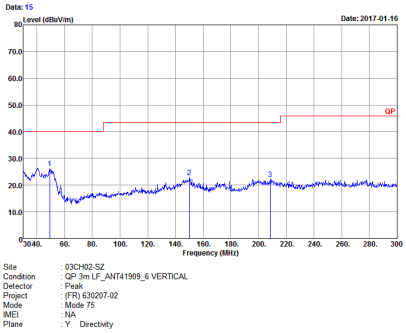
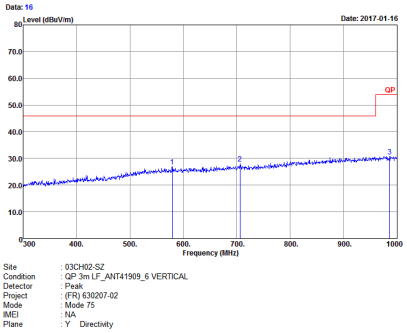
Band 4 5725~5850MHz
WIFI 802.11ac VHT80 STBC (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 STBC CH155 5775MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 STBC (LF)

WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 STBC LF	
1+2	Horizontal	Horizontal
QP / Peak		

WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 STBC LF	
1+2	Vertical	Vertical
QP / Peak		

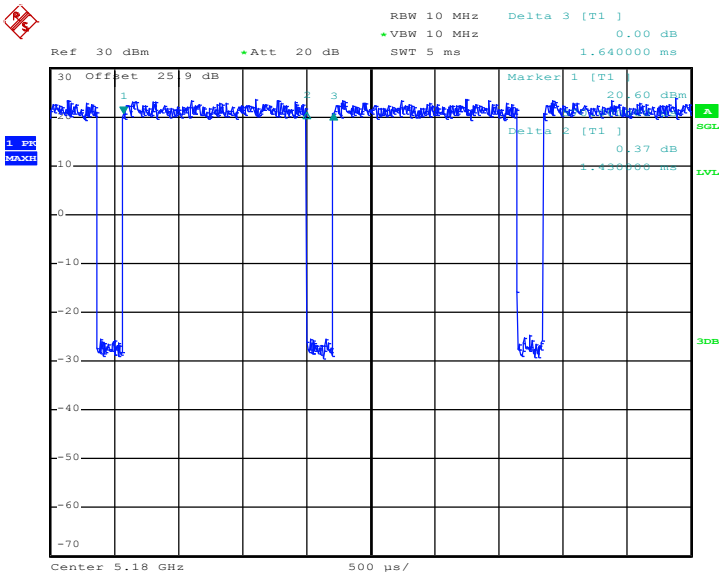
Appendix E. Duty Cycle Plots

<CDD Modes>

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	5GHz 802.11a for Ant 1	87.20	1430.00	0.70	1kHz
1+2	5GHz 802.11a for Ant 2	87.50	1435.00	0.70	1kHz
1+2	5GHz 802.11n HT20 for Ant 1	86.45	1340.00	0.75	1kHz
1+2	5GHz 802.11n HT20 for Ant 2	86.36	1330.00	0.75	1kHz
1+2	5GHz 802.11n HT40 for Ant 1	77.01	670.00	1.49	3kHz
1+2	5GHz 802.11n HT40 for Ant 2	77.01	670.00	1.49	3kHz
1+2	5GHz 802.11ac VHT80 for Ant 1	62.41	332.00	3.01	3kHz
1+2	5GHz 802.11ac VHT80 for Ant 2	62.41	332.00	3.01	3kHz

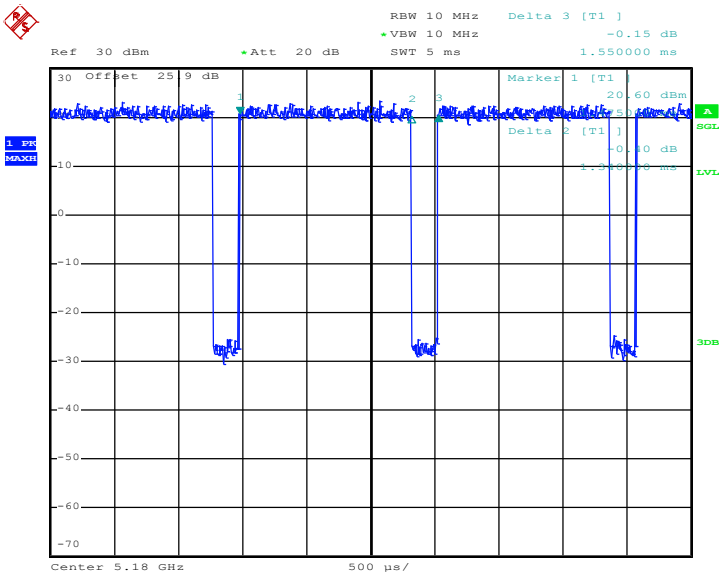
<CDD-MIMO Ant. 1>

802.11a



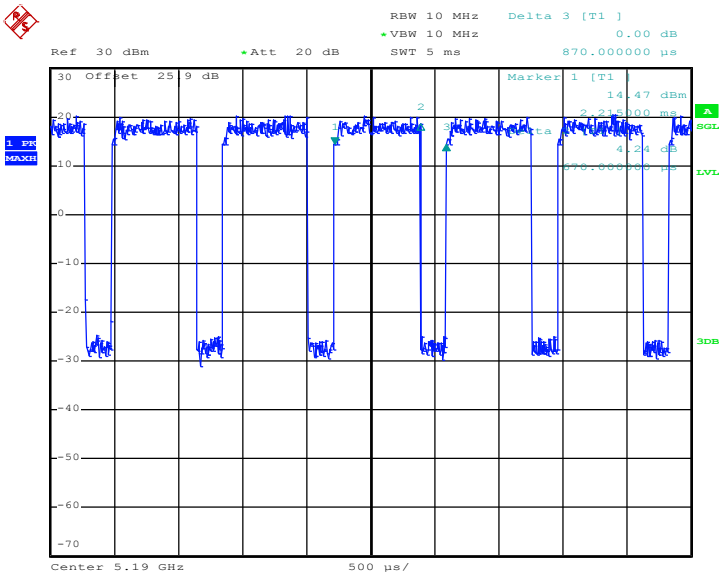
Date: 30.DEC.2016 05:05:00

802.11n HT20



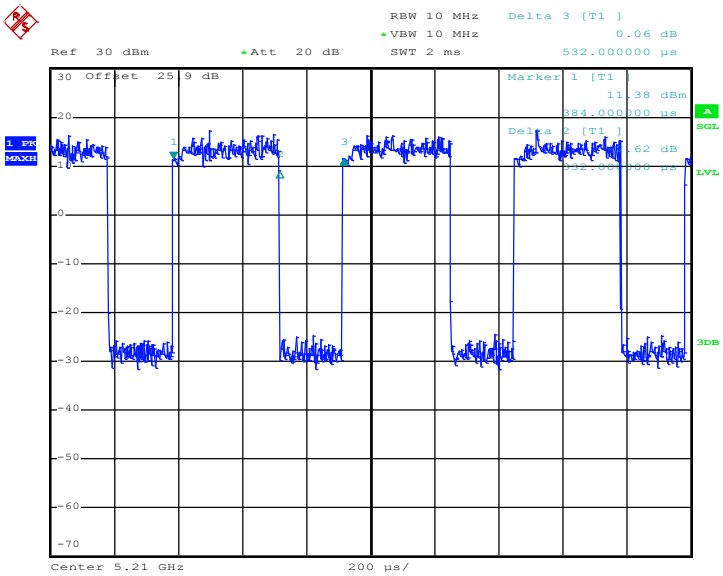
Date: 30.DEC.2016 05:30:57

802.11n HT40



Date: 30.DEC.2016 05:44:27

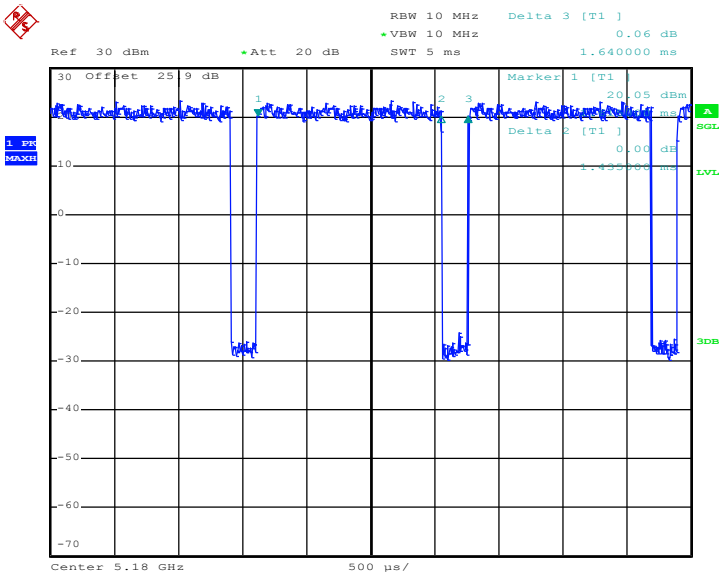
802.11ac VHT80



Date: 30.DEC.2016 06:26:12

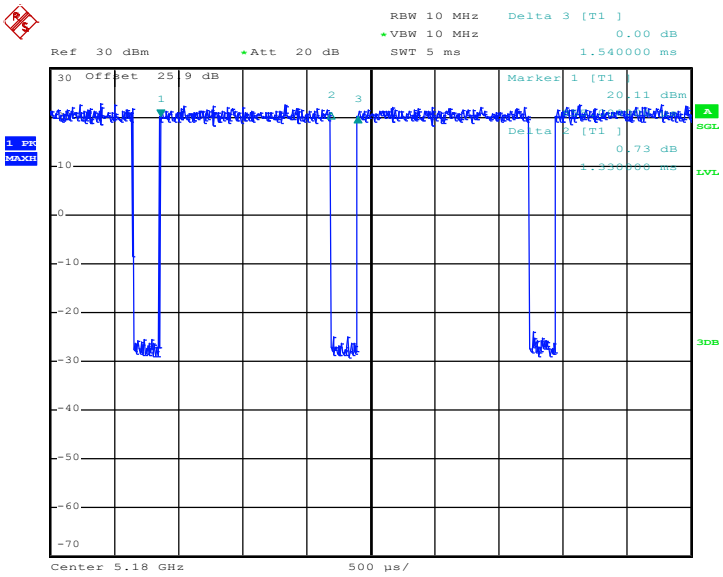
<CDD-MIMO Ant. 2>

802.11a



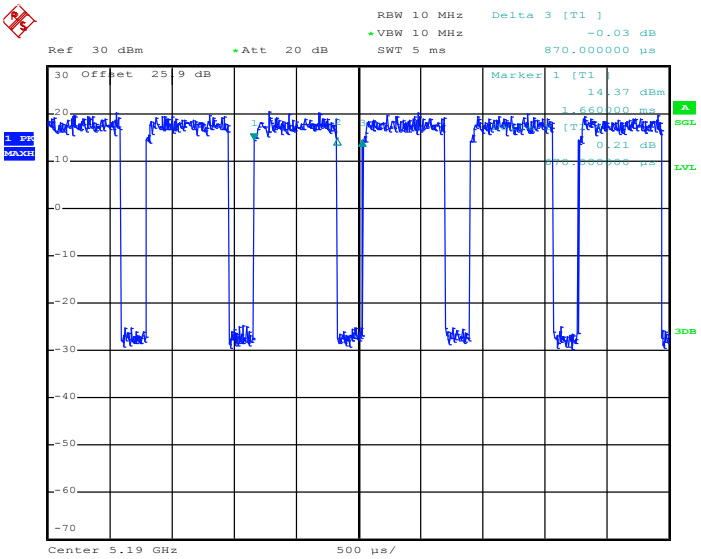
Date: 30.DEC.2016 05:07:08

802.11n HT20



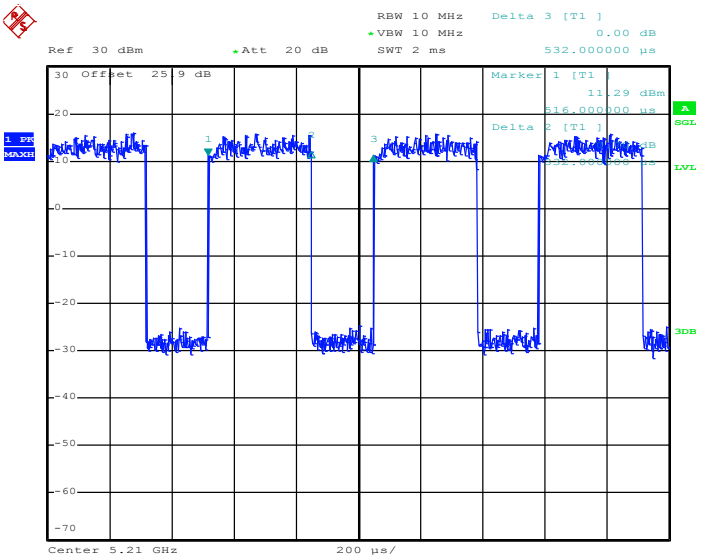
Date: 30.DEC.2016 05:31:41

802.11n HT40



Date: 30.DEC.2016 05:45:41

802.11ac VHT80



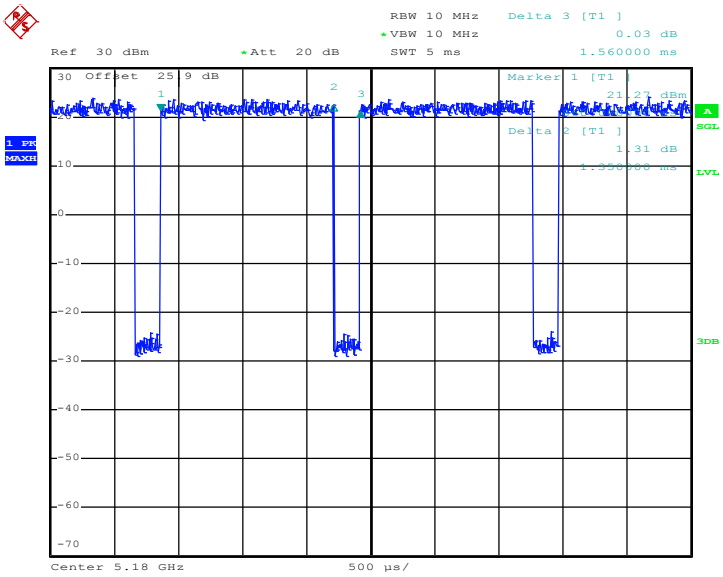
Date: 30.DEC.2016 06:27:06

<STBC Modes>

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	5GHz 802.11n HT20 for Ant 1	86.54	1350.00	0.74	1kHz
1+2	5GHz 802.11n HT20 for Ant 2	86.54	1350.00	0.74	1kHz
1+2	5GHz 802.11n HT40 for Ant 1	77.01	670.00	1.49	3kHz
1+2	5GHz 802.11n HT40 for Ant 2	77.27	680.00	1.47	3kHz
1+2	5GHz 802.11ac VHT80 for Ant 1	62.22	336.00	2.98	3kHz
1+2	5GHz 802.11ac VHT80 for Ant 2	62.22	336.00	2.98	3kHz

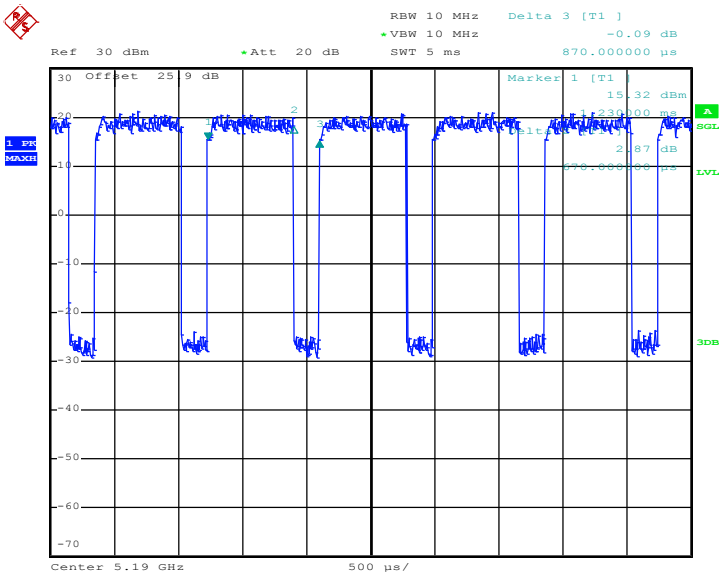
<STBC-MIMO Ant. 1>

802.11n HT20



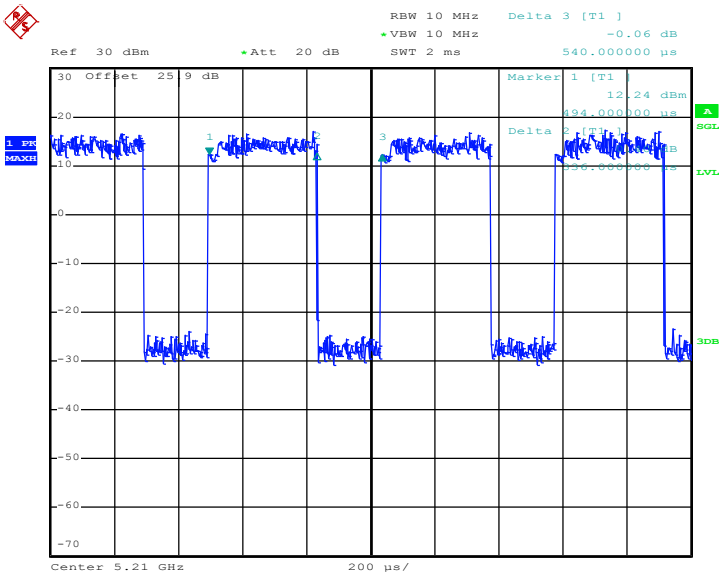
Date: 31.DEC.2016 04:24:08

802.11n HT40



Date: 31.DEC.2016 04:37:00

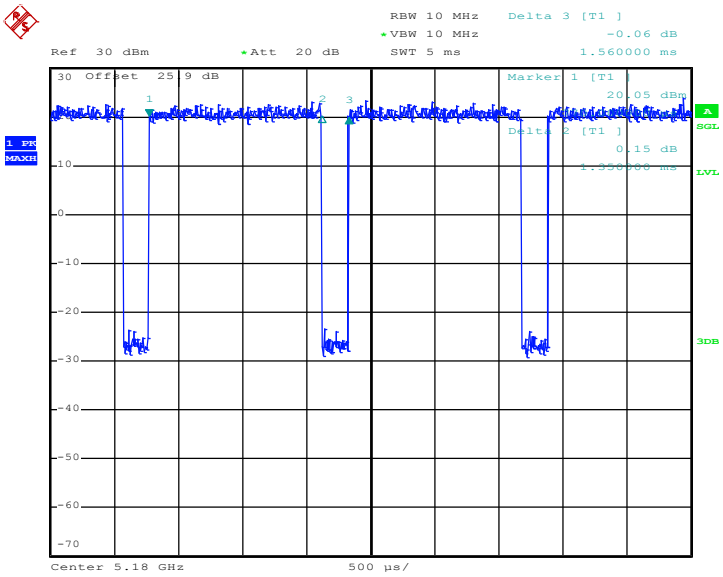
802.11ac VHT80



Date: 31.DEC.2016 05:13:37

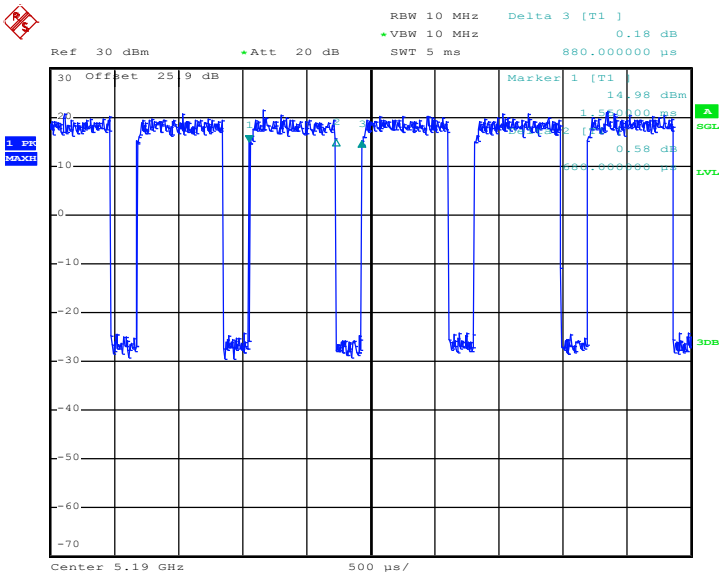
<STBC-MIMO Ant. 2>

802.11n HT20



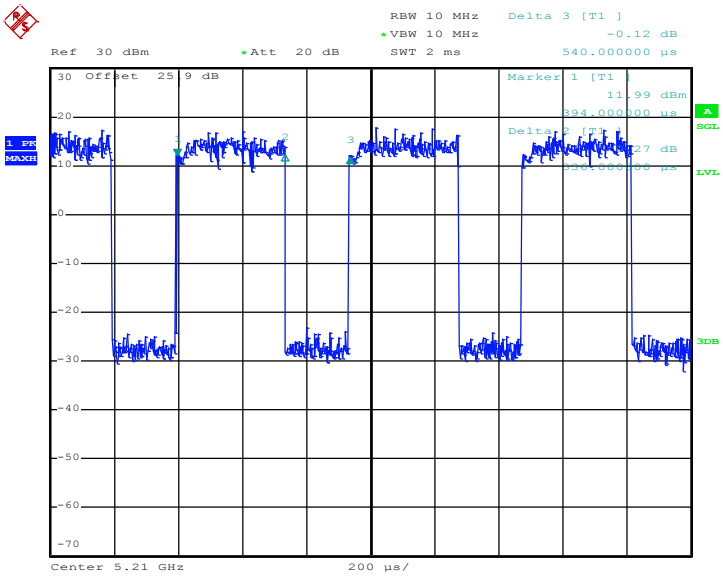
Date: 31.DEC.2016 04:17:32

802.11n HT40



Date: 31.DEC.2016 04:42:26

802.11ac VHT80



Date: 31.DEC.2016 05:14:27