

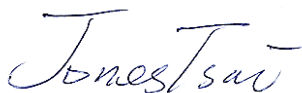
FCC RADIO TEST REPORT

FCC ID : PPD-QCNFA435
Equipment : Single Stream 802.11a/b/g/n/ac + BT 4.1 M.2 Type Card
Brand Name : Qualcomm Atheros
Model name : QCNFA435
Applicant : Qualcomm Atheros, Inc.
1700 Technology Drive, San Jose, CA 95110
Manufacturer : Qualcomm Atheros, Inc.
1700 Technology Drive, San Jose, CA 95110
Standard : FCC Part 15 Subpart E §15.407

The product was received on Mar. 15, 2018 and testing was started from Mar. 15, 2018 and completed on May 04, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The 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 partial 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: Jones Tsai

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
FR773113-03E	01	Initial issue of report	May 23, 2018
FR773113-03E	02	1. Add the remark description in summary. 2. Revising connection diagram of test system.	May 31, 2018



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.407 (a)	Maximum Conducted Output Power	Pass	-
3.2	15.407(b)	Unwanted Emissions	Pass	Under limit 3.37 dB at 11490.000 MHz
3.3	15.203 & 15.407 (a)	Antenna Requirement	Pass	-
Remark: The reported TX power in EMC report is per actual shipping power setting and measured in this unit. This has considered the actual shipping power during the measurement.				

Reviewed by: Joseph Lin

Report Producer: Polly Tsai

1 General Description

1.1 Product Feature of Equipment Under Test

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

Product Specification subjective to this standard	
Sample 1	EUT with Portable Computer (HONGBO Antenna)
Sample 2	EUT with Portable Computer (ACON Antenna)

Remark: All the tests were performed with Sample 1.

The product was installed into Portable Computer (Brand Name: DELL, Model Name: P88G, P88G001) during test, and the antenna information was recorded in the following table.

Antenna Information					
Manufacturer	HONGBO			Manufacturer	ACON
Model Name	260-26161			Model Name	ANF6Y-200019
Ant. Type	PIFA			Ant. Type	PIFA
Peak Gain (dBi)	2.4GHz WLAN	Main:0.89 Aux:-2.1	Peak Gain (dBi)	2.4GHz WLAN	Main:-0.02 Aux:-2.43
	5GHz WLAN	Main:1.39 Aux:-1.59		5GHz WLAN	Main:-1.86 Aux:-2.26

1.2 Modification of EUT

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

1.3 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
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	03CH07-HY

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



1.4 Applicable Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ ANSI C63.10-2013

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

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

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

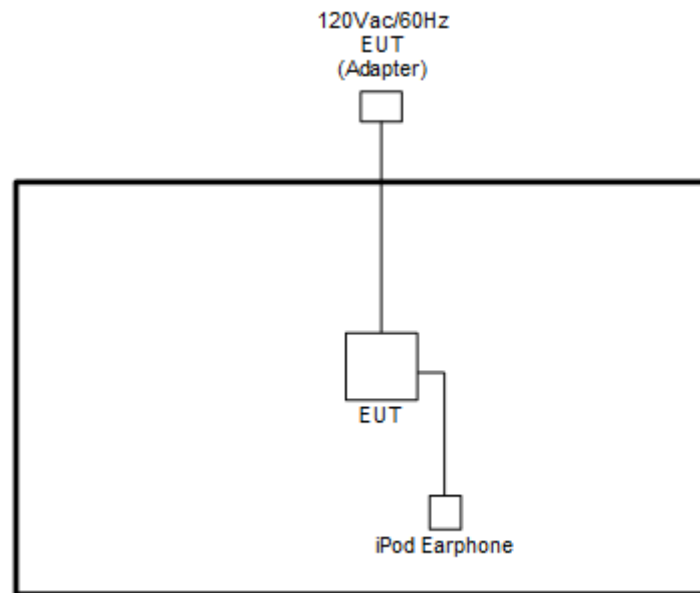
Final test modes are considering the modulation and worse data rates as below table.

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

Ch. #		Band IV : 5725-5850 MHz					
		802.11a	802.11n HT20	802.11n HT40	802.11ac VHT20	802.11ac VHT40	802.11ac VHT80
L	Low	149	149	151	149	151	-
M	Middle	157	157	-	157	-	155
H	High	165	165	159	165	159	-

Remark: The Radiated Spurious Emission test has only performed the test cases which chosen from module supplier.

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

2.5 EUT Operation Test Setup

The RF test items, utility "QRCT" was installed in Portable Computer 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.

3 Test Result

3.1 Maximum Conducted Output Power Measurement

3.1.1 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.

3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

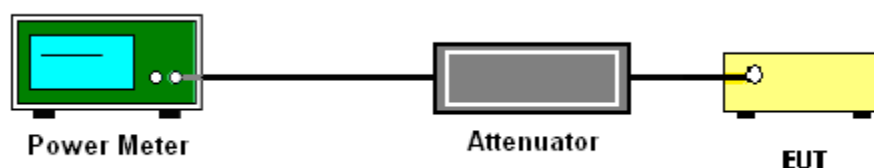
3.1.3 Test Procedures

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

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

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

3.1.4 Test Setup



3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.2 Unwanted Emissions Measurement

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

3.2.1 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) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.³
- (ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the devices using the alternative limit.⁴

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

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

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 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

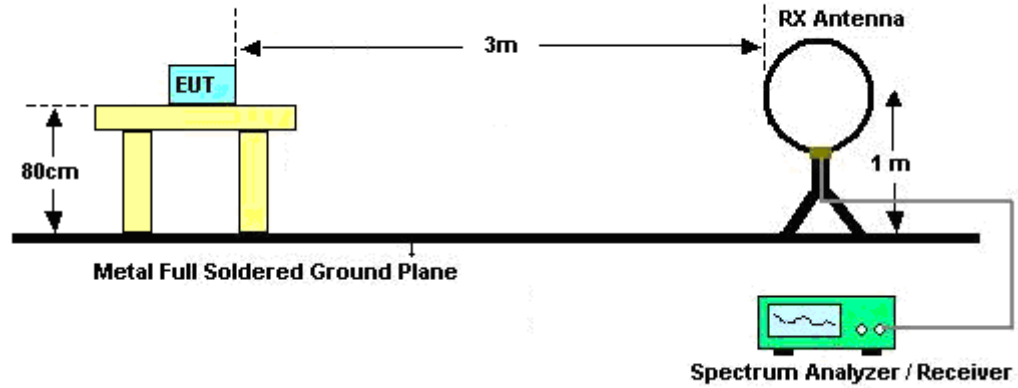


(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

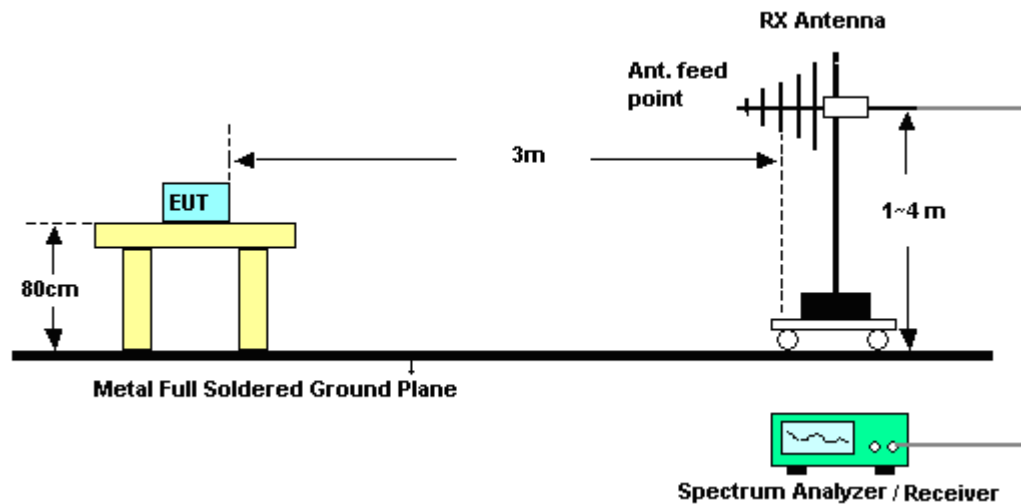
- RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - $VBW \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. 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.

3.2.4 Test Setup

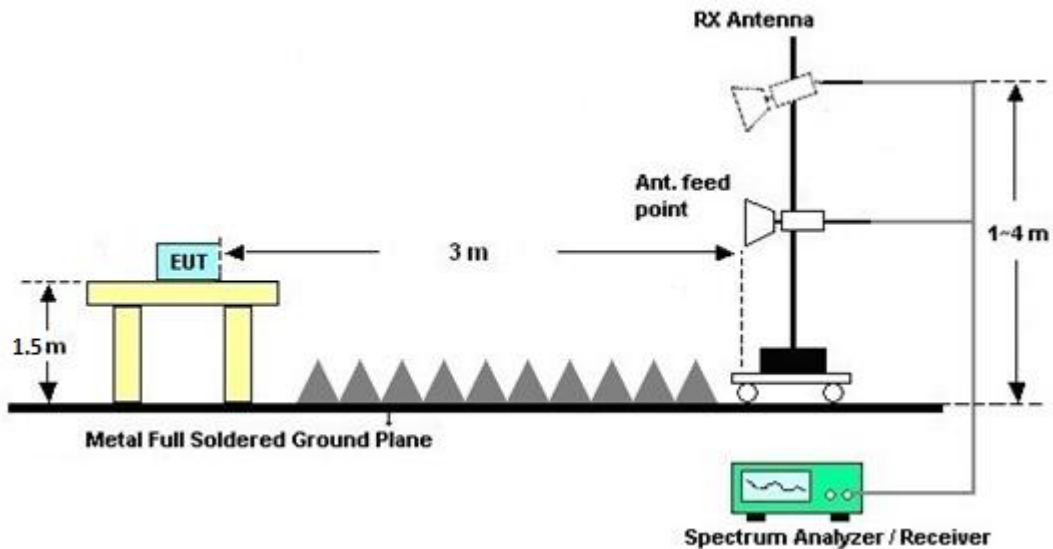
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

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

3.2.6 Test Result of Radiated Band Edges

Please refer to Appendix B and C.

3.2.7 Duty Cycle

Please refer to Appendix D.

3.2.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix B and C.



3.3 Antenna Requirements

3.3.1 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.

3.3.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.3.3 Antenna Gain

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



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1240001	N/A	Sep. 07, 2017	Mar. 15, 2018 ~ May 04, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1207349	300MHz~40GHz	Sep. 07, 2017	Mar. 15, 2018 ~ May 04, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 20, 2017	Mar. 15, 2018 ~ May 04, 2018	Jun. 19, 2018	Conducted (TH05-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	35419&03	30MHz to 1GHz	Dec. 18, 2017	Mar. 30, 2018 ~ Apr. 30, 2018	Dec. 17, 2018	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 23, 2017	Mar. 30, 2018 ~ Apr. 30, 2018	Aug. 22, 2018	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Nov. 10, 2017	Mar. 30, 2018 ~ Apr. 30, 2018	Nov. 09, 2018	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz ~ 18GHz	Mar. 25, 2018	Mar. 30, 2018 ~ Apr. 30, 2018	Mar. 24, 2019	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A023 62	1GHz~ 26.5GHz	Oct. 30, 2017	Mar. 30, 2018 ~ Apr. 30, 2018	Oct. 29, 2018	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Mar. 30, 2018 ~ Apr. 30, 2018	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Mar. 30, 2018 ~ Apr. 30, 2018	N/A	Radiation (03CH07-HY)
Amplifier	MITEQ	TTA1840-35- HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 18, 2017	Mar. 30, 2018 ~ Apr. 30, 2018	Jul. 17, 2018	Radiation (03CH07-HY)
Spectrum Analyzer	Keysight	N9010A	MY542004 85	10Hz ~ 44GHz	Oct. 31, 2017	Mar. 30, 2018 ~ Apr. 30, 2018	Oct. 30, 2018	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170 251	18GHz- 40GHz	Nov. 10, 2017	Mar. 30, 2018 ~ Apr. 30, 2018	Nov. 09, 2018	Radiation (03CH07-HY)
Amplifier	SONOMA	310N	187231	9kHz~1GHz	Jan. 08, 2018	Mar. 30, 2018 ~ Apr. 30, 2018	Jan. 07, 2019	Radiation (03CH07-HY)
EMI Test Receiver	Agilent	N9038A (MXE)	MY532900 53	20Hz to 26.5GHz	Jan. 16, 2018	Mar. 30, 2018 ~ Apr. 30, 2018	Jan. 15, 2019	Radiation (03CH07-HY)
Test Software	Audix	E3 6.2009-8-24	N/A	N/A	N/A	Mar. 30, 2018 ~ Apr. 30, 2018	N/A	Radiation (03CH07-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.7
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.5
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.2
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Lena Lo	Temperature:	21~25	°C
Test Date:	2018/03/15 ~ 2018/05/04	Relative Humidity:	51~54	%

TEST RESULTS DATA
Average Power Table

Band IV							
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)
11a	6M bps	1	149	5745	0.22	14.96	30.00
11a	6Mbps	1	157	5785	0.22	14.52	30.00
11a	6Mbps	1	165	5825	0.22	14.54	30.00
HT20	MCS 0	1	149	5745	0.25	14.65	30.00
HT20	MCS 0	1	157	5785	0.25	14.52	30.00
HT20	MCS 0	1	165	5825	0.25	14.51	30.00
HT40	MCS 0	1	151	5755	0.47	12.88	30.00
HT40	MCS 0	1	159	5795	0.47	13.68	30.00
VHT20	MCS 0	1	149	5745	0.26	14.67	30.00
VHT20	MCS 0	1	157	5785	0.26	14.55	30.00
VHT20	MCS 0	1	165	5825	0.26	14.54	30.00
VHT40	MCS 0	1	151	5755	0.49	12.91	30.00
VHT40	MCS 0	1	159	5795	0.49	13.97	30.00
VHT80	MCS 0	1	155	5775	0.51	12.02	30.00



Appendix B. Radiated Spurious Emission

Test Engineer :	Stan Hsieh, Jesse Wang, and Lance Chiang	Temperature :	22~24°C
		Relative Humidity :	51~53%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 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.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5624.4	49.62	-18.58	68.2	38.3	35.07	11.43	35.18	360	251	P	H
		5698.2	49.95	-53.92	103.87	38.52	35.17	11.46	35.2	360	251	P	H
		5719.2	60.32	-50.26	110.58	48.81	35.21	11.5	35.2	360	251	P	H
		5723	63.91	-53.73	117.64	52.4	35.21	11.5	35.2	360	251	P	H
	*	5745	103.68	-	-	92.12	35.24	11.53	35.21	360	251	P	H
	*	5745	97.26	-	-	85.7	35.24	11.53	35.21	360	251	A	H
													H
													H
		5646.2	51.33	-16.87	68.2	40	35.09	11.43	35.19	239	177	P	V
		5699.4	53.35	-51.41	104.76	41.92	35.17	11.46	35.2	239	177	P	V
		5717.2	66.57	-43.45	110.02	55.08	35.19	11.5	35.2	239	177	P	V
		5723.6	73.95	-45.06	119.01	62.44	35.21	11.5	35.2	239	177	P	V
	*	5745	111.37	-	-	99.81	35.24	11.53	35.21	239	177	P	V
	*	5745	104.24	-	-	92.68	35.24	11.53	35.21	239	177	A	V
													V
													V



WIFI Ant. 1	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		5631.4	50.7	-17.5	68.2	39.39	35.07	11.43	35.19	353	102	P	H
		5692.8	51.38	-48.51	99.89	39.95	35.17	11.46	35.2	353	102	P	H
		5711.4	50.66	-57.73	108.39	39.17	35.19	11.5	35.2	353	102	P	H
		5724.8	49.85	-71.89	121.74	38.34	35.21	11.5	35.2	353	102	P	H
	*	5785	107.73	-	-	96.1	35.29	11.56	35.22	353	102	P	H
	*	5785	99.99	-	-	88.36	35.29	11.56	35.22	353	102	A	H
		5854.4	48.5	-63.67	112.17	36.72	35.41	11.6	35.23	353	102	P	H
		5864.6	49.28	-58.83	108.11	37.46	35.41	11.65	35.24	353	102	P	H
		5883.6	51.66	-47.15	98.81	39.82	35.43	11.65	35.24	353	102	P	H
		5949.8	49.78	-18.42	68.2	37.76	35.53	11.74	35.25	353	102	P	H
													H
													H
		5632.8	51.91	-16.29	68.2	40.58	35.09	11.43	35.19	252	177	P	V
		5690.4	54.22	-43.9	98.12	42.79	35.17	11.46	35.2	252	177	P	V
		5717	50.6	-59.36	109.96	39.11	35.19	11.5	35.2	252	177	P	V
		5720.8	51.92	-60.7	112.62	40.41	35.21	11.5	35.2	252	177	P	V
	*	5785	111.8	-	-	100.17	35.29	11.56	35.22	252	177	P	V
	*	5785	104.3	-	-	92.67	35.29	11.56	35.22	252	177	A	V
		5853.2	50.92	-63.98	114.9	39.17	35.38	11.6	35.23	252	177	P	V
		5873	50.78	-54.98	105.76	38.94	35.43	11.65	35.24	252	177	P	V
		5877.4	52.76	-50.66	103.42	40.92	35.43	11.65	35.24	252	177	P	V
		5932.4	50.15	-18.05	68.2	38.2	35.5	11.69	35.24	252	177	P	V
													V
													V



WIFI Ant. 1	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	*	5825	104.45	-	-	92.71	35.36	11.6	35.22	362	104	P	H
	*	5825	95.79	-	-	84.05	35.36	11.6	35.22	362	104	A	H
		5851.6	62.74	-55.81	118.55	50.99	35.38	11.6	35.23	362	104	P	H
		5856.4	51.71	-58.7	110.41	39.93	35.41	11.6	35.23	362	104	P	H
		5920	50.56	-21.33	71.89	38.63	35.48	11.69	35.24	362	104	P	H
		5932.4	50.11	-18.09	68.2	38.16	35.5	11.69	35.24	362	104	P	H
													H
													H
	*	5825	108.53	-	-	96.79	35.36	11.6	35.22	268	176	P	V
	*	5825	100.64	-	-	88.9	35.36	11.6	35.22	268	176	A	V
		5851.6	64.39	-54.16	118.55	52.64	35.38	11.6	35.23	268	176	P	V
		5855.2	60.09	-50.65	110.74	48.31	35.41	11.6	35.23	268	176	P	V
		5920.4	51.65	-19.94	71.59	39.72	35.48	11.69	35.24	268	176	P	V
		5926.8	50.13	-18.07	68.2	38.18	35.5	11.69	35.24	268	176	P	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	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	49.99	-24.01	74	50.85	38.38	17.66	57.34	100	0	P	H
		17235	48.85	-19.35	68.2	41.62	41.77	20.83	55.8	100	0	P	H
													H
													H
		11490	58.37	-15.63	74	59.23	38.38	17.66	57.34	100	146	P	V
		11490	49.15	-4.85	54	50.01	38.38	17.66	57.34	100	146	A	V
		17235	48.75	-19.45	68.2	41.52	41.77	20.83	55.8	100	0	P	V
													V
802.11a CH 157 5785MHz		11570	47.06	-26.94	74	47.63	38.46	17.76	57.19	100	0	P	H
		17355	48.06	-20.14	68.2	40.9	41.61	20.93	55.8	100	0	P	H
													H
													H
		11570	55.17	-18.83	74	55.74	38.46	17.76	57.19	101	137	P	V
		11570	46.69	-7.31	54	47.26	38.46	17.76	57.19	101	137	A	V
		17355	47.62	-20.58	68.2	40.46	41.61	20.93	55.8	100	0	P	V
													V
802.11a CH 165 5825MHz		11650	46.19	-27.81	74	46.49	38.51	17.86	57.08	100	0	P	H
		17475	49.72	-18.48	68.2	42.64	41.45	21.03	55.8	100	0	P	H
													H
													H
		11650	54.88	-19.12	74	55.18	38.51	17.86	57.08	106	144	P	V
		11650	44.38	-9.62	54	44.68	38.51	17.86	57.08	106	144	A	V
		17475	49.96	-18.24	68.2	42.88	41.45	21.03	55.8	100	0	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 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	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		5626.8	49.23	-18.97	68.2	37.91	35.07	11.43	35.18	340	250	P	H
		5699.2	50.39	-54.22	104.61	38.96	35.17	11.46	35.2	340	250	P	H
		5717.2	55.96	-54.06	110.02	44.47	35.19	11.5	35.2	340	250	P	H
		5723.4	62.22	-56.33	118.55	50.71	35.21	11.5	35.2	340	250	P	H
	*	5745	103.57	-	-	92.01	35.24	11.53	35.21	340	250	P	H
	*	5745	96.24	-	-	84.68	35.24	11.53	35.21	340	250	A	H
													H
													H
		5645.8	52.31	-15.89	68.2	40.98	35.09	11.43	35.19	249	179	P	V
		5651.8	53.42	-16.12	69.54	42.06	35.12	11.43	35.19	249	179	P	V
		5718.6	64.72	-45.69	110.41	53.21	35.21	11.5	35.2	249	179	P	V
		5722.6	69.46	-47.27	116.73	57.95	35.21	11.5	35.2	249	179	P	V
	*	5745	111.48	-	-	99.92	35.24	11.53	35.21	249	179	P	V
	*	5745	103.98	-	-	92.42	35.24	11.53	35.21	249	179	A	V
													V
													V



WIFI Ant. 1	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		5627.2	50.93	-17.27	68.2	39.61	35.07	11.43	35.18	354	103	P	H
		5680	50.95	-39.49	90.44	39.55	35.14	11.46	35.2	354	103	P	H
		5710.4	51	-57.11	108.11	39.51	35.19	11.5	35.2	354	103	P	H
		5720.6	49.59	-62.58	112.17	38.08	35.21	11.5	35.2	354	103	P	H
	*	5785	107.51	-	-	95.88	35.29	11.56	35.22	354	103	P	H
	*	5785	99.78	-	-	88.15	35.29	11.56	35.22	354	103	A	H
		5852.6	49.17	-67.1	116.27	37.42	35.38	11.6	35.23	354	103	P	H
		5874.8	50.26	-55	105.26	38.42	35.43	11.65	35.24	354	103	P	H
		5877.2	51.08	-52.49	103.57	39.24	35.43	11.65	35.24	354	103	P	H
		5934.4	49.47	-18.73	68.2	37.53	35.5	11.69	35.25	354	103	P	H
													H
													H
		5636.4	50.75	-17.45	68.2	39.42	35.09	11.43	35.19	252	177	P	V
		5684.2	53.26	-40.28	93.54	41.83	35.17	11.46	35.2	252	177	P	V
		5715.2	50.83	-58.63	109.46	39.34	35.19	11.5	35.2	252	177	P	V
		5723.4	50.97	-67.58	118.55	39.46	35.21	11.5	35.2	252	177	P	V
	*	5785	111.41	-	-	99.78	35.29	11.56	35.22	252	177	P	V
	*	5785	103.87	-	-	92.24	35.29	11.56	35.22	252	177	A	V
		5855	50.6	-60.2	110.8	38.82	35.41	11.6	35.23	252	177	P	V
		5874.8	51.48	-53.78	105.26	39.64	35.43	11.65	35.24	252	177	P	V
		5883.2	52.07	-47.04	99.11	40.23	35.43	11.65	35.24	252	177	P	V
		5938.2	50.28	-17.92	68.2	38.34	35.5	11.69	35.25	252	177	P	V
													V
													V



WIFI Ant. 1	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	*	5825	103.46	-	-	91.72	35.36	11.6	35.22	382	108	P	H
	*	5825	96.02	-	-	84.28	35.36	11.6	35.22	382	108	A	H
		5851.6	58.2	-60.35	118.55	46.45	35.38	11.6	35.23	382	108	P	H
		5857	52.39	-57.85	110.24	40.61	35.41	11.6	35.23	382	108	P	H
		5917.4	49.88	-23.92	73.8	37.95	35.48	11.69	35.24	382	108	P	H
		5926.6	51.56	-16.64	68.2	39.61	35.5	11.69	35.24	382	108	P	H
													H
													H
	*	5825	108.68	-	-	96.94	35.36	11.6	35.22	257	177	P	V
	*	5825	100.15	-	-	88.41	35.36	11.6	35.22	257	177	A	V
		5850	60.52	-61.68	122.2	48.77	35.38	11.6	35.23	257	177	P	V
		5855	53.53	-57.27	110.8	41.75	35.41	11.6	35.23	257	177	P	V
		5882.2	52.01	-47.84	99.85	40.17	35.43	11.65	35.24	257	177	P	V
		5929.6	50.58	-17.62	68.2	38.63	35.5	11.69	35.24	257	177	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	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	51.46	-22.54	74	52.32	38.38	17.66	57.34	100	324	P	H
		11490	41.26	-12.74	54	42.12	38.38	17.66	57.34	100	324	A	H
		17235	49.86	-18.34	68.2	42.63	41.77	20.83	55.8	100	0	P	H
													H
		11490	61.74	-12.26	74	62.6	38.38	17.66	57.34	108	112	P	V
		11490	50.63	-3.37	54	51.49	38.38	17.66	57.34	108	112	A	V
		17235	48.71	-19.49	68.2	41.48	41.77	20.83	55.8	100	0	P	V
													V
802.11n HT20 CH 157 5785MHz		11570	46.87	-27.13	74	47.44	38.46	17.76	57.19	100	0	P	H
		17355	51.02	-17.18	68.2	43.86	41.61	20.93	55.8	100	0	P	H
													H
													H
		11570	57.87	-16.13	74	58.44	38.46	17.76	57.19	100	0	P	V
		11570	46.83	-7.17	54	47.4	38.46	17.76	57.19	100	0	A	V
		17355	50.06	-18.14	68.2	42.9	41.61	20.93	55.8	100	0	P	V
													V
802.11n HT20 CH 165 5825MHz		11650	47.16	-26.84	74	47.46	38.51	17.86	57.08	100	0	P	H
		17475	50.35	-17.85	68.2	43.27	41.45	21.03	55.8	100	0	P	H
													H
													H
		11650	57.54	-16.46	74	57.84	38.51	17.86	57.08	116	106	P	V
		11650	46.87	-7.13	54	47.17	38.51	17.86	57.08	116	106	A	V
		17475	50.1	-18.1	68.2	43.02	41.45	21.03	55.8	100	0	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 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	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		5606.2	49.13	-19.07	68.2	37.87	35.04	11.4	35.18	338	107	P	H
		5696	56.32	-45.93	102.25	44.89	35.17	11.46	35.2	338	107	P	H
		5713.4	60.65	-48.3	108.95	49.16	35.19	11.5	35.2	338	107	P	H
		5722.2	57.98	-57.84	115.82	46.47	35.21	11.5	35.2	338	107	P	H
	*	5755	100.27	-	-	88.69	35.26	11.53	35.21	338	107	P	H
	*	5755	91.67	-	-	80.09	35.26	11.53	35.21	338	107	A	H
		5853.6	50.32	-63.67	113.99	38.54	35.41	11.6	35.23	338	107	P	H
		5864.8	49.75	-58.3	108.05	37.93	35.41	11.65	35.24	338	107	P	H
		5903	51.11	-33.33	84.44	39.2	35.46	11.69	35.24	338	107	P	H
		5943	49.89	-18.31	68.2	37.87	35.53	11.74	35.25	338	107	P	H
													H
													H
		5638.8	57.65	-10.55	68.2	46.32	35.09	11.43	35.19	238	179	P	V
		5694.6	63.46	-37.76	101.22	52.03	35.17	11.46	35.2	238	179	P	V
		5700.2	63.99	-41.27	105.26	52.52	35.17	11.5	35.2	238	179	P	V
		5725	66.94	-55.26	122.2	55.43	35.21	11.5	35.2	238	179	P	V
	*	5755	105.79	-	-	94.21	35.26	11.53	35.21	238	179	P	V
	*	5755	97.82	-	-	86.24	35.26	11.53	35.21	238	179	A	V
		5851.6	49.87	-68.68	118.55	38.12	35.38	11.6	35.23	238	179	P	V
		5861.4	50.18	-58.83	109.01	38.36	35.41	11.65	35.24	238	179	P	V
		5903.6	49.81	-34.19	84	37.9	35.46	11.69	35.24	238	179	P	V
		5940.8	49.84	-18.36	68.2	37.82	35.53	11.74	35.25	238	179	P	V
													V
													V



WIFI Ant. 1	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		5634.8	49.81	-18.39	68.2	38.48	35.09	11.43	35.19	388	101	P	H
		5692.8	51.63	-48.26	99.89	40.2	35.17	11.46	35.2	388	101	P	H
		5713.6	48.93	-60.08	109.01	37.44	35.19	11.5	35.2	388	101	P	H
		5724.4	47.85	-72.98	120.83	36.34	35.21	11.5	35.2	388	101	P	H
	*	5795	101.25	-	-	89.6	35.31	11.56	35.22	388	101	P	H
	*	5795	92.59	-	-	80.94	35.31	11.56	35.22	388	101	A	H
		5850.2	50.99	-70.75	121.74	39.24	35.38	11.6	35.23	388	101	P	H
		5859.2	50.56	-59.06	109.62	38.79	35.41	11.6	35.24	388	101	P	H
		5896.6	52.08	-37.1	89.18	40.21	35.46	11.65	35.24	388	101	P	H
		5934.4	49.31	-18.89	68.2	37.37	35.5	11.69	35.25	388	101	P	H
													H
													H
		5632	49.13	-19.07	68.2	37.82	35.07	11.43	35.19	246	177	P	V
		5688.4	59.11	-37.53	96.64	47.68	35.17	11.46	35.2	246	177	P	V
		5715.6	52.83	-56.74	109.57	41.34	35.19	11.5	35.2	246	177	P	V
		5723.6	51.33	-67.68	119.01	39.82	35.21	11.5	35.2	246	177	P	V
	*	5795	106.61	-	-	94.96	35.31	11.56	35.22	246	177	P	V
	*	5795	98.71	-	-	87.06	35.31	11.56	35.22	246	177	A	V
		5851	60.44	-59.48	119.92	48.69	35.38	11.6	35.23	246	177	P	V
		5859	57.66	-52.02	109.68	45.89	35.41	11.6	35.24	246	177	P	V
		5883.6	51.32	-47.49	98.81	39.48	35.43	11.65	35.24	246	177	P	V
		5939.6	50.33	-17.87	68.2	38.36	35.53	11.69	35.25	246	177	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1	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	45.54	-28.46	74	46.31	38.4	17.71	57.3	100	0	P	H
		17265	48.73	-19.47	68.2	41.51	41.73	20.86	55.8	100	0	P	H
													H
													H
		11510	56.63	-17.37	74	57.4	38.4	17.71	57.3	100	113	P	V
		11510	48.33	-5.67	54	49.1	38.4	17.71	57.3	100	113	A	V
		17265	49.73	-18.47	68.2	42.51	41.73	20.86	55.8	100	0	P	V
													V
802.11n HT40 CH 159 5795MHz		11590	45.63	-28.37	74	46.12	38.47	17.81	57.16	100	0	P	H
		17385	50.1	-18.1	68.2	42.96	41.56	20.96	55.8	100	0	P	H
													H
													H
		11590	53.66	-20.34	74	54.15	38.47	17.81	57.16	101	108	P	V
		11590	45.53	-8.47	54	46.02	38.47	17.81	57.16	101	108	A	V
		17385	50.56	-17.64	68.2	43.42	41.56	20.96	55.8	100	0	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 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	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		5623	49.48	-18.72	68.2	38.16	35.07	11.43	35.18	339	103	P	H
		5694	53.43	-47.35	100.78	42	35.17	11.46	35.2	339	103	P	H
		5720	58.88	-51.92	110.8	47.37	35.21	11.5	35.2	339	103	P	H
		5723.6	65.71	-53.3	119.01	54.2	35.21	11.5	35.2	339	103	P	H
	*	5745	104.43	-	-	92.87	35.24	11.53	35.21	339	103	P	H
	*	5745	97.93	-	-	86.37	35.24	11.53	35.21	339	103	A	H
													H
													H
		5640.6	52.84	-15.36	68.2	41.51	35.09	11.43	35.19	249	179	P	V
		5698.4	54.16	-49.86	104.02	42.73	35.17	11.46	35.2	249	179	P	V
		5718.8	66.74	-43.72	110.46	55.23	35.21	11.5	35.2	249	179	P	V
		5723.8	69.17	-50.29	119.46	57.66	35.21	11.5	35.2	249	179	P	V
	*	5745	111.04	-	-	99.48	35.24	11.53	35.21	249	179	P	V
	*	5745	103.89	-	-	92.33	35.24	11.53	35.21	249	179	A	V
													V
													V



WIFI Ant. 1	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		5627.8	51.54	-16.66	68.2	40.22	35.07	11.43	35.18	353	102	P	H
		5689	52.05	-45.04	97.09	40.62	35.17	11.46	35.2	353	102	P	H
		5715.4	49.94	-59.57	109.51	38.45	35.19	11.5	35.2	353	102	P	H
		5723.2	49.81	-68.29	118.1	38.3	35.21	11.5	35.2	353	102	P	H
	*	5785	107.24	-	-	95.61	35.29	11.56	35.22	353	102	P	H
	*	5785	99.44	-	-	87.81	35.29	11.56	35.22	353	102	A	H
		5850.8	48.64	-71.74	120.38	36.89	35.38	11.6	35.23	353	102	P	H
		5857.2	50.23	-59.95	110.18	38.45	35.41	11.6	35.23	353	102	P	H
		5881.4	51.58	-48.87	100.45	39.74	35.43	11.65	35.24	353	102	P	H
		5932.2	50.74	-17.46	68.2	38.79	35.5	11.69	35.24	353	102	P	H
													H
													H
		5634.8	51.53	-16.67	68.2	40.2	35.09	11.43	35.19	251	176	P	V
		5691.6	53.95	-45.06	99.01	42.52	35.17	11.46	35.2	251	176	P	V
		5714	51.02	-58.1	109.12	39.53	35.19	11.5	35.2	251	176	P	V
		5721	49.9	-63.18	113.08	38.39	35.21	11.5	35.2	251	176	P	V
	*	5785	111.72	-	-	100.09	35.29	11.56	35.22	251	176	P	V
	*	5785	103.78	-	-	92.15	35.29	11.56	35.22	251	176	A	V
		5850.2	48.9	-72.84	121.74	37.15	35.38	11.6	35.23	251	176	P	V
		5875	49.96	-55.24	105.2	38.12	35.43	11.65	35.24	251	176	P	V
		5876.2	53.03	-51.28	104.31	41.19	35.43	11.65	35.24	251	176	P	V
		5939.4	50.78	-17.42	68.2	38.81	35.53	11.69	35.25	251	176	P	V
													V
													V



WIFI Ant. 1	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	*	5825	105.15	-	-	93.41	35.36	11.6	35.22	382	108	P	H
	*	5825	97.77	-	-	86.03	35.36	11.6	35.22	382	108	A	H
		5851.8	57.51	-60.59	118.1	45.76	35.38	11.6	35.23	382	108	P	H
		5855	56.14	-54.66	110.8	44.36	35.41	11.6	35.23	382	108	P	H
		5918.6	51.09	-21.83	72.92	39.16	35.48	11.69	35.24	382	108	P	H
		5929.2	49.21	-18.99	68.2	37.26	35.5	11.69	35.24	382	108	P	H
													H
													H
	*	5825	109.41	-	-	97.67	35.36	11.6	35.22	257	177	P	V
	*	5825	101.82	-	-	90.08	35.36	11.6	35.22	257	177	A	V
		5850.8	59.5	-60.88	120.38	47.75	35.38	11.6	35.23	257	177	P	V
		5855	55.98	-54.82	110.8	44.2	35.41	11.6	35.23	257	177	P	V
		5924.6	50.84	-17.65	68.49	38.89	35.5	11.69	35.24	257	177	P	V
		5930.8	51.37	-16.83	68.2	39.42	35.5	11.69	35.24	257	177	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 VHT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	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	46.65	-27.35	74	47.51	38.38	17.66	57.34	100	0	P	H
		17235	49.47	-18.73	68.2	42.24	41.77	20.83	55.8	100	0	P	H
													H
													H
		11490	61.43	-12.57	74	62.29	38.38	17.66	57.34	100	106	P	V
		11490	50.33	-3.67	54	51.19	38.38	17.66	57.34	100	106	A	V
		17235	48.73	-19.47	68.2	41.5	41.77	20.83	55.8	100	0	P	V
													V
802.11ac VHT20 CH 157 5785MHz		11570	45.81	-28.19	74	46.38	38.46	17.76	57.19	100	0	P	H
		17355	49.76	-18.44	68.2	42.6	41.61	20.93	55.8	100	0	P	H
													H
													H
		11570	59.05	-14.95	74	59.62	38.46	17.76	57.19	100	137	P	V
		11570	47.73	-6.27	54	48.3	38.46	17.76	57.19	100	137	A	V
		17355	51.48	-16.72	68.2	44.32	41.61	20.93	55.8	100	0	P	V
													V
802.11ac VHT20 CH 165 5825MHz		11650	46.01	-27.99	74	46.31	38.51	17.86	57.08	100	0	P	H
		17475	50.59	-17.61	68.2	43.51	41.45	21.03	55.8	100	0	P	H
													H
													H
		11650	58.41	-15.59	74	58.71	38.51	17.86	57.08	102	136	P	V
		11650	47.01	-6.99	54	47.31	38.51	17.86	57.08	102	136	A	V
		17475	50.11	-18.09	68.2	43.03	41.45	21.03	55.8	100	0	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 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	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		5643.2	50.15	-18.05	68.2	38.82	35.09	11.43	35.19	337	102	P	H
		5690.8	50.48	-47.94	98.42	39.05	35.17	11.46	35.2	337	102	P	H
		5716.6	55.96	-53.89	109.85	44.47	35.19	11.5	35.2	337	102	P	H
		5722.6	58.36	-58.37	116.73	46.85	35.21	11.5	35.2	337	102	P	H
	*	5755	100.37	-	-	88.79	35.26	11.53	35.21	337	102	P	H
	*	5755	92.03	-	-	80.45	35.26	11.53	35.21	337	102	A	H
		5851	50.99	-68.93	119.92	39.24	35.38	11.6	35.23	337	102	P	H
		5859.4	50.13	-59.44	109.57	38.36	35.41	11.6	35.24	337	102	P	H
		5911.6	50.4	-27.69	78.09	38.47	35.48	11.69	35.24	337	102	P	H
		5934.8	51.05	-17.15	68.2	39.11	35.5	11.69	35.25	337	102	P	H
													H
													H
		5647.2	50.45	-17.75	68.2	39.12	35.09	11.43	35.19	264	178	P	V
		5699.2	55.94	-48.67	104.61	44.51	35.17	11.46	35.2	264	178	P	V
		5703.6	63.17	-43.04	106.21	51.68	35.19	11.5	35.2	264	178	P	V
		5722.6	64.35	-52.38	116.73	52.84	35.21	11.5	35.2	264	178	P	V
	*	5755	106.5	-	-	94.92	35.26	11.53	35.21	264	178	P	V
	*	5755	98.38	-	-	86.8	35.26	11.53	35.21	264	178	A	V
		5853.2	52.32	-62.58	114.9	40.57	35.38	11.6	35.23	264	178	P	V
		5860.6	50.45	-58.78	109.23	38.63	35.41	11.65	35.24	264	178	P	V
		5901.2	50.25	-35.52	85.77	38.34	35.46	11.69	35.24	264	178	P	V
		5928.4	49.67	-18.53	68.2	37.72	35.5	11.69	35.24	264	178	P	V
													V
													V



WIFI Ant. 1	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		5645.8	49.24	-18.96	68.2	37.91	35.09	11.43	35.19	341	236	P	H
		5684.6	49.32	-44.52	93.84	37.89	35.17	11.46	35.2	341	236	P	H
		5710.2	50.21	-57.85	108.06	38.72	35.19	11.5	35.2	341	236	P	H
		5723.2	48.01	-70.09	118.1	36.5	35.21	11.5	35.2	341	236	P	H
	*	5795	99.45	-	-	87.8	35.31	11.56	35.22	341	236	P	H
	*	5795	91.35	-	-	79.7	35.31	11.56	35.22	341	236	A	H
		5852.6	53.03	-63.24	116.27	41.28	35.38	11.6	35.23	341	236	P	H
		5855.8	51.53	-59.05	110.58	39.75	35.41	11.6	35.23	341	236	P	H
		5883.6	51.63	-47.18	98.81	39.79	35.43	11.65	35.24	341	236	P	H
		5933	49.37	-18.83	68.2	37.42	35.5	11.69	35.24	341	236	P	H
													H
													H
		5643	55.8	-12.4	68.2	44.47	35.09	11.43	35.19	247	178	P	V
		5699.8	54.01	-51.04	105.05	42.58	35.17	11.46	35.2	247	178	P	V
		5710.4	52.26	-55.85	108.11	40.77	35.19	11.5	35.2	247	178	P	V
		5720.4	51.87	-59.84	111.71	40.36	35.21	11.5	35.2	247	178	P	V
	*	5795	106.78	-	-	95.13	35.31	11.56	35.22	247	178	P	V
	*	5795	98.61	-	-	86.96	35.31	11.56	35.22	247	178	A	V
		5853	63.06	-52.3	115.36	51.31	35.38	11.6	35.23	247	178	P	V
		5855.8	57.06	-53.52	110.58	45.28	35.41	11.6	35.23	247	178	P	V
		5887.8	52.85	-42.85	95.7	40.98	35.46	11.65	35.24	247	178	P	V
		5936.4	50.8	-17.4	68.2	38.86	35.5	11.69	35.25	247	178	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 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	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	46.51	-27.49	74	47.28	38.4	17.71	57.3	100	0	P	H
		17265	49.23	-18.97	68.2	42.01	41.73	20.86	55.8	100	0	P	H
													H
													H
		11510	57.95	-16.05	74	58.72	38.4	17.71	57.3	100	138	P	V
		11510	49.09	-4.91	54	49.86	38.4	17.71	57.3	100	138	A	V
		17265	49.37	-18.83	68.2	42.15	41.73	20.86	55.8	100	0	P	V
													V
802.11ac VHT40 CH 159 5795MHz		11590	44.7	-29.3	74	45.19	38.47	17.81	57.16	100	0	P	H
		17385	50.28	-17.92	68.2	43.14	41.56	20.96	55.8	100	0	P	H
													H
													H
		11590	55.15	-18.85	74	55.64	38.47	17.81	57.16	100	138	P	V
		11590	46.61	-7.39	54	47.1	38.47	17.81	57.16	100	138	A	V
		17385	50.02	-18.18	68.2	42.88	41.56	20.96	55.8	100	0	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 VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	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		5641.4	51.39	-16.81	68.2	40.06	35.09	11.43	35.19	373	105	P	H
		5700	50.79	-54.41	105.2	39.36	35.17	11.46	35.2	373	105	P	H
		5719.8	53.42	-57.32	110.74	41.91	35.21	11.5	35.2	373	105	P	H
		5725	53.08	-69.12	122.2	41.57	35.21	11.5	35.2	373	105	P	H
	*	5775	95.77	-	-	84.17	35.29	11.53	35.22	373	105	P	H
	*	5775	87.28	-	-	75.68	35.29	11.53	35.22	373	105	A	H
		5853.2	54.43	-60.47	114.9	42.68	35.38	11.6	35.23	373	105	P	H
		5861.4	55.98	-53.03	109.01	44.16	35.41	11.65	35.24	373	105	P	H
		5884	53.48	-45.04	98.52	41.64	35.43	11.65	35.24	373	105	P	H
		5934.4	50.01	-18.19	68.2	38.07	35.5	11.69	35.25	373	105	P	H
													H
													H
		5646.6	55.61	-12.59	68.2	44.28	35.09	11.43	35.19	248	178	P	V
		5695.8	59.65	-42.45	102.1	48.22	35.17	11.46	35.2	248	178	P	V
		5715.6	61.09	-48.48	109.57	49.6	35.19	11.5	35.2	248	178	P	V
		5721.6	60.16	-54.29	114.45	48.65	35.21	11.5	35.2	248	178	P	V
	*	5775	102.83	-	-	91.23	35.29	11.53	35.22	248	178	P	V
	*	5775	93.99	-	-	82.39	35.29	11.53	35.22	248	178	A	V
		5852.2	58.85	-58.33	117.18	47.1	35.38	11.6	35.23	248	178	P	V
		5856.4	59.97	-50.44	110.41	48.19	35.41	11.6	35.23	248	178	P	V
		5885.6	56.76	-40.57	97.33	44.92	35.43	11.65	35.24	248	178	P	V
		5927.8	51.6	-16.6	68.2	39.65	35.5	11.69	35.24	248	178	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

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

WIFI Ant. 1	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	46.39	-27.61	74	47	38.44	17.76	57.22	100	0	P	H
		17325	49.68	-18.52	68.2	42.5	41.66	20.9	55.8	100	0	P	H
													H
													H
		11550	52.29	-21.71	74	52.9	38.44	17.76	57.22	100	114	P	V
		11550	44.3	-9.7	54	44.91	38.44	17.76	57.22	100	114	A	V
		17325	50.44	-17.76	68.2	43.26	41.66	20.9	55.8	100	0	P	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 VHT40 (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.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
5GHz 802.11ac VHT40 LF		104.52	27.91	-15.59	43.5	41.3	16.53	1.83	31.75	-	-	P	H
		152.85	34.72	-8.78	43.5	47.48	16.89	2.06	31.71	-	-	P	H
		190.11	36.41	-7.09	43.5	51.17	14.75	2.18	31.69	100	0	P	H
		421.1	27.22	-18.78	46	33.05	22.58	3.24	31.65	-	-	P	H
		830.6	33.25	-12.75	46	32.29	28.16	4.45	31.65	-	-	P	H
		920.9	31.75	-14.25	46	29.11	29.17	4.64	31.17	-	-	P	H
													H
													H
													H
													H
													H
													H
		104.52	26.68	-16.82	43.5	40.07	16.53	1.83	31.75	-	-	P	V
		191.73	25.42	-18.08	43.5	40.15	14.78	2.18	31.69	-	-	P	V
		257.07	25.67	-20.33	46	35.71	19.19	2.42	31.65	-	-	P	V
		421.1	31.31	-14.69	46	37.14	22.58	3.24	31.65	-	-	P	V
		498.1	28.31	-17.69	46	32.77	23.83	3.4	31.69	-	-	P	V
		856.5	31.35	-14.65	46	29.51	28.93	4.45	31.54	100	0	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Note symbol

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



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		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 C. Radiated Spurious Emission Plots

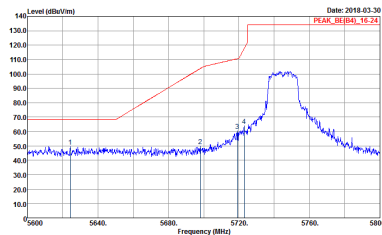
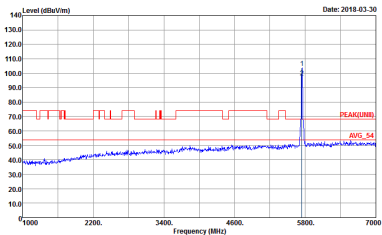
Test Engineer :	Stan Hsieh, Jesse Wang, and Lance Chiang	Temperature :	22~24°C
		Relative Humidity :	51~53%

Note symbol

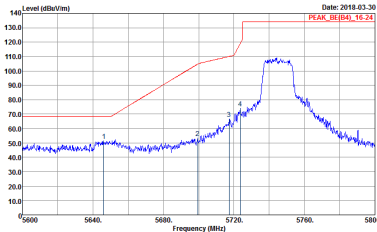
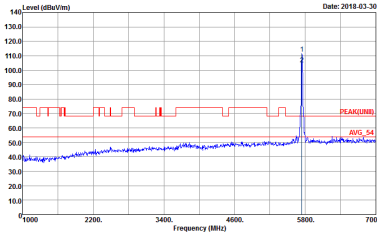
-L	Low channel location
-R	High channel location

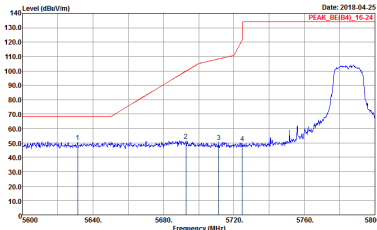
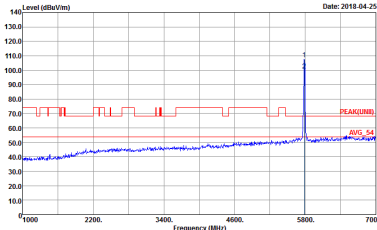
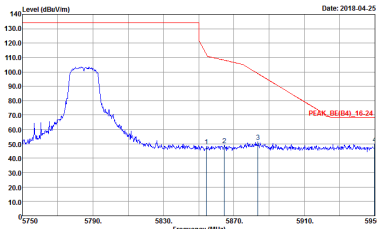
Band 4 - 5725~5850MHz

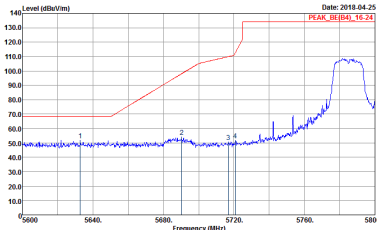
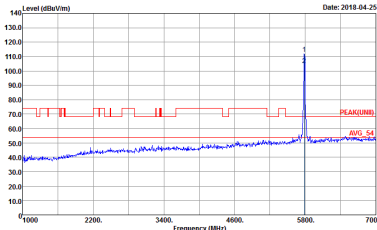
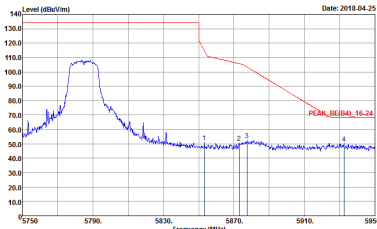
WIFI 802.11a (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : Peak	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : Peak

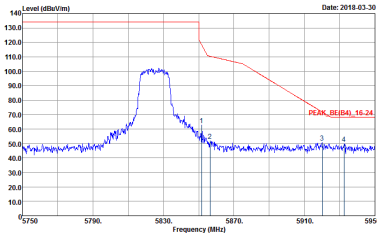
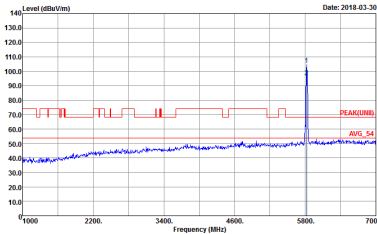


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-1H Condition : PEAK_96(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	 Site : 03CH07-1H Condition : PEAK(LINE) 3m HF_ANT_00075962 VERTICAL Detector : Peak

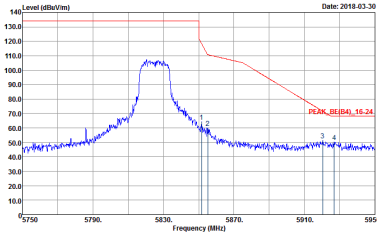
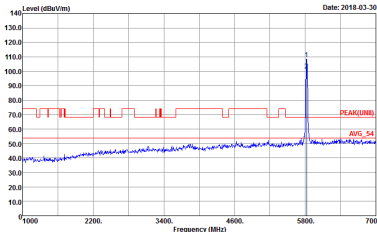
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : Peak	 Site : 03CH07-4HY Condition : PEAK(LINE) 3m HF_ANT_00075962 HORIZONTAL Detector : Peak
	 Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : Peak	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	 Site : 03CH07-4HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 VERTICAL Detector : Peak
	 Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	Left blank



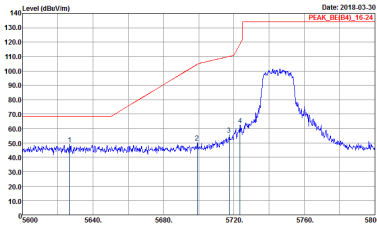
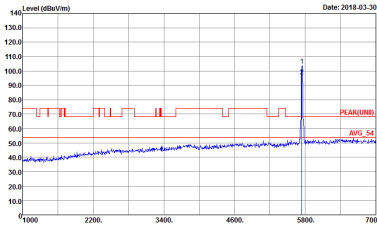
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_06(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : PEAKLINE 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak



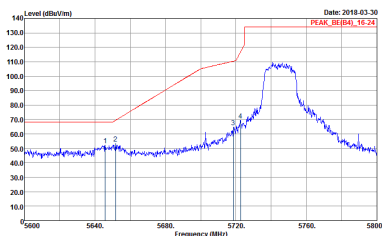
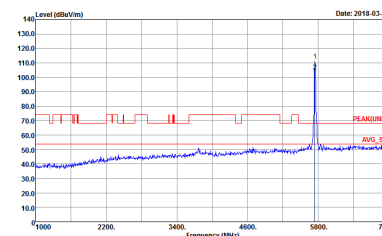
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_96(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	 Site : 03CH07-HY Condition : PEAK(LINE1) 3m HF_ANT_00075962 VERTICAL Detector : Peak

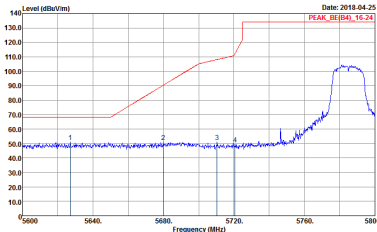
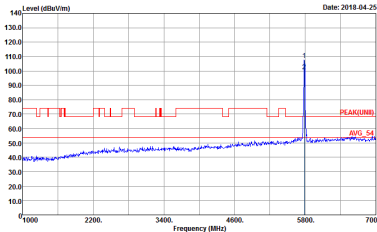
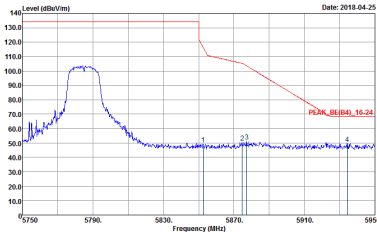


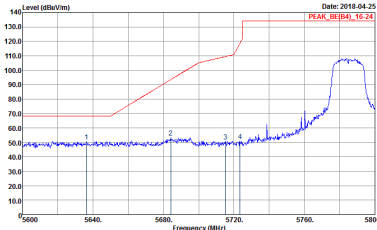
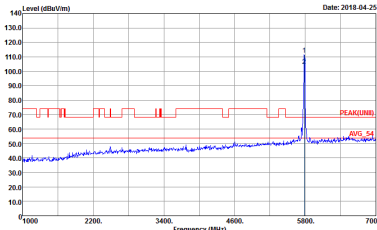
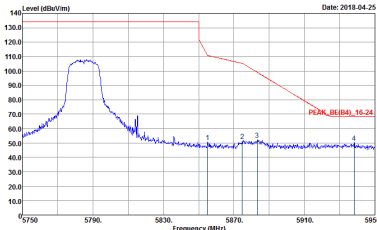
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-4HY Condition : PEAK_BE(84)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-4HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak

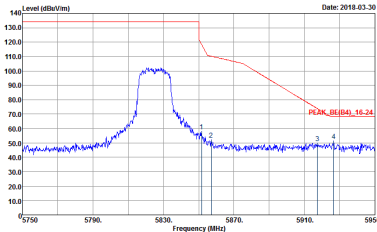
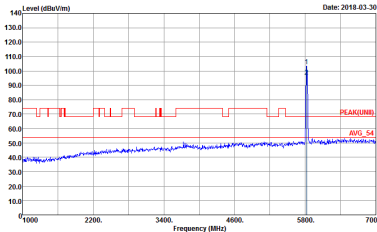


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_95(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : PEAK(LINE1) 3m HF_ANT_00075962 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak

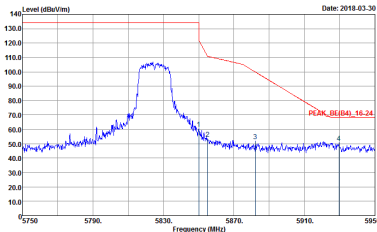
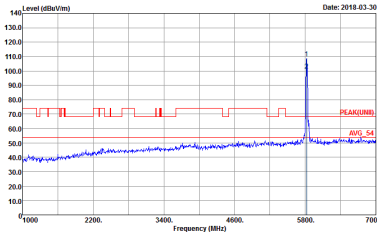
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak
	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-1H Condition : PEAK_06(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-1H Condition : PEAK_06(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak



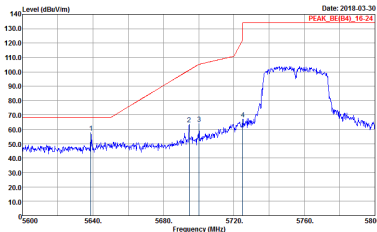
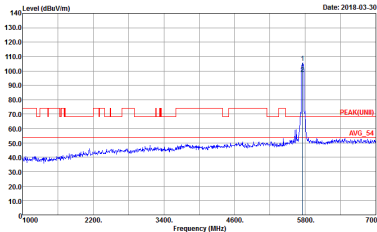
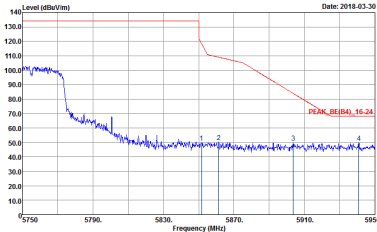
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HV Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HV Condition : PEAK(UNIT) 3m HF_ANT_00075962 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak

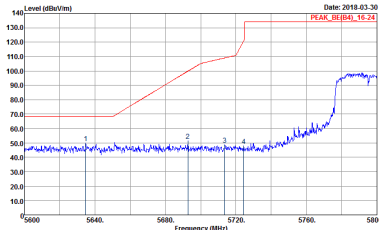
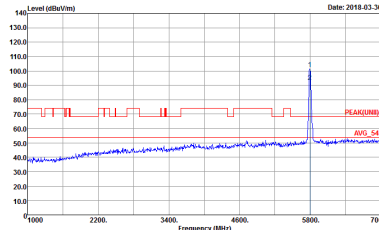
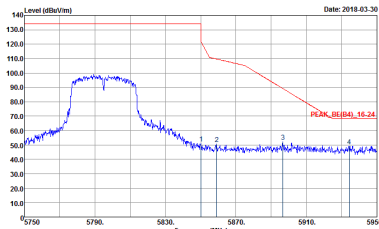


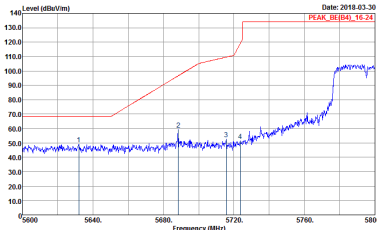
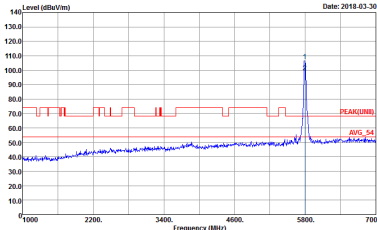
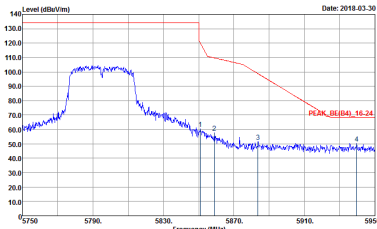
Band 4 5725~5850MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Fundamental
Peak	Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Site : 03CH07-4HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Peak	Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank



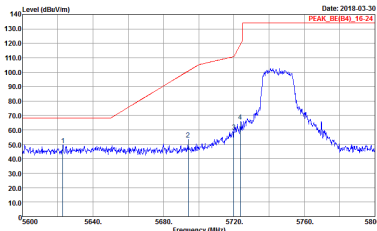
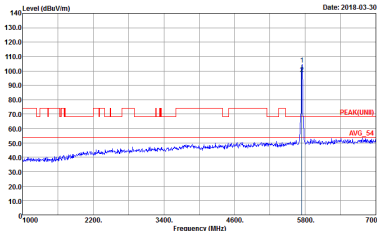
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : Peak	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL Detector : Peak
	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : Peak	Left blank

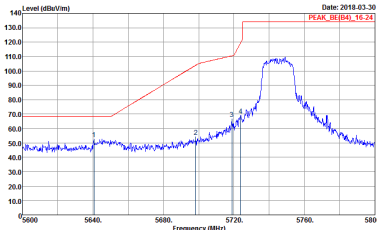
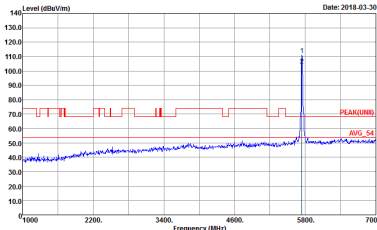
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-4Y Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	 Site : 03CH07-4Y Condition : PEAK(LINE) 3m HF_ANT_00075962 VERTICAL Detector : Peak
	 Site : 03CH07-4Y Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	Left blank



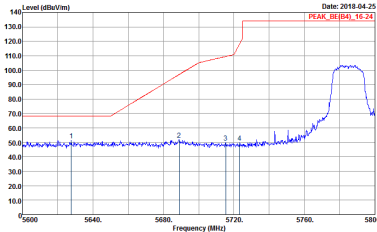
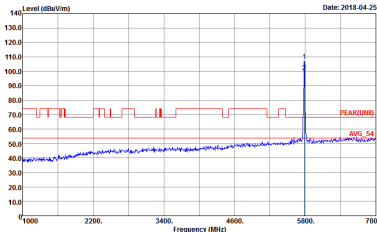
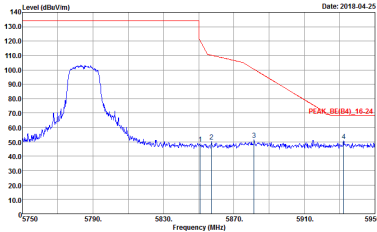
Band 4 5725~5850MHz
WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH149 5745MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-4HY Condition : PEAK_BE(84)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-4HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak

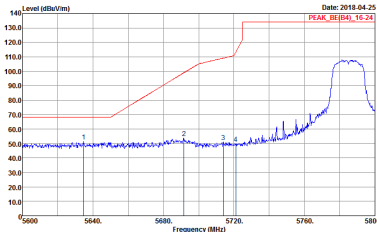
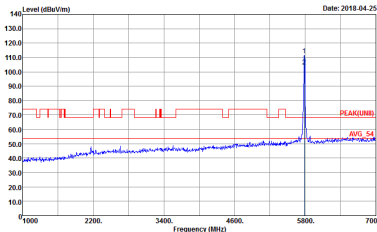
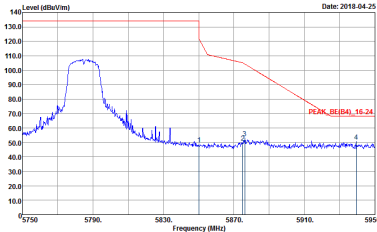


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH149 5745MHz	
1	Vertical	Fundamental
Peak Avg.	 Site : 03CH07-1V Condition : PEAK_RE[B4]_16-24 3m HF_ANT_00075962 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-1V Condition : PEAK[UNIT] 3m HF_ANT_00075962 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak

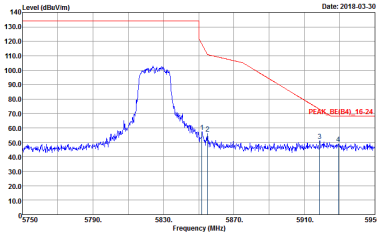
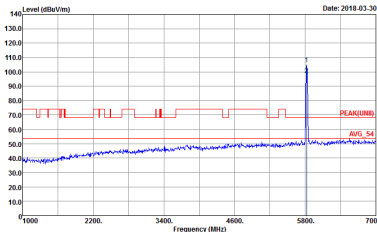


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH157 5785MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : PEAKLNB 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank

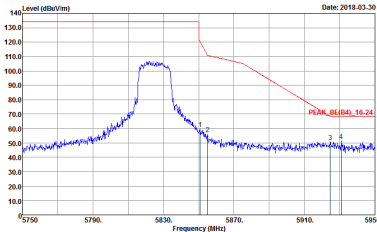
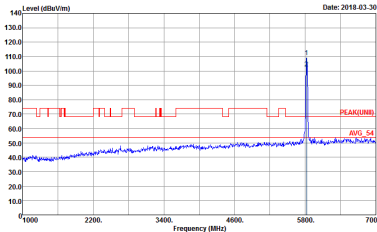


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH157 5785MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : PEAK(LINE1) 3m HF_ANT_00075962 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH165 5825MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_06(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : PEAK_06(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak

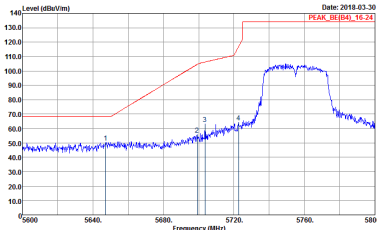
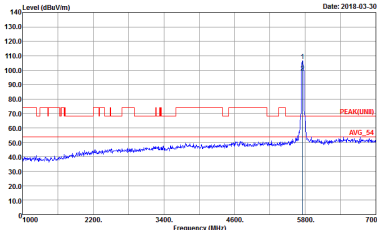
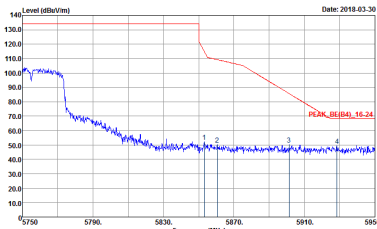


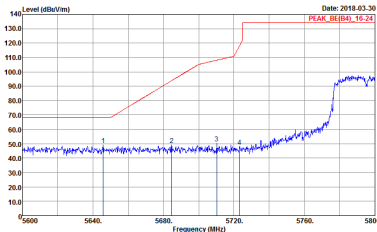
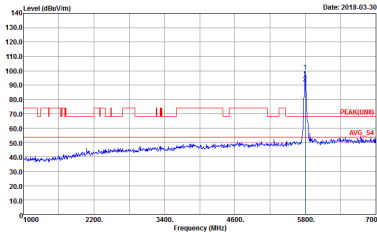
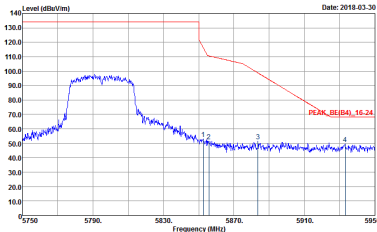
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH165 5825MHz	
1	Vertical	Fundamental
Peak Avg.	 Site : 03CH07-1V Condition : PEAK_06(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	 Site : 03CH07-1V Condition : PEAK_06(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak



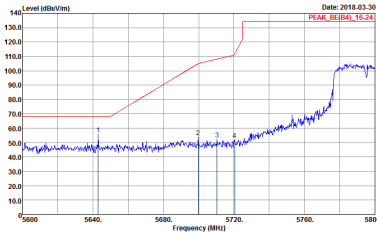
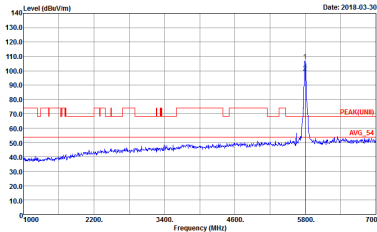
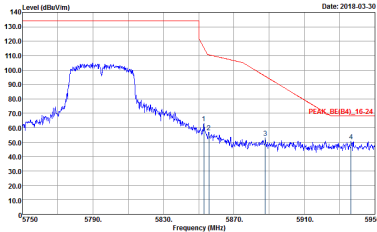
Band 4 5725~5850MHz
WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH151 5755MHz	
1	Horizontal	Fundamental
Peak	Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Site : 03CH07-4HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Peak	Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH151 5755MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	 Site : 03CH07-HY Condition : PEAK(LINE) 3m HF_ANT_00075962 VERTICAL Detector : Peak
	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH159 5795MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : PEAK(LINE) 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank

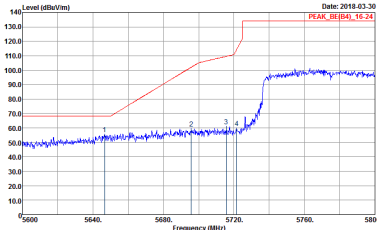
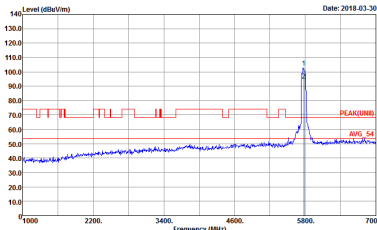
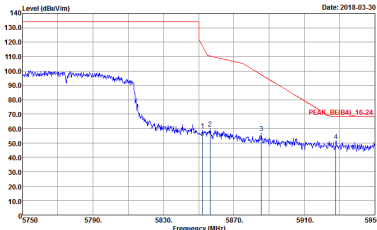


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH159 5795MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	 Site : 03CH07-HY Condition : PEAK(LINE) 3m HF_ANT_00075962 VERTICAL Detector : Peak
	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	Left blank

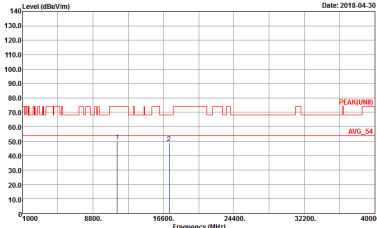
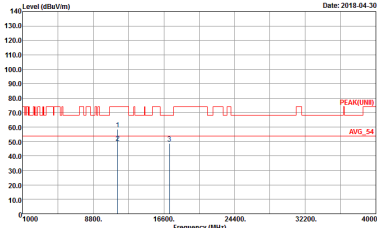


Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Fundamental
Peak	Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Site : 03CH07-4HY Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Peak	Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak
	 Site : 03CH07-HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL Detector : Peak	Left blank

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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	 Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak

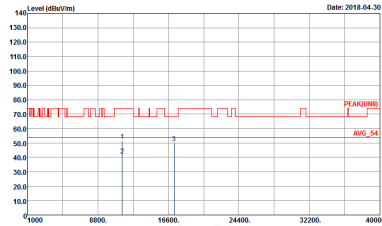
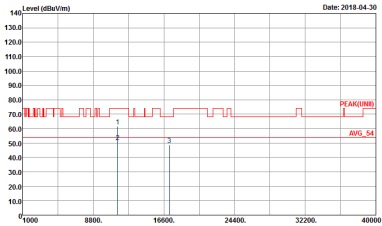


WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2018-03-30 Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2018-03-30 Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2018-04-30 Site : 03CH07-HY Condition : PEAK(UNII) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2018-04-30 Site : 03CH07-HY Condition : PEAK(UNII) 3m SHF-EHF_131029 VERTICAL Detector : Peak

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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH07-4Y Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	 Site : 03CH07-4Y Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Vertical
Peak	Level (dBu/m) Date: 2019-04-30 Site : 03CH07-HY Condition : PEAK(UNII) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Level (dBu/m) Date: 2019-04-30 Site : 03CH07-HY Condition : PEAK(UNII) 3m SHF-EHF_131029 VERTICAL Detector : Peak



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2018-04-30 Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2018-04-30 Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak



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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Vertical
Peak	Site : 03CH07-4Y Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Site : 03CH07-4Y Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2019-04-30 Site : 03CH07-HY Condition : PEAK(UNII) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2019-04-30 Site : 03CH07-HY Condition : PEAK(UNII) 3m SHF-EHF_131029 VERTICAL Detector : Peak



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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak	Site : 03CH07-4Y Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Site : 03CH07-4Y Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH157 5785MHz	
1	Horizontal	Vertical
Peak	Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH165 5825MHz	
1	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2019-04-30 Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2019-04-30 Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak



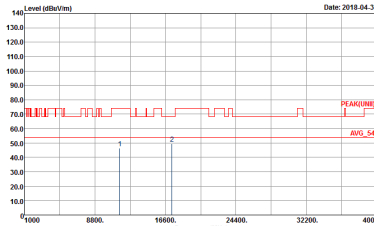
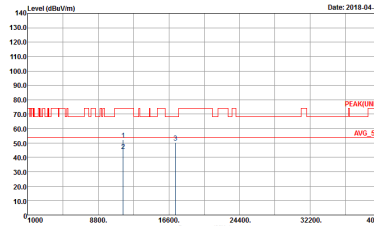
Band 4 5725~5850MHz
WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH151 5755MHz	
1	Horizontal	Vertical
Peak	Site : 03CH07-4Y Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Site : 03CH07-4Y Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak

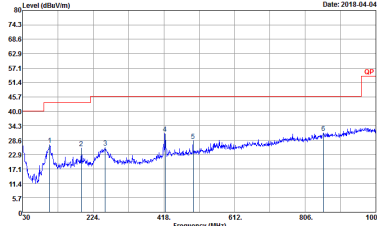


WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH159 5795MHz	
1	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2019-04-30 Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	Level (dBuV/m) Date: 2019-04-30 Site : 03CH07-HY Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak

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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH07-4Y Condition : PEAK(UNIT) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak	 Site : 03CH07-4Y Condition : PEAK(UNIT) 3m SHF-EHF_131029 VERTICAL Detector : Peak

**Emission below 1GHz****5GHz WIFI 802.11ac VHT40 (LF)**

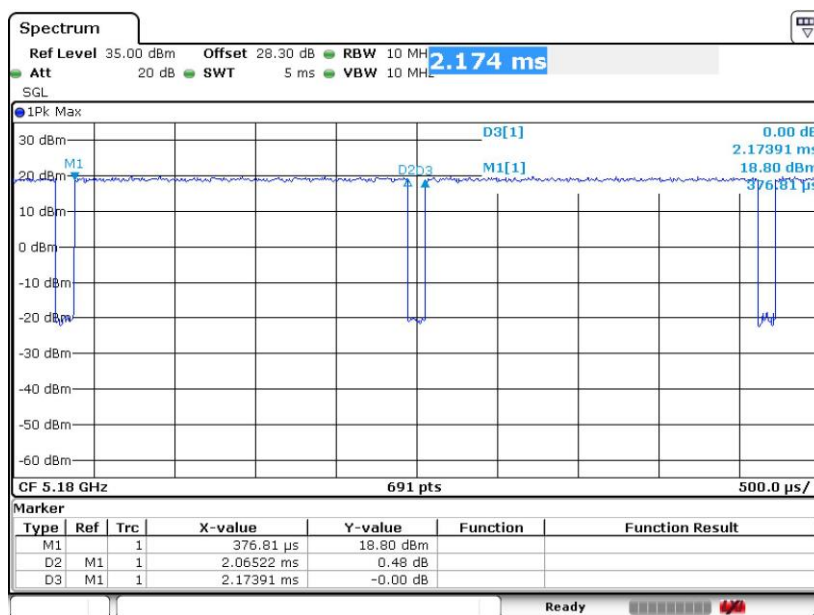
WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT40 LF	
1	Horizontal	Vertical
QP / Peak	 Site : 03CH07-HY Condition : QP 3m LF-ANT-35419(6) HORIZONTAL Detector : Peak	 Site : 03CH07-HY Condition : QP 3m LF-ANT-35419(6) VERTICAL Detector : Peak

Appendix D. Duty Cycle Plots

Band	Duty Cycle (%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor (dB)
802.11a	95.00	2065.22	0.48	1kHz	0.22
5GHz 802.11n HT20	94.33	1927.54	0.52	1kHz	0.25
5GHz 802.11n HT40	89.71	947.83	1.06	3kHz	0.47
5GHz 802.11ac VHT20	94.17	1940.00	0.52	1kHz	0.25
5GHz 802.11ac VHT40	89.39	952.17	1.05	3kHz	0.49
5GHz 802.11ac VHT80	88.89	880.00	1.14	3kHz	0.51

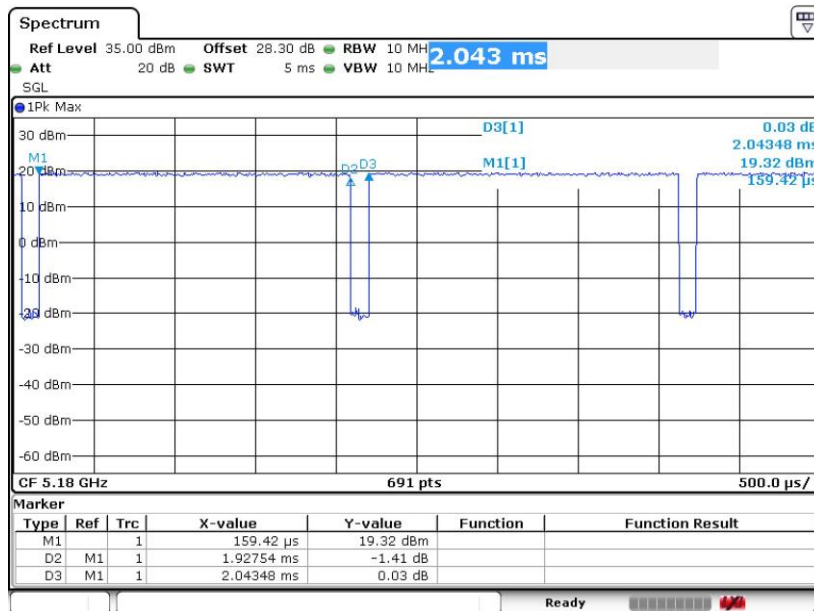
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802.11a



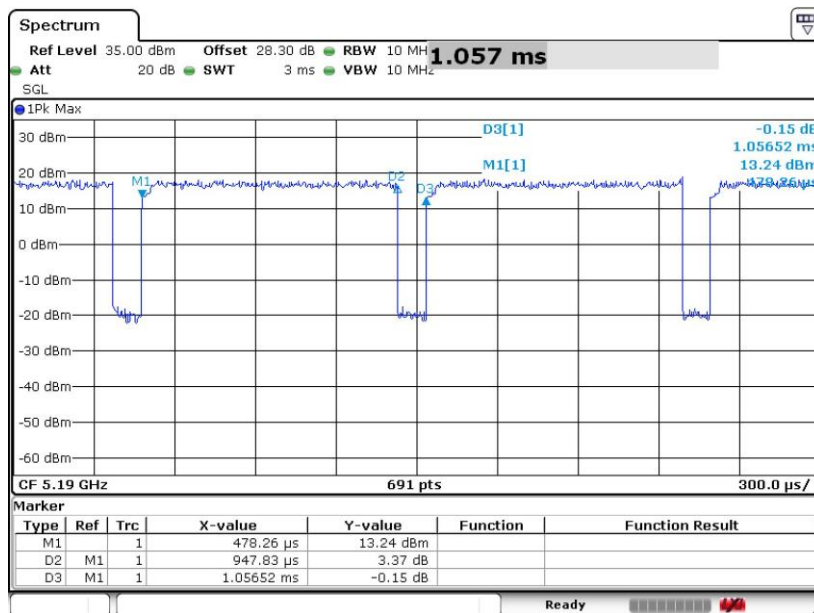
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802.11n HT20



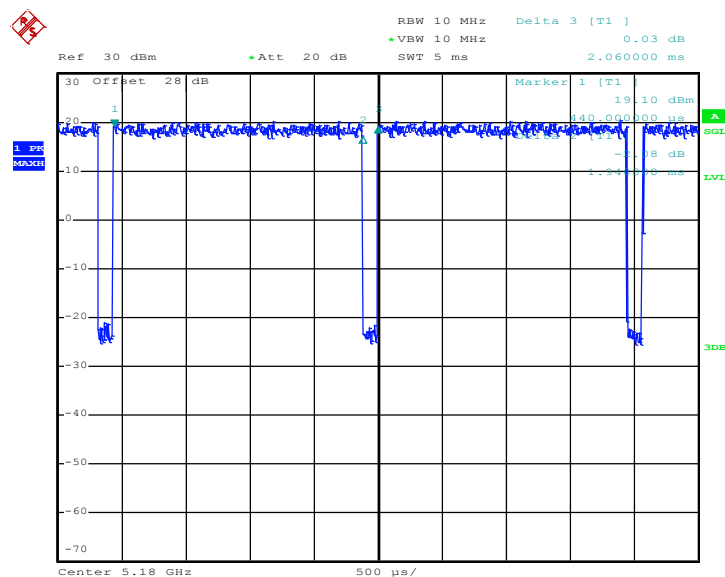
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802.11n HT40



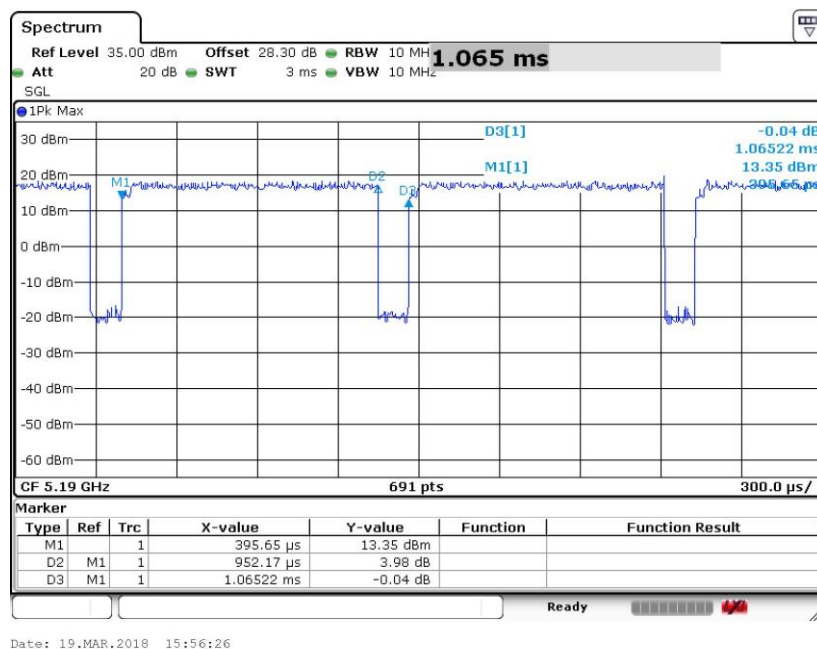
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802.11ac VHT20



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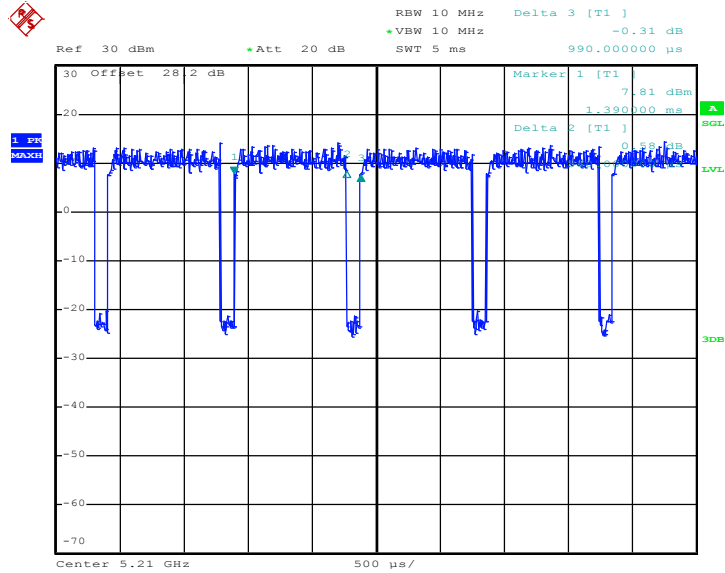
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Date: 19.MAR.2018 15:56:26



802.11ac VHT80



Date: 26.MAR.2018 23:19:15