

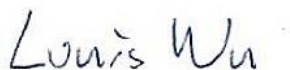
FCC RADIO TEST REPORT

FCC ID : A4R-H2E
Equipment : Interactive internet streaming device
Model name : H2E
Applicant : Google LLC
1600 Amphitheatre Parkway,
Mountain View, California, 94043 USA
Standard : FCC Part 15 Subpart E §15.407

The product was received on Jun. 06, 2019 and testing was started from Jul. 02, 2019 and completed on Aug. 31, 2019. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications Laboratory, 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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



Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FR960638F	01	Initial issue of report	Sep. 05, 2019
FR960638F	02	Update EUT, antenna, support unit information and test data.	Sep. 12, 2019
FR960638F	03	Revise the description of EUT supported radio to 802.15.4.	Sep. 20, 2019

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403 (i)	6dB & 26dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407 (a)	Maximum Conducted Output Power	Pass	-
3.3	15.407 (a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	Under limit 1.66 dB at 5650.000 MHz
3.5	15.207	AC Conducted Emission	Pass	Under limit 13.34 dB at 0.616 MHz
3.6	15.407 (c)	Automatically Discontinue Transmission	Pass	-
3.7	15.203 & 15.407 (a)	Antenna Requirement	Pass	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang

Report Producer: Ann Lee

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Interactive internet streaming device
Model Name	H2E
FCC ID	A4R-H2E
EUT supports Radios application	WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE 802.15.4
HW version	EVT 1.0
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer.

EUT Information List	
No.	S/N
#1	96180EXBSZZ2Y2
#2	98130EXBSZZ2ZH
#3	96180EXBSZZ2YF
#4	98130EXBSZZ157
#5	96190EXBSZZ2RI

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification			
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz		
Maximum Output Power <CDD Modes>	MIMO <Ant. 2 + 3> 802.11a : 25.96 dBm / 0.3945 W 802.11n HT20 : 25.76 dBm / 0.3767 W 802.11n HT40 : 26.56 dBm / 0.4529 W 802.11ac VHT20: 25.66 dBm / 0.3681 W 802.11ac VHT40: 26.46 dBm / 0.4426 W 802.11ac VHT80: 22.71 dBm / 0.1866 W		
Maximum Output Power <TXBF Modes>	MIMO <Ant. 2 + 3> 802.11ac VHT20: 25.91 dBm / 0.3899 W 802.11ac VHT40: 26.81 dBm / 0.4797 W 802.11ac VHT80: 23.46 dBm / 0.2218 W		
99% Occupied Bandwidth <CDD Modes>	MIMO <Ant. 2> 802.11a : 16.93 MHz 802.11n HT20 : 17.88 MHz 802.11n HT40 : 37.06 MHz 802.11ac VHT80 : 77.08 MHz MIMO <Ant. 3> 802.11a : 17.08 MHz 802.11n HT20 : 18.08 MHz 802.11n HT40 : 38.26 MHz 802.11ac VHT80 : 77.08 MHz		
99% Occupied Bandwidth <TXBF Modes>	MIMO <Ant. 2> 802.11ac VHT20 : 17.73 MHz 802.11ac VHT40 : 37.46 MHz 802.11ac VHT80 : 77.08 MHz MIMO <Ant. 3> 802.11ac VHT20 : 17.98 MHz 802.11ac VHT40 : 37.66 MHz 802.11ac VHT80 : 77.32 MHz		
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)		
Antenna Type / Gain	<Ant. 2> : PIFA Antenna with gain 4.88 dBi <Ant. 3> : Dipole Antenna with gain 5.48 dBi		
Antenna Function Description		Ant. 2	Ant. 3
	802.11 a/n/ac MIMO	V	V
	802.11ac TXBF	V	V

Note: MIMO Ant. 2+3 is a calculated result from sum of the power MIMO Ant. 2, MIMO Ant. 3.

1.3 Modification of EUT

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



1.4 Testing Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory		
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan 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	DFS02-HY

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

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory		
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855		
Test Site No.	Sporton Site No.		
	03CH13-HY		

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

FCC designation No.: TW1190 and TW0007

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 v02r01.
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

Remark:

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

2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).
- 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 modes are considering the modulation and worse data rates as below table.

<CDD Mode>

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20 (Covered by HT20)	MCS0
802.11ac VHT40 (Covered by HT40)	MCS0
802.11ac VHT80	MCS0

<TXBF Mode>

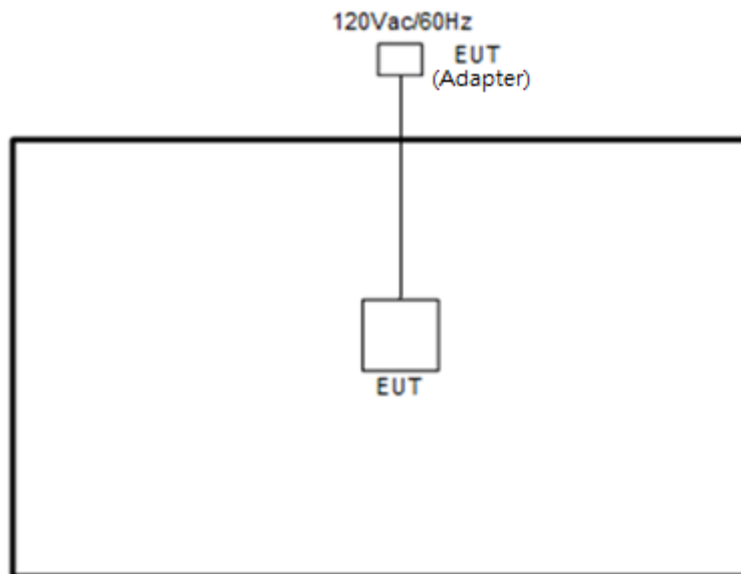
Modulation	Data Rate
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5GHz) TX + AC Adapter

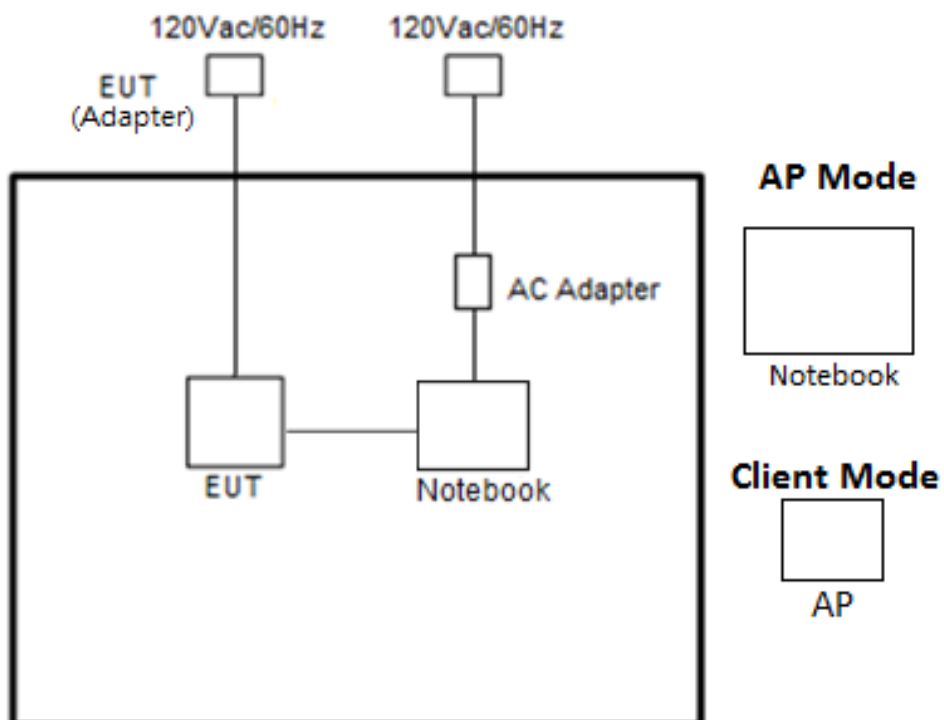
Ch. #		Band IV : 5725-5850 MHz			
		802.11a	802.11n HT20	802.11n HT40	802.11ac VHT80
L	Low	149	149	151	-
M	Middle	157	157	-	155
H	High	165	165	159	-

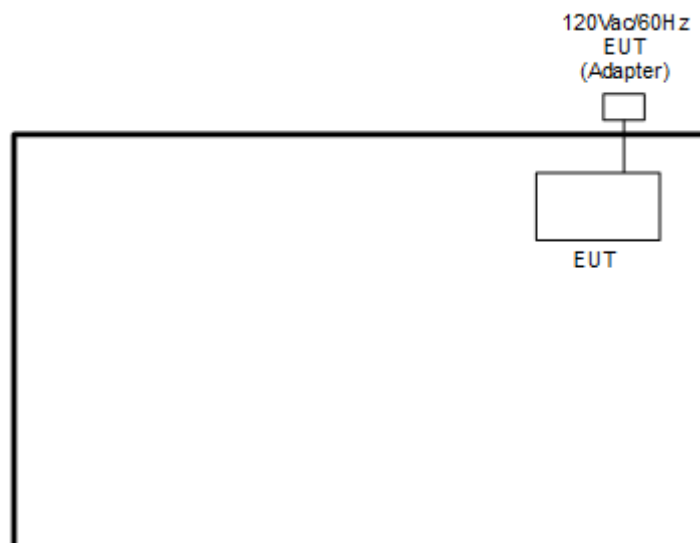
2.3 Connection Diagram of Test System

<WIFI TX CDD Mode>



<WIFI TXBF Mode>



<AC Conducted Emission Mode>

2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Spectrum Analyzer	Agilent	N9030A	N/A	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	NoteBook-31	NA	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Notebook	DELL	Latitude E7440	NA	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility “QRCT4_ 4.0.00108” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

For TXBF mode, the modulation modes and data rates manipulated by the command lines in the engineering program made the EUT link to another EUT by power under the normal operation. The “CMD” software tool was used to enable the EUT to transmit signals continuously.



2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

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

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

3 Test Result

3.1 6dB and 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.

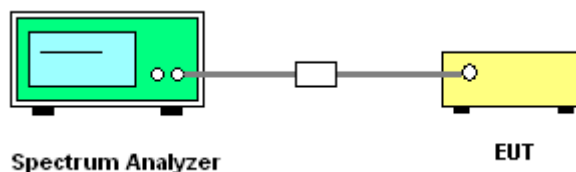
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW $\geq 3 \times$ 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



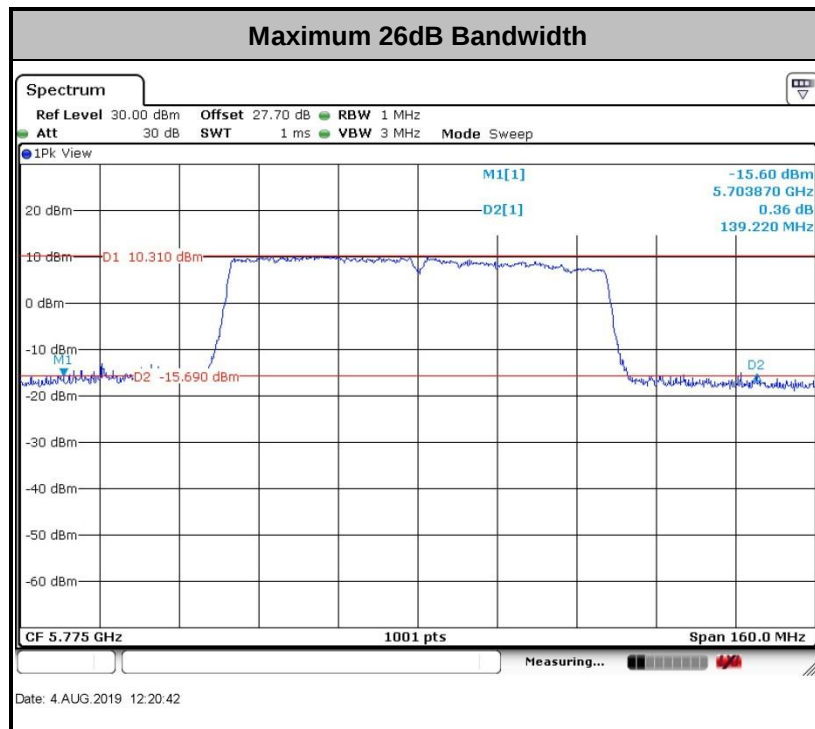
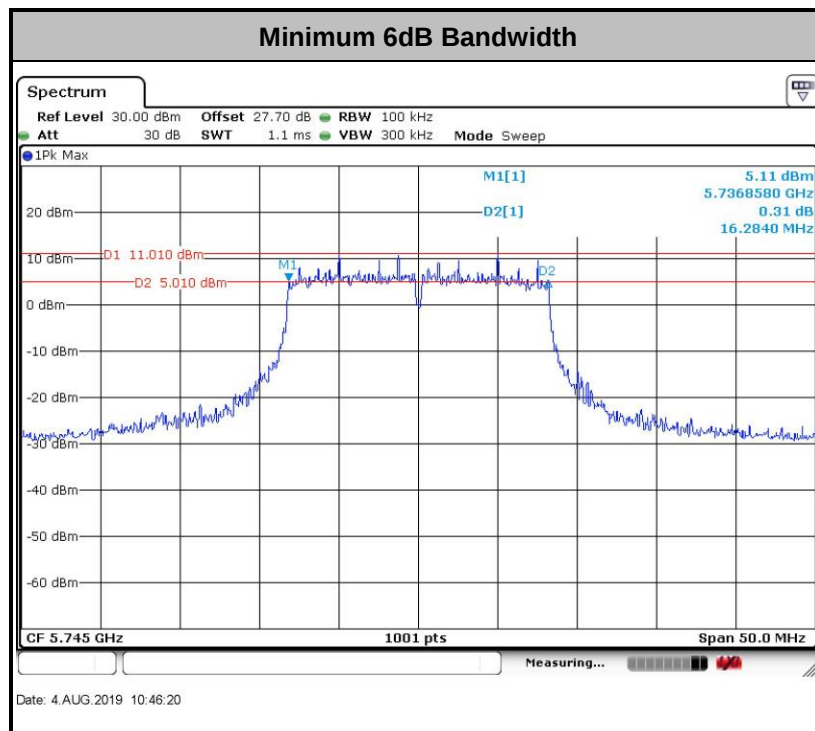
3.1.5 Test Result of 6dB and 26dB and 99% Occupied Bandwidth

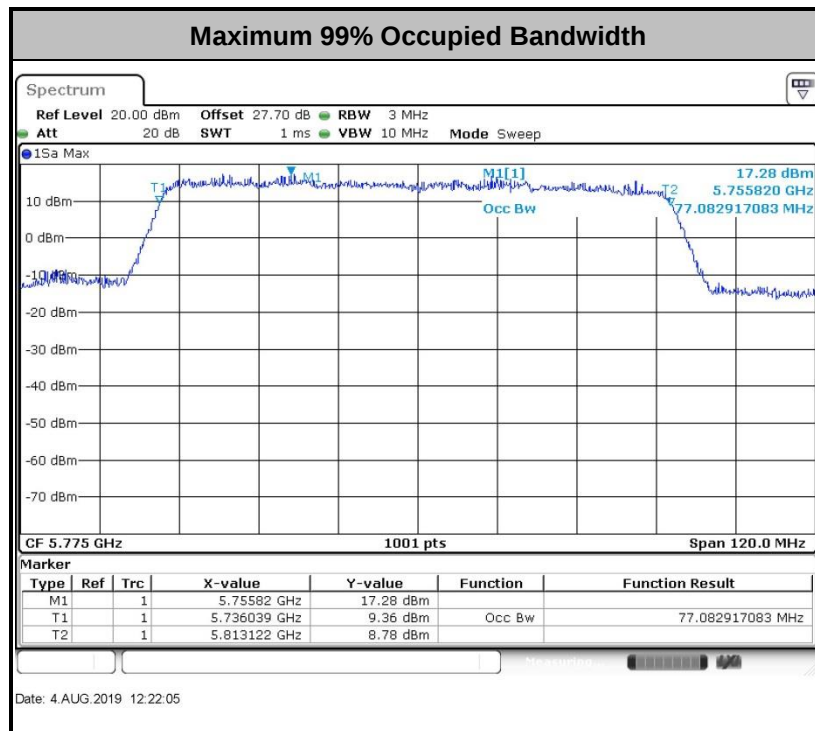
Please refer to Appendix A.



<For AP and Client Mode>

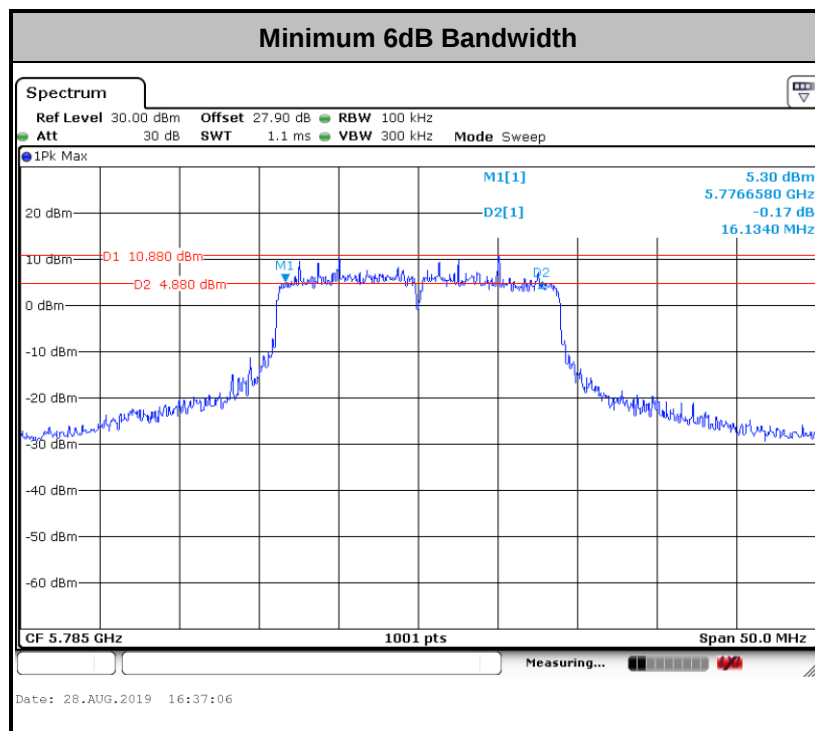
<CDD Mode>

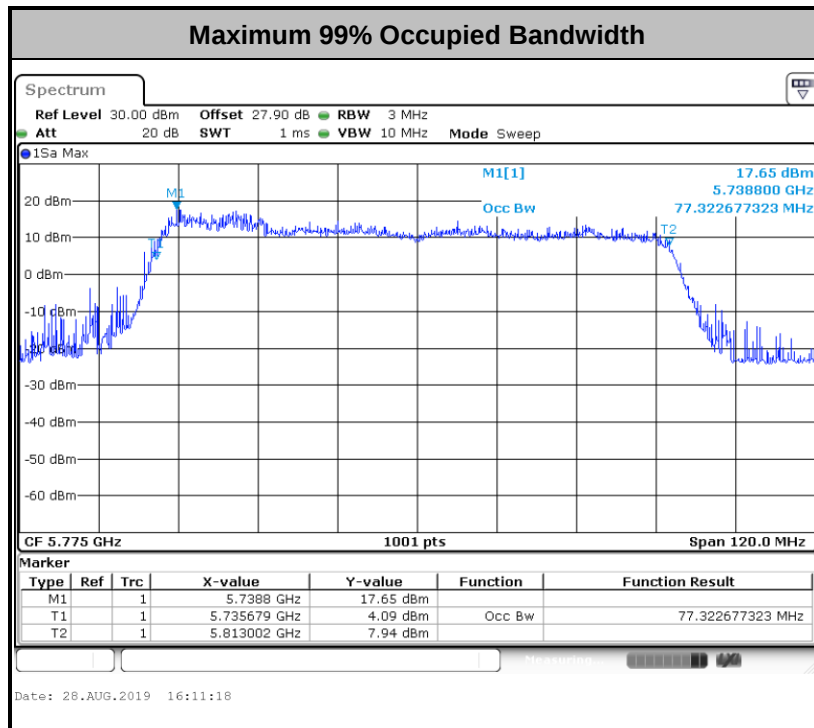
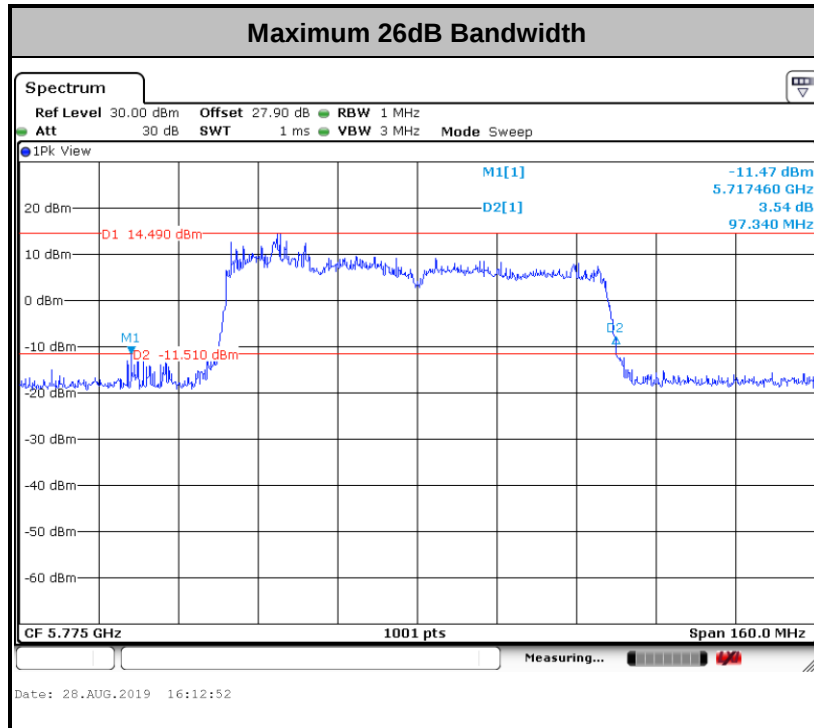




Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

<TXBF Modes>





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

See list of measuring equipment of this test report.

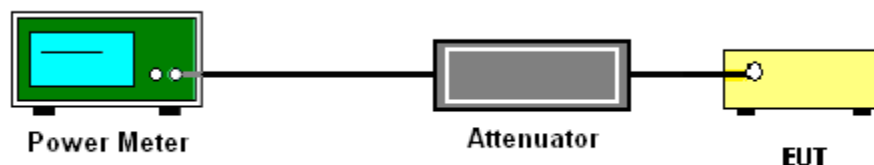
3.2.3 Test Procedures

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

Method PM-G (Measurement using a gated RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

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

See list of measuring equipment of this test report.

3.3.3 Test Procedures

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

Method SA-3

(power averaging (rms) detection with max hold):

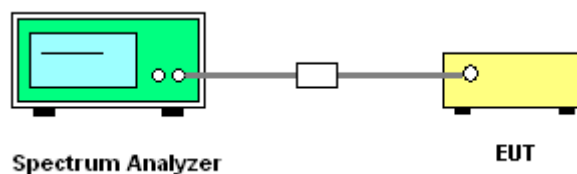
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW $\geq$ 1 MHz.
- Number of points in sweep $\geq$ 2 Span / RBW.
- Sweep time $\leq$ (number of points in sweep) $\times$ T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
- Detector = power averaging (rms).
- Trace mode = max hold.
- Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

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 $10 \log(N_{\text{ANT}})$ 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 $10 \log(N_{\text{ANT}})$ dB is added to each spectrum value before comparing to the emission limit. The addition of $10 \log(N_{\text{ANT}})$ dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{\text{ANT}}^{\text{th}}$ of the PSD limit.

3.3.4 Test Setup



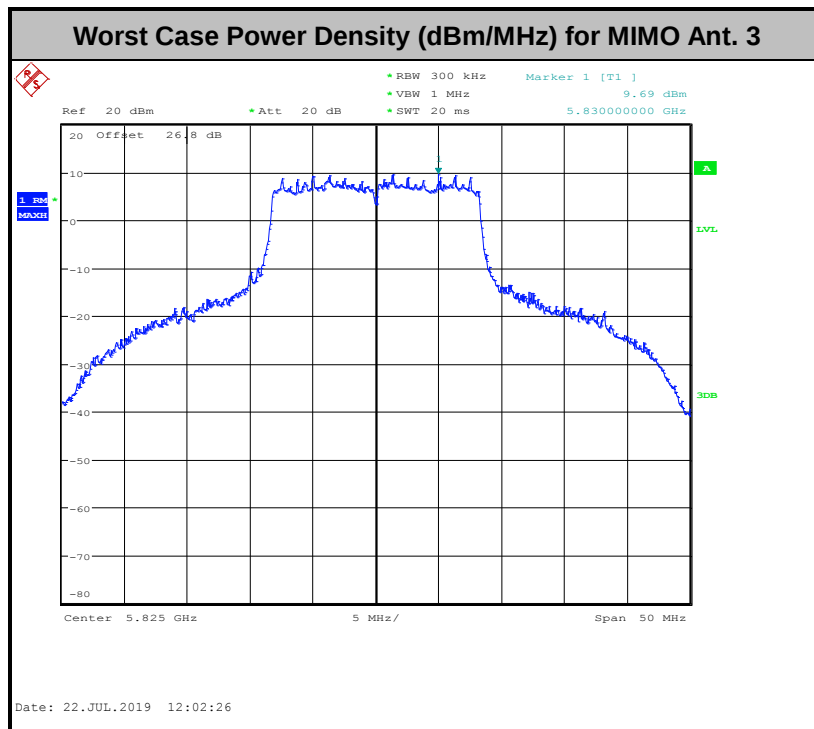
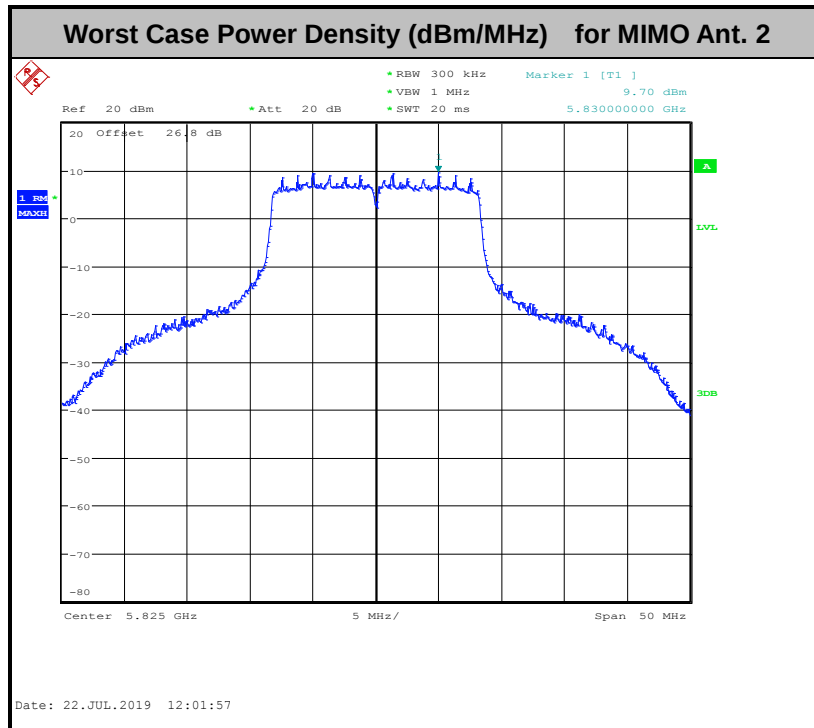
3.3.5 Test Result of Power Spectral Density

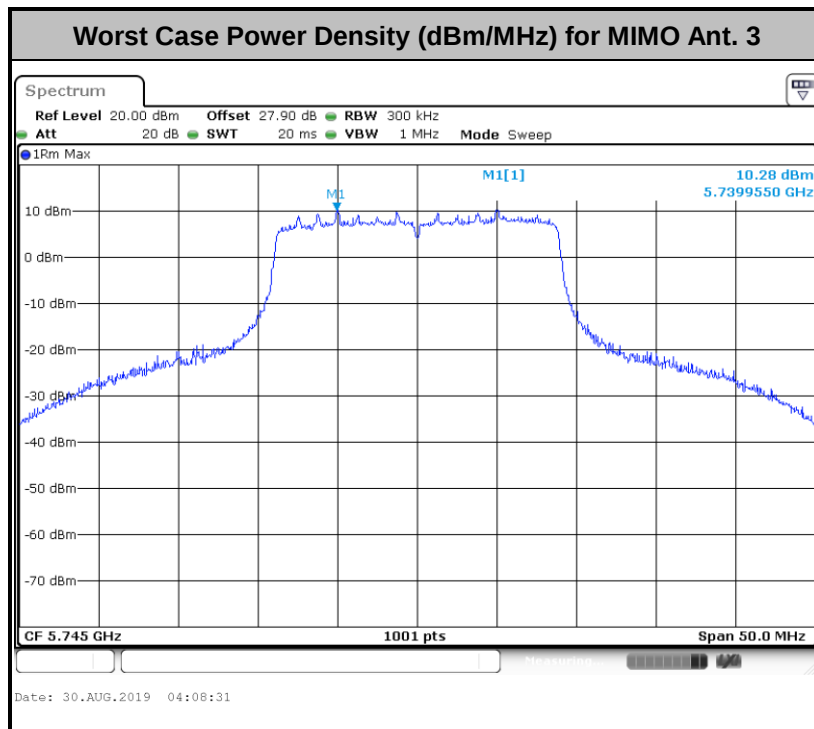
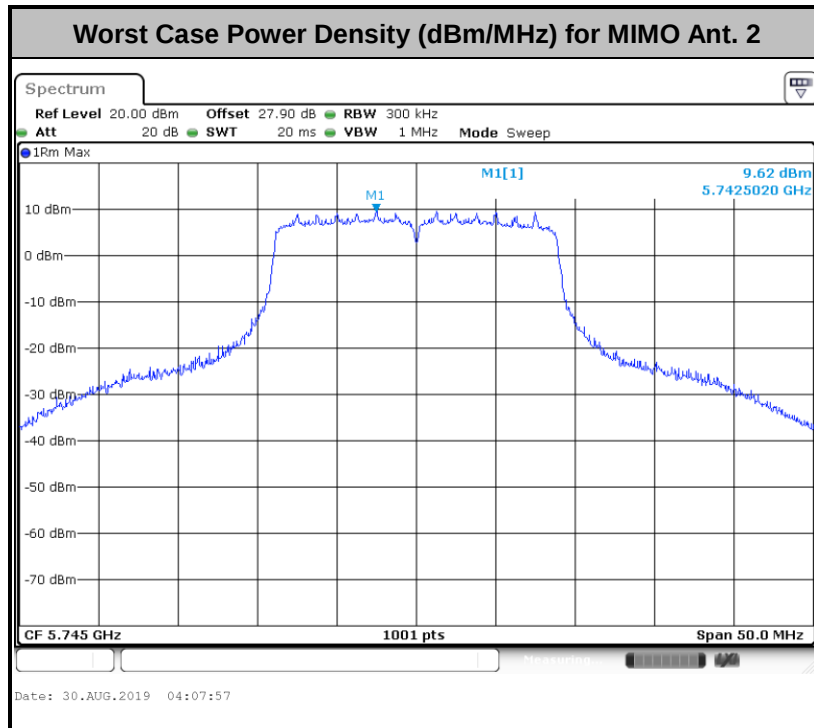
Please refer to Appendix A.



<For AP and Client Mode >

<CDD Modes>



<TXBF Modes>


3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 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.

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



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

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

- (i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.
- (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). The emission limits are based on the use of a peak detector.

3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

(1) Procedure for Unwanted Emissions Measurements Below 1000MHz

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

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

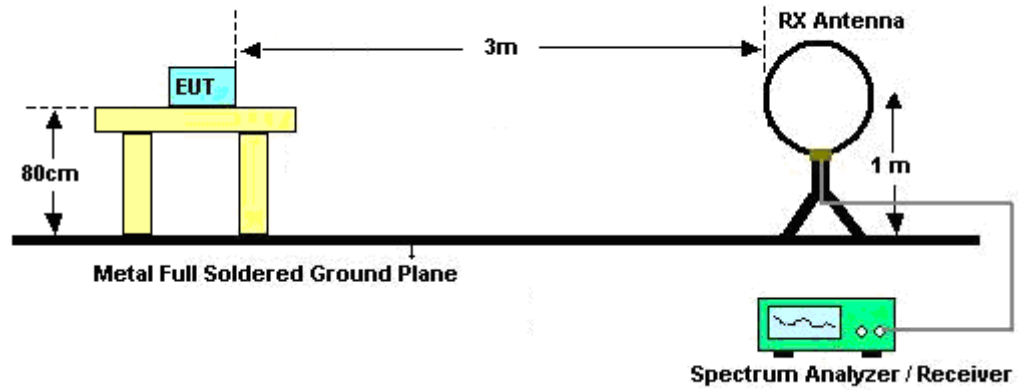
- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

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

- RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - $VBW \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
 3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
 4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
 5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
 6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
 7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

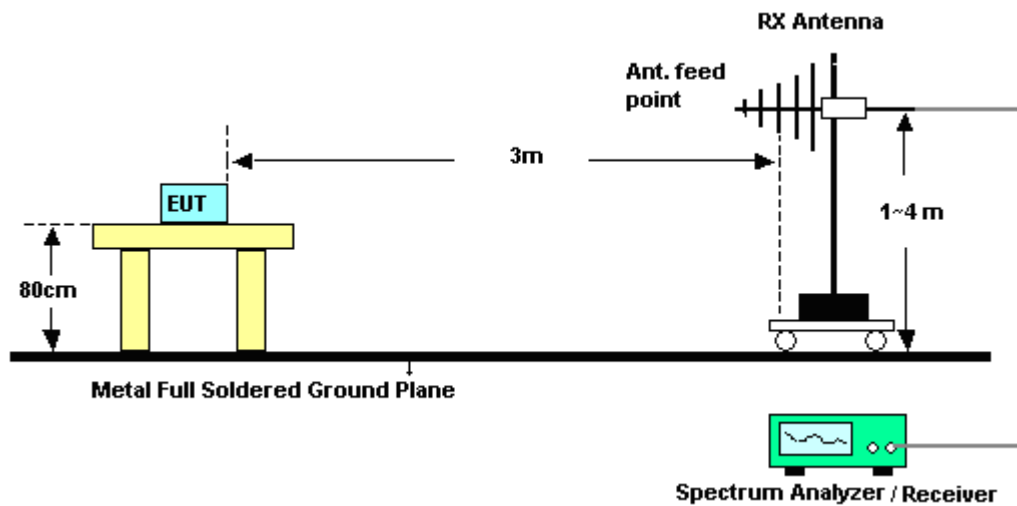
3.4.4 Test Setup

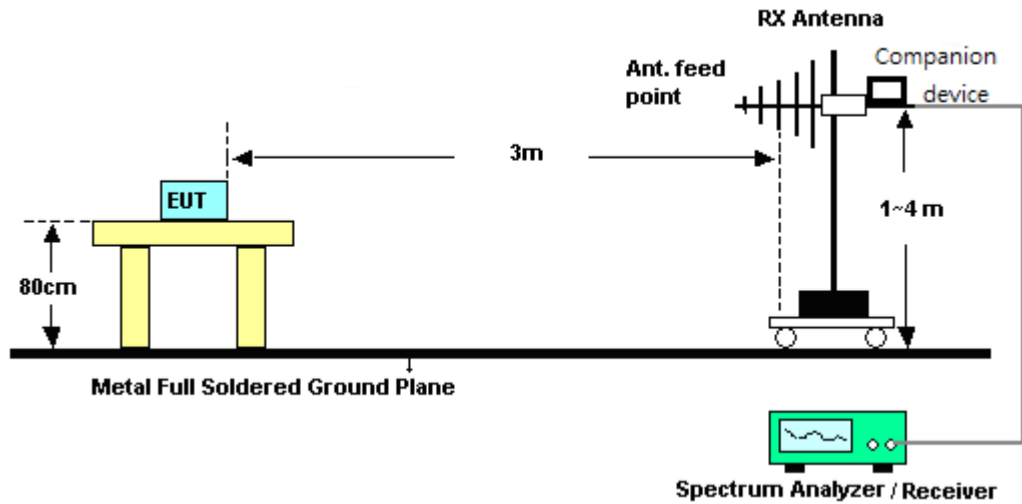
For radiated emissions below 30MHz



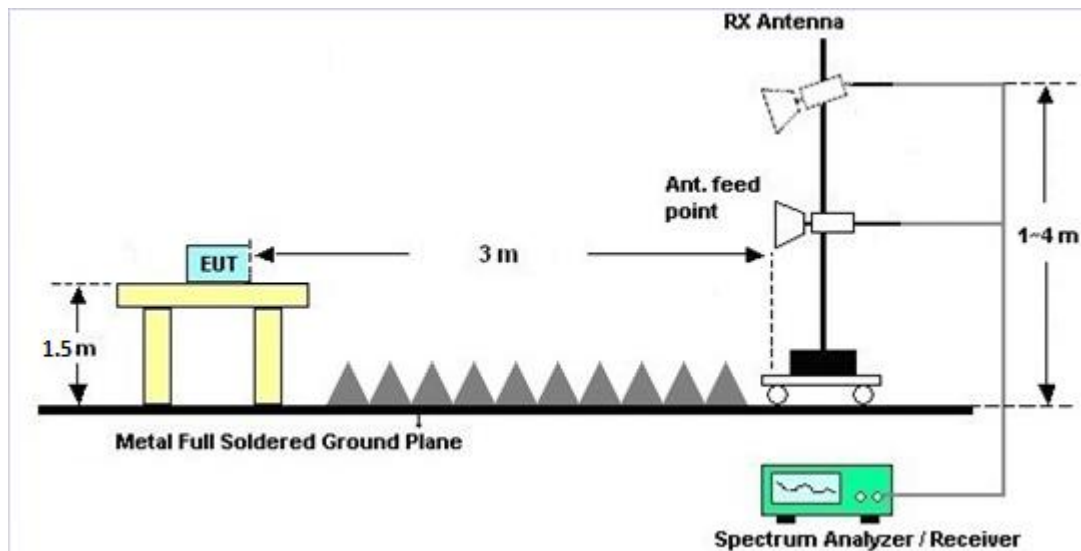
For radiated emissions from 30MHz to 1GHz

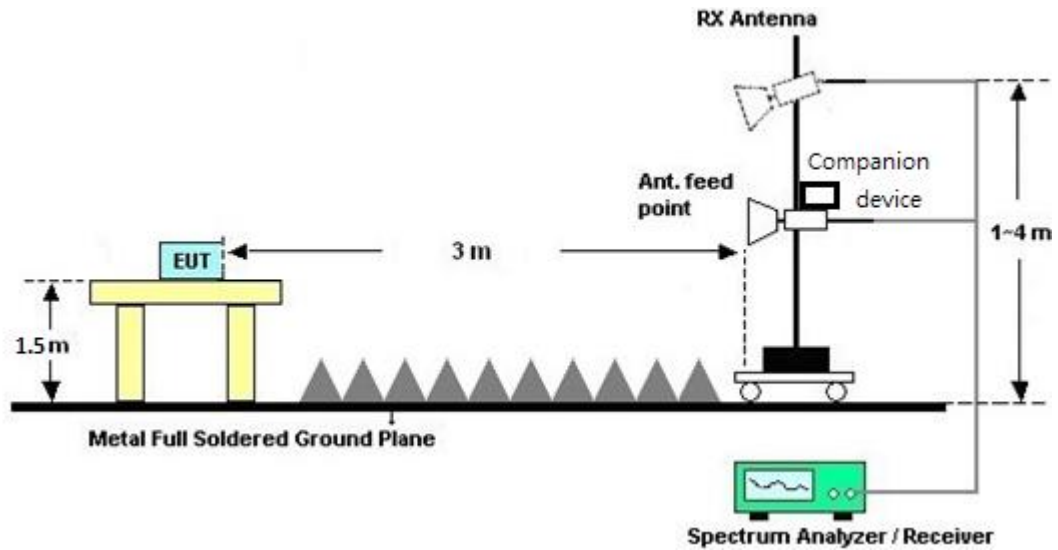
<CDD Mode>



<TXBF Modes>


For radiated emissions above 1GHz

<CDD Mode>


<TXBF Modes>

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 alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.4.6 Test Result of Radiated 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 Unwanted Radiated Emission (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 (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

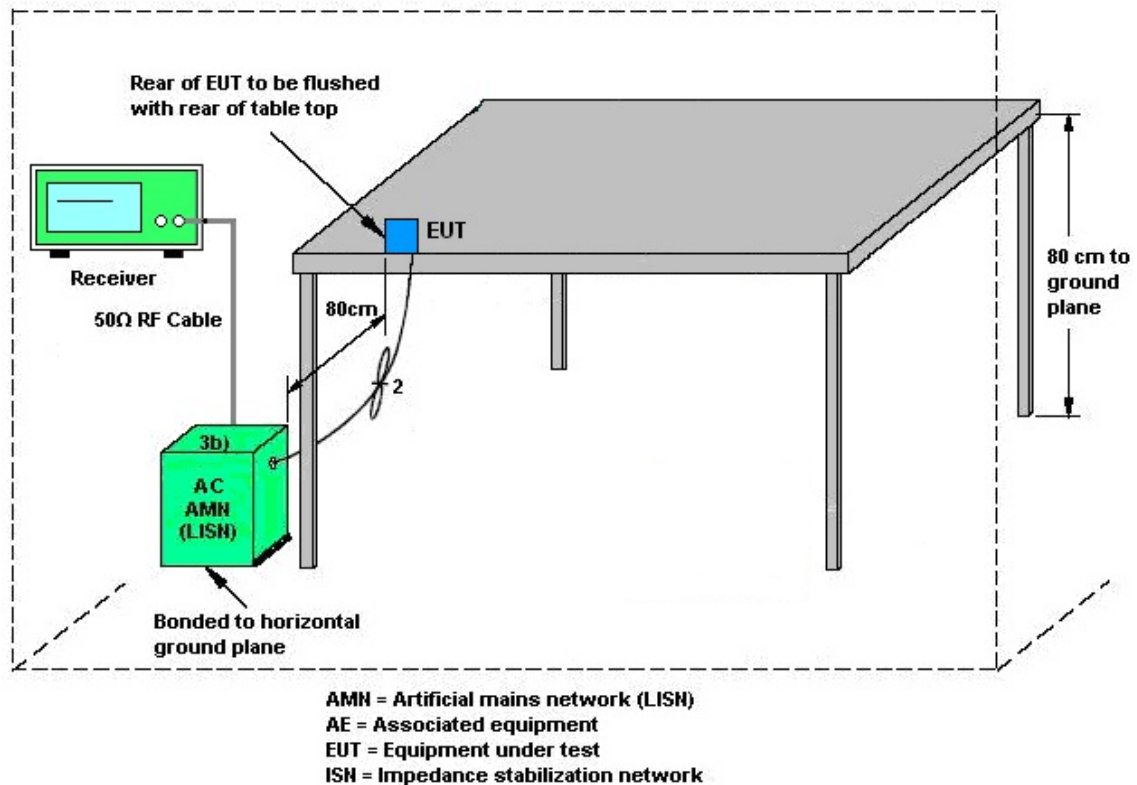
3.5.2 Measuring Instruments

See list of measuring equipment 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

See list of measuring equipment 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.

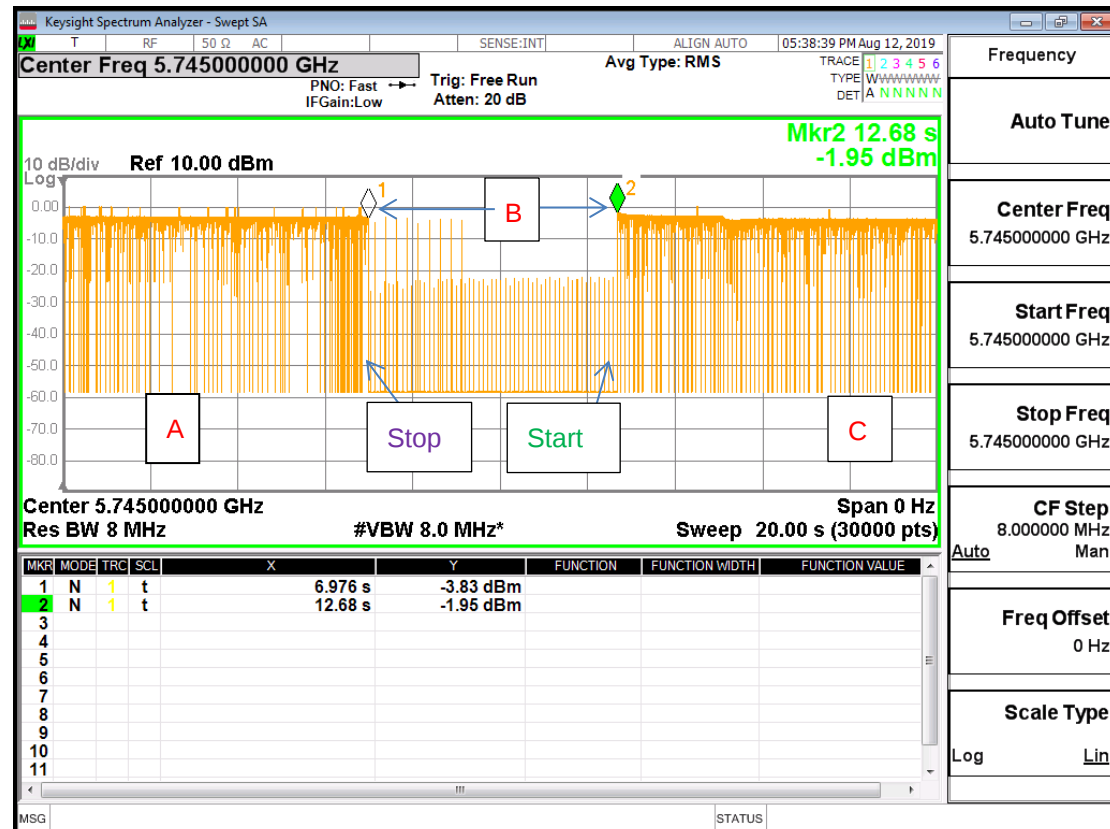
While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving.

- 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

<CDD Modes >

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>						
			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 2	Ant. 3	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	4.88	5.48	5.48	8.20	0.00	2.20

Power Limit Reduction = $DG(\text{Power}) - 6\text{dBi}$, (min = 0)

PSD Limit Reduction = $DG(\text{PSD}) - 6\text{dBi}$, (min = 0)

TXBF modes

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k / 20}$ if the k th antenna is being fed by spatial stream j , or zero if it is not;
 G_k is the gain in dBi of the k th antenna.

The EUT supports beamforming for 802.11ac modes.

The directional gain calculation is following F)2)e)ii) of KDB 662911 D01 v02r01.

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

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

			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant 2	Ant 3	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	4.88	5.48	8.20	8.20	2.20	2.20

$Power\ Limit\ Reduction = DG(Power) - 6dBi, (min = 0)$

$PSD\ Limit\ Reduction = DG(PSD) - 6dBi, (min = 0)$



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jul. 26, 2019	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 12, 2018	Jul. 26, 2019	Nov. 11, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 14, 2018	Jul. 26, 2019	Nov. 13, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 09, 2018	Jul. 26, 2019	Nov. 08, 2019	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jul. 26, 2019	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Dec. 31, 2018	Jul. 26, 2019	Dec. 30, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Dec. 31, 2018	Jul. 26, 2019	Dec. 30, 2019	Conduction (CO05-HY)
Power Sensor	DARE	RPR3006W	13I00030S NO32	9kHz~6GHz	Dec. 03, 2018	Jul. 16, 2019~ Aug. 31, 2019	Dec. 02, 2019	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054S NO10	10MHz~6GHz	Dec. 19, 2018	Jul. 16, 2019~ Aug. 31, 2019	Dec. 18, 2019	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz~40GHz	Nov. 21, 2018	Jul. 16, 2019~ Aug. 31, 2019	Nov. 20, 2019	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 13, 2018	Jul. 16, 2019~ Aug. 31, 2019	Nov. 12, 2019	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC120838 2	N/A	Mar. 27, 2019	Jul. 16, 2019~ Aug. 31, 2019	Mar. 26, 2020	Conducted (TH05-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Jan. 07, 2019	Jul. 02, 2019~ Aug. 29, 2019	Jan. 06, 2020	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-121 2	1GHz ~ 18GHz	May 14, 2019	Jul. 02, 2019~ Aug. 29, 2019	May 13, 2020	Radiation (03CH13-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	37059&01	30MHz~1GHz	Oct. 13, 2018	Jul. 02, 2019~ Aug. 29, 2019	Oct. 12, 2019	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170 584	18GHz- 40GHz	Dec. 05, 2018	Jul. 02, 2019~ Aug. 29, 2019	Dec. 04, 2019	Radiation (03CH13-HY)
Preamplifier	Keysight	83017A	MY532700 80	1GHz~26.5GHz	Nov. 14, 2018	Jul. 02, 2019~ Aug. 29, 2019	Nov. 13, 2020	Radiation (03CH13-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590074	1GHz~18GHz	May 20, 2019	Jul. 02, 2019~ Aug. 29, 2019	May 19, 2020	Radiation (03CH13-HY)
Amplifier	Sonoma-Instrument	310 N	187282	9KHz~1GHz	Dec. 18, 2018	Jul. 02, 2019~ Aug. 29, 2019	Dec. 17, 2019	Radiation (03CH13-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 06, 2018	Jul. 02, 2019~ Aug. 29, 2019	Dec. 05, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0030/126E	30M-18G	Feb. 13, 2019	Jul. 02, 2019~ Aug. 29, 2019	Feb. 12, 2020	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	804793/4	30M-18G	Feb. 13, 2019	Jul. 02, 2019~ Aug. 29, 2019	Feb. 12, 2020	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24961/ 4	30M-18G	Feb. 13, 2019	Jul. 02, 2019~ Aug. 29, 2019	Feb. 12, 2020	Radiation (03CH13-HY)
Spectrum Analyzer	Keysight	N9010A	MY553705 26	10Hz~44GHz	Mar. 19, 2019	Jul. 02, 2019~ Aug. 29, 2019	Mar. 18, 2020	Radiation (03CH13-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jul. 02, 2019~ Aug. 29, 2019	N/A	Radiation (03CH13-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jul. 02, 2019~ Aug. 29, 2019	N/A	Radiation (03CH13-HY)
Software	AUDIX	E3 6.2009-8-24c	RK-001124	N/A	N/A	Jul. 02, 2019~ Aug. 29, 2019	N/A	Radiation (03CH13-HY)
EMI Test Receiver	Keysight	N9038A (MXE)	MY541300 85	20Hz ~ 8.4GHz	Nov. 01, 2018	Jul. 02, 2019~ Aug. 29, 2019	Oct. 31, 2019	Radiation (03CH13-HY)
Filter	Woken	WHKX8-5272. 5-6750-18000 -40ST	SN5	6.75G Highpass	Mar.13, 2019	Jul. 02, 2019~ Aug. 29, 2019	Mar. 12, 2020	Radiation (03CH13-HY)
Filter	Wainwright	WLKS1200-8 SS	SN3	1.2G Low Pass	Nov. 02, 2018	Jul. 02, 2019~ Aug. 29, 2019	Nov. 01, 2019	Radiation (03CH13-HY)
Spectrum Analyzer	Keysight	N9010A	MY560704 12	10Hz~7GHz	Aug. 16, 2018	Aug. 12, 2019	Aug. 15, 2019	DFS (DFS02-HY)

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.9
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.4
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.3
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Appendix A. Test Result of Conducted Test Items

<CDD for AP and Client Mode>

Test Engineer:	Leo Li/CreedWu	Temperature:	21~25	°C
Test Date:	2019/7/16~2019/8/4	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 2	Ant 3	Ant 2	Ant 3	Ant 2	Ant 3		
11a	6Mbps	2	149	5745	16.58	16.83	21.73	31.02	16.28	16.33	0.5	Pass
11a	6Mbps	2	157	5785	16.93	17.08	28.52	33.37	16.28	16.33	0.5	Pass
11a	6Mbps	2	165	5825	16.88	17.03	27.92	33.77	16.28	16.28	0.5	Pass
HT20	MCS0	2	149	5745	17.88	17.98	29.17	30.52	17.53	17.53	0.5	Pass
HT20	MCS0	2	157	5785	17.88	18.03	28.72	29.82	17.28	17.58	0.5	Pass
HT20	MCS0	2	165	5825	17.88	18.08	27.07	30.17	17.53	17.53	0.5	Pass
HT40	MCS0	2	151	5755	36.76	37.56	71.30	73.19	35.07	35.07	0.5	Pass
HT40	MCS0	2	159	5795	37.06	38.26	73.73	78.76	34.98	34.98	0.5	Pass
VHT80	MCS0	2	155	5775	77.08	77.08	139.22	129.95	75.76	75.76	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV												
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 2	Ant 3	SUM	Ant 2	Ant 3	Ant 2	Ant 3	
11a	6Mbps	2	149	5745	21.60	21.60	24.61	30.00		5.48		Pass
11a	6Mbps	2	157	5785	22.90	22.90	25.91	30.00		5.48		Pass
11a	6Mbps	2	165	5825	22.90	23.00	25.96	30.00		5.48		Pass
HT20	MCS0	2	149	5745	22.70	22.80	25.76	30.00		5.48		Pass
HT20	MCS0	2	157	5785	22.40	22.60	25.51	30.00		5.48		Pass
HT20	MCS0	2	165	5825	22.50	22.80	25.66	30.00		5.48		Pass
HT40	MCS0	2	151	5755	23.50	23.60	26.56	30.00		5.48		Pass
HT40	MCS0	2	159	5795	23.30	23.50	26.41	30.00		5.48		Pass
VHT20	MCS0	2	149	5745	22.60	22.70	25.66	30.00		5.48		Pass
VHT20	MCS0	2	157	5785	22.30	22.50	25.41	30.00		5.48		Pass
VHT20	MCS0	2	165	5825	22.40	22.70	25.56	30.00		5.48		Pass
VHT40	MCS0	2	151	5755	23.40	23.50	26.46	30.00		5.48		Pass
VHT40	MCS0	2	159	5795	23.20	23.40	26.31	30.00		5.48		Pass
VHT80	MCS0	2	155	5775	19.50	19.90	22.71	30.00		5.48		Pass

TEST RESULTS DATA
Power Spectral Density

Band IV														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 2	Ant 3	Ant 2	Ant 3	SUM	Ant 2	Ant 3	Ant 2	Ant 3	
11a	6Mbps	2	149	5745	2.22		10.29	10.04	13.30	27.80		8.20		Pass
11a	6Mbps	2	157	5785	2.22		11.67	11.80	14.81	27.80		8.20		Pass
11a	6Mbps	2	165	5825	2.22		11.92	11.91	14.93	27.80		8.20		Pass
HT20	MCS0	2	149	5745	2.22		11.62	11.82	14.83	27.80		8.20		Pass
HT20	MCS0	2	157	5785	2.22		11.21	11.27	14.28	27.80		8.20		Pass
HT20	MCS0	2	165	5825	2.22		11.58	11.88	14.89	27.80		8.20		Pass
HT40	MCS0	2	151	5755	2.22		9.54	9.38	12.55	27.80		8.20		Pass
HT40	MCS0	2	159	5795	2.22		9.23	9.60	12.61	27.80		8.20		Pass
VHT80	MCS0	2	155	5775	2.22		2.10	2.08	5.11	27.80		8.20		Pass

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

Report Number : FR960638F

<TXBF for AP and Client Mode>

Test Engineer:	Howard Lin	Temperature:	21~25	°C
Test Date:	2019/8/28~2019/8/31	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 2	Ant 3	Ant 2	Ant 3	Ant 2	Ant 3		
VHT20	MCS0	2	149	5745	17.73	17.98	22.68	24.33	16.28	17.53	0.5	Pass
VHT20	MCS0	2	157	5785	17.73	17.88	23.63	27.47	17.08	16.13	0.5	Pass
VHT20	MCS0	2	165	5825	17.68	17.78	22.38	22.43	16.53	17.33	0.5	Pass
VHT40	MCS0	2	151	5755	37.46	37.66	66.89	60.78	32.55	32.22	0.5	Pass
VHT40	MCS0	2	159	5795	36.96	37.46	56.55	69.41	34.44	32.28	0.5	Pass
VHT80	MCS0	2	155	5775	77.08	77.32	95.42	97.34	72.57	74.49	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 2	Ant 3	SUM	Ant 2	Ant 3	Ant 2	Ant 3	
VHT20	MCS0	2	149	5745	22.90	22.40	25.67	27.85		8.20		Pass
VHT20	MCS0	2	157	5785	22.80	22.60	25.71	27.85		8.20		Pass
VHT20	MCS0	2	165	5825	22.80	23.00	25.91	27.85		8.20		Pass
VHT40	MCS0	2	151	5755	23.70	23.90	26.46	27.85		8.20		Pass
VHT40	MCS0	2	159	5795	23.40	23.80	26.41	27.85		8.20		Pass
VHT80	MCS0	2	155	5775	20.60	20.30	23.46	27.85		8.20		Pass

TEST RESULTS DATA
Power Spectral Density

Band IV														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 2	Ant 3	Ant 2	Ant 3	SUM	Ant 2	Ant 3	Ant 2	Ant 3	
VHT20	MCS0	2	149	5745	2.22		11.84	12.50	15.51	27.85		8.15		Pass
VHT20	MCS0	2	157	5785	2.22		12.19	12.21	15.22	27.85		8.15		Pass
VHT20	MCS0	2	165	5825	2.22		12.14	11.63	15.15	27.85		8.15		Pass
VHT40	MCS0	2	151	5755	2.22		10.37	11.28	14.29	27.85		8.15		Pass
VHT40	MCS0	2	159	5795	2.22		10.31	10.84	13.85	27.85		8.15		Pass
VHT80	MCS0	2	155	5775	2.22		7.46	7.23	10.47	27.85		8.15		Pass

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



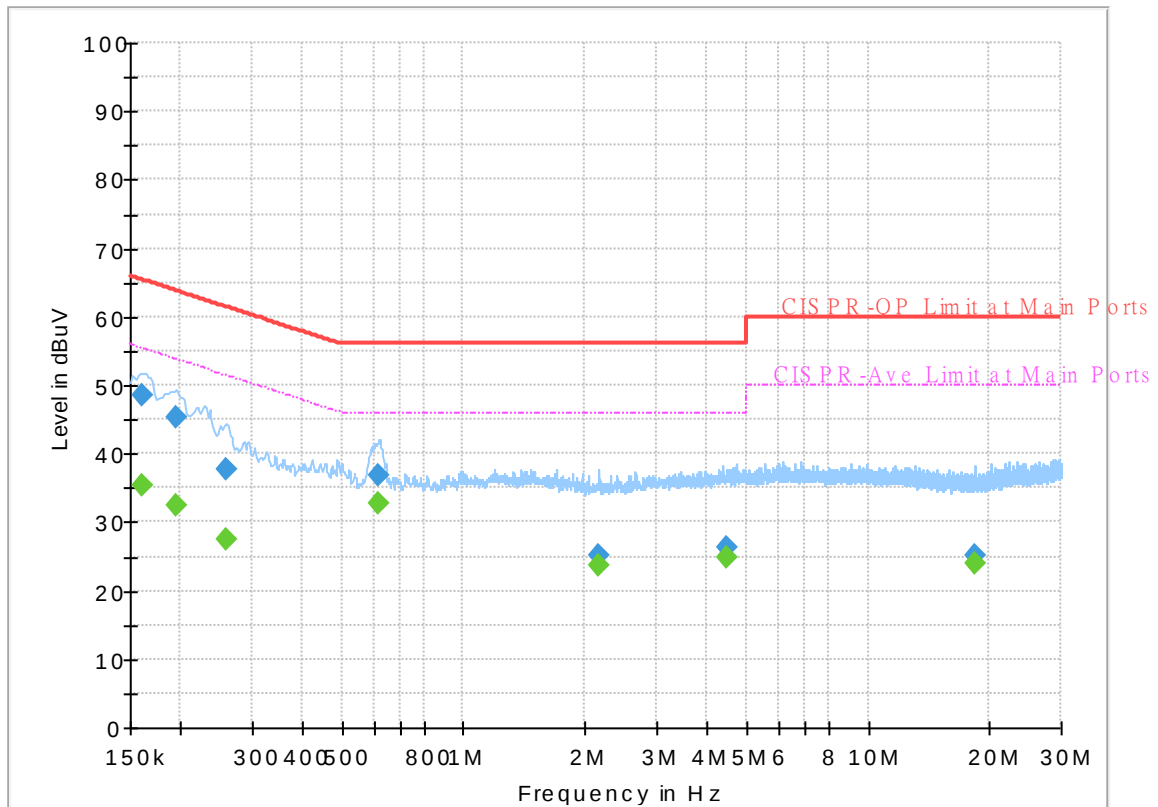
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Jimmy Chang	Temperature :	25.5~26.4℃
		Relative Humidity :	55~58%

EUT Information

Report NO : 960638
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Line

Full Spectrum



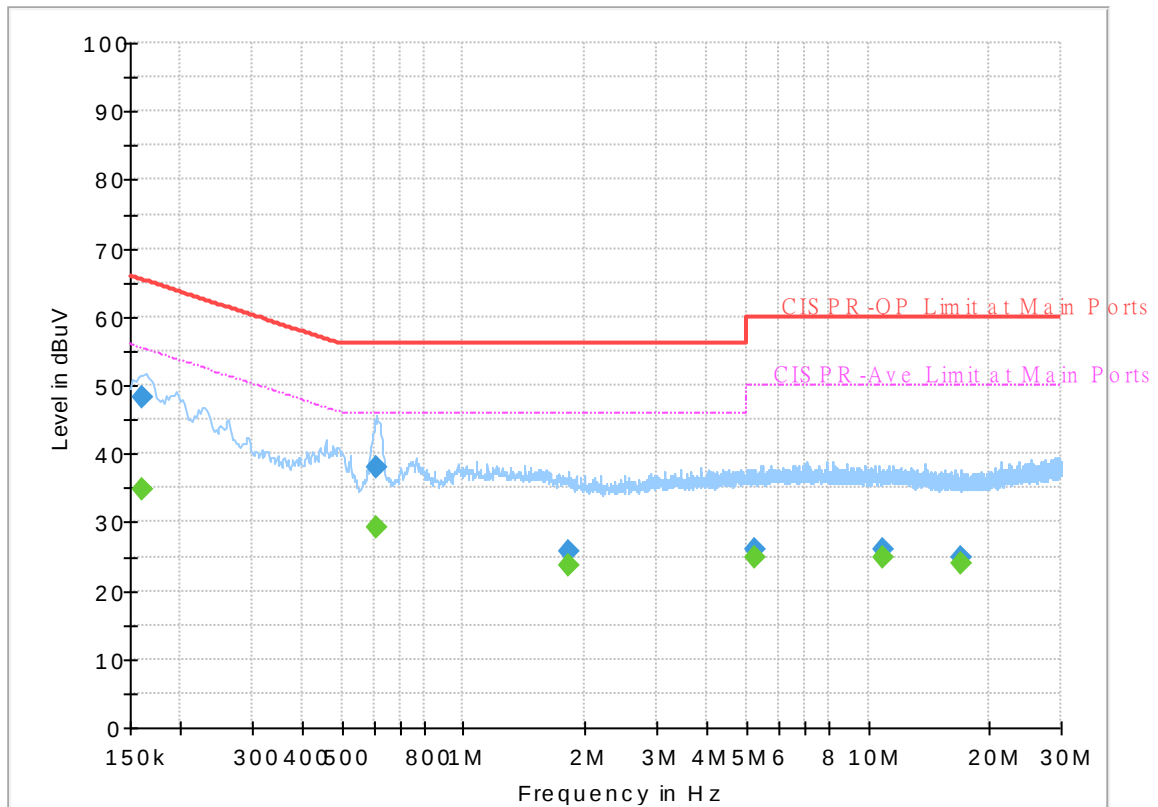
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.161250	---	35.28	55.40	20.12	L1	OFF	19.4
0.161250	48.50	---	65.40	16.90	L1	OFF	19.4
0.195000	---	32.33	53.82	21.49	L1	OFF	19.4
0.195000	45.35	---	63.82	18.47	L1	OFF	19.4
0.258000	---	27.52	51.50	23.98	L1	OFF	19.4
0.258000	37.64	---	61.50	23.86	L1	OFF	19.4
0.615750	---	32.66	46.00	13.34	L1	OFF	19.4
0.615750	36.78	---	56.00	19.22	L1	OFF	19.4
2.150250	---	23.73	46.00	22.27	L1	OFF	19.5
2.150250	25.10	---	56.00	30.90	L1	OFF	19.5
4.465500	---	24.95	46.00	21.05	L1	OFF	19.6
4.465500	26.22	---	56.00	29.78	L1	OFF	19.6
18.449250	---	24.11	50.00	25.89	L1	OFF	20.1
18.449250	25.10	---	60.00	34.90	L1	OFF	20.1

EUT Information

Report NO : 960638
Test Mode : Mode 1
Test Voltage : 120Vac/60Hz
Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.161250	---	34.70	55.40	20.70	N	OFF	19.5
0.161250	48.23	---	65.40	17.17	N	OFF	19.5
0.609000	---	29.31	46.00	16.69	N	OFF	19.5
0.609000	38.14	---	56.00	17.86	N	OFF	19.5
1.821750	---	23.66	46.00	22.34	N	OFF	19.6
1.821750	25.85	---	56.00	30.15	N	OFF	19.6
5.248500	---	24.84	50.00	25.16	N	OFF	19.7
5.248500	25.97	---	60.00	34.03	N	OFF	19.7
10.848750	---	24.91	50.00	25.09	N	OFF	19.9
10.848750	25.96	---	60.00	34.04	N	OFF	19.9
16.944000	---	24.04	50.00	25.96	N	OFF	20.2
16.944000	24.99	---	60.00	35.01	N	OFF	20.2



Appendix C. Radiated Spurious Emission

Test Engineer :	Ryan Lin, JC Liang and Wilson Wu	Temperature :	21.5~23.5°C
		Relative Humidity :	46.5~49.5%

<CDD Mode>

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		5617	54.12	-14.08	68.2	45.44	31.9	6.33	29.55	100	324	P	H
		5698.2	60.37	-43.5	103.87	51.56	32	6.36	29.55	100	324	P	H
		5719.8	68.32	-42.42	110.74	59.46	32.04	6.37	29.55	100	324	P	H
		5723.8	75.59	-43.87	119.46	66.72	32.05	6.37	29.55	100	324	P	H
		5428	60.85	-13.15	74	52.53	31.71	6.15	29.54	217	305	P	H
		5428	52.13	-1.87	54	43.81	31.71	6.15	29.54	217	305	A	H
	*	5745	118.26	-	-	109.34	32.09	6.38	29.55	100	324	P	H
	*	5745	111.22	-	-	102.3	32.09	6.38	29.55	100	324	A	H
													H
		5649.4	51.67	-16.53	68.2	42.98	31.9	6.34	29.55	169	353	P	V
		5699.8	58.92	-46.13	105.05	50.11	32	6.36	29.55	169	353	P	V
		5720	61.95	-48.85	110.8	53.09	32.04	6.37	29.55	169	353	P	V
		5725	70.99	-51.21	122.2	62.12	32.05	6.37	29.55	169	353	P	V
	*	5745	116.03	-	-	107.11	32.09	6.38	29.55	169	353	P	V
	*	5745	108.62	-	-	99.7	32.09	6.38	29.55	169	353	A	V
													V



WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 157 5785MHz		5619.2	57	-11.2	68.2	48.32	31.9	6.33	29.55	202	333	P	H
		5662.6	56.08	-21.47	77.55	47.35	31.93	6.35	29.55	202	333	P	H
		5704.8	55.05	-51.5	106.55	46.23	32.01	6.36	29.55	202	333	P	H
		5724.4	54.09	-66.74	120.83	45.22	32.05	6.37	29.55	202	333	P	H
		5465	64.61	-3.59	68.2	56.14	31.83	6.18	29.54	250	307	P	H
	*	5785	119.95	-	-	110.88	32.24	6.39	29.56	202	333	P	H
	*	5785	111.99	-	-	102.92	32.24	6.39	29.56	202	333	A	H
		5854.8	51.22	-60.04	111.26	41.93	32.41	6.44	29.56	202	333	P	H
		5864.8	51.75	-56.3	108.05	42.43	32.43	6.45	29.56	202	333	P	H
		5908.2	51.22	-29.38	80.6	41.77	32.52	6.49	29.56	202	333	P	H
		5948.8	50.15	-18.05	68.2	40.59	32.6	6.52	29.56	202	333	P	H
													H
													H
		5617.6	54.42	-13.78	68.2	45.74	31.9	6.33	29.55	253	358	P	V
		5651.4	54.47	-14.77	69.24	45.78	31.9	6.34	29.55	253	358	P	V
		5706.6	54	-53.05	107.05	45.18	32.01	6.36	29.55	253	358	P	V
		5720.4	53.79	-57.92	111.71	44.93	32.04	6.37	29.55	253	358	P	V
	*	5785	118	-	-	108.93	32.24	6.39	29.56	253	358	P	V
	*	5785	109.98	-	-	100.91	32.24	6.39	29.56	253	358	A	V
		5854.4	50.64	-61.53	112.17	41.35	32.41	6.44	29.56	253	358	P	V
		5858.6	51.56	-58.23	109.79	42.25	32.42	6.45	29.56	253	358	P	V
		5883.4	50.02	-48.94	98.96	40.64	32.47	6.47	29.56	253	358	P	V
		5950	50.63	-17.57	68.2	41.07	32.6	6.52	29.56	253	358	P	V
													V



WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 165 5825MHz		5505	63.43	-4.77	68.2	54.86	31.9	6.22	29.55	252	307	P	H
	*	5825	119.45	-	-	110.24	32.35	6.42	29.56	224	333	P	H
	*	5825	111.57	-	-	102.36	32.35	6.42	29.56	224	333	A	H
		5850.2	70.23	-51.51	121.74	60.95	32.4	6.44	29.56	224	333	P	H
		5855	66.74	-44.06	110.8	57.45	32.41	6.44	29.56	224	333	P	H
		5875.8	53.73	-50.88	104.61	44.38	32.45	6.46	29.56	224	333	P	H
													H
													H
		5933.2	51.09	-17.11	68.2	41.57	32.57	6.51	29.56	224	333	P	H
	*	5825	117.63	-	-	108.42	32.35	6.42	29.56	255	358	P	V
	*	5825	109.28	-	-	100.07	32.35	6.42	29.56	255	358	A	V
		5853.2	61.98	-52.92	114.9	52.69	32.41	6.44	29.56	255	358	P	V
		5858	61.32	-48.64	109.96	52.01	32.42	6.45	29.56	255	358	P	V
		5903	52.02	-32.42	84.44	42.59	32.51	6.48	29.56	255	358	P	V
		5943.4	51.2	-17	68.2	41.66	32.59	6.51	29.56	255	358	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	48.2	-25.8	74	53.96	40.08	10.46	56.3	100	0	P	H
		17235	49.34	-18.86	68.2	52.86	40.1	12.95	56.57	100	0	P	H
													H
													H
		11490	48.6	-25.4	74	54.36	40.08	10.46	56.3	100	0	P	V
		17235	47.88	-20.32	68.2	51.4	40.1	12.95	56.57	100	0	P	V
													V
													V
802.11a CH 157 5785MHz		11570	48.22	-25.78	74	53.99	40.03	10.5	56.3	100	0	P	H
		17355	48.72	-19.48	68.2	51.76	40.69	13.08	56.81	100	0	P	H
													H
													H
		11570	47.45	-26.55	74	53.22	40.03	10.5	56.3	100	0	P	V
		17355	49.09	-19.11	68.2	52.13	40.69	13.08	56.81	100	0	P	V
													V
													V
802.11a CH 165 5825MHz		11650	47.64	-26.36	74	53.7	39.7	10.54	56.3	100	0	P	H
		17475	49.84	-18.36	68.2	52.23	41.45	13.21	57.05	100	0	P	H
													H
													H
		11650	48.23	-25.77	74	54.29	39.7	10.54	56.3	100	0	P	V
		17475	49.97	-18.23	68.2	52.36	41.45	13.21	57.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		5623.8	54.35	-13.85	68.2	45.67	31.9	6.33	29.55	212	333	P	H
		5699.6	57.84	-47.07	104.91	49.03	32	6.36	29.55	212	333	P	H
		5719.8	69.13	-41.61	110.74	60.27	32.04	6.37	29.55	212	333	P	H
		5724.4	82.97	-37.86	120.83	74.1	32.05	6.37	29.55	212	333	P	H
		5425	60.7	-13.3	74	52.4	31.7	6.14	29.54	262	304	P	H
		5425	51.28	-2.72	54	42.98	31.7	6.14	29.54	262	304	A	H
	*	5745	121.02	-	-	112.1	32.09	6.38	29.55	212	333	P	H
	*	5745	111.96	-	-	103.04	32.09	6.38	29.55	212	333	A	H
													H
		5620.8	53.13	-15.07	68.2	44.45	31.9	6.33	29.55	245	353	P	V
		5699.8	60.09	-44.96	105.05	51.28	32	6.36	29.55	245	353	P	V
		5720	68.97	-41.83	110.8	60.11	32.04	6.37	29.55	245	353	P	V
		5722	75.71	-39.65	115.36	66.85	32.04	6.37	29.55	245	353	P	V
	*	5745	118.11	-	-	109.19	32.09	6.38	29.55	245	353	P	V
	*	5745	109.18	-	-	100.26	32.09	6.38	29.55	245	353	A	V
													V



WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 157 5785MHz		5628.4	55.82	-12.38	68.2	47.14	31.9	6.33	29.55	151	331	P	H
		5688.2	54.9	-41.6	96.5	46.11	31.98	6.36	29.55	151	331	P	H
		5701.4	55.68	-49.91	105.59	46.87	32	6.36	29.55	151	331	P	H
		5720.2	54.23	-57.03	111.26	45.37	32.04	6.37	29.55	151	331	P	H
		5465	63.25	-4.95	68.2	54.78	31.83	6.18	29.54	256	305	P	H
	*	5785	120.5	-	-	111.43	32.24	6.39	29.56	151	331	P	H
	*	5785	111.61	-	-	102.54	32.24	6.39	29.56	151	331	A	H
		5852.2	51.07	-66.11	117.18	41.79	32.4	6.44	29.56	151	331	P	H
		5860.8	52.17	-57	109.17	42.86	32.42	6.45	29.56	151	331	P	H
		5886.8	52.67	-43.77	96.44	43.29	32.47	6.47	29.56	151	331	P	H
		5947.8	51.73	-16.47	68.2	42.17	32.6	6.52	29.56	151	331	P	H
													H
													H
		5631.8	55.33	-12.87	68.2	46.65	31.9	6.33	29.55	252	358	P	V
		5668.8	54.85	-27.3	82.15	46.11	31.94	6.35	29.55	252	358	P	V
		5713.4	53.13	-55.82	108.95	44.28	32.03	6.37	29.55	252	358	P	V
		5722.2	52.5	-63.32	115.82	43.64	32.04	6.37	29.55	252	358	P	V
	*	5785	118.41	-	-	109.34	32.24	6.39	29.56	252	358	P	V
	*	5785	109.66	-	-	100.59	32.24	6.39	29.56	252	358	A	V
		5852.6	49.96	-66.31	116.27	40.67	32.41	6.44	29.56	252	358	P	V
		5864.4	52.03	-56.14	108.17	42.71	32.43	6.45	29.56	252	358	P	V
		5902	50.61	-34.57	85.18	41.19	32.5	6.48	29.56	252	358	P	V
		5942.2	49.9	-18.3	68.2	40.37	32.58	6.51	29.56	252	358	P	V
													V



WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 165 5825MHz		5505	63.6	-4.6	68.2	55.03	31.9	6.22	29.55	243	308	P	H
	*	5825	119.65	-	-	110.44	32.35	6.42	29.56	157	332	P	H
	*	5825	111.52	-	-	102.31	32.35	6.42	29.56	157	332	A	H
		5850.4	63.45	-57.84	121.29	54.17	32.4	6.44	29.56	157	332	P	H
		5857.4	63.2	-46.93	110.13	53.9	32.41	6.45	29.56	157	332	P	H
		5878.2	54.85	-47.97	102.82	45.49	32.46	6.46	29.56	157	332	P	H
		5946.4	51.33	-16.87	68.2	41.78	32.59	6.52	29.56	157	332	P	H
													H
													H
	*	5825	116.87	-	-	107.66	32.35	6.42	29.56	234	359	P	V
	*	5825	109.14	-	-	99.93	32.35	6.42	29.56	234	359	A	V
		5850.2	66.8	-54.94	121.74	57.52	32.4	6.44	29.56	234	359	P	V
		5859.6	58.79	-50.72	109.51	49.48	32.42	6.45	29.56	234	359	P	V
		5877	51.55	-52.16	103.71	42.2	32.45	6.46	29.56	234	359	P	V
		5933.4	49.81	-18.39	68.2	40.29	32.57	6.51	29.56	234	359	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		11490	48.21	-25.79	74	53.97	40.08	10.46	56.3	100	0	P	H
		17235	48.41	-19.79	68.2	51.93	40.1	12.95	56.57	100	0	P	H
													H
													H
		11490	48.72	-25.28	74	54.48	40.08	10.46	56.3	100	0	P	V
		17235	48.44	-19.76	68.2	51.96	40.1	12.95	56.57	100	0	P	V
													V
													V
802.11n HT20 CH 157 5785MHz		11570	47.74	-26.26	74	53.51	40.03	10.5	56.3	100	0	P	H
		17355	49.66	-18.54	68.2	52.7	40.69	13.08	56.81	100	0	P	H
													H
													H
		11570	47.56	-26.44	74	53.33	40.03	10.5	56.3	100	0	P	V
		17355	49.45	-18.75	68.2	52.49	40.69	13.08	56.81	100	0	P	V
													V
													V
802.11n HT20 CH 165 5825MHz		11650	47.07	-26.93	74	53.13	39.7	10.54	56.3	100	0	P	H
		17475	49.08	-19.12	68.2	51.47	41.45	13.21	57.05	100	0	P	H
													H
													H
		11650	47.8	-26.2	74	53.86	39.7	10.54	56.3	100	0	P	V
		17475	49.7	-18.5	68.2	52.09	41.45	13.21	57.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		5619.8	57.31	-10.89	68.2	48.63	31.9	6.33	29.55	196	333	P	H
		5691.8	68.36	-30.79	99.15	59.57	31.98	6.36	29.55	196	333	P	H
		5719.2	88.01	-22.57	110.58	79.15	32.04	6.37	29.55	196	333	P	H
		5720.6	88.59	-23.58	112.17	79.73	32.04	6.37	29.55	196	333	P	H
		5435	59.63	-14.37	74	51.28	31.74	6.15	29.54	245	308	P	H
		5435	50.53	-3.47	54	42.18	31.74	6.15	29.54	245	308	A	H
	*	5755	117.7	-	-	108.76	32.12	6.38	29.56	196	333	P	H
	*	5755	109.99	-	-	101.05	32.12	6.38	29.56	196	333	A	H
		5852	55.28	-62.36	117.64	46	32.4	6.44	29.56	196	333	P	H
		5860.2	54.56	-54.78	109.34	45.25	32.42	6.45	29.56	196	333	P	H
		5898	52.42	-35.72	88.14	43	32.5	6.48	29.56	196	333	P	H
		5932.8	50.47	-17.73	68.2	40.95	32.57	6.51	29.56	196	333	P	H
													H
		5646.4	56.06	-12.14	68.2	47.37	31.9	6.34	29.55	255	358	P	V
		5699.8	67.27	-37.78	105.05	58.46	32	6.36	29.55	255	358	P	V
		5714.8	86.6	-22.75	109.35	77.75	32.03	6.37	29.55	255	358	P	V
		5720.8	86.93	-25.69	112.62	78.07	32.04	6.37	29.55	255	358	P	V
	*	5755	115.67	-	-	106.73	32.12	6.38	29.56	255	358	P	V
	*	5755	107.75	-	-	98.81	32.12	6.38	29.56	255	358	A	V
		5852.8	50.97	-64.85	115.82	41.68	32.41	6.44	29.56	255	358	P	V
		5855.6	51.6	-59.03	110.63	42.31	32.41	6.44	29.56	255	358	P	V
		5878.4	50.61	-52.06	102.67	41.25	32.46	6.46	29.56	255	358	P	V
		5931	50.28	-17.92	68.2	40.78	32.56	6.5	29.56	255	358	P	V
													V



WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 159 5795MHz		5640.2	56.69	-11.51	68.2	48	31.9	6.34	29.55	194	331	P	H
		5699.4	57.12	-47.64	104.76	48.31	32	6.36	29.55	194	331	P	H
		5720	60.28	-50.52	110.8	51.42	32.04	6.37	29.55	194	331	P	H
		5723.2	66.84	-51.26	118.1	57.97	32.05	6.37	29.55	194	331	P	H
		5475	61.28	-6.92	68.2	52.78	31.85	6.2	29.55	251	307	P	H
	*	5795	119.83	-	-	110.71	32.28	6.4	29.56	194	331	P	H
	*	5795	110.72	-	-	101.6	32.28	6.4	29.56	194	331	A	H
		5851.2	64.14	-55.32	119.46	54.86	32.4	6.44	29.56	194	331	P	H
		5866.6	61.31	-46.24	107.55	51.99	32.43	6.45	29.56	194	331	P	H
		5886	56.69	-40.34	97.03	47.31	32.47	6.47	29.56	194	331	P	H
		5925.6	53.42	-14.78	68.2	43.93	32.55	6.5	29.56	194	331	P	H
													H
													H
		5622.2	54.49	-13.71	68.2	45.81	31.9	6.33	29.55	229	358	P	V
		5699.6	57.09	-47.82	104.91	48.28	32	6.36	29.55	229	358	P	V
		5719.4	60.22	-50.41	110.63	51.36	32.04	6.37	29.55	229	358	P	V
		5720.4	58.96	-52.75	111.71	50.1	32.04	6.37	29.55	229	358	P	V
	*	5795	116.39	-	-	107.27	32.28	6.4	29.56	229	358	P	V
	*	5795	107.94	-	-	98.82	32.28	6.4	29.56	229	358	A	V
		5851.2	59.27	-60.19	119.46	49.99	32.4	6.44	29.56	229	358	P	V
		5859	60.07	-49.61	109.68	50.76	32.42	6.45	29.56	229	358	P	V
		5881	56.69	-44.05	100.74	47.33	32.46	6.46	29.56	229	358	P	V
		5935.6	51.24	-16.96	68.2	41.72	32.57	6.51	29.56	229	358	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path 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	47.22	-26.78	74	52.96	40.09	10.47	56.3	100	0	P	H
		17265	48.22	-19.98	68.2	51.68	40.19	12.98	56.63	100	0	P	H
													H
													H
		11510	47.48	-26.52	74	53.22	40.09	10.47	56.3	100	0	P	V
		17265	48.66	-19.54	68.2	52.12	40.19	12.98	56.63	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11590	46.85	-27.15	74	52.63	40.01	10.51	56.3	100	0	P	H
		17385	49.46	-18.74	68.2	52.32	40.9	13.11	56.87	100	0	P	H
													H
													H
		11590	46.9	-27.1	74	52.68	40.01	10.51	56.3	100	0	P	V
		17385	48.51	-19.69	68.2	51.37	40.9	13.11	56.87	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		5650	66.54	-1.66	68.2	57.85	31.9	6.34	29.55	188	331	P	H
		5695.8	80.21	-21.89	102.1	71.41	31.99	6.36	29.55	188	331	P	H
		5713.4	82.55	-26.4	108.95	73.7	32.03	6.37	29.55	188	331	P	H
		5720	79.64	-31.16	110.8	70.78	32.04	6.37	29.55	188	331	P	H
	*	5775	111.98	-	-	102.95	32.2	6.39	29.56	188	331	P	H
	*	5775	104.22	-	-	95.19	32.2	6.39	29.56	188	331	A	H
		5852.6	71.95	-44.32	116.27	62.66	32.41	6.44	29.56	188	331	P	H
		5858.8	72.64	-37.09	109.73	63.33	32.42	6.45	29.56	188	331	P	H
		5876.2	68.85	-35.46	104.31	59.5	32.45	6.46	29.56	188	331	P	H
		5934.6	54.34	-13.86	68.2	44.82	32.57	6.51	29.56	188	331	P	H
													H
													H
		5647.8	64.08	-4.12	68.2	55.39	31.9	6.34	29.55	240	353	P	V
		5689.8	75.3	-22.38	97.68	66.51	31.98	6.36	29.55	240	353	P	V
		5705.6	78.57	-28.2	106.77	69.75	32.01	6.36	29.55	240	353	P	V
		5724.4	79.56	-41.27	120.83	70.69	32.05	6.37	29.55	240	353	P	V
	*	5775	109.72	-	-	100.69	32.2	6.39	29.56	240	353	P	V
	*	5775	101.89	-	-	92.86	32.2	6.39	29.56	240	353	A	V
		5851.4	69.37	-49.64	119.01	60.09	32.4	6.44	29.56	240	353	P	V
		5868.8	66.8	-40.13	106.93	57.46	32.44	6.46	29.56	240	353	P	V
		5875	63.31	-41.89	105.2	53.96	32.45	6.46	29.56	240	353	P	V
		5931	51.06	-17.14	68.2	41.56	32.56	6.5	29.56	240	353	P	V
													V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		11550	46.59	-27.41	74	52.35	40.05	10.49	56.3	100	0	P	H
		17325	48.96	-19.24	68.2	52.2	40.47	13.04	56.75	100	0	P	H
													H
													H
		11550	46.52	-27.48	74	52.28	40.05	10.49	56.3	100	0	P	V
		17325	48.17	-20.03	68.2	51.41	40.47	13.04	56.75	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
5GHz 802.11ac VHT80 LF		137.67	29.26	-14.24	43.5	43.23	17.2	1.01	32.18	-	-	P	H
		233.7	30.56	-15.44	46	45.15	16.24	1.31	32.14	-	-	P	H
		370.47	34.77	-11.23	46	44.79	20.51	1.63	32.16	-	-	P	H
		411.21	35.05	-10.95	46	43.57	21.87	1.77	32.16	-	-	P	H
		894.27	35.58	-10.42	46	35.72	28.69	2.61	31.44	100	0	P	H
		951.5	33.65	-12.35	46	31.43	30.53	2.66	30.97	-	-	P	H
													H
													H
													H
													H
													H
													H
		32.91	33.53	-6.47	40	42.2	23.15	0.47	32.29	100	0	P	V
		39.7	32.07	-7.93	40	44.23	19.61	0.52	32.29	-	-	P	V
		128.94	23.64	-19.86	43.5	37.56	17.29	0.98	32.19	-	-	P	V
		163.86	23.32	-20.18	43.5	38.58	15.81	1.1	32.17	-	-	P	V
		406.36	35.2	-10.8	46	43.86	21.73	1.77	32.16	-	-	P	V
		959.26	33.57	-12.43	46	31.11	30.69	2.68	30.91	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



<TXBF Mode>

Band 4 - 5725~5850MHz

WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT20 CH 149 5745MHz		5614.2	54.82	-13.38	68.2	46.24	31.8	6.33	29.55	101	181	P	H
		5700	60.15	-45.05	105.2	51.34	32	6.36	29.55	101	181	P	H
		5720	70.89	-39.91	110.8	61.99	32.08	6.37	29.55	101	181	P	H
		5723.6	80.92	-38.09	119.01	72.01	32.09	6.37	29.55	101	181	P	H
		5424	60.23	-13.77	74	51.93	31.7	6.14	29.54	235	300	P	H
		5424	50.99	-3.01	54	42.69	31.7	6.14	29.54	235	300	A	H
	*	5745	119.29	-	-	110.28	32.18	6.38	29.55	101	181	P	H
	*	5745	110.77	-	-	101.76	32.18	6.38	29.55	101	181	A	H
		5646.6	57.55	-10.65	68.2	48.96	31.8	6.34	29.55	129	350	P	V
		5699.8	64.43	-40.62	105.05	55.62	32	6.36	29.55	129	350	P	V
		5720	71.77	-39.03	110.8	62.87	32.08	6.37	29.55	129	350	P	V
		5724.2	78.21	-42.17	120.38	69.29	32.1	6.37	29.55	129	350	P	V
		5424	56.42	-17.58	74	48.12	31.7	6.14	29.54	129	350	P	V
		5424	47.64	-6.36	54	39.34	31.7	6.14	29.54	129	350	A	V
	*	5745	117.85	-	-	108.84	32.18	6.38	29.55	129	350	P	V
	*	5745	109.01	-	-	100	32.18	6.38	29.55	129	350	A	V



WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT20 CH 157 5785MHz		5645.6	54.83	-13.37	68.2	46.24	31.8	6.34	29.55	238	190	P	H
		5685.8	57.81	-36.91	94.72	49.07	31.94	6.35	29.55	238	190	P	H
		5716	58.24	-51.44	109.68	49.36	32.06	6.37	29.55	238	190	P	H
		5723.2	53.89	-64.21	118.1	44.98	32.09	6.37	29.55	238	190	P	H
		5465	65.07	-3.13	68.2	56.6	31.83	6.18	29.54	236	305	P	H
	*	5785	120.53	-	-	111.43	32.27	6.39	29.56	238	190	P	H
	*	5785	112.06	-	-	102.96	32.27	6.39	29.56	238	190	A	H
		5850	53.92	-68.28	122.2	44.64	32.4	6.44	29.56	238	190	P	H
		5861.4	55.05	-53.96	109.01	45.71	32.45	6.45	29.56	238	190	P	H
		5879.8	53.52	-48.11	101.63	44.1	32.52	6.46	29.56	238	190	P	H
		5937.6	52.97	-15.23	68.2	43.34	32.68	6.51	29.56	238	190	P	H
													H
		5617.8	54.28	-13.92	68.2	45.7	31.8	6.33	29.55	316	5	P	V
		5683	56.13	-36.53	92.66	47.4	31.93	6.35	29.55	316	5	P	V
		5712.6	58.27	-50.46	108.73	49.4	32.05	6.37	29.55	316	5	P	V
		5720.2	57.63	-53.63	111.26	48.73	32.08	6.37	29.55	316	5	P	V
		5465	59.5	-8.7	68.2	51.03	31.83	6.18	29.54	319	356	P	V
	*	5785	118.25	-	-	109.15	32.27	6.39	29.56	316	5	P	V
	*	5785	108.66	-	-	99.56	32.27	6.39	29.56	316	5	A	V
		5855	54.14	-56.66	110.8	44.84	32.42	6.44	29.56	316	5	P	V
		5855.9	54.14	-56.41	110.55	44.84	32.42	6.44	29.56	316	5	P	V
		5878.2	52.87	-49.95	102.82	43.46	32.51	6.46	29.56	316	5	P	V
		5946	51.43	-16.77	68.2	41.78	32.69	6.52	29.56	316	5	P	V
													V



WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT20 CH 165 5825MHz		5506	63.4	-4.8	68.2	54.82	31.9	6.23	29.55	247	307	P	H
	*	5825	120.92	-	-	111.71	32.35	6.42	29.56	248	306	P	H
	*	5825	112.92	-	-	103.71	32.35	6.42	29.56	248	306	A	H
		5850	68.59	-53.61	122.2	59.31	32.4	6.44	29.56	248	306	P	H
		5869.2	64.93	-41.89	106.82	55.55	32.48	6.46	29.56	248	306	P	H
		5924	54.81	-14.13	68.94	45.22	32.65	6.5	29.56	248	306	P	H
		5928	53.36	-14.84	68.2	43.76	32.66	6.5	29.56	248	306	P	H
													H
		5512	57.64	-10.56	68.2	49.06	31.9	6.23	29.55	257	357	P	V
	*	5825	117.74	-	-	108.53	32.35	6.42	29.56	257	357	P	V
	*	5825	109.33	-	-	100.12	32.35	6.42	29.56	257	357	A	V
		5851	63.42	-56.5	119.92	54.14	32.4	6.44	29.56	257	357	P	V
		5860.8	61.48	-47.69	109.17	52.15	32.44	6.45	29.56	257	357	P	V
		5875.2	56.07	-48.98	105.05	46.67	32.5	6.46	29.56	257	357	P	V
		5927	51.01	-17.19	68.2	41.42	32.65	6.5	29.56	257	357	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT20 CH 149 5745MHz		11490	48.75	-25.25	74	54.69	39.9	10.46	56.3	100	0	P	H
		17235	45.29	-22.91	68.2	48.97	39.94	12.95	56.57	100	0	P	H
													H
													H
		11490	49.34	-24.66	74	55.28	39.9	10.46	56.3	100	0	P	V
		17235	43.6	-24.6	68.2	47.28	39.94	12.95	56.57	100	0	P	V
													V
													V
802.11ac VHT20 CH 157 5785MHz		11570	46.89	-27.11	74	52.86	39.83	10.5	56.3	100	0	P	H
		17355	44.42	-23.78	68.2	47.82	40.33	13.08	56.81	100	0	P	H
													H
													H
		11570	47.03	-26.97	74	53	39.83	10.5	56.3	100	0	P	V
		17355	44.23	-23.97	68.2	47.63	40.33	13.08	56.81	100	0	P	V
													V
													V
802.11ac VHT20 CH 165 5825MHz		11650	46.63	-27.37	74	52.84	39.55	10.54	56.3	100	0	P	H
		17475	45.09	-23.11	68.2	48.1	40.83	13.21	57.05	100	0	P	H
													H
													H
		11650	46.91	-27.09	74	53.12	39.55	10.54	56.3	100	0	P	V
		17475	44.58	-23.62	68.2	47.59	40.83	13.21	57.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT40 CH 151 5755MHz		5604.8	60.43	-7.77	68.2	51.86	31.8	6.32	29.55	240	308	P	H
		5699.4	71.39	-33.37	104.76	62.58	32	6.36	29.55	240	308	P	H
		5719.6	89.72	-20.97	110.69	80.82	32.08	6.37	29.55	240	308	P	H
		5724.8	93.09	-28.65	121.74	84.17	32.1	6.37	29.55	240	308	P	H
	*	5755	121.19	-	-	112.16	32.21	6.38	29.56	240	308	P	H
	*	5755	111.67	-	-	102.64	32.21	6.38	29.56	240	308	A	H
		5851.2	57.06	-62.4	119.46	47.78	32.4	6.44	29.56	240	308	P	H
		5867.2	54.66	-52.72	107.38	45.3	32.47	6.45	29.56	240	308	P	H
		5875.2	53.55	-51.5	105.05	44.15	32.5	6.46	29.56	240	308	P	H
		5947.4	52.03	-16.17	68.2	42.38	32.69	6.52	29.56	240	308	P	H
													H
													H
		5642.4	57.84	-10.36	68.2	49.25	31.8	6.34	29.55	228	351	P	V
		5699.6	65.63	-39.28	104.91	56.82	32	6.36	29.55	228	351	P	V
		5717.8	83.58	-26.6	110.18	74.69	32.07	6.37	29.55	228	351	P	V
		5723.2	88.22	-29.88	118.1	79.31	32.09	6.37	29.55	228	351	P	V
	*	5755	117.89	-	-	108.86	32.21	6.38	29.56	228	351	P	V
	*	5755	111.09	-	-	102.06	32.21	6.38	29.56	228	351	A	V
		5850	54.71	-67.49	122.2	45.43	32.4	6.44	29.56	228	351	P	V
		5855.4	52.56	-58.13	110.69	43.26	32.42	6.44	29.56	228	351	P	V
		5876.8	51.97	-51.89	103.86	42.56	32.51	6.46	29.56	228	351	P	V
		5931	50.41	-17.79	68.2	40.81	32.66	6.5	29.56	228	351	P	V
													V
													V



WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT40 CH 159 5795MHz		5637.2	58.16	-10.04	68.2	49.58	31.8	6.33	29.55	244	307	P	H
		5695.6	61.12	-40.84	101.96	52.33	31.98	6.36	29.55	244	307	P	H
		5717	67.22	-42.74	109.96	58.33	32.07	6.37	29.55	244	307	P	H
		5724.2	67.06	-53.32	120.38	58.14	32.1	6.37	29.55	244	307	P	H
		5482	62.44	-5.76	68.2	53.93	31.86	6.2	29.55	244	307	P	H
	*	5795	119.92	-	-	110.79	32.29	6.4	29.56	244	307	P	H
	*	5795	111.38	-	-	102.25	32.29	6.4	29.56	244	307	A	H
		5850.2	68.35	-53.39	121.74	59.07	32.4	6.44	29.56	244	307	P	H
		5856	66.7	-43.82	110.52	57.4	32.42	6.44	29.56	244	307	P	H
		5878.6	61.24	-41.29	102.53	51.83	32.51	6.46	29.56	244	307	P	H
		5941.2	51.75	-16.45	68.2	42.12	32.68	6.51	29.56	244	307	P	H
													H
		5629.2	56.07	-12.13	68.2	47.49	31.8	6.33	29.55	227	349	P	V
		5698	57.24	-46.49	103.73	48.44	31.99	6.36	29.55	227	349	P	V
		5718.8	60.52	-49.94	110.46	51.62	32.08	6.37	29.55	227	349	P	V
		5723.4	61.1	-57.45	118.55	52.19	32.09	6.37	29.55	227	349	P	V
		5476	57.2	-11	68.2	48.7	31.85	6.2	29.55	227	349	P	V
	*	5795	115.96	-	-	106.83	32.29	6.4	29.56	227	349	P	V
	*	5795	107.04	-	-	97.91	32.29	6.4	29.56	227	349	A	V
		5850.6	62.55	-58.28	120.83	53.27	32.4	6.44	29.56	227	349	P	V
		5860.4	61.54	-47.75	109.29	52.21	32.44	6.45	29.56	227	349	P	V
		5876	56.81	-47.65	104.46	47.41	32.5	6.46	29.56	227	349	P	V
		5936.8	51.26	-16.94	68.2	41.64	32.67	6.51	29.56	227	349	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT40 CH 151 5755MHz		11510	48.11	-25.89	74	54.05	39.89	10.47	56.3	100	0	P	H
		17265	47.95	-20.25	68.2	51.63	39.97	12.98	56.63	100	0	P	H
													H
													H
		11510	47.63	-26.37	74	53.57	39.89	10.47	56.3	100	0	P	V
		17265	48.27	-19.93	68.2	51.95	39.97	12.98	56.63	100	0	P	V
													V
													V
802.11ac VHT40 CH 159 5795MHz		11590	45.78	-28.22	74	51.76	39.81	10.51	56.3	100	0	P	H
		17385	47.8	-20.4	68.2	51.05	40.51	13.11	56.87	100	0	P	H
													H
													H
		11590	46.63	-27.37	74	52.61	39.81	10.51	56.3	100	0	P	V
		17385	48.76	-19.44	68.2	52.01	40.51	13.11	56.87	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		5632	61.69	-6.51	68.2	53.11	31.8	6.33	29.55	246	309	P	H
		5669.2	77.3	-5.15	82.45	68.62	31.88	6.35	29.55	246	309	P	H
		5715.8	78.43	-31.2	109.63	69.55	32.06	6.37	29.55	246	309	P	H
		5724.4	68.41	-52.42	120.83	59.49	32.1	6.37	29.55	246	309	P	H
	*	5775	111.62	-	-	102.54	32.25	6.39	29.56	246	309	P	H
	*	5775	101.53	-	-	92.45	32.25	6.39	29.56	246	309	A	H
		5854.4	61.69	-50.48	112.17	52.39	32.42	6.44	29.56	246	309	P	H
		5860.6	77.2	-32.03	109.23	67.87	32.44	6.45	29.56	246	309	P	H
		5899	58.57	-28.83	87.4	49.05	32.6	6.48	29.56	246	309	P	H
		5927.6	52.17	-16.03	68.2	42.57	32.66	6.5	29.56	246	309	P	H
													H
													H
		5649	60.65	-7.55	68.2	52.06	31.8	6.34	29.55	127	350	P	V
		5695.4	72.9	-28.91	101.81	64.11	31.98	6.36	29.55	127	350	P	V
		5716.8	79.34	-30.57	109.91	70.45	32.07	6.37	29.55	127	350	P	V
		5720.6	65.09	-47.08	112.17	56.19	32.08	6.37	29.55	127	350	P	V
	*	5775	110.19	-	-	101.11	32.25	6.39	29.56	127	350	P	V
	*	5775	100.6	-	-	91.52	32.25	6.39	29.56	127	350	A	V
		5855	53.56	-57.24	110.8	44.26	32.42	6.44	29.56	127	350	P	V
		5871	63.18	-43.14	106.32	53.8	32.48	6.46	29.56	127	350	P	V
		5891.8	52.54	-40.19	92.73	43.06	32.57	6.47	29.56	127	350	P	V
		5927.6	53.21	-14.99	68.2	43.61	32.66	6.5	29.56	127	350	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 2+3	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		11550	47.28	-26.72	74	53.24	39.85	10.49	56.3	100	0	P	H
		17325	47.38	-20.82	68.2	50.94	40.15	13.04	56.75	100	0	P	H
													H
													H
		11550	45.42	-28.58	74	51.38	39.85	10.49	56.3	100	0	P	V
		17325	47.68	-20.52	68.2	51.24	40.15	13.04	56.75	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11ac VHT20 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
5GHz 802.11ac VHT20 LF		60.07	33.1	-6.9	40	53.17	11.6	0.6	32.27	-	-	P	H
		120.21	36.69	-6.81	43.5	50.84	17.1	0.95	32.2	-	-	P	H
		154.16	37.17	-6.33	43.5	51.76	16.52	1.06	32.17	100	0	P	H
		167.74	37.02	-6.48	43.5	52.57	15.5	1.11	32.16	-	-	P	H
		894.27	39.65	-6.35	46	39.79	28.69	2.61	31.44	-	-	P	H
		959.26	36.68	-9.32	46	34.22	30.69	2.68	30.91	-	-	P	H
													H
													H
													H
													H
													H
													H
		39.7	33.76	-6.24	40	45.92	19.61	0.52	32.29	100	0	P	V
		94.02	37.17	-6.33	43.5	53.71	14.9	0.78	32.22	-	-	P	V
		125.06	36.37	-7.13	43.5	50.39	17.2	0.97	32.19	-	-	P	V
		233.7	30.92	-15.08	46	45.51	16.24	1.31	32.14	-	-	P	V
		418	33.09	-12.91	46	41.32	22.16	1.77	32.16	-	-	P	V
		894.27	36.53	-9.47	46	36.67	28.69	2.61	31.44	-	-	P	V
													V
													V
												V	
												V	
												V	
												V	
												V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	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	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2+3		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
 = Antenna Factor(dB/m) + Path 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) + Path 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 :	Ryan Lin, JC Liang and Wilson Wu	Temperature :	21.5~23.5°C
		Relative Humidity :	46.5~49.5%

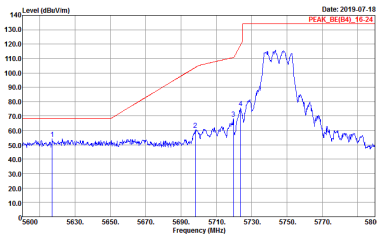
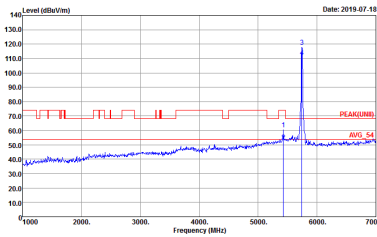
Note symbol

-L	Low channel location
-R	High channel location

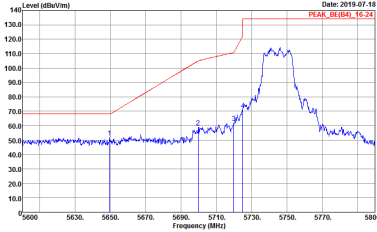
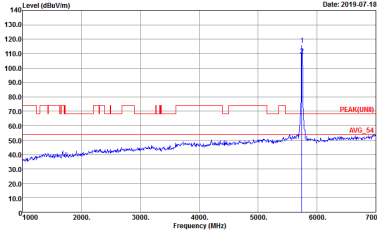


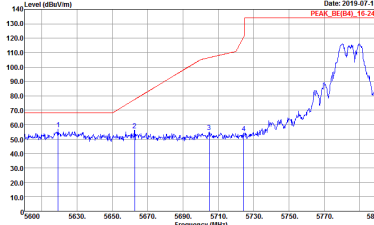
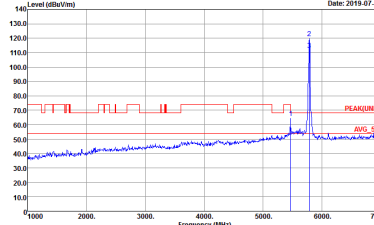
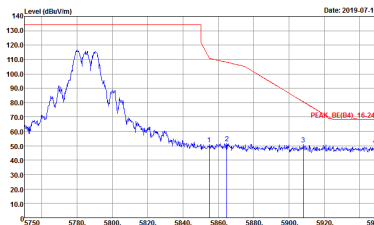
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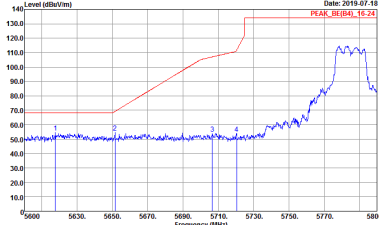
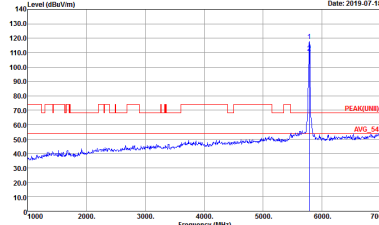
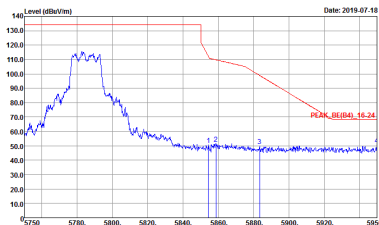
Band 4 - 5725~5850MHz
WIFI 802.11a (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 960638 Power : 59 : 21.5	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 960638 Power : 59 : 21.5

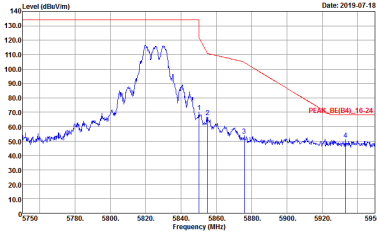
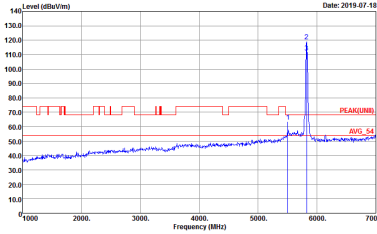


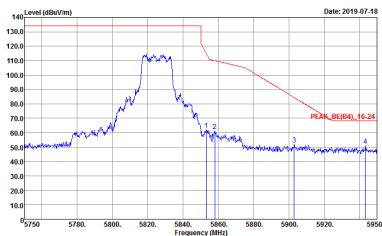
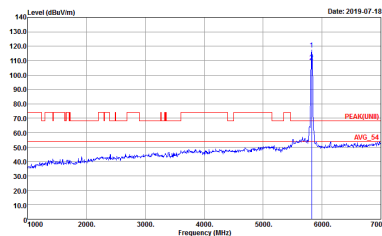
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-4V Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 59 Power : 21.5	 Site : 03CH13-4V Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 59 Power : 21.5

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 60 Power : 23	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 60 Power : 23
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 60 Power : 23	Left blank

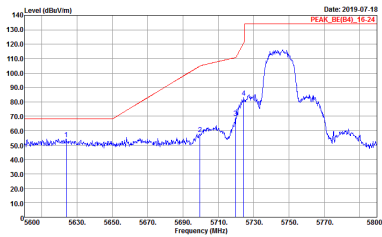
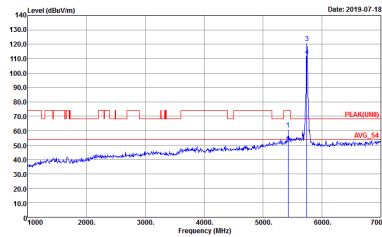
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 60 Power : 23	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 60 Power : 23
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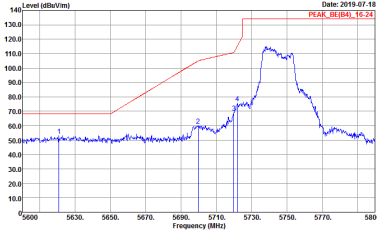
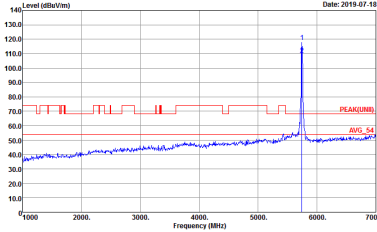
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 61 Power : 23	 Site : 03CH13-1HY Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 61 Power : 23

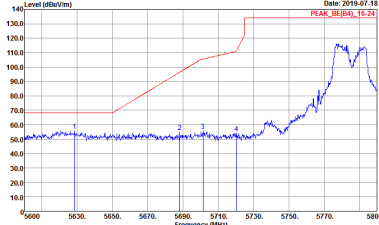
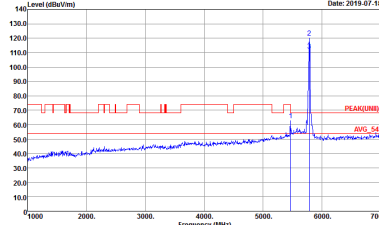
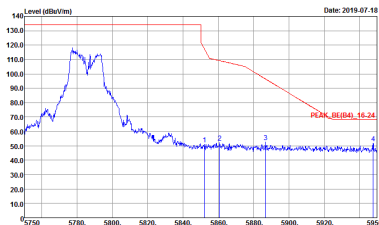
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 61 Power : 23	 Site : 03CH13-1HY Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 61 Power : 23

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

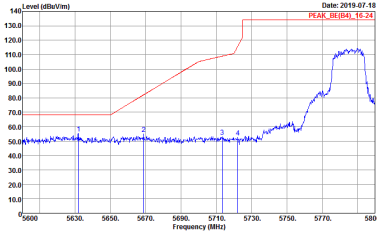
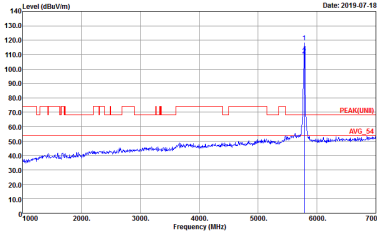
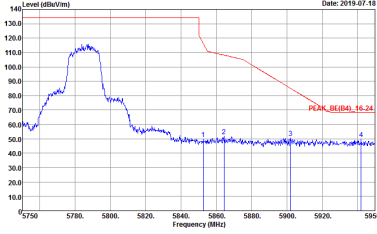
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_9120D_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 62 Power : 23	 Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_9120D_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 62 Power : 23



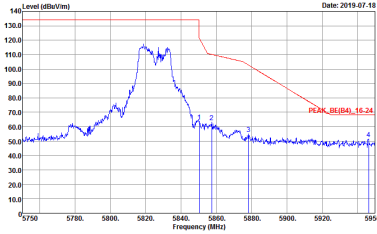
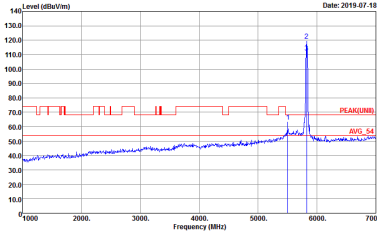
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 62 Power : 23	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 62 Power : 23

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 63 Power : 23	 Site : 03CH13-1HY Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 63 Power : 23
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 63 Power : 23	Left blank

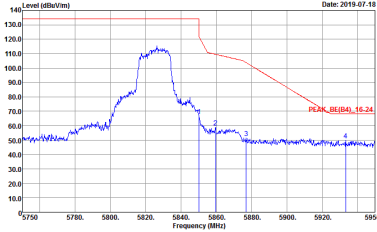
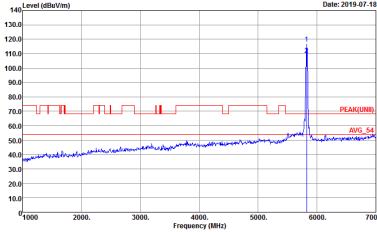


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 960638 Power : 63 Date: 2019-07-18	 Site : 03CH13-1HY Condition : PEAK_UNI(1) 3m HORN_91200_1212 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 960638 Power : 63 Date: 2019-07-18
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 960638 Power : 63 Date: 2019-07-18	Left blank



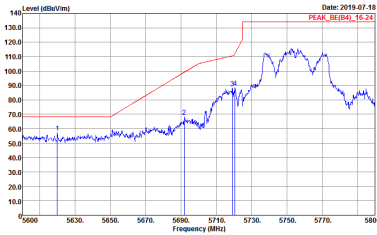
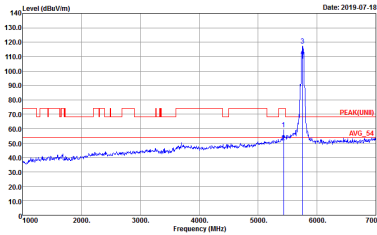
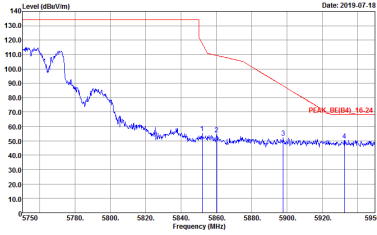
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-1V Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 64 Power : 23	 Site : 03CH13-1V Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 64 Power : 23

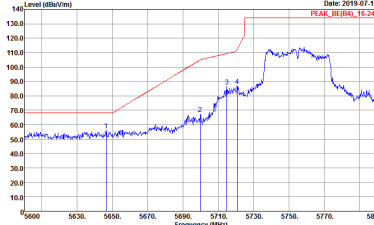
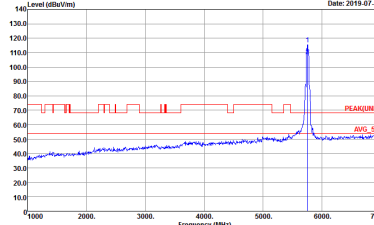
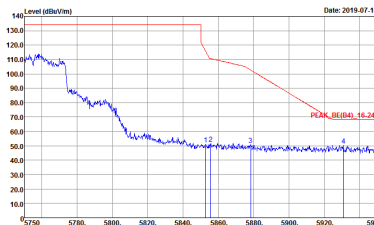


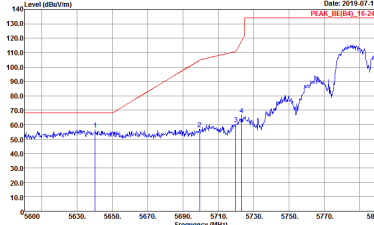
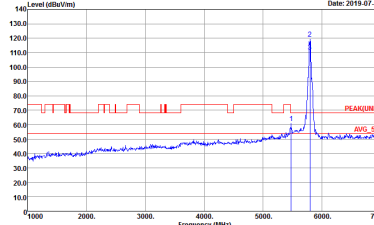
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1212 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 64 Power : 23	 Site : 03CH13-HY Condition : PEAK(FB)_16-24 3m HORN_91200_1212 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 64 Power : 23

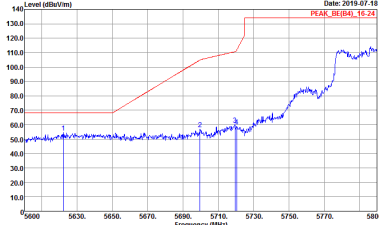
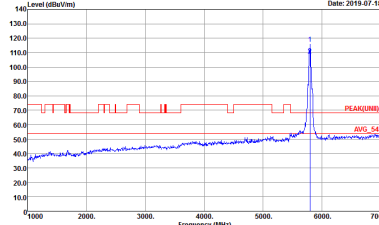
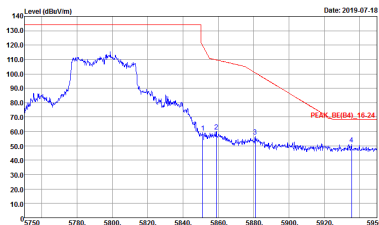


Band 4 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 65 Power : 23	 Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 65 Power : 23
Peak	 Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 65 Power : 23	Left blank

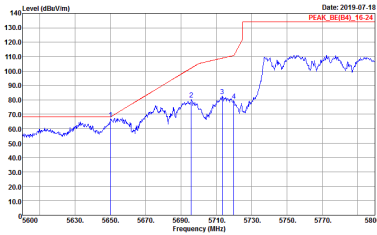
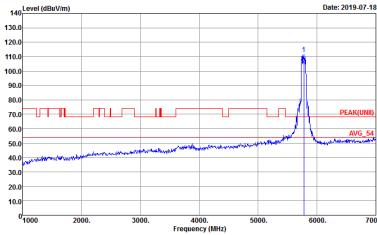
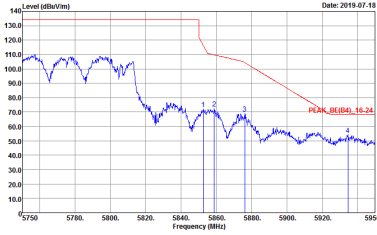
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 65 Power : 23	 Site : 03CH13-1HY Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 65 Power : 23
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 65 Power : 23	Left blank

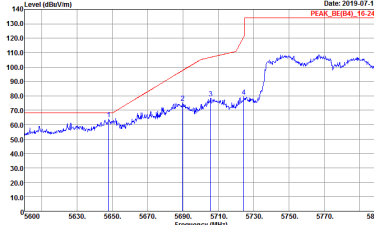
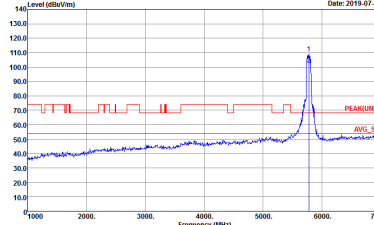
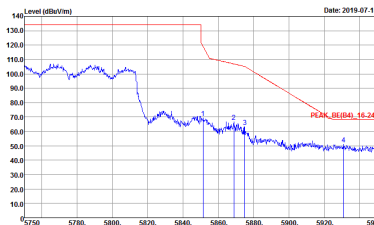
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 66 Power : 23	 Site : 03CH13-1HY Condition : PEAK_F(04)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 66 Power : 23
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 66 Power : 23	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 66 Power : 23	 Site : 03CH13-1HY Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 66 Power : 23
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 66 Power : 23	Left blank



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

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1212 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 67 Power : 20	 Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1212 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 67 Power : 20
Peak	 Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1212 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 67 Power : 20	Left blank

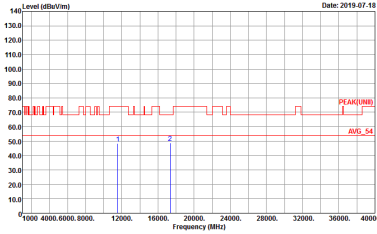
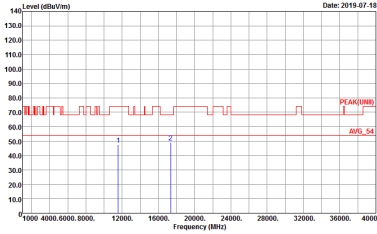
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 67 Power : 20	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 67 Power : 20
Peak	 Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 67 Power : 20	Left blank



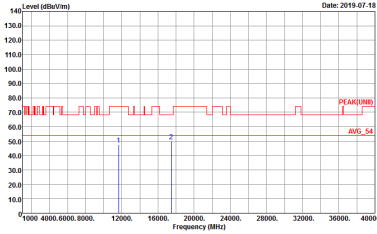
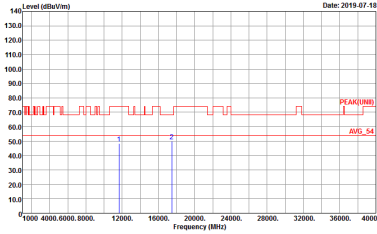
Band 4 - 5725~5850MHz
WIFI 802.11a (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
2+3	Horizontal	Vertical
Peak Avg.	Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 159 Power : 21.5	Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 159 Power : 21.5

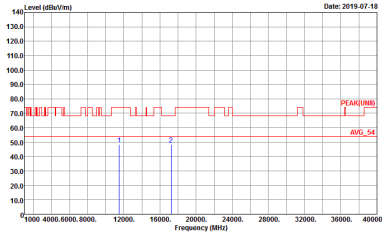
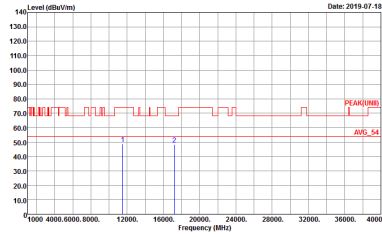


WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-1V Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 60 Power : 23	 Site : 03CH13-1V Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 60 Power : 23

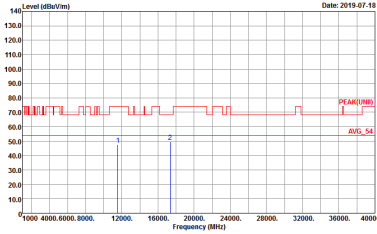
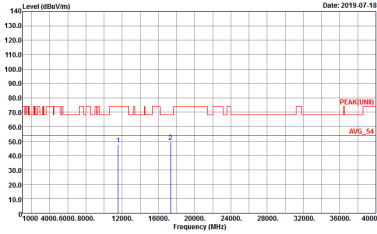


WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-1V Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 61 Power : 23	 Site : 03CH13-1V Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 61 Power : 23

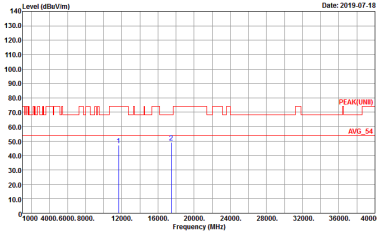
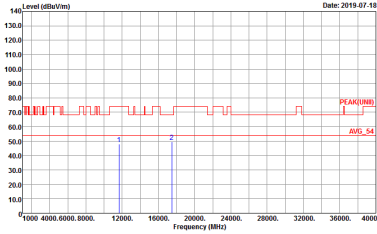
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 62 Power : 23	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 62 Power : 23

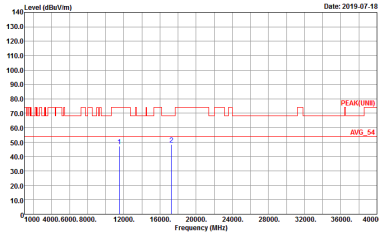
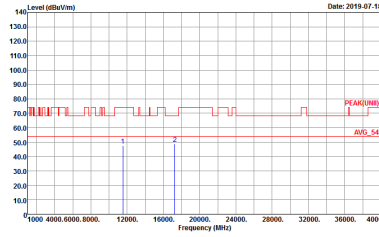


WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-1V Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 63 Power : 23	 Site : 03CH13-1V Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 63 Power : 23

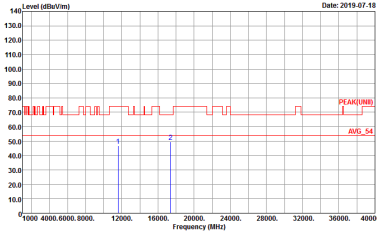
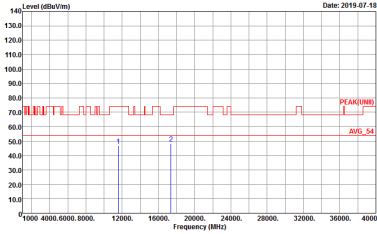


WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HV Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 64 Power : 23	 Site : 03CH13-HV Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 64 Power : 23

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

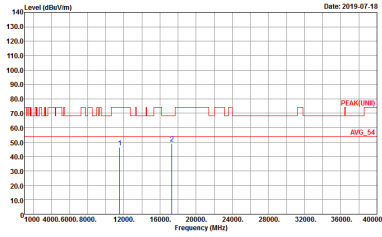
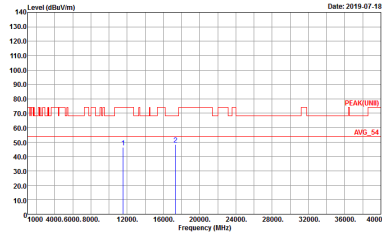
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 65 Power : 23	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 65 Power : 23



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HV Condition : PEAK(UWB) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 60 Power : 23	 Site : 03CH13-HV Condition : PEAK(UWB) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 60 Power : 23

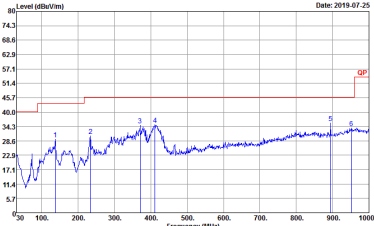
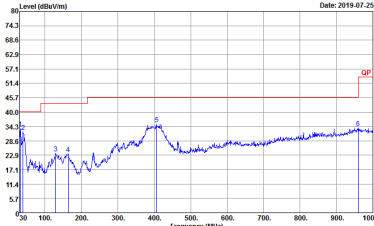


Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1212 HORIZONTAL Detector : Peak Project : 960638 Mode : 67 Power : 20	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1212 VERTICAL Detector : Peak Project : 960638 Mode : 67 Power : 20



Emission below 1GHz
5GHz WIFI 802.11ac VHT80 (LF)

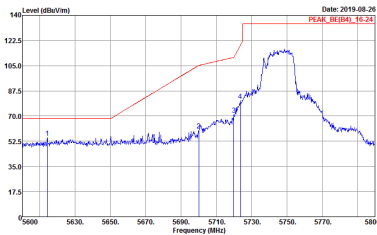
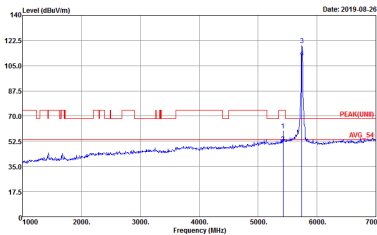
WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 LF	
2+3	Horizontal	Vertical
QP / Peak	 Site : 03CH13-HY Condition : QP 3m BTL06_40103 HORIZONTAL Detector : Peak Project : 960638 Mode : 74	 Site : 03CH13-HY Condition : QP 3m BTL06_40103 VERTICAL Detector : Peak Project : 960638 Mode : 74



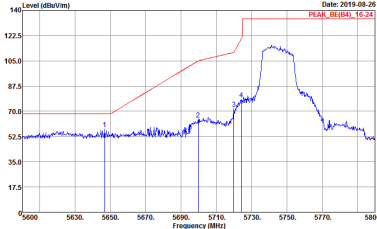
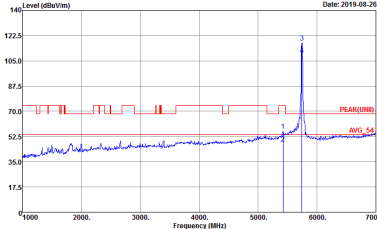
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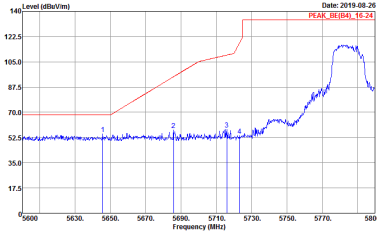
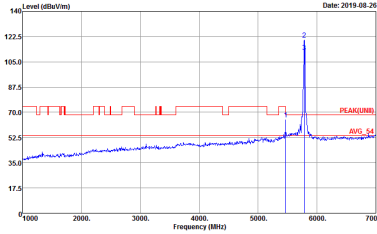
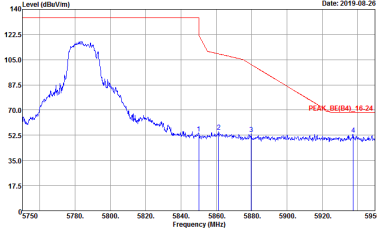
Band 4 - 5725~5850MHz

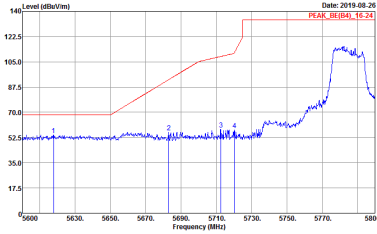
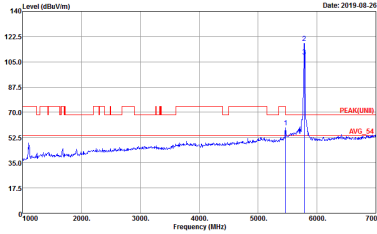
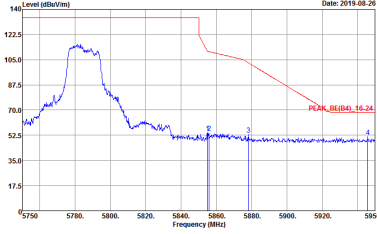
WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH149 5745MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Project : Peak Mode : 68 Setting : 27	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Project : Peak Mode : 68 Setting : 27

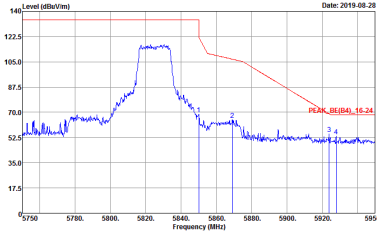
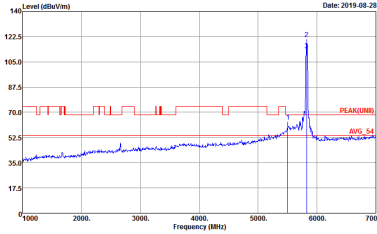


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH149 5745MHz	
2+3	Vertical	Fundamental
Peak Avg.	 Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 68 Setting : Z7	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 68 Setting : Z7

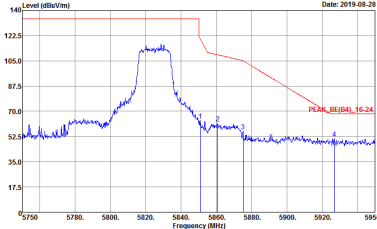
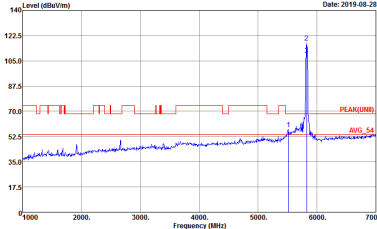
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH157 5785MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 69 Setting : Z7	 Site : 03CH13-1HY Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 69 Setting : Z7
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 69 Setting : Z7	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH157 5785MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 69 Setting : Z7	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 69 Setting : Z7
	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 69 Setting : Z7	Left blank



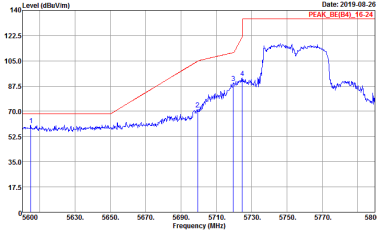
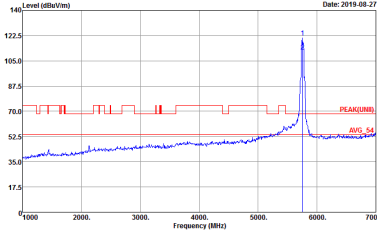
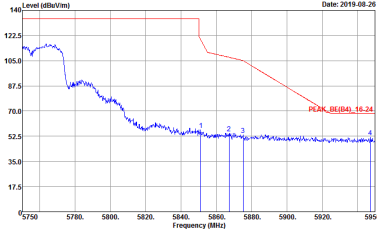
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH165 5825MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-1V Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 70 Setting : Z7	 Site : 03CH13-1V Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 70 Setting : Z7



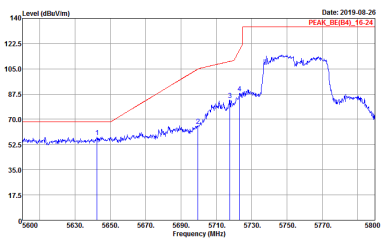
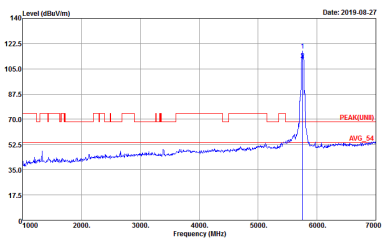
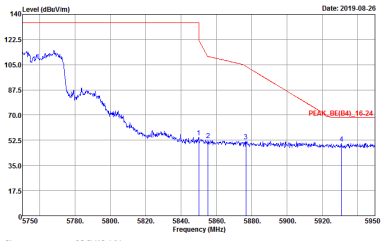
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH165 5825MHz	
2+3	Vertical	Fundamental
Peak Avg.	 Site : 03CH13-1V Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 70 Setting : Z7	 Site : 03CH13-1V Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 70 Setting : Z7

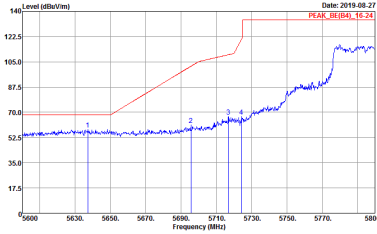
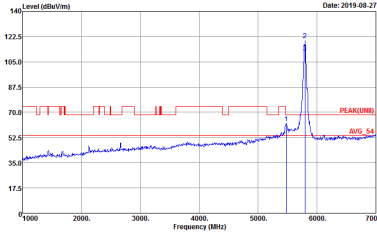
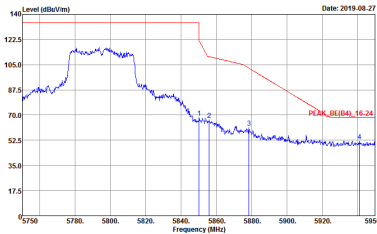


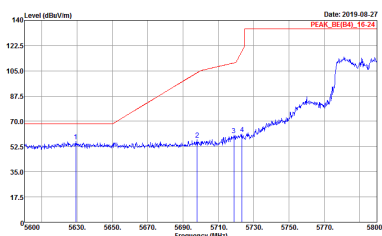
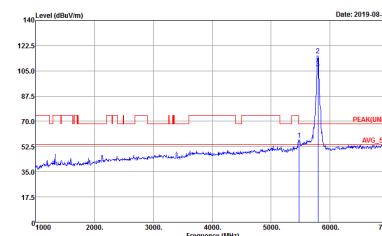
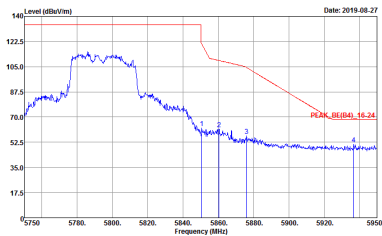
Band 4 5725~5850MHz
WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH151 5755MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 71 Setting : 27	 Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 71 Setting : 27
Peak	 Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 71 Setting : 27	Left blank



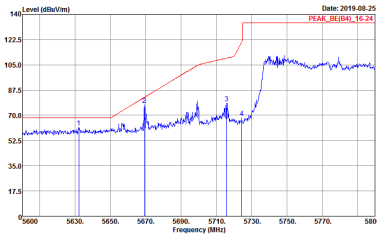
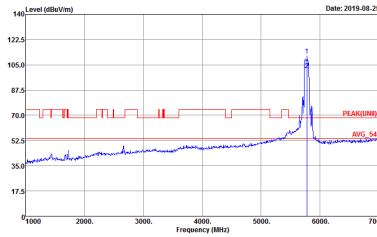
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH151 5755MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 71 Setting : Z7	 Site : 03CH13-1HY Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 71 Setting : Z7
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 71 Setting : Z7	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH159 5795MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 72 Setting : Z7	 Site : 03CH13-1HY Condition : PEAK(UBI) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 72 Setting : Z7
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 72 Setting : Z7	Left blank

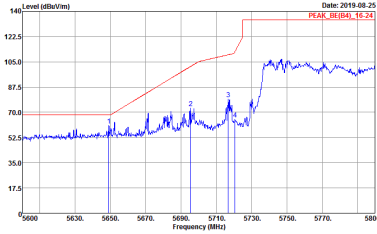
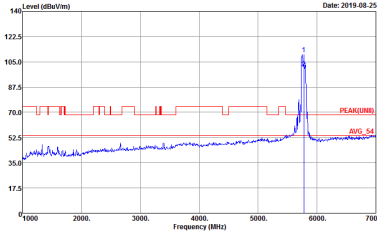
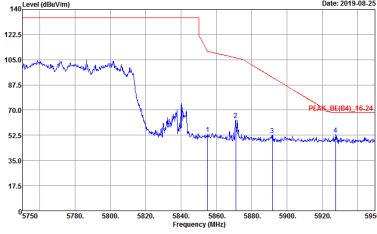
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH159 5795MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 72 Setting : Z7	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 72 Setting : Z7
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(04)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 72 Setting : Z7	Left blank



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

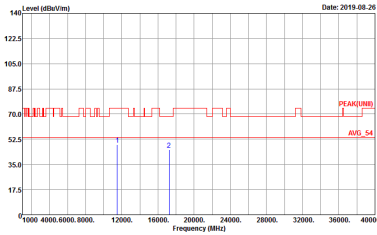
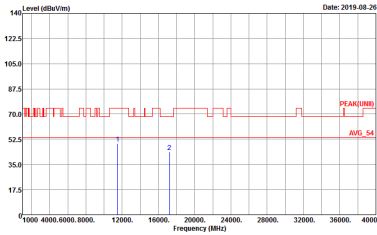
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2+3	Horizontal	Fundamental
Peak	 Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 73 Setting : 20	 Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 73 Setting : 20
Peak	 Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 960638 Mode : 73 Setting : 20	Left blank



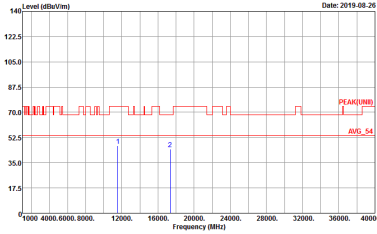
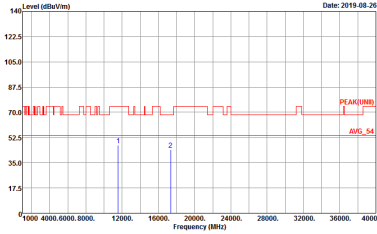
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2+3	Vertical	Fundamental
Peak	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 73 Setting : 20	 Site : 03CH13-1HY Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 73 Setting : 20
	 Site : 03CH13-1HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 73 Setting : 20	Left blank



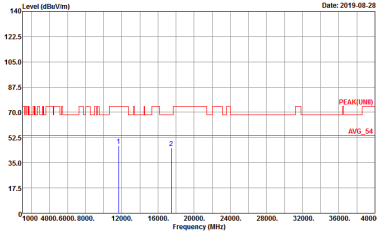
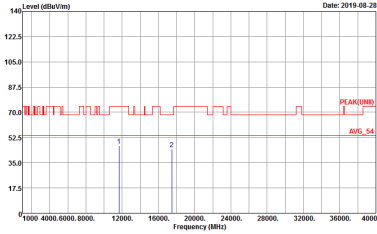
Band 4 - 5725~5850MHz
WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH149 5745MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 68 Setting : 27	 Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 68 Setting : 27



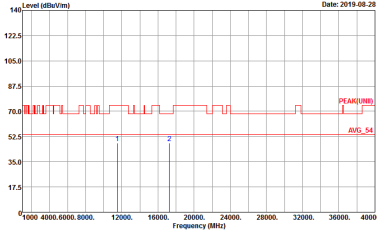
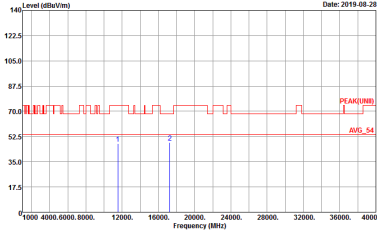
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH157 5785MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HV Condition : PEAK(UNB) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 69 Setting : 27	 Site : 03CH13-HV Condition : PEAK(UNB) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 69 Setting : 27



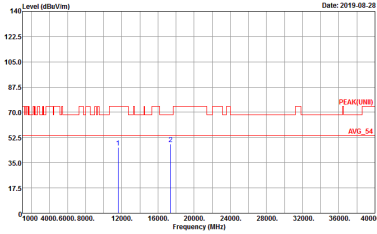
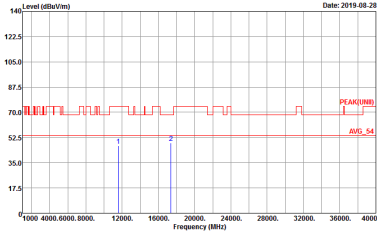
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH165 5825MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HV Condition : PEAK(UNB) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 70 Setting : 27	 Site : 03CH13-HV Condition : PEAK(UNB) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 70 Setting : 27



Band 4 5725~5850MHz
WIFI 802.11ac VHT40 (Harmonic @ 3m)

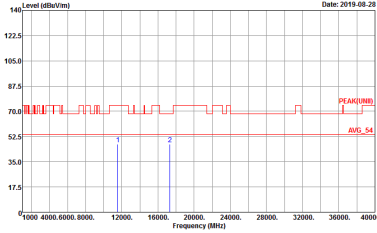
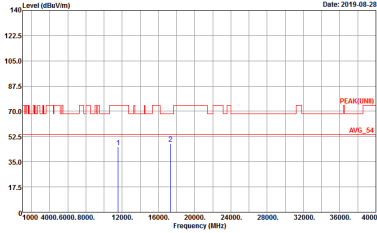
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH151 5755MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 71 Setting : 27	 Site : 03CH13-HY Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 71 Setting : 27



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH159 5795MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HV Condition : PEAK(UNB) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 72 Setting : 27	 Site : 03CH13-HV Condition : PEAK(UNB) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 72 Setting : 27

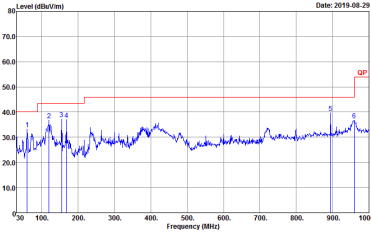
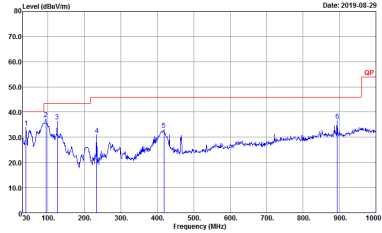


Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2+3	Horizontal	Vertical
Peak Avg.	 Site : 03CH13-HY Condition : PEAK(UMI) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 960638 Mode : 73 Setting : 20	 Site : 03CH13-HY Condition : PEAK(UMI) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 960638 Mode : 73 Setting : 20



Emission below 1GHz
5GHz WIFI 802.11ac VHT20 (LF)

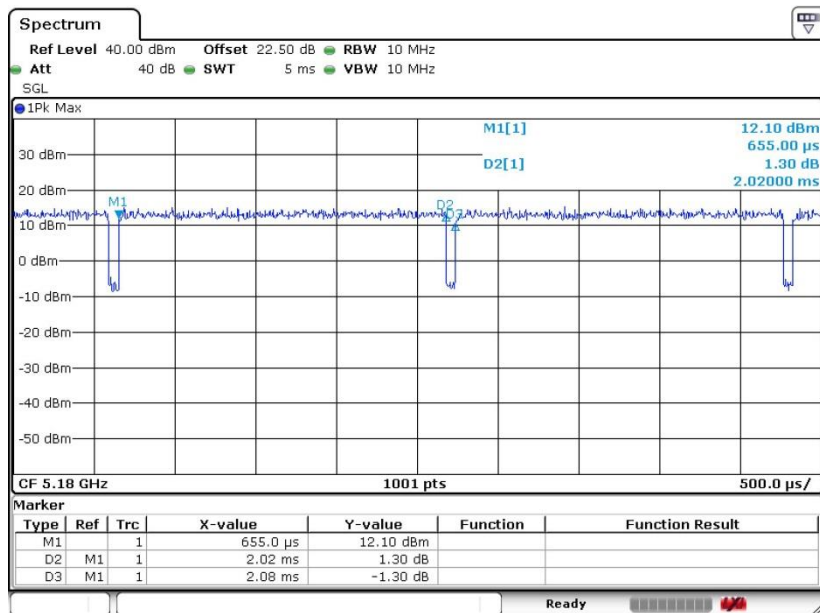
WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT20 LF	
2+3	Horizontal	Vertical
QP / Peak	 Site : 03CH13-HY Condition : QP 3m BTL06_40103 HORIZONTAL Detector : Peak Project : 960638 Mode : 74	 Site : 03CH13-HY Condition : QP 3m BTL06_40103 VERTICAL Detector : Peak Project : 960638 Mode : 74

Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
2+3	802.11a for Ant 2	97.12	2020	0.50	1kHz	0.13
2+3	802.11a for Ant 3	97.12	2025	0.49	1kHz	0.13
2+3	5GHz 802.11n HT20 for Ant 2	98.51	-	-	10Hz	0.07
2+3	5GHz 802.11n HT20 for Ant 3	98.61	-	-	10Hz	0.06
2+3	5GHz 802.11n HT40 for Ant 2	96.36	2380	0.42	1kHz	0.16
2+3	5GHz 802.11n HT40 for Ant 3	96.37	2390	0.42	1kHz	0.16
2+3	5GHz 802.11ac VHT20 for Ant 2	98.81	-	-	10Hz	0.05
2+3	5GHz 802.11ac VHT20 for Ant 3	98.81	-	-	10Hz	0.05
2+3	5GHz 802.11ac VHT40 for Ant 2	97.18	2410	0.41	1kHz	0.12
2+3	5GHz 802.11ac VHT40 for Ant 3	95.95	2370	0.42	1kHz	0.18
2+3	5GHz 802.11ac VHT80 for Ant 2	94.49	1131	0.88	1kHz	0.25
2+3	5GHz 802.11ac VHT80 for Ant 3	94.49	1131	0.88	1kHz	0.25

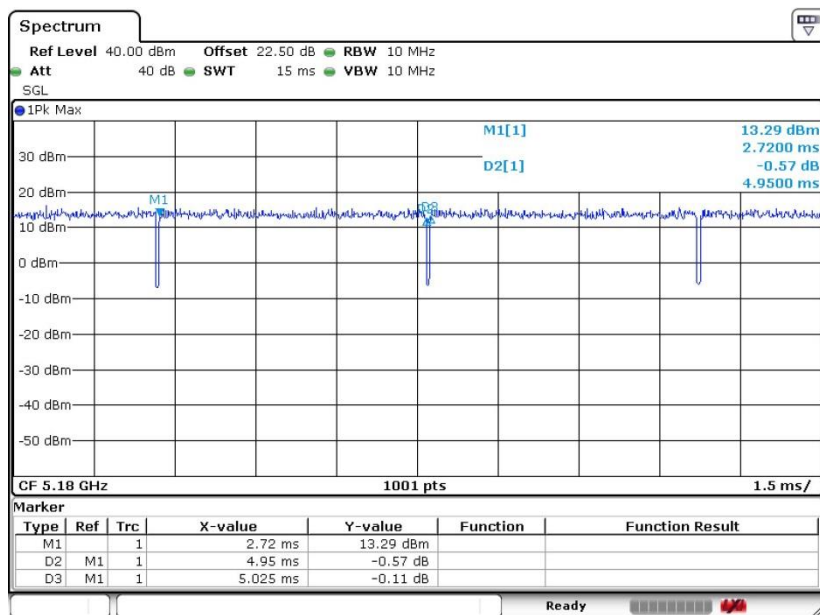
MIMO <Ant. 2>

802.11a



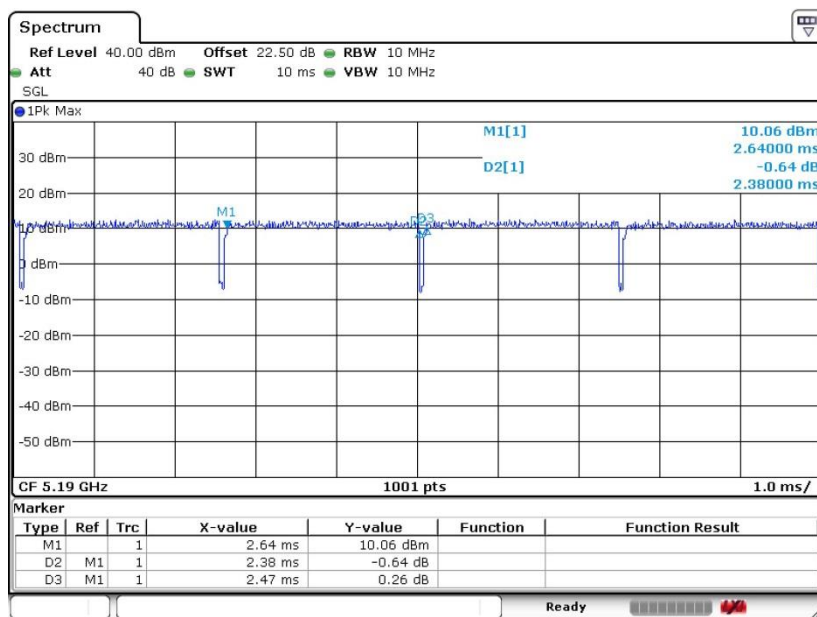
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802.11n HT20



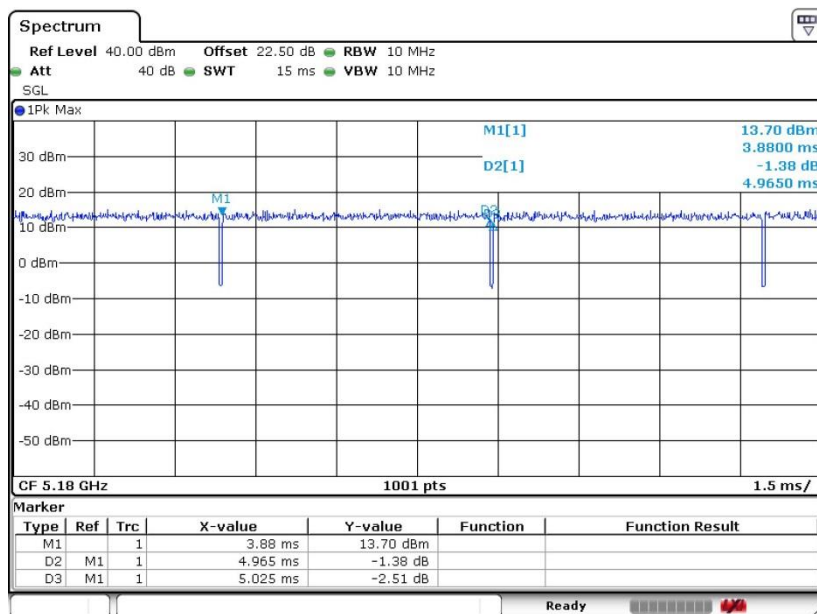
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802.11n HT40



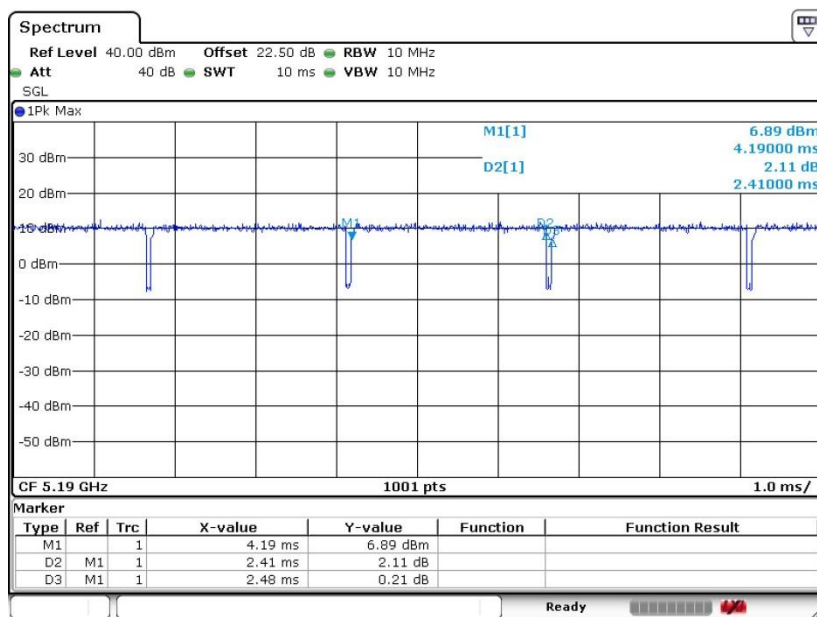
Date: 16.JUL.2019 21:42:04

802.11ac VHT20



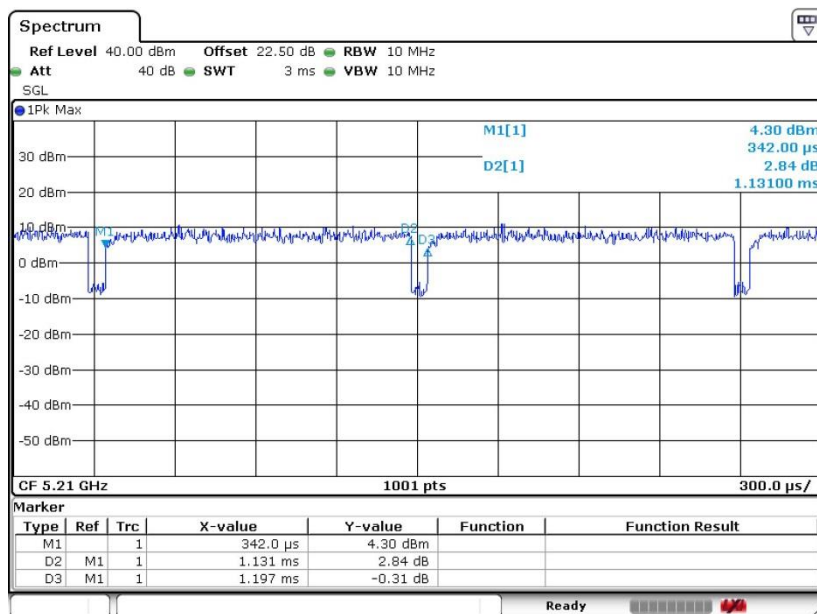
Date: 16.JUL.2019 21:44:32

802.11ac VHT40



Date: 16.JUL.2019 21:47:07

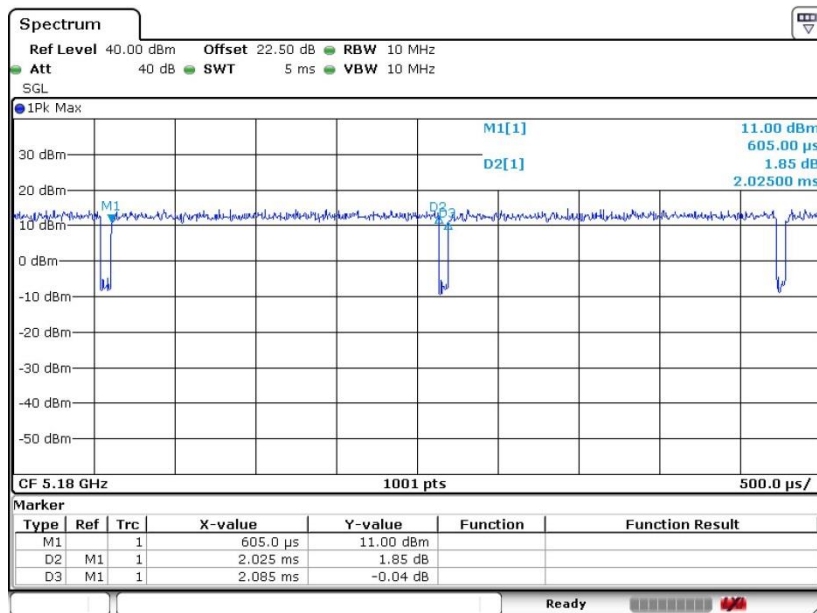
802.11ac VHT80



Date: 16.JUL.2019 21:49:21

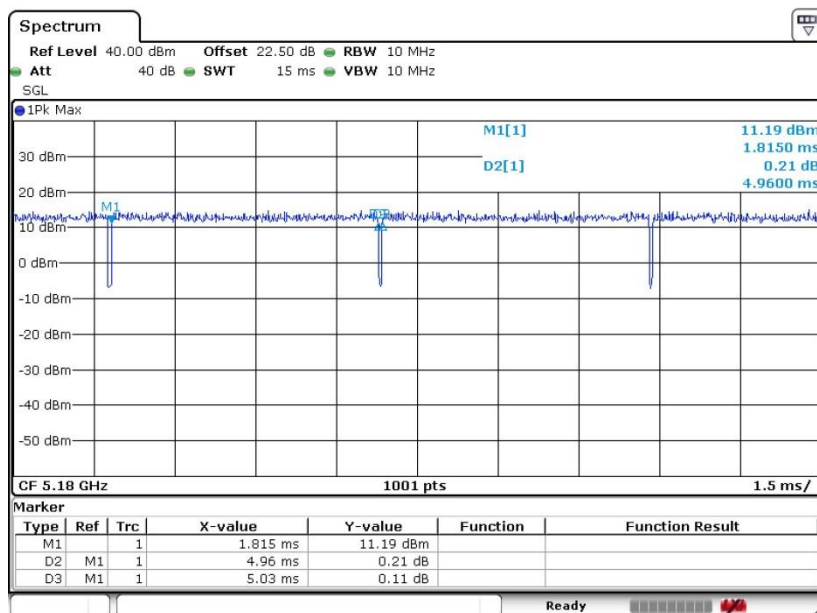
MIMO <Ant. 3>

802.11a



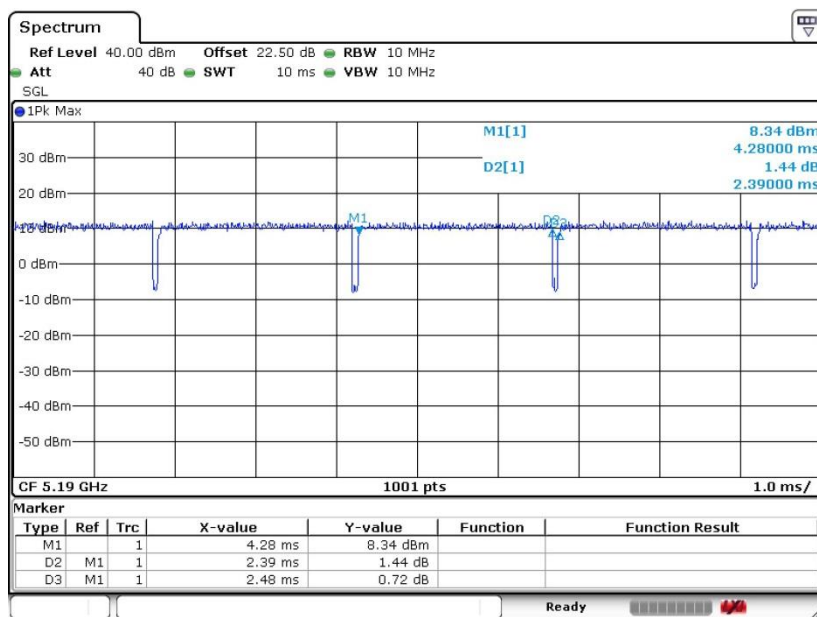
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802.11n HT20



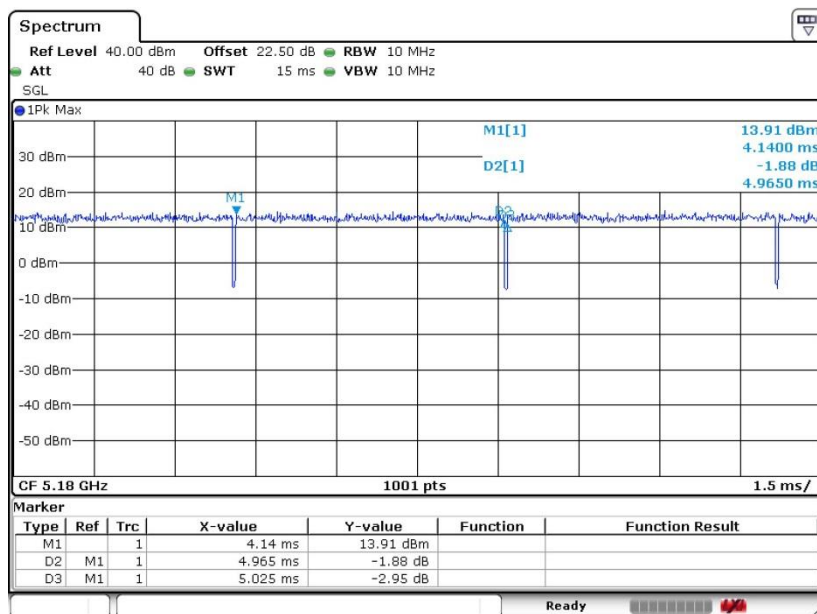
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802.11n HT40



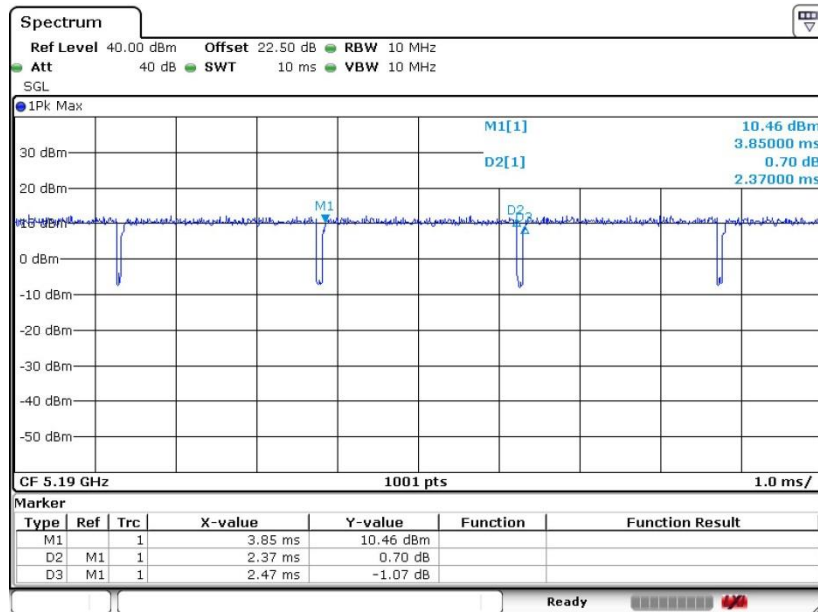
Date: 16.JUL.2019 21:42:50

802.11ac VHT20



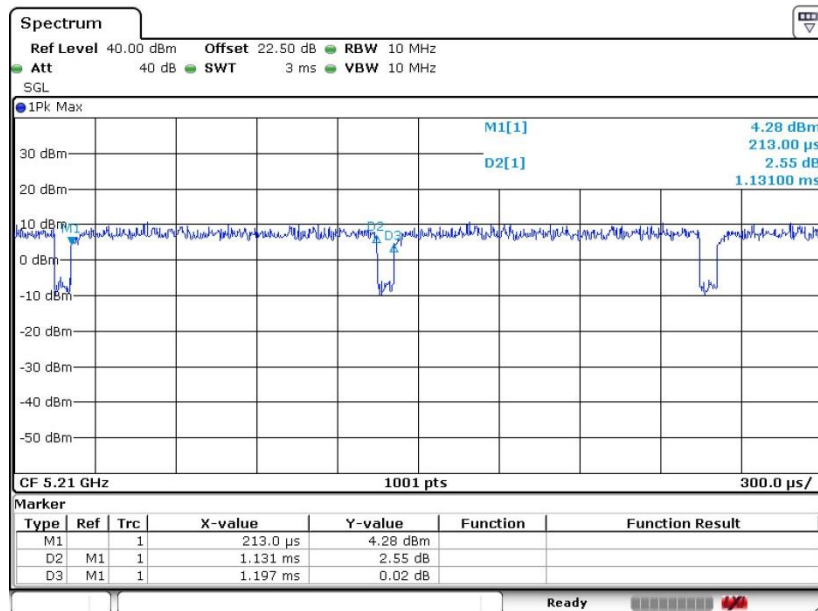
Date: 16.JUL.2019 21:45:21

802.11ac VHT40



Date: 16.JUL.2019 21:47:47

802.11ac VHT80



Date: 16.JUL.2019 21:50:39

————THE END————