FCC RADIO TEST REPORT

FCC ID	:	**2AP64-2872**
Equipment	:	**Digital Media Receiver**
Model name	:	**C1125P**
Applicant	:	**Gargantuan LLC** **303 North Glenoaks Blvd., Ste 200** **Burbank, CA 91502**
Standard	:	**FCC Part 15 Subpart E §15.407**

The product was completed on Jul. 13, 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 (Shenzhen) Inc., the test report shall not be reproduced except in full.

This report contains data that were produced under subcontract by accredited Sporton laboratory located in Taiwan.
Sporton Lab in Taiwan 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.

Eric Shih

TESTING
NVLAP LAB CODE 600156-0

Approved by: Eric Shih / Manager

Sporton International (Shenzhen) Inc.
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History of this test report

Report No.	Version	Description	Issued Date
FR840308-01J	01	Initial issue of report	Aug. 02, 2018

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)
3.1	15.407(b)	Unwanted Emissions	Pass
3.2	15.407 (c)	Automatically Discontinue Transmission	Pass
3.3	15.203 & 15.407 (a)	Antenna Requirement	Pass

Reviewed by: Joseph Lin

Report Producer: Wii Chang

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	C1125P
FCC ID	2AP64-2872
EUT supports Radios application	WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	5725 MHz ~ 5850 MHz
Antenna Type / Gain	**Ant. 1 :** Fixed Internal Antenna type with gain 3.90 dBi **Ant. 2 :** Fixed Internal Antenna type with gain 4.00 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

1.3 Modification of EUT

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

1.4 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No are CN5018 and CN5019.

Test Site	Sporton International (Shenzhen) Inc.	
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District Shenzhen City Guangdong Province 518055 China TEL: +86-755-3320-2398	
Test Site No.	**Sporton Site No.**	**FCC Test Firm Registration No.**
	03CH04-SZ	577730

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

1.5 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 662911 D01 Multiple Transmitter Output 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

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: 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

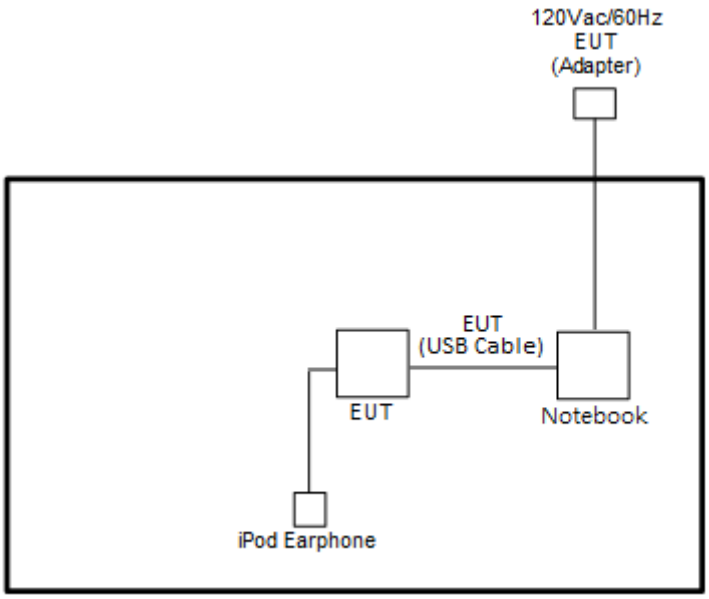
Final test modes are considering the modulation and worse data rates as below table.

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

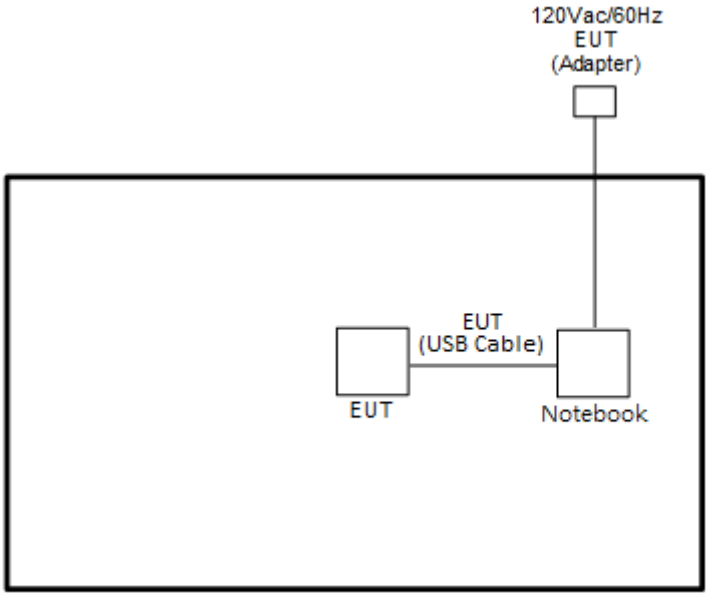
Ch. #		Band IV：5725-5850 MHz			
		802.11a	802.11n HT20	802.11n HT40	802.11ac VHT80
L	Low	149	149	151	-
M	Middle	157	157	-	155
H	High	165	165	159	-

2.3 Connection Diagram of Test System

<WLAN Tx Mode with Earphone>



<WLAN Tx Mode without Earphone>



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.	Notebook	DELL	Latitude E3340	FCC DoC/ Contains FCC ID: PD97260NGU	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility “Compliance.exe” 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.

3 Test Result

3.1 Unwanted Emissions Measurement

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

3.1.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5.725-5.85 GHz band:

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

(2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table,

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

Note: The following formula is used to convert the EIRP to field strength.

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

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

3.1.2 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 G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

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

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

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

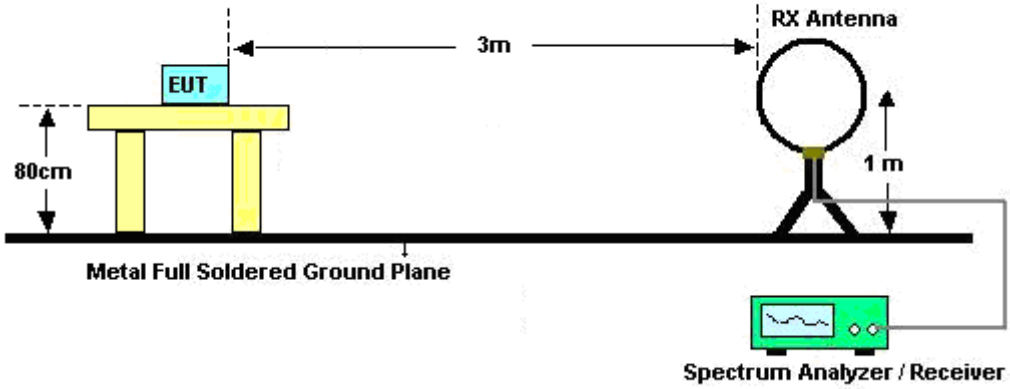
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

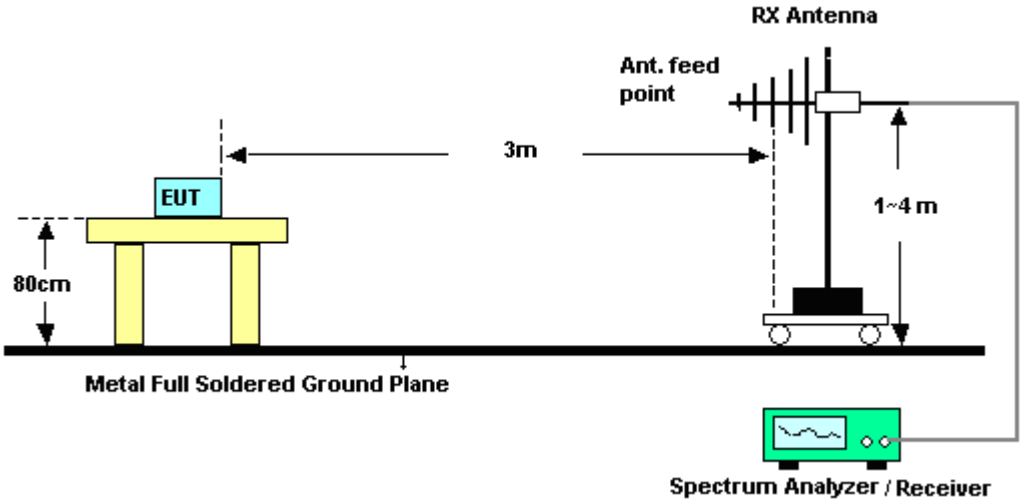
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.1.4 Test Setup

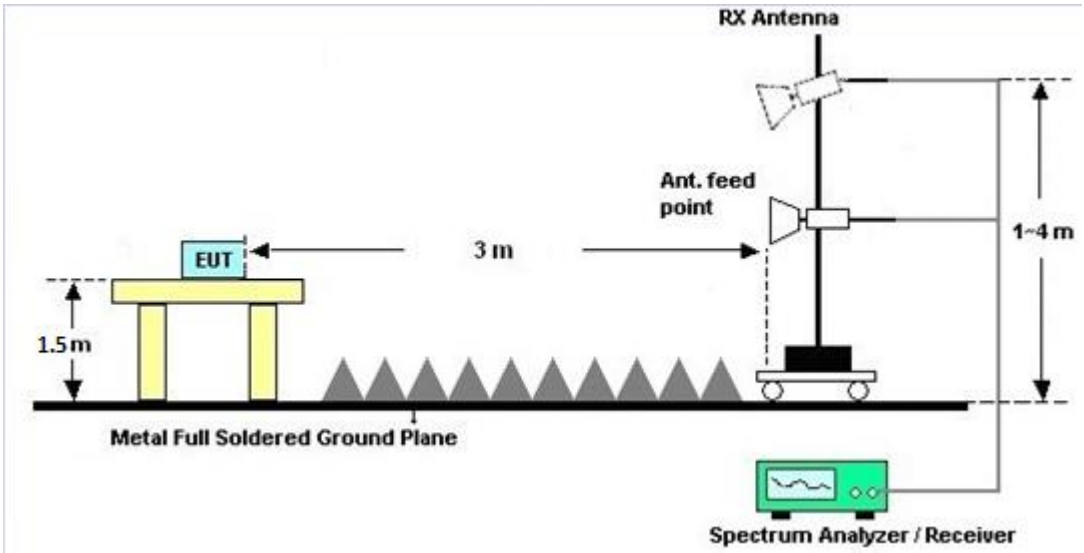
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.1.5 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.

3.1.6 Test Result of Radiated Band Edges

Please refer to Appendix A and B.

3.1.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix A and B.

3.2 Automatically Discontinue Transmission

3.2.1 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.

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 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.

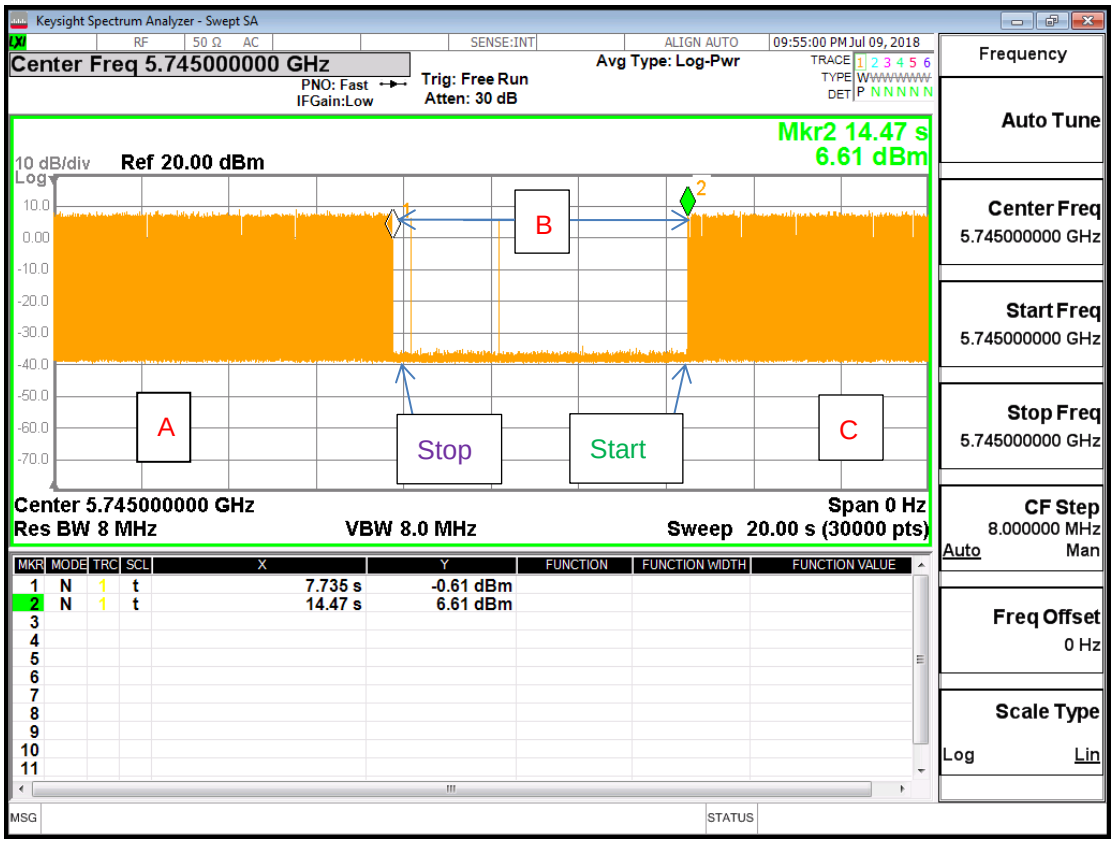
B. Information stop: stop supplying information to the access point.

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.

3.3 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
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Apr. 19, 2018	Jul. 01, 2018~ Jul. 13, 2018	Apr. 18, 2019	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Apr. 19, 2018	Jul. 01, 2018~ Jul. 13, 2018	Apr. 18, 2019	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 14, 2018	Jul. 01, 2018~ Jul. 13, 2018	May 13, 2019	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	Aug 29, 2017	Jul. 01, 2018~ Jul. 13, 2018	Aug 28, 2018	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1285	1GHz~18GHz	Dec. 13, 2017	Jul. 01, 2018~ Jul. 13, 2018	Dec. 12, 2018	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Apr 20 2018	Jul. 01, 2018~ Jul. 13, 2018	Apr 19, 2019	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct.19, 2017	Jul. 01, 2018~ Jul. 13, 2018	Oct 18, 2018	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1989346	1GHz~18GHz	Jul. 27, 2017	Jul. 01, 2018~ Jul. 13, 2018	Jul. 26, 2018	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1988315	18GHz~40GHz	Jul.27, 2017	Jul. 01, 2018~ Jul. 13, 2018	Jul.26, 2018	Radiation (03CH04-SZ
Amplifier	Agilent Technologies	83017A	MY53270156	500MHz~26.5GHz	Apr. 19, 2018	Jul. 01, 2018~ Jul. 13, 2018	Apr. 18, 2019	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	Jul. 01, 2018~ Jul. 13, 2018	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jul. 01, 2018~ Jul. 13, 2018	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jul. 01, 2018~ Jul. 13, 2018	NCR	Radiation (03CH04-SZ)

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))	2.80

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.10

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.90

Appendix A. Radiated Spurious Emission

Test Engineer :	Fuquan WU	Temperature :	22~25°C
		Relative Humidity :	48~52%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5634.8	51.44	-16.76	68.2	41.39	32.4	6.25	28.6	304	254	P	H
		5699	57.49	-46.97	104.46	47.41	32.45	6.23	28.6	304	254	P	H
		5719.8	73.15	-37.59	110.74	63.05	32.48	6.22	28.6	304	254	P	H
		5724.4	80.58	-40.25	120.83	70.48	32.48	6.22	28.6	304	254	P	H
	*	5745	108.04	-	-	97.95	32.49	6.2	28.6	304	254	P	H
	*	5745	103.41	-	-	93.32	32.49	6.2	28.6	304	254	A	H
		5618.2	50.86	-17.34	68.2	40.8	32.39	6.27	28.6	366	123	P	V
		5686.2	52.41	-42.61	95.02	42.33	32.45	6.23	28.6	366	123	P	V
		5713	67.43	-41.41	108.84	57.35	32.46	6.22	28.6	366	123	P	V
		5724	74.07	-45.85	119.92	63.97	32.48	6.22	28.6	366	123	P	V
	*	5745	103.84	-	-	93.75	32.49	6.2	28.6	366	123	P	V
	*	5745	98.4	-	-	88.31	32.49	6.2	28.6	366	123	A	V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 157 5785MHz		5616.6	51.84	-16.36	68.2	41.78	32.39	6.27	28.6	288	262	P	H
		5659.8	51.52	-23.96	75.48	41.45	32.42	6.25	28.6	288	262	P	H
		5719.2	54.86	-55.72	110.58	44.76	32.48	6.22	28.6	288	262	P	H
		5724.6	52.75	-68.54	121.29	42.65	32.48	6.22	28.6	288	262	P	H
	*	5785	109.07	-	-	98.97	32.52	6.18	28.6	288	262	P	H
	*	5785	103.24	-	-	93.14	32.52	6.18	28.6	288	262	A	H
		5854	50.64	-62.44	113.08	40.35	32.6	6.29	28.6	288	262	P	H
		5860.8	51.3	-57.87	109.17	40.9	32.6	6.4	28.6	288	262	P	H
		5885	52.43	-45.34	97.77	41.99	32.64	6.4	28.6	288	262	P	H
		5948.2	51.82	-16.38	68.2	40.99	32.8	6.63	28.6	288	262	P	H
		5642.8	51.51	-16.69	68.2	41.46	32.4	6.25	28.6	366	123	P	V
		5666.6	49.96	-30.56	80.52	39.9	32.43	6.23	28.6	366	123	P	V
		5719.2	50.81	-59.77	110.58	40.71	32.48	6.22	28.6	366	123	P	V
		5721.4	50.49	-63.5	113.99	40.39	32.48	6.22	28.6	366	123	P	V
	*	5785	103.68	-	-	93.58	32.52	6.18	28.6	366	123	P	V
	*	5785	98.71	-	-	88.61	32.52	6.18	28.6	366	123	A	V
		5851	49.59	-70.33	119.92	39.32	32.58	6.29	28.6	366	123	P	V
		5871.6	49.79	-56.36	106.15	39.35	32.64	6.4	28.6	366	123	P	V
		5916.6	51.64	-22.75	74.39	41	32.72	6.52	28.6	366	123	P	V
		5925.6	50.25	-17.95	68.2	39.57	32.76	6.52	28.6	366	123	P	V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	5825	108.42	-	-	98.16	32.57	6.29	28.6	301	261	P	H
	*	5825	103.55	-	-	93.29	32.57	6.29	28.6	301	261	A	H
		5852.6	55.71	-60.56	116.27	45.44	32.58	6.29	28.6	301	261	P	H
		5861.6	52.04	-56.91	108.95	41.64	32.6	6.4	28.6	301	261	P	H
		5924.4	52.24	-16.4	68.64	41.56	32.76	6.52	28.6	301	261	P	H
		5929.2	51.14	-17.06	68.2	40.46	32.76	6.52	28.6	301	261	P	H
													H
802.11a													H
CH 165	*	5825	102.22	-	-	91.96	32.57	6.29	28.6	366	123	P	V
5825MHz	*	5825	96.63	-	-	86.37	32.57	6.29	28.6	366	123	A	V
		5850.8	54.05	-66.33	120.38	43.78	32.58	6.29	28.6	366	123	P	V
		5875	52.74	-52.46	105.2	42.3	32.64	6.4	28.6	366	123	P	V
		5875	52.74	-52.46	105.2	42.3	32.64	6.4	28.6	366	123	P	V
		5943.6	50.74	-17.46	68.2	39.91	32.8	6.63	28.6	366	123	P	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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	48.66	-25.34	74	55.24	39.28	9.5	55.36	152	360	P	H
		17235	56.44	-11.76	68.2	55	43.04	14.89	56.49	170	21	P	H
		11490	49.15	-24.85	74	55.73	39.28	9.5	55.36	160	360	P	V
		17235	57.2	-11	68.2	55.76	43.04	14.89	56.49	170	360	P	V
802.11a CH 157 5785MHz		11570	48.87	-25.13	74	55.29	39.3	9.52	55.24	175	198	P	H
		17355	57.63	-10.57	68.2	55.28	43.81	15.12	56.58	189	185	P	H
		11570	48.46	-25.54	74	54.88	39.3	9.52	55.24	175	198	P	V
		17355	58.24	-9.96	68.2	55.89	43.81	15.12	56.58	189	185	P	V
802.11a CH 165 5825MHz		11650	48.69	-25.31	74	54.98	39.3	9.54	55.13	150	321	P	H
		17475	57.99	-10.21	68.2	54.73	44.58	15.36	56.68	143	311	P	H
		11650	49.2	-24.8	74	55.49	39.3	9.54	55.13	156	347	P	V
		17475	58.58	-9.62	68.2	55.32	44.58	15.36	56.68	150	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		5639.4	53.15	-15.05	68.2	43.1	32.4	6.25	28.6	303	261	P	H
		5690	58.17	-39.66	97.83	48.09	32.45	6.23	28.6	303	261	P	H
		5719.4	75.56	-35.07	110.63	65.46	32.48	6.22	28.6	303	261	P	H
		5725	84	-38.2	122.2	73.9	32.48	6.22	28.6	303	261	P	H
	*	5745	109.32	-	-	99.23	32.49	6.2	28.6	303	261	P	H
	*	5745	103.55	-	-	93.46	32.49	6.2	28.6	303	261	A	H
		5612.4	51.05	-17.15	68.2	40.99	32.39	6.27	28.6	308	114	P	V
		5698.4	53.81	-50.21	104.02	43.73	32.45	6.23	28.6	308	114	P	V
		5717.6	69.67	-40.46	110.13	59.57	32.48	6.22	28.6	308	114	P	V
		5723	75.95	-41.69	117.64	65.85	32.48	6.22	28.6	308	114	P	V
	*	5745	102.29	-	-	92.2	32.49	6.2	28.6	308	114	P	V
	*	5745	96.85	-	-	86.76	32.49	6.2	28.6	308	114	A	V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 157 5785MHz		5605	50.61	-17.59	68.2	40.55	32.39	6.27	28.6	303	261	P	H
		5697.4	52.07	-51.21	103.28	41.99	32.45	6.23	28.6	303	261	P	H
		5719.8	54.31	-56.43	110.74	44.21	32.48	6.22	28.6	303	261	P	H
		5724.8	52.97	-68.77	121.74	42.87	32.48	6.22	28.6	303	261	P	H
	*	5785	110.4	-	-	100.3	32.52	6.18	28.6	303	261	P	H
	*	5785	103.77	-	-	93.67	32.52	6.18	28.6	303	261	A	H
		5850	51.52	-70.68	122.2	41.25	32.58	6.29	28.6	303	261	P	H
		5871.2	51.54	-54.72	106.26	41.1	32.64	6.4	28.6	303	261	P	H
		5875	50.99	-54.21	105.2	40.55	32.64	6.4	28.6	303	261	P	H
		5932.2	50.95	-17.25	68.2	40.27	32.76	6.52	28.6	303	261	P	H
		5648.6	50.64	-17.56	68.2	40.59	32.4	6.25	28.6	307	116	P	V
		5698.4	51.27	-52.75	104.02	41.19	32.45	6.23	28.6	307	116	P	V
		5718.4	51.14	-59.21	110.35	41.04	32.48	6.22	28.6	307	116	P	V
		5722.6	50.43	-66.3	116.73	40.33	32.48	6.22	28.6	307	116	P	V
	*	5785	102.12	-	-	92.02	32.52	6.18	28.6	307	116	P	V
	*	5785	96.15	-	-	86.05	32.52	6.18	28.6	307	116	A	V
		5854.8	49.71	-61.55	111.26	39.42	32.6	6.29	28.6	307	116	P	V
		5855.6	50.92	-59.71	110.63	40.52	32.6	6.4	28.6	307	116	P	V
		5915.6	51.6	-23.53	75.13	40.96	32.72	6.52	28.6	307	116	P	V
		5939	49.49	-18.71	68.2	38.66	32.8	6.63	28.6	307	116	P	V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 165 5825MHz	*	5825	109.52	-	-	99.26	32.57	6.29	28.6	299	264	P	H
	*	5825	103.63	-	-	93.37	32.57	6.29	28.6	299	264	A	H
		5850.2	73.11	-48.63	121.74	62.84	32.58	6.29	28.6	299	264	P	H
		5856.4	70.3	-40.11	110.41	59.9	32.6	6.4	28.6	299	264	P	H
		5878.4	56.63	-46.04	102.67	46.19	32.64	6.4	28.6	299	264	P	H
		5948	51.5	-16.7	68.2	40.67	32.8	6.63	28.6	299	264	P	H
	*	5825	103.94	-	-	93.68	32.57	6.29	28.6	307	115	P	V
	*	5825	97.17	-	-	86.91	32.57	6.29	28.6	307	115	A	V
		5850	68.67	-53.53	122.2	58.4	32.58	6.29	28.6	307	115	P	V
		5855.4	64.6	-46.09	110.69	54.31	32.6	6.29	28.6	307	115	P	V
		5875.4	50.92	-53.98	104.9	40.48	32.64	6.4	28.6	307	115	P	V
		5934.6	50.66	-17.54	68.2	39.87	32.76	6.63	28.6	307	115	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11490	49.41	-24.59	74	55.99	39.28	9.5	55.36	160	360	P	H
HT20		17235	55.61	-12.59	68.2	54.17	43.04	14.89	56.49	170	360	P	H
CH 149		11490	49.92	-24.08	74	56.5	39.28	9.5	55.36	152	360	P	V
5745MHz		17235	57.94	-10.26	68.2	56.5	43.04	14.89	56.49	170	21	P	V
802.11n		11570	48.66	-25.34	74	55.08	39.3	9.52	55.24	175	198	P	H
HT20		17355	58.35	-9.85	68.2	56	43.81	15.12	56.58	189	185	P	H
CH 157		11570	48.63	-25.37	74	55.05	39.3	9.52	55.24	175	198	P	V
5785MHz		17355	57.04	-11.16	68.2	54.69	43.81	15.12	56.58	189	185	P	V
802.11n		11650	48.4	-25.6	74	54.69	39.3	9.54	55.13	150	321	P	H
HT20		17475	57.72	-10.48	68.2	54.46	44.58	15.36	56.68	143	311	P	H
CH 165		11650	48.11	-25.89	74	54.4	39.3	9.54	55.13	156	347	P	V
5825MHz		17475	57.99	-10.21	68.2	54.73	44.58	15.36	56.68	150	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		5641.6	53.54	-14.66	68.2	43.49	32.4	6.25	28.6	300	256	P	H
		5700	64.26	-40.94	105.2	54.19	32.45	6.22	28.6	300	256	P	H
		5715	81.49	-27.91	109.4	71.41	32.46	6.22	28.6	300	256	P	H
		5722.4	82.17	-34.1	116.27	72.07	32.48	6.22	28.6	300	256	P	H
	*	5755	105.67	-	-	95.56	32.51	6.2	28.6	300	256	P	H
	*	5755	98.48	-	-	88.37	32.51	6.2	28.6	300	256	A	H
		5853.8	51.14	-62.4	113.54	40.85	32.6	6.29	28.6	300	256	P	H
		5871.2	51.92	-54.34	106.26	41.48	32.64	6.4	28.6	300	256	P	H
		5879.2	51.26	-50.82	102.08	40.82	32.64	6.4	28.6	300	256	P	H
		5931.2	51.2	-17	68.2	40.52	32.76	6.52	28.6	300	256	P	H
		5646.6	51.26	-16.94	68.2	41.21	32.4	6.25	28.6	374	124	P	V
		5698.6	61.83	-42.34	104.17	51.75	32.45	6.23	28.6	374	124	P	V
		5716	75.11	-34.57	109.68	65.03	32.46	6.22	28.6	374	124	P	V
		5722.8	77.59	-39.59	117.18	67.49	32.48	6.22	28.6	374	124	P	V
	*	5755	100.05	-	-	89.94	32.51	6.2	28.6	374	124	P	V
	*	5755	92.95	-	-	82.84	32.51	6.2	28.6	374	124	A	V
		5852.2	49.92	-67.26	117.18	39.65	32.58	6.29	28.6	374	124	P	V
		5860.2	50.1	-59.24	109.34	39.7	32.6	6.4	28.6	374	124	P	V
		5923.8	50.93	-18.15	69.08	40.25	32.76	6.52	28.6	374	124	P	V
		5927.6	50.85	-17.35	68.2	40.17	32.76	6.52	28.6	374	124	P	V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 159 5795MHz		5633.2	50.44	-17.76	68.2	40.39	32.4	6.25	28.6	314	262	P	H
		5698.4	53.2	-50.82	104.02	43.12	32.45	6.23	28.6	314	262	P	H
		5720	56.81	-53.99	110.8	46.71	32.48	6.22	28.6	314	262	P	H
		5724.6	61.92	-59.37	121.29	51.82	32.48	6.22	28.6	314	262	P	H
	*	5795	105.82	-	-	95.7	32.54	6.18	28.6	314	262	P	H
	*	5795	98.25	-	-	88.13	32.54	6.18	28.6	314	262	A	H
		5851.8	63.83	-54.27	118.1	53.56	32.58	6.29	28.6	314	262	P	H
		5859	62.18	-47.5	109.68	51.78	32.6	6.4	28.6	314	262	P	H
		5881.6	54.35	-45.95	100.3	43.91	32.64	6.4	28.6	314	262	P	H
		5934.4	51.28	-16.92	68.2	40.49	32.76	6.63	28.6	314	262	P	H
		5628.4	51.03	-17.17	68.2	40.99	32.39	6.25	28.6	366	125	P	V
		5669.8	50.65	-32.24	82.89	40.59	32.43	6.23	28.6	366	125	P	V
		5712.4	52.76	-55.91	108.67	42.68	32.46	6.22	28.6	366	125	P	V
		5724	57.68	-62.24	119.92	47.58	32.48	6.22	28.6	366	125	P	V
	*	5795	100.12	-	-	90	32.54	6.18	28.6	366	125	P	V
	*	5795	93.46	-	-	83.34	32.54	6.18	28.6	366	125	A	V
		5850.8	59.01	-61.37	120.38	48.74	32.58	6.29	28.6	366	125	P	V
		5856.2	56.26	-54.2	110.46	45.86	32.6	6.4	28.6	366	125	P	V
		5899.4	50.93	-36.17	87.1	40.33	32.68	6.52	28.6	366	125	P	V
		5933.8	49.96	-18.24	68.2	39.17	32.76	6.63	28.6	366	125	P	V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11510	48.94	-25.06	74	55.48	39.3	9.5	55.34	152	360	P	H
HT40		17265	56.75	-11.45	68.2	55.04	43.26	14.97	56.52	170	319	P	H
CH 151		11510	48.96	-25.04	74	55.5	39.3	9.5	55.34	160	360	P	V
5755MHz		17265	57.37	-10.83	68.2	55.66	43.26	14.97	56.52	170	360	P	V
802.11n		11590	49.59	-24.41	74	55.97	39.3	9.53	55.21	150	343	P	H
HT40		17385	57.29	-10.91	68.2	54.67	44.03	15.2	56.61	150	146	P	H
CH 159		11590	49.21	-24.79	74	55.59	39.3	9.53	55.21	170	300	P	V
5795MHz		17385	57.04	-11.16	68.2	54.42	44.03	15.2	56.61	150	200	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		5624.2	59.87	-8.33	68.2	49.83	32.39	6.25	28.6	315	261	P	H
		5693	74.97	-25.07	100.04	64.89	32.45	6.23	28.6	315	261	P	H
		5718.4	77.89	-32.46	110.35	67.79	32.48	6.22	28.6	315	261	P	H
		5723	82.73	-34.91	117.64	72.63	32.48	6.22	28.6	315	261	P	H
	*	5775	101.41	-	-	91.29	32.52	6.2	28.6	315	261	P	H
	*	5775	94.64	-	-	84.52	32.52	6.2	28.6	315	261	A	H
		5852.2	72.99	-44.19	117.18	62.72	32.58	6.29	28.6	315	261	P	H
		5856	71.09	-39.43	110.52	60.69	32.6	6.4	28.6	315	261	P	H
		5877.8	65.03	-38.09	103.12	54.59	32.64	6.4	28.6	315	261	P	H
		5927	55.36	-12.84	68.2	44.68	32.76	6.52	28.6	315	261	P	H
		5646.4	55.44	-12.76	68.2	45.39	32.4	6.25	28.6	367	125	P	V
		5694.8	68.39	-32.98	101.37	58.31	32.45	6.23	28.6	367	125	P	V
		5715.2	74.57	-34.89	109.46	64.49	32.46	6.22	28.6	367	125	P	V
		5720.4	74.76	-36.95	111.71	64.66	32.48	6.22	28.6	367	125	P	V
	*	5775	96.19	-	-	86.07	32.52	6.2	28.6	367	125	P	V
	*	5775	89.01	-	-	78.89	32.52	6.2	28.6	367	125	A	V
		5850.6	66.48	-54.35	120.83	56.21	32.58	6.29	28.6	367	125	P	V
		5855	64.12	-46.68	110.8	53.83	32.6	6.29	28.6	367	125	P	V
		5880	56.35	-45.14	101.49	45.91	32.64	6.4	28.6	367	125	P	V
		5932.4	52	-16.2	68.2	41.32	32.76	6.52	28.6	367	125	P	V

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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11550	48.41	-25.59	74	54.85	39.3	9.52	55.26	163	360	P	H
VHT80		17325	56.66	-11.54	68.2	54.51	43.59	15.12	56.56	170	36	P	H
CH 155		11550	48.42	-25.58	74	54.86	39.3	9.52	55.26	160	360	P	V
5775MHz		17325	57.35	-10.85	68.2	55.2	43.59	15.12	56.56	170	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

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

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
5GHz 802.11ac VHT80 LF		30	23.79	-16.21	40	30.61	24.9	0.25	31.97	-	-	P	H
		85.29	23.95	-16.05	40	40.53	14.3	0.93	31.81	-	-	P	H
		198.78	27.93	-15.57	43.5	42.38	15.28	1.6	31.33	-	-	P	H
		298.69	29.9	-16.1	46	39.89	19.38	1.85	31.22	-	-	P	H
		375.32	31.38	-14.62	46	39.16	21.29	2.13	31.2	-	-	P	H
		800.18	35.09	-10.91	46	34.59	28.5	3.16	31.16	100	78	P	H
		42.61	30.57	-9.43	40	43.43	18.65	0.46	31.97	100	46	P	V
		80.44	28.92	-11.08	40	46.31	13.6	0.85	31.84	-	-	P	V
		198.78	28.18	-15.32	43.5	42.63	15.28	1.6	31.33	-	-	P	V
		298.69	32.35	-13.65	46	42.34	19.38	1.85	31.22	-	-	P	V
		499.48	32.15	-13.85	46	36.97	23.98	2.43	31.23	-	-	P	V
		899.12	33.37	-12.63	46	31.85	29.29	3.39	31.16	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		5615.2	53.08	-15.12	68.2	43.02	32.39	6.27	28.6	269	96	P	H
		5699.6	59.18	-45.73	104.91	49.11	32.45	6.22	28.6	269	96	P	H
		5718.8	76.71	-33.75	110.46	66.61	32.48	6.22	28.6	269	96	P	H
		5724.6	83.23	-38.06	121.29	73.13	32.48	6.22	28.6	269	96	P	H
	*	5745	111.98	-	-	101.89	32.49	6.2	28.6	269	96	P	H
	*	5745	104.73	-	-	94.64	32.49	6.2	28.6	269	96	A	H
		5613.2	50.78	-17.42	68.2	40.72	32.39	6.27	28.6	317	159	P	V
		5700	56.14	-49.06	105.2	46.07	32.45	6.22	28.6	317	159	P	V
		5719.2	71.77	-38.81	110.58	61.67	32.48	6.22	28.6	317	159	P	V
		5725	77.86	-44.34	122.2	67.76	32.48	6.22	28.6	317	159	P	V
	*	5745	107.55	-	-	97.46	32.49	6.2	28.6	317	159	P	V
	*	5745	100.1	-	-	90.01	32.49	6.2	28.6	317	159	A	V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 157 5785MHz		5640.8	51.99	-16.21	68.2	41.94	32.4	6.25	28.6	284	95	P	H
		5664	51.62	-26.97	78.59	41.57	32.42	6.23	28.6	284	95	P	H
		5707.6	55.58	-51.75	107.33	45.5	32.46	6.22	28.6	284	95	P	H
		5724.4	56.1	-64.73	120.83	46	32.48	6.22	28.6	284	95	P	H
	*	5785	111.42	-	-	101.32	32.52	6.18	28.6	284	95	P	H
	*	5785	105.01	-	-	94.91	32.52	6.18	28.6	284	95	A	H
		5853.6	51.84	-62.15	113.99	41.55	32.6	6.29	28.6	284	95	P	H
		5855.6	52.7	-57.93	110.63	42.3	32.6	6.4	28.6	284	95	P	H
		5923.4	52.04	-17.34	69.38	41.36	32.76	6.52	28.6	284	95	P	H
		5929.2	52.73	-15.47	68.2	42.05	32.76	6.52	28.6	284	95	P	H
		5641.8	51.61	-16.59	68.2	41.56	32.4	6.25	28.6	343	158	P	V
		5694	51.17	-49.61	100.78	41.09	32.45	6.23	28.6	343	158	P	V
		5718	50.92	-59.32	110.24	40.82	32.48	6.22	28.6	343	158	P	V
		5722.8	51.88	-65.3	117.18	41.78	32.48	6.22	28.6	343	158	P	V
	*	5785	106.5	-	-	96.4	32.52	6.18	28.6	343	158	P	V
	*	5785	100.76	-	-	90.66	32.52	6.18	28.6	343	158	A	V
		5852.4	49.42	-67.31	116.73	39.15	32.58	6.29	28.6	343	158	P	V
		5870.8	50.9	-55.47	106.37	40.46	32.64	6.4	28.6	343	158	P	V
		5878.6	51.16	-51.37	102.53	40.72	32.64	6.4	28.6	343	158	P	V
		5949.2	50.92	-17.28	68.2	40.09	32.8	6.63	28.6	343	158	P	V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 165 5825MHz	*	5825	111.29	-	-	101.03	32.57	6.29	28.6	301	94	P	H
	*	5825	105.04	-	-	94.78	32.57	6.29	28.6	301	94	A	H
		5850.8	75.74	-44.64	120.38	65.47	32.58	6.29	28.6	301	94	P	H
		5856.2	71.2	-39.26	110.46	60.8	32.6	6.4	28.6	301	94	P	H
		5875.2	54.87	-50.18	105.05	44.43	32.64	6.4	28.6	301	94	P	H
		5946.4	51.29	-16.91	68.2	40.46	32.8	6.63	28.6	301	94	P	H
	*	5825	106.51	-	-	96.25	32.57	6.29	28.6	338	159	P	V
	*	5825	100.23	-	-	89.97	32.57	6.29	28.6	338	159	A	V
		5850.6	70.9	-49.93	120.83	60.63	32.58	6.29	28.6	338	159	P	V
		5856.6	64.66	-45.69	110.35	54.26	32.6	6.4	28.6	338	159	P	V
		5875.8	53.19	-51.42	104.61	42.75	32.64	6.4	28.6	338	159	P	V
		5930	50.35	-17.85	68.2	39.67	32.76	6.52	28.6	338	159	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	49.39	-24.61	74	55.97	39.28	9.5	55.36	187	166	P	H
		17235	57.2	-11	68.2	55.76	43.04	14.89	56.49	156	246	P	H
		11490	48.67	-25.33	74	55.25	39.28	9.5	55.36	160	360	P	V
		17235	56.4	-11.8	68.2	54.96	43.04	14.89	56.49	170	360	P	V
802.11a CH 157 5785MHz		11570	49.47	-24.53	74	55.89	39.3	9.52	55.24	221	164	P	H
		17355	57.61	-10.59	68.2	55.26	43.81	15.12	56.58	112	241	P	H
		11570	48.36	-25.64	74	54.78	39.3	9.52	55.24	175	198	P	V
		17355	57.07	-11.13	68.2	54.72	43.81	15.12	56.58	189	185	P	V
802.11a CH 165 5825MHz		11650	48.68	-25.32	74	54.97	39.3	9.54	55.13	200	183	P	H
		17475	57.61	-10.59	68.2	54.35	44.58	15.36	56.68	127	311	P	H
		11650	48.41	-25.59	74	54.7	39.3	9.54	55.13	156	347	P	V
		17475	58.57	-9.63	68.2	55.31	44.58	15.36	56.68	150	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		5614.4	52.27	-15.93	68.2	42.21	32.39	6.27	28.6	268	96	P	H
		5693	59.5	-40.54	100.04	49.42	32.45	6.23	28.6	268	96	P	H
		5718.4	76.26	-34.09	110.35	66.16	32.48	6.22	28.6	268	96	P	H
		5724.6	85.2	-36.09	121.29	75.1	32.48	6.22	28.6	268	96	P	H
	*	5745	110.12	-	-	100.03	32.49	6.2	28.6	268	96	P	H
	*	5745	104.54	-	-	94.45	32.49	6.2	28.6	268	96	A	H
		5606.4	51.99	-16.21	68.2	41.93	32.39	6.27	28.6	331	160	P	V
		5694.6	54.22	-47	101.22	44.14	32.45	6.23	28.6	331	160	P	V
		5719.2	70.05	-40.53	110.58	59.95	32.48	6.22	28.6	331	160	P	V
		5725	76.79	-45.41	122.2	66.69	32.48	6.22	28.6	331	160	P	V
	*	5745	107.74	-	-	97.65	32.49	6.2	28.6	331	160	P	V
	*	5745	100.07	-	-	89.98	32.49	6.2	28.6	331	160	A	V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 157 5785MHz		5626.2	51.5	-16.7	68.2	41.46	32.39	6.25	28.6	306	94	P	H
		5671.6	51.53	-32.69	84.22	41.47	32.43	6.23	28.6	306	94	P	H
		5717.2	53.83	-56.19	110.02	43.75	32.46	6.22	28.6	306	94	P	H
		5721.8	54.98	-59.92	114.9	44.88	32.48	6.22	28.6	306	94	P	H
	*	5785	110.73	-	-	100.63	32.52	6.18	28.6	306	94	P	H
	*	5785	104.31	-	-	94.21	32.52	6.18	28.6	306	94	A	H
		5851	52.68	-67.24	119.92	42.41	32.58	6.29	28.6	306	94	P	H
		5873	51.02	-54.74	105.76	40.58	32.64	6.4	28.6	306	94	P	H
		5918.4	51.59	-21.48	73.07	40.95	32.72	6.52	28.6	306	94	P	H
		5927.4	50.53	-17.67	68.2	39.85	32.76	6.52	28.6	306	94	P	H
		5644.2	51.35	-16.85	68.2	41.3	32.4	6.25	28.6	366	134	P	V
		5674.4	50.06	-36.24	86.3	40	32.43	6.23	28.6	366	134	P	V
		5707.4	51.21	-56.06	107.27	41.13	32.46	6.22	28.6	366	134	P	V
		5723	52.97	-64.67	117.64	42.87	32.48	6.22	28.6	366	134	P	V
	*	5785	105.18	-	-	95.08	32.52	6.18	28.6	366	134	P	V
		5854.6	50.9	-60.81	111.71	40.61	32.6	6.29	28.6	366	134	P	V
		5864.6	49.87	-58.24	108.11	39.47	32.6	6.4	28.6	366	134	P	V
		5905.2	50.71	-32.1	82.81	40.07	32.72	6.52	28.6	366	134	P	V
		5931.2	50.69	-17.51	68.2	40.01	32.76	6.52	28.6	366	134	P	V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 165 5825MHz	*	5825	112.05	-	-	101.79	32.57	6.29	28.6	302	94	P	H
	*	5825	104.84	-	-	94.58	32.57	6.29	28.6	302	94	A	H
		5851	76.51	-43.41	119.92	66.24	32.58	6.29	28.6	302	94	P	H
		5856.6	74.18	-36.17	110.35	63.78	32.6	6.4	28.6	302	94	P	H
		5877.2	55.61	-47.96	103.57	45.17	32.64	6.4	28.6	302	94	P	H
		5943.2	52.01	-16.19	68.2	41.18	32.8	6.63	28.6	302	94	P	H
	*	5825	106.69	-	-	96.43	32.57	6.29	28.6	338	157	P	V
	*	5825	100.24	-	-	89.98	32.57	6.29	28.6	338	157	A	V
		5850.4	74.78	-46.51	121.29	64.51	32.58	6.29	28.6	338	157	P	V
		5857.8	71.46	-38.55	110.01	61.06	32.6	6.4	28.6	338	157	P	V
		5893	52.48	-39.36	91.84	42	32.68	6.4	28.6	338	157	P	V
		5937.4	51.16	-17.04	68.2	40.37	32.76	6.63	28.6	338	157	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11490	48.66	-25.34	74	55.24	39.28	9.5	55.36	160	360	P	H
HT20		17235	57.21	-10.99	68.2	55.77	43.04	14.89	56.49	170	360	P	H
CH 149		11490	49.43	-24.57	74	56.01	39.28	9.5	55.36	187	166	P	V
5745MHz		17235	57.23	-10.97	68.2	55.79	43.04	14.89	56.49	156	246	P	V
802.11n		11570	49.07	-24.93	74	55.49	39.3	9.52	55.24	175	198	P	H
HT20		17355	56.81	-11.39	68.2	54.46	43.81	15.12	56.58	189	185	P	H
CH 157		11570	48.95	-25.05	74	55.37	39.3	9.52	55.24	123	242	P	V
5785MHz		17355	57.92	-10.28	68.2	55.57	43.81	15.12	56.58	114	102	P	V
802.11n		11650	48.64	-25.36	74	54.93	39.3	9.54	55.13	156	347	P	H
HT20		17475	57.88	-10.32	68.2	54.62	44.58	15.36	56.68	150	360	P	H
CH 165		11650	48.33	-25.67	74	54.62	39.3	9.54	55.13	200	183	P	V
5825MHz		17475	58.43	-9.77	68.2	55.17	44.58	15.36	56.68	127	311	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		5648.2	54.55	-13.65	68.2	44.5	32.4	6.25	28.6	296	94	P	H
		5697.4	69.6	-33.68	103.28	59.52	32.45	6.23	28.6	296	94	P	H
		5718.4	80.77	-29.58	110.35	70.67	32.48	6.22	28.6	296	94	P	H
		5723.8	83.38	-36.08	119.46	73.28	32.48	6.22	28.6	296	94	P	H
	*	5755	106.09	-	-	95.98	32.51	6.2	28.6	296	94	P	H
	*	5755	99.98	-	-	89.87	32.51	6.2	28.6	296	94	A	H
		5854.4	52.6	-59.57	112.17	42.31	32.6	6.29	28.6	296	94	P	H
		5865.6	53.84	-53.99	107.83	43.44	32.6	6.4	28.6	296	94	P	H
		5905.8	50.6	-31.77	82.37	39.96	32.72	6.52	28.6	296	94	P	H
		5937.4	51.2	-17	68.2	40.41	32.76	6.63	28.6	296	94	P	H
		5610.2	51.24	-16.96	68.2	41.18	32.39	6.27	28.6	352	135	P	V
		5694.8	61.02	-40.35	101.37	50.94	32.45	6.23	28.6	352	135	P	V
		5719	75.14	-35.38	110.52	65.04	32.48	6.22	28.6	352	135	P	V
		5723.2	77.45	-40.65	118.1	67.35	32.48	6.22	28.6	352	135	P	V
	*	5755	101.84	-	-	91.73	32.51	6.2	28.6	352	135	P	V
	*	5755	94.87	-	-	84.76	32.51	6.2	28.6	352	135	A	V
		5850	50.37	-71.83	122.2	40.1	32.58	6.29	28.6	352	135	P	V
		5864.8	50.88	-57.17	108.05	40.48	32.6	6.4	28.6	352	135	P	V
		5899.6	51.77	-35.19	86.96	41.17	32.68	6.52	28.6	352	135	P	V
		5928.2	50.17	-18.03	68.2	39.49	32.76	6.52	28.6	352	135	P	V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 159 5795MHz		5622.6	53.72	-14.48	68.2	43.68	32.39	6.25	28.6	291	95	P	H
		5699.6	56.32	-48.59	104.91	46.25	32.45	6.22	28.6	291	95	P	H
		5714.8	57.62	-51.73	109.35	47.54	32.46	6.22	28.6	291	95	P	H
		5724.6	63.97	-57.32	121.29	53.87	32.48	6.22	28.6	291	95	P	H
	*	5795	107.2	-	-	97.08	32.54	6.18	28.6	291	95	P	H
	*	5795	100.33	-	-	90.21	32.54	6.18	28.6	291	95	A	H
		5851.2	66.75	-52.71	119.46	56.48	32.58	6.29	28.6	291	95	P	H
		5863.4	66.02	-42.43	108.45	55.62	32.6	6.4	28.6	291	95	P	H
		5878.8	56.08	-46.3	102.38	45.64	32.64	6.4	28.6	291	95	P	H
		5933.8	50.25	-17.95	68.2	39.46	32.76	6.63	28.6	291	95	P	H
		5629.4	51.01	-17.19	68.2	40.97	32.39	6.25	28.6	345	159	P	V
		5689.6	51.66	-45.87	97.53	41.58	32.45	6.23	28.6	345	159	P	V
		5713.4	55.03	-53.92	108.95	44.95	32.46	6.22	28.6	345	159	P	V
		5724.6	54.75	-66.54	121.29	44.65	32.48	6.22	28.6	345	159	P	V
	*	5795	102.24	-	-	92.12	32.54	6.18	28.6	345	159	P	V
	*	5795	95.94	-	-	85.82	32.54	6.18	28.6	345	159	A	V
		5854.2	59.61	-53.01	112.62	49.32	32.6	6.29	28.6	345	159	P	V
		5867.2	63.38	-44	107.38	52.98	32.6	6.4	28.6	345	159	P	V
		5875	55.8	-49.4	105.2	45.36	32.64	6.4	28.6	345	159	P	V
		5939.6	51.83	-16.37	68.2	41	32.8	6.63	28.6	345	159	P	V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11510	48.89	-25.11	74	55.43	39.3	9.5	55.34	160	360	P	H
HT40		17265	56.42	-11.78	68.2	54.71	43.26	14.97	56.52	170	360	P	H
CH 151		11510	48.7	-25.3	74	55.24	39.3	9.5	55.34	124	284	P	V
5755MHz		17265	56.1	-12.1	68.2	54.39	43.26	14.97	56.52	243	114	P	V
802.11n		11590	48.59	-25.41	74	54.97	39.3	9.53	55.21	132	322	P	H
HT40		17385	58.39	-9.81	68.2	55.77	44.03	15.2	56.61	154	211	P	H
CH 159		11590	48.31	-25.69	74	54.69	39.3	9.53	55.21	170	300	P	V
5795MHz		17385	58.31	-9.89	68.2	55.69	44.03	15.2	56.61	150	200	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		5646.2	60.54	-7.66	68.2	50.49	32.4	6.25	28.6	294	95	P	H
		5699.8	76.66	-28.39	105.05	66.59	32.45	6.22	28.6	294	95	P	H
		5704.6	80.65	-25.84	106.49	70.57	32.46	6.22	28.6	294	95	P	H
		5720	80.22	-30.58	110.8	70.12	32.48	6.22	28.6	294	95	P	H
	*	5775	102.06	-	-	91.94	32.52	6.2	28.6	294	95	P	H
	*	5775	95.56	-	-	85.44	32.52	6.2	28.6	294	95	A	H
		5850.4	72.97	-48.32	121.29	62.7	32.58	6.29	28.6	294	95	P	H
		5856.2	72.56	-37.9	110.46	62.16	32.6	6.4	28.6	294	95	P	H
		5878.4	66.01	-36.66	102.67	55.57	32.64	6.4	28.6	294	95	P	H
		5930	54.21	-13.99	68.2	43.53	32.76	6.52	28.6	294	95	P	H
		5636.4	54.6	-13.6	68.2	44.55	32.4	6.25	28.6	348	160	P	V
		5697.2	70.81	-32.33	103.14	60.73	32.45	6.23	28.6	348	160	P	V
		5719	74.69	-35.83	110.52	64.59	32.48	6.22	28.6	348	160	P	V
		5721	76.75	-36.33	113.08	66.65	32.48	6.22	28.6	348	160	P	V
	*	5775	98.16	-	-	88.04	32.52	6.2	28.6	348	160	P	V
	*	5775	92.01	-	-	81.89	32.52	6.2	28.6	348	160	A	V
		5852.8	70.99	-44.83	115.82	60.72	32.58	6.29	28.6	348	160	P	V
		5855.2	66.81	-43.93	110.74	56.52	32.6	6.29	28.6	348	160	P	V
		5876.8	62.15	-41.71	103.86	51.71	32.64	6.4	28.6	348	160	P	V
		5936.6	51.41	-16.79	68.2	40.62	32.76	6.63	28.6	348	160	P	V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11550	48.6	-25.4	74	55.04	39.3	9.52	55.26	150	340	P	H
VHT80		17325	58.03	-10.17	68.2	55.88	43.59	15.12	56.56	165	334	P	H
CH 155		11550	49.13	-24.87	74	55.57	39.3	9.52	55.26	144	154	P	V
5775MHz		17325	56.54	-11.66	68.2	54.39	43.59	15.12	56.56	122	312	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI *11ac VHT80* (LF @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 LF		83.35	25.11	-14.89	40	42.02	14.02	0.9	31.83			P	H
		134.76	23.58	-19.92	43.5	36.39	17.58	1.21	31.6			P	H
		373.38	33.38	-12.62	46	41.21	21.24	2.13	31.2			P	H
		553.8	29.56	-16.44	46	33.28	24.96	2.57	31.25			P	H
		800.18	35.13	-10.87	46	34.63	28.5	3.16	31.16	100	74	P	H
		955.38	33.73	-12.27	46	31.63	29.96	3.48	31.34			P	H
		42.61	32.34	-7.66	40	45.2	18.65	0.46	31.97	100	49	P	V
		83.35	29.06	-10.94	40	45.97	14.02	0.9	31.83			P	V
		298.69	33.47	-12.53	46	43.46	19.38	1.85	31.22			P	V
		497.54	32.58	-13.42	46	37.45	23.94	2.42	31.23			P	V
		798.24	33.36	-12.64	46	32.89	28.47	3.16	31.16			P	V
		899.12	33.51	-12.49	46	31.99	29.29	3.39	31.16			P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

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

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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

Appendix B. Radiated Spurious Emission Plots

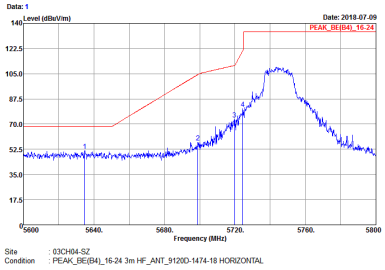
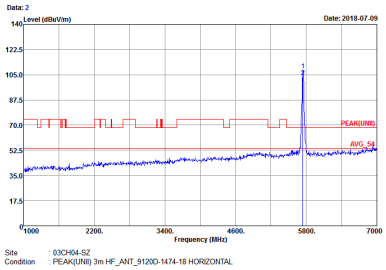
Test Engineer :	Fuquan WU	**Temperature :**	22~25°C
		Relative Humidity :	48~52%

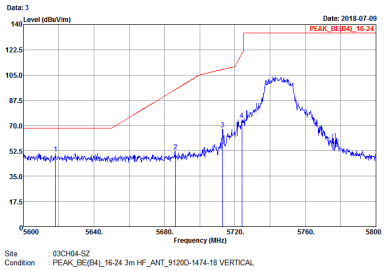
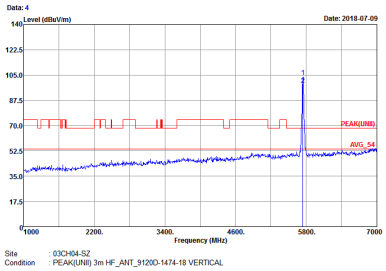
Note symbol

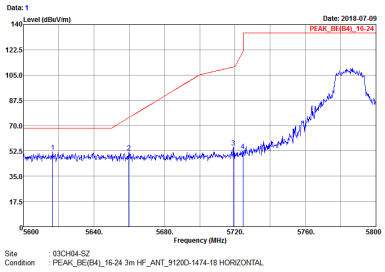
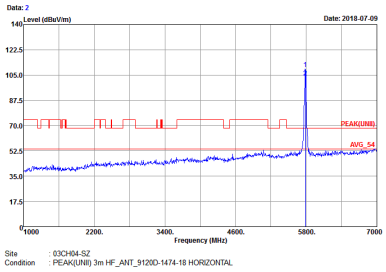
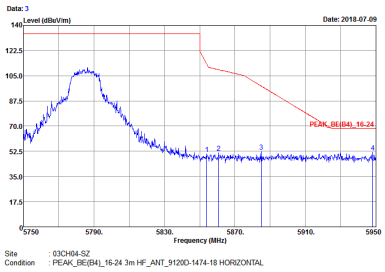
-L	**Low channel location**
-R	**High channel location**

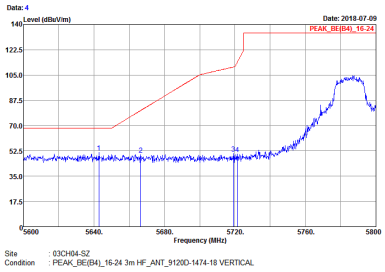
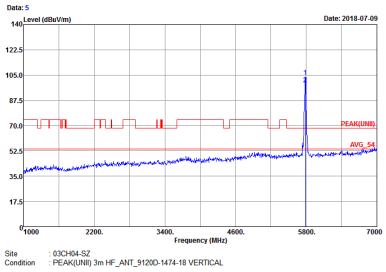
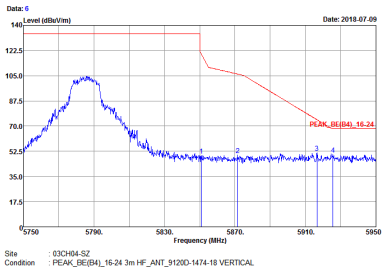
Band 4 - 5725~5850MHz

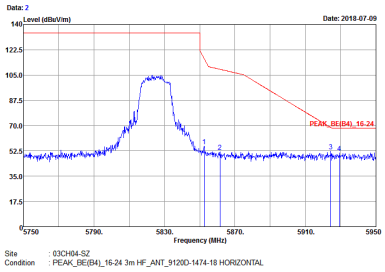
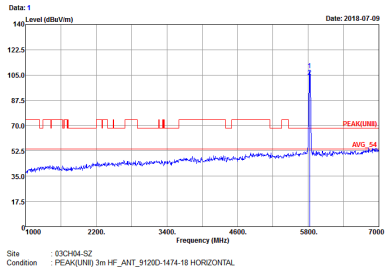
WIFI 802.11a (Band Edge @ 3m)

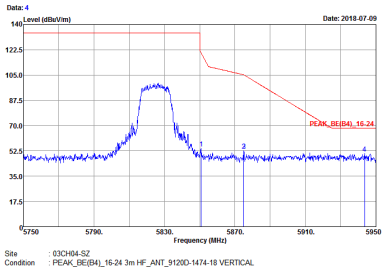
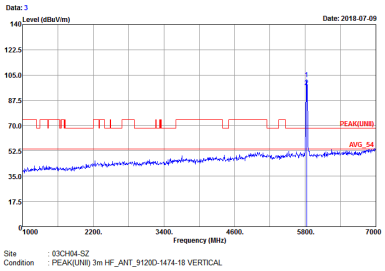
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Fundamental
Peak		

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Vertical	Fundamental
Peak		

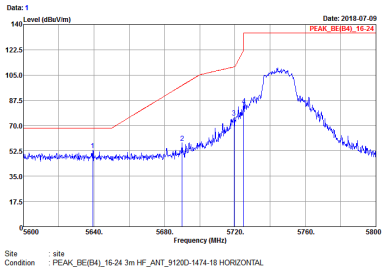
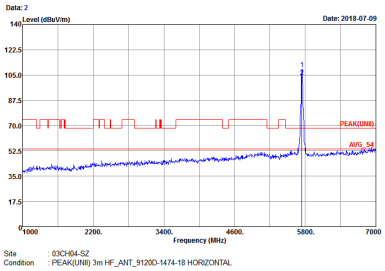
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Fundamental
Peak		
Peak		Left blank

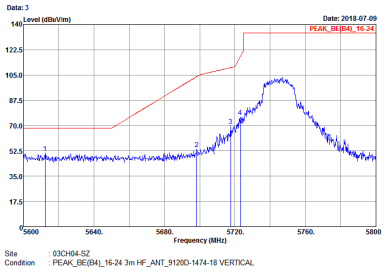
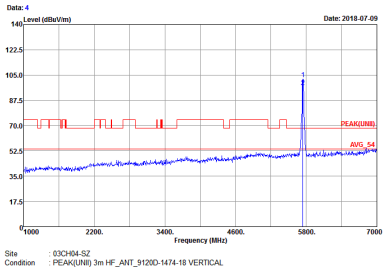
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Vertical	Fundamental
Peak		
Peak		Left blank

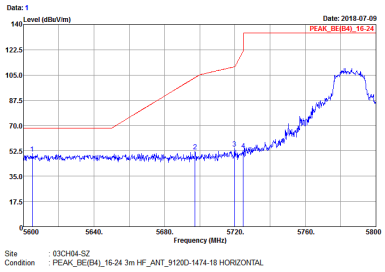
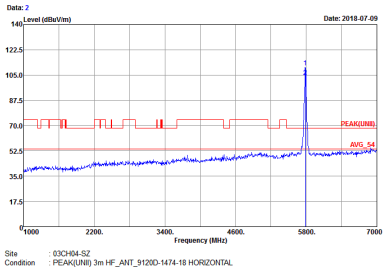
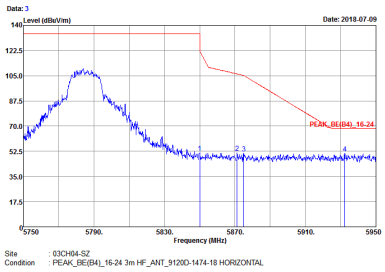
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Fundamental
Peak		

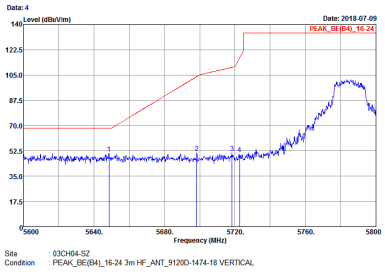
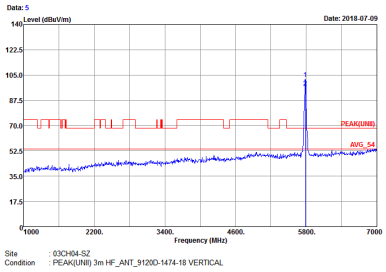
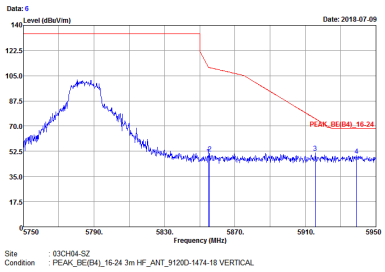
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Vertical	Fundamental
Peak		

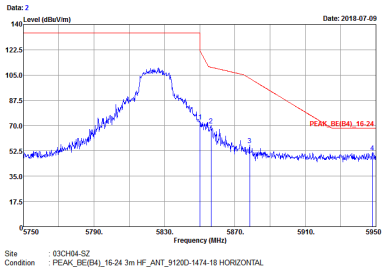
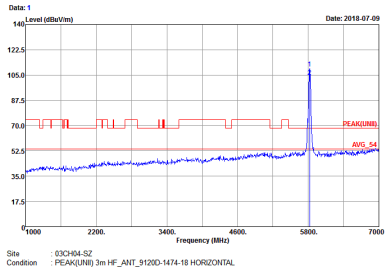
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

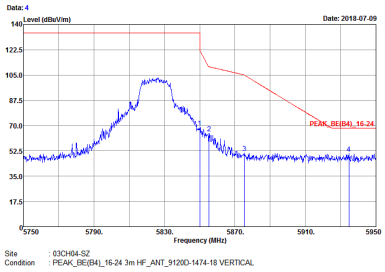
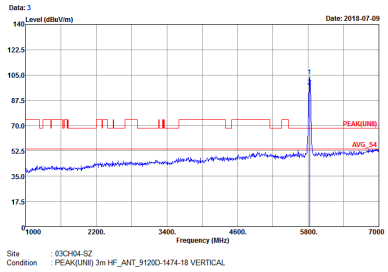
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Fundamental
Peak		

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

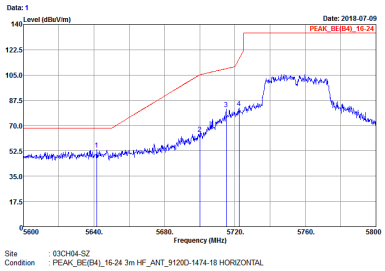
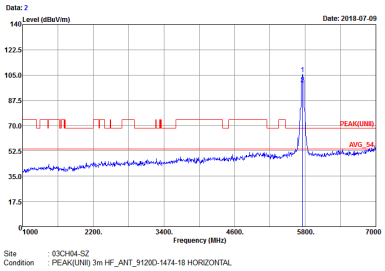
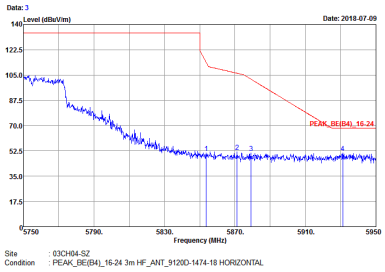
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Fundamental
Peak		
Peak		Left blank

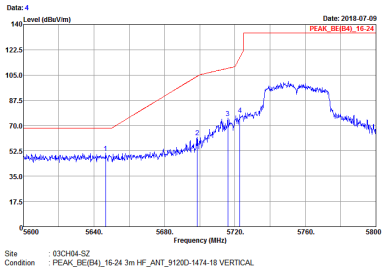
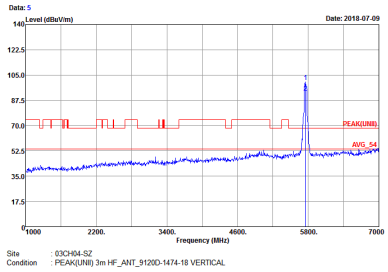
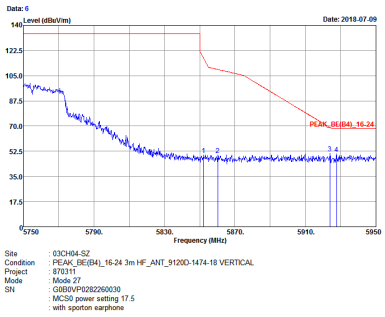
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Vertical	Fundamental
Peak		
Peak		Left blank

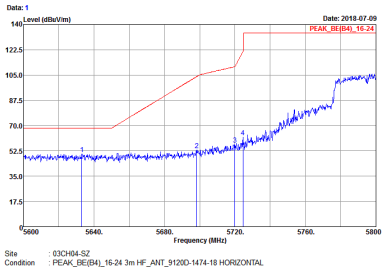
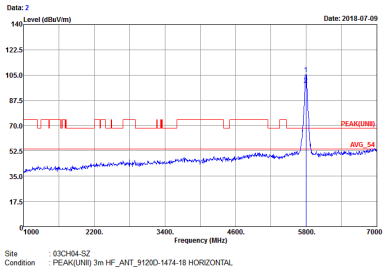
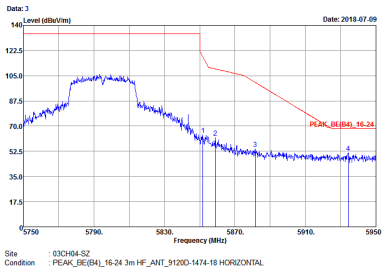
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Fundamental
Peak		

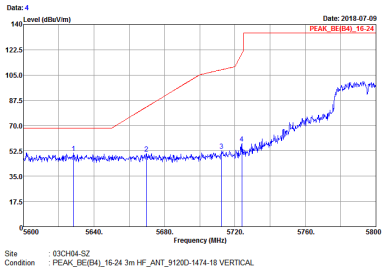
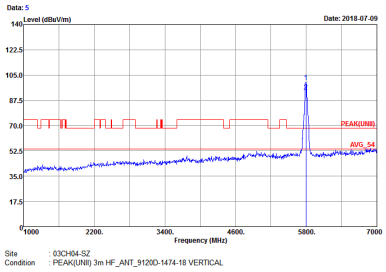
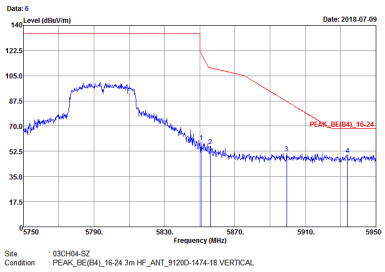
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Vertical	Fundamental
Peak		

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

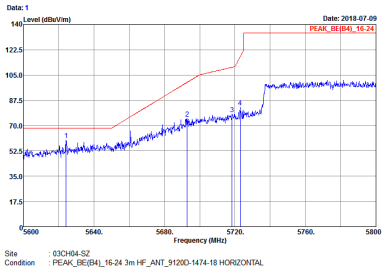
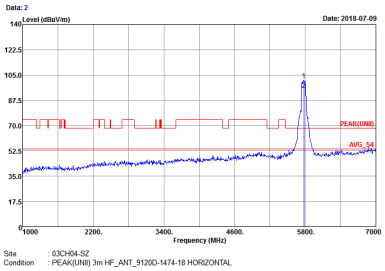
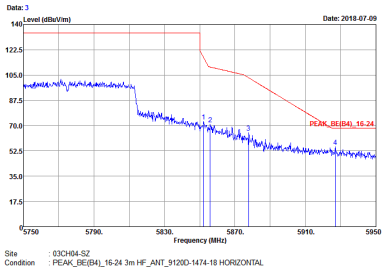
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Fundamental
Peak		
Peak		Left blank

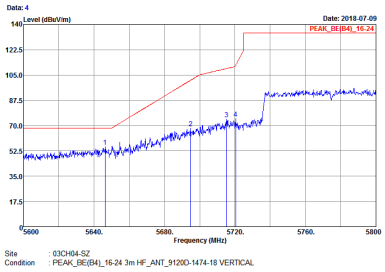
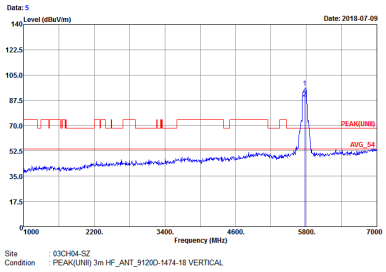
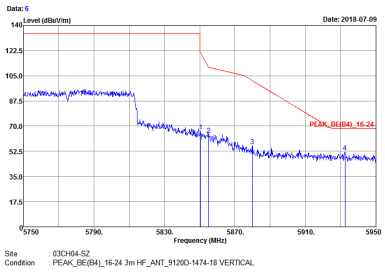
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Vertical	Fundamental
Peak		
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Fundamental
Peak		
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Vertical	Fundamental
Peak		
Peak		Left blank

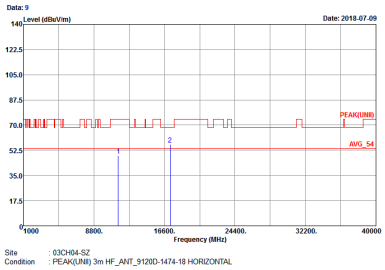
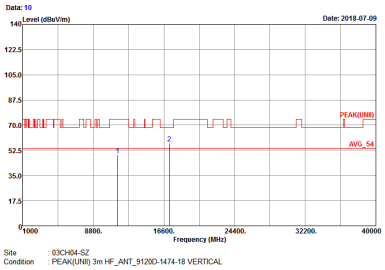
Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

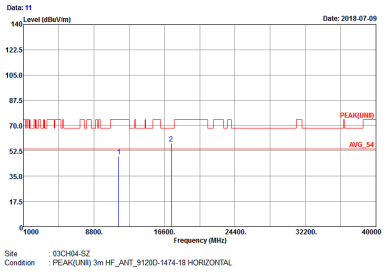
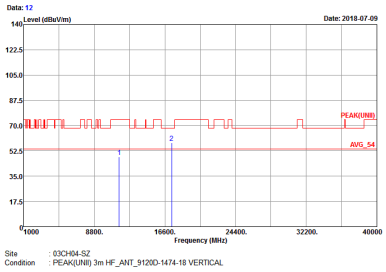
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Fundamental
Peak		
Peak		Left blank

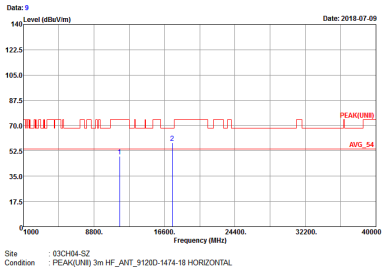
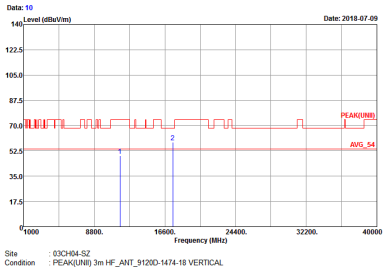
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Vertical	Fundamental
Peak		
Peak		Left blank

Band 4 - 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

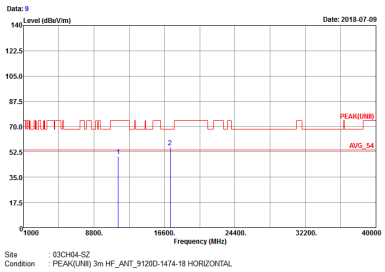
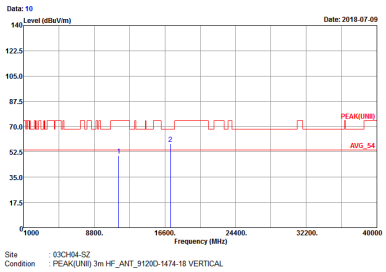
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.		

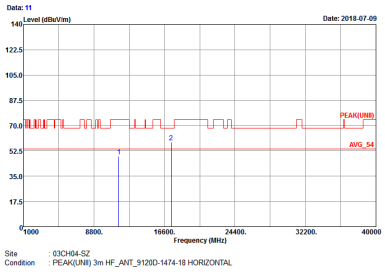
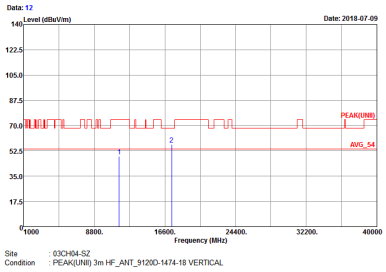
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.		

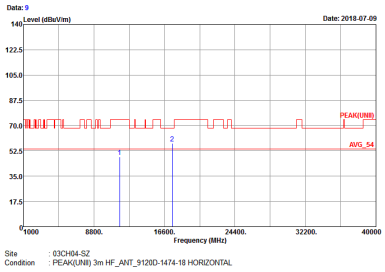
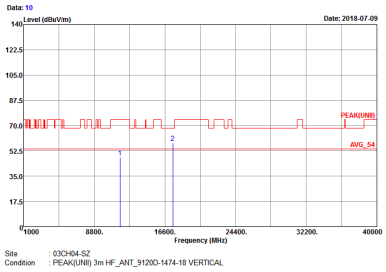
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

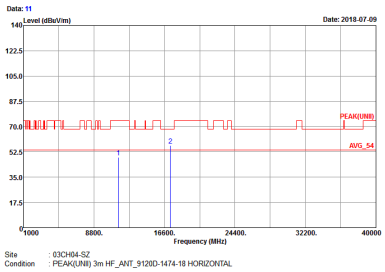
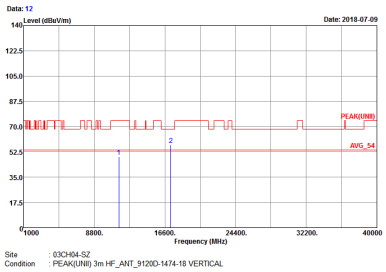
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.		

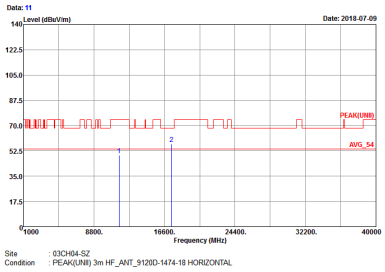
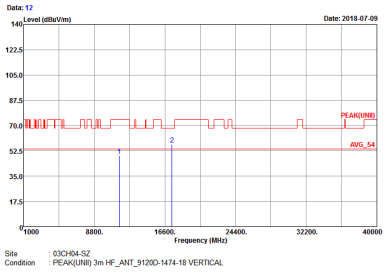
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 4 5725~5850MHz

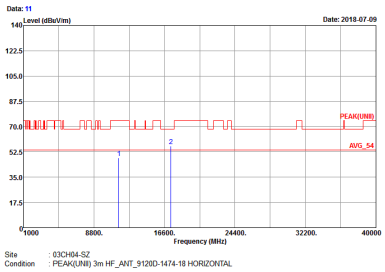
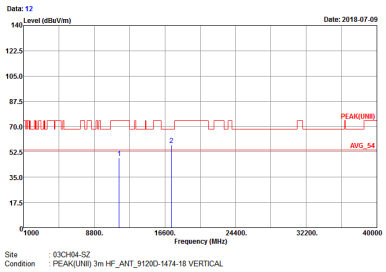
WIFI 802.11n HT40 (Harmonic @ 3m)

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

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

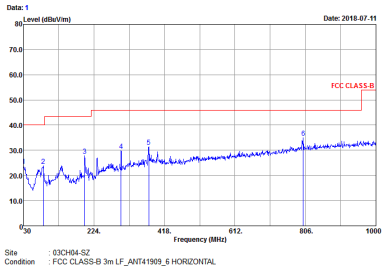
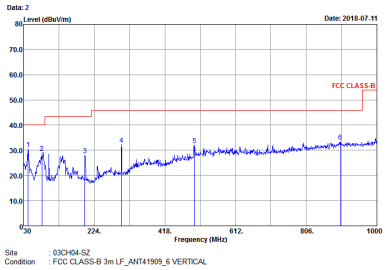
Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

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

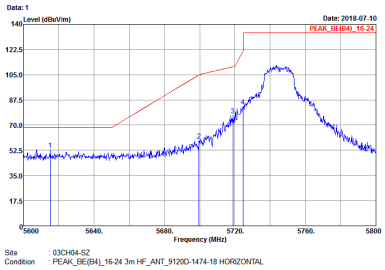
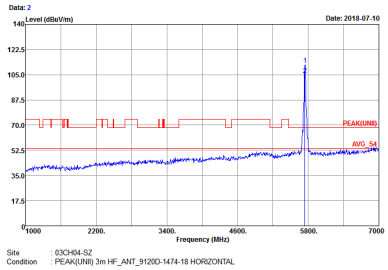
Emission below 1GHz

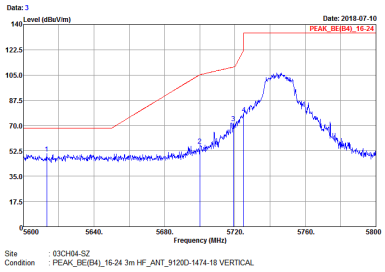
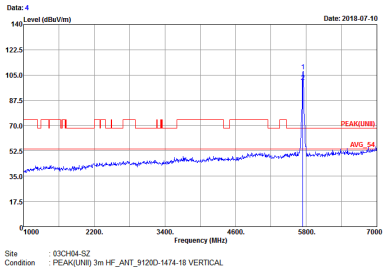
5GHz WIFI 802.11ac VHT80 (LF)

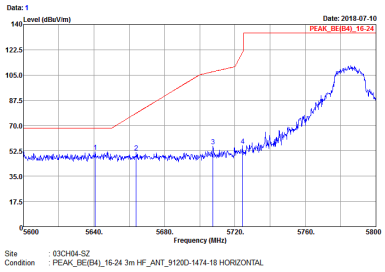
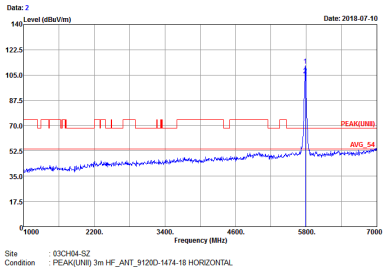
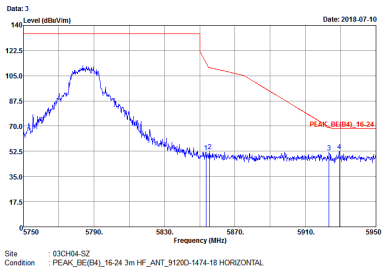
WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 LF	
1	Horizontal	Vertical
QP / Peak		

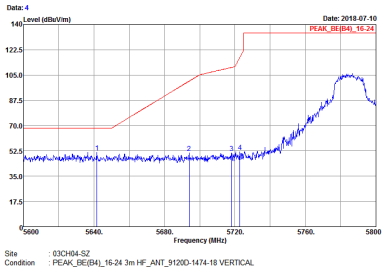
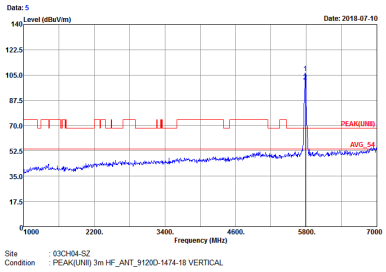
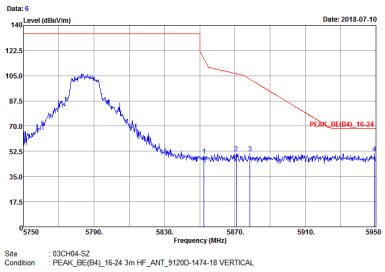
Band 4 - 5725~5850MHz

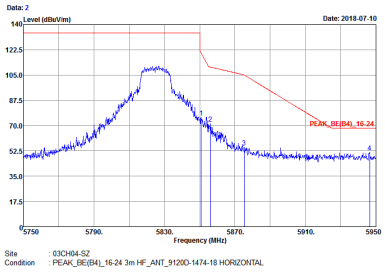
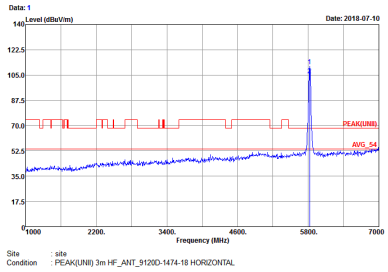
WIFI 802.11a (Band Edge @ 3m)

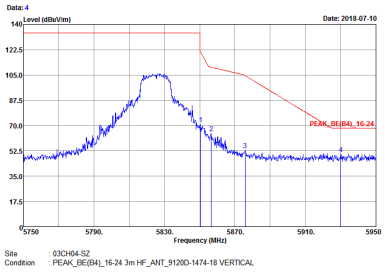
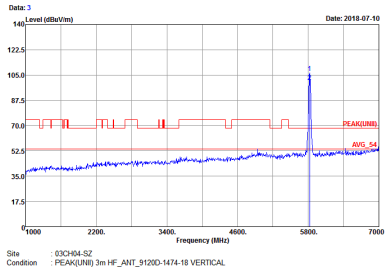
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
2	Horizontal	Fundamental
Peak		

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
2	Vertical	Fundamental
Peak		

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

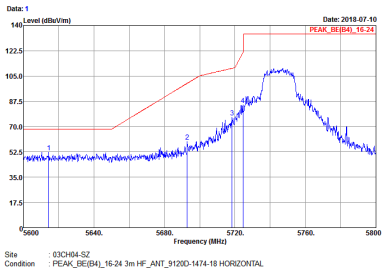
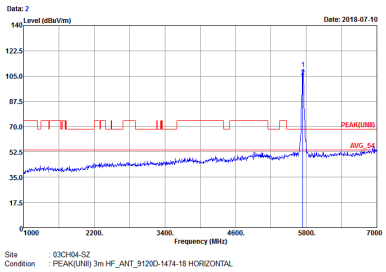
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
2	Vertical	Fundamental
Peak		
Peak		Left blank

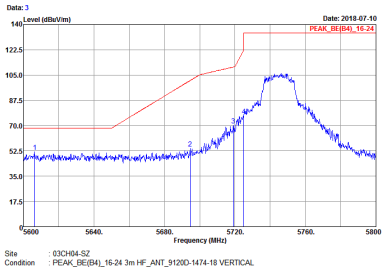
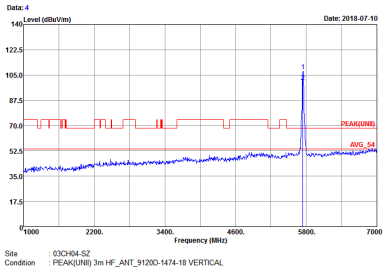
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
2	Horizontal	Fundamental
Peak		

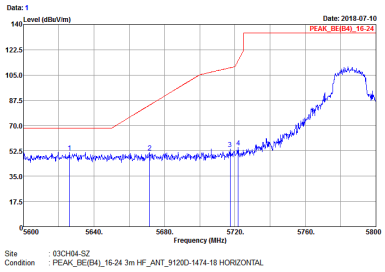
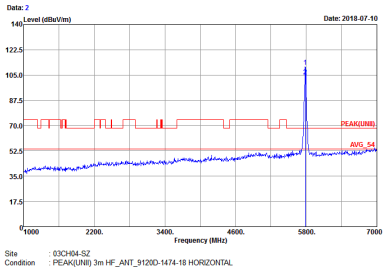
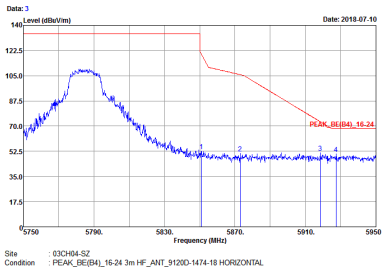
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
2	Vertical	Fundamental
Peak		

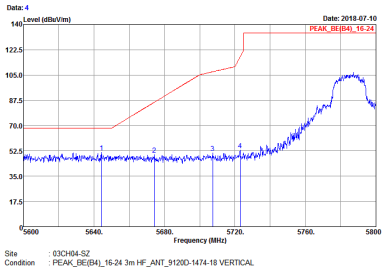
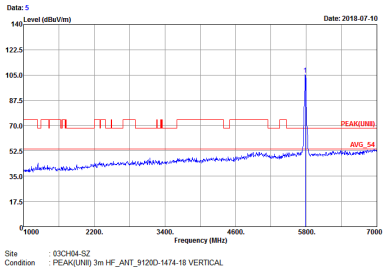
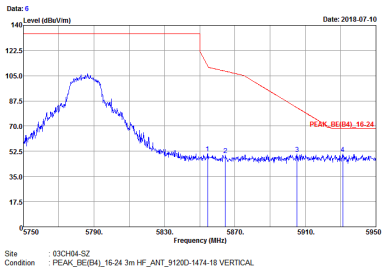
Band 4 5725~5850MHz

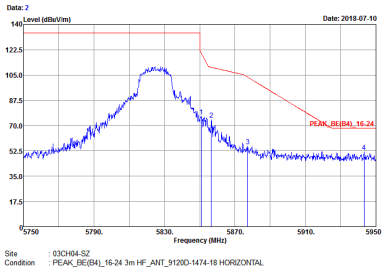
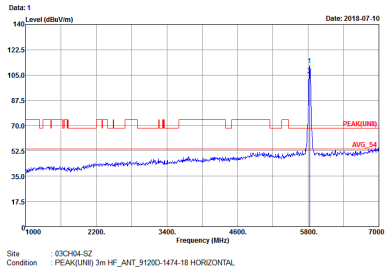
WIFI 802.11n HT20 (Band Edge @ 3m)

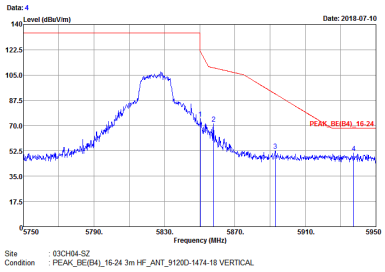
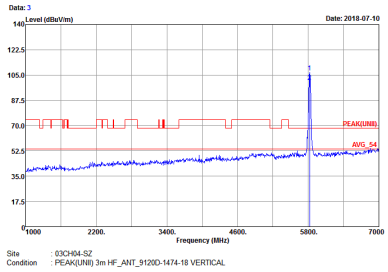
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Horizontal	Fundamental
Peak		

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

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

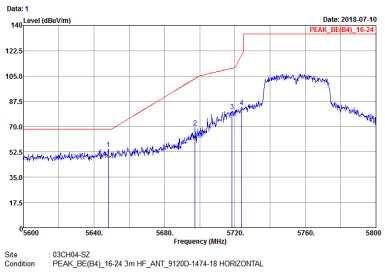
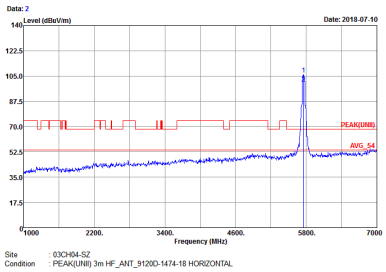
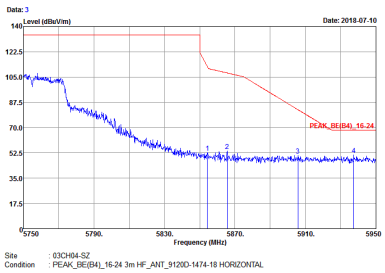
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2	Vertical	Fundamental
Peak		
Peak		Left blank

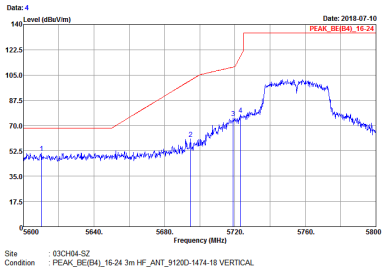
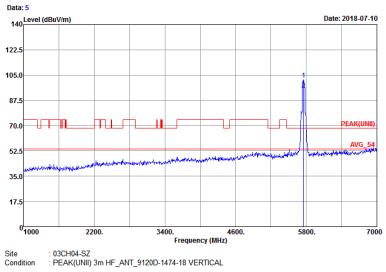
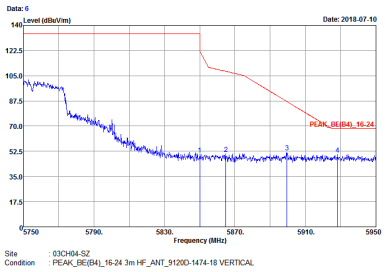
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Horizontal	Fundamental
Peak		

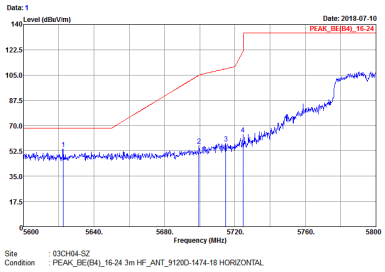
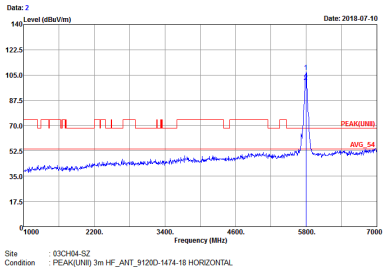
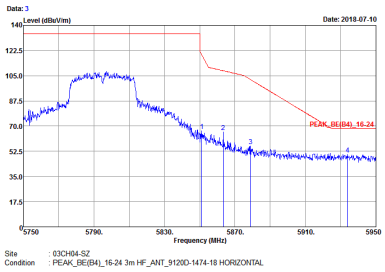
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Vertical	Fundamental
Peak		

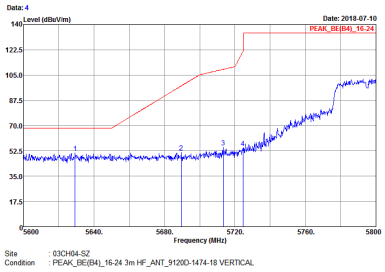
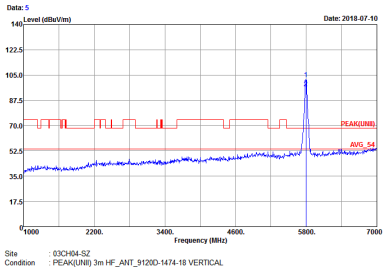
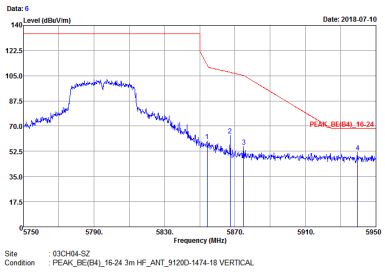
Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

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

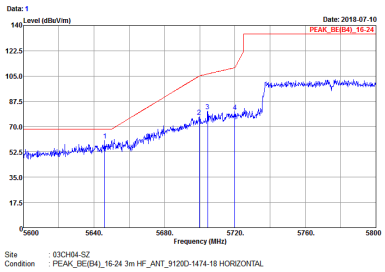
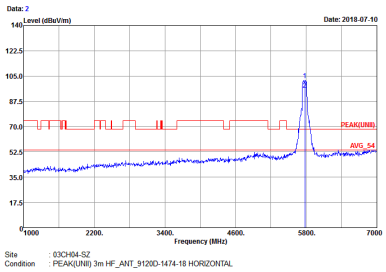
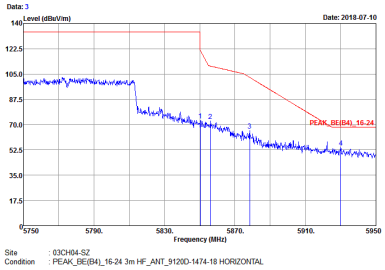
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
2	Vertical	Fundamental
Peak		
Peak		Left blank

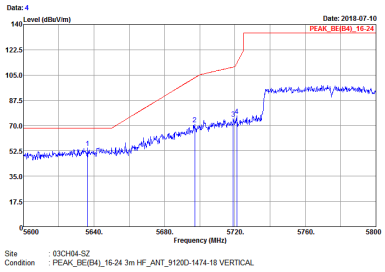
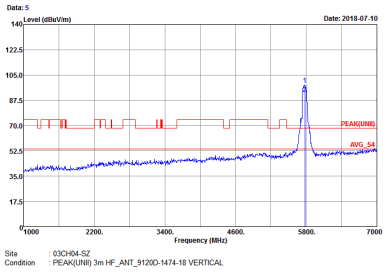
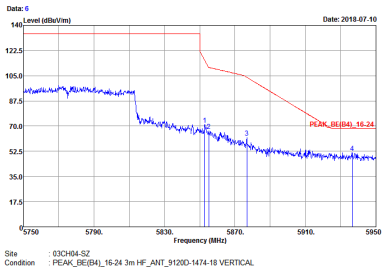
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2	Horizontal	Fundamental
Peak		
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
2	Vertical	Fundamental
Peak		
Peak		Left blank

Band 4 5725~5850MHz

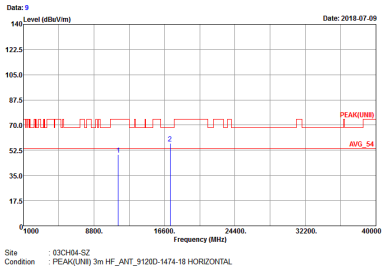
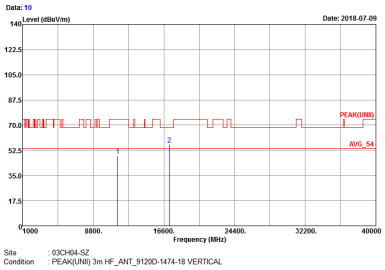
WIFI 802.11ac VHT80 (Band Edge @ 3m)

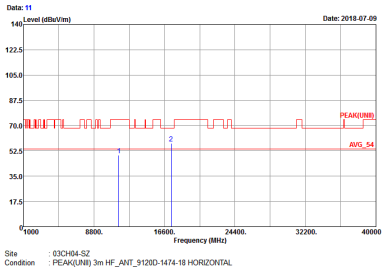
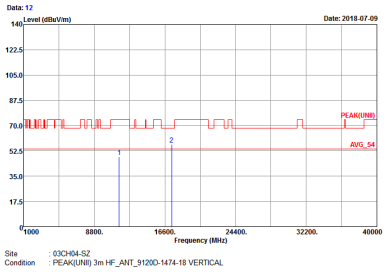
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2	Horizontal	Fundamental
Peak		
Peak		Left blank

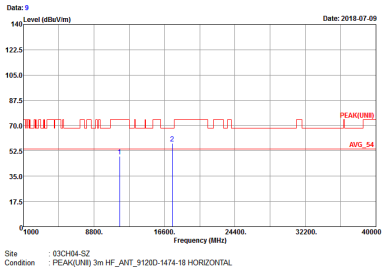
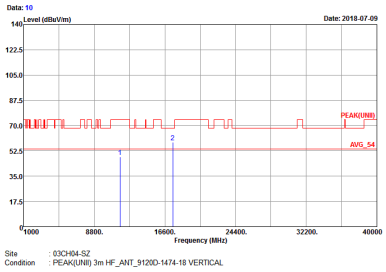
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
2	Vertical	Fundamental
Peak		
Peak		Left blank

Band 4 - 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

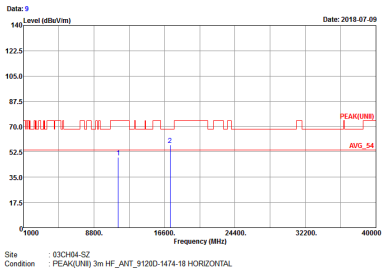
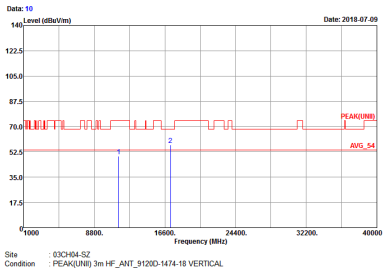
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
2	Horizontal	Vertical
Peak Avg.		

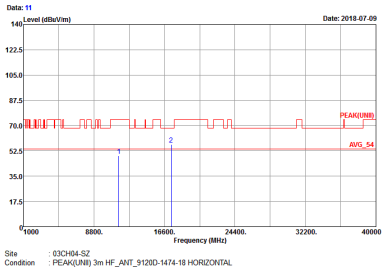
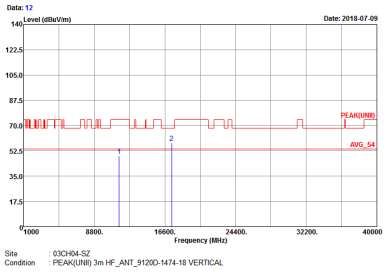
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
2	Horizontal	Vertical
Peak Avg.		

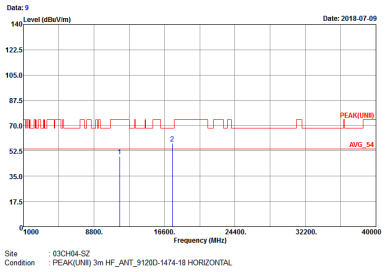
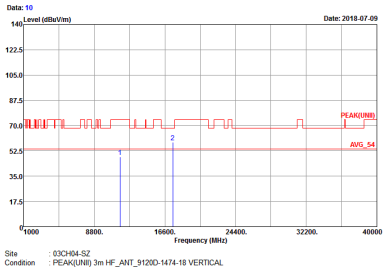
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
2	Horizontal	Vertical
Peak Avg.		

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

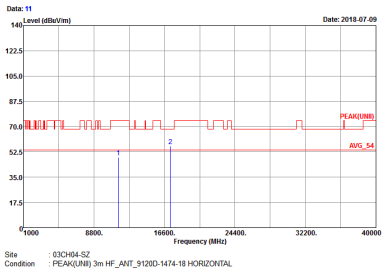
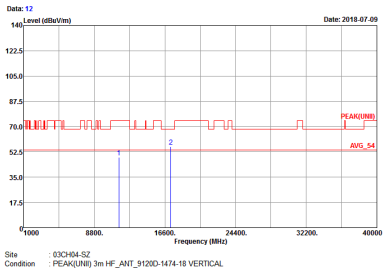
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Horizontal	Vertical
Peak Avg.		

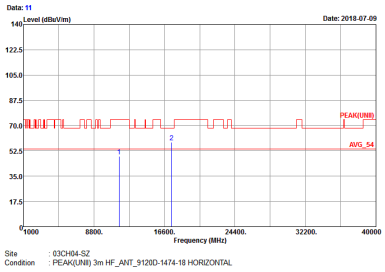
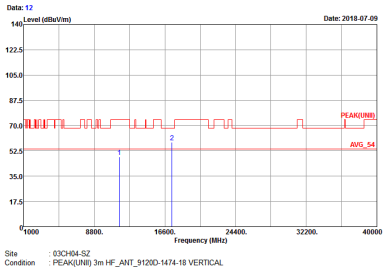
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Horizontal	Vertical
Peak Avg.		

Band 4 5725~5850MHz

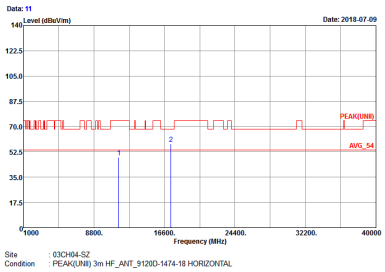
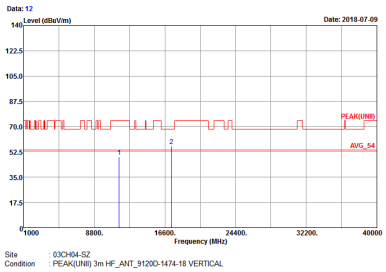
WIFI 802.11n HT40 (Harmonic @ 3m)

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

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

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

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

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF)

WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 LF	
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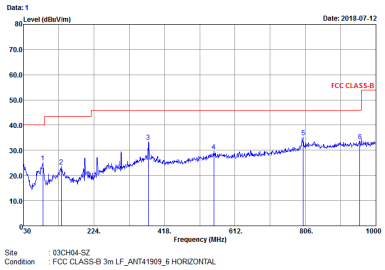
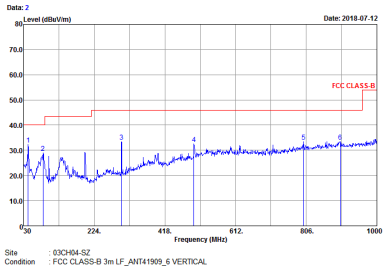
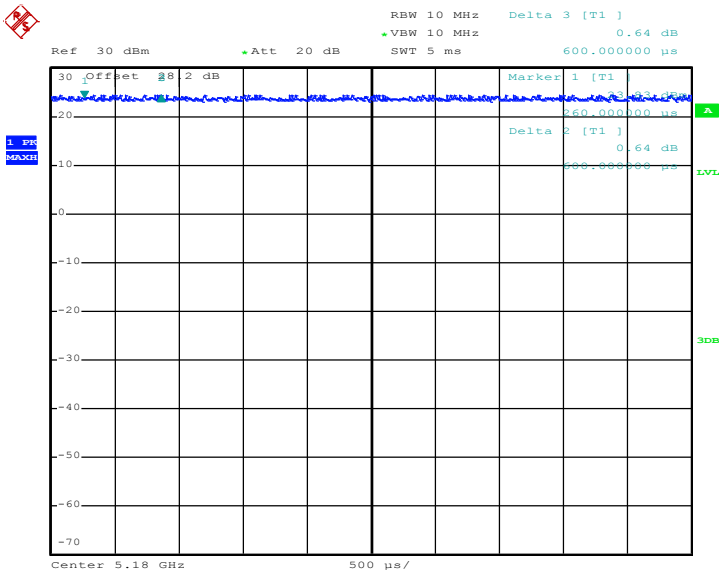
QP / Peak		

Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
1	802.11a	100.00	-	-	10 Hz	0.00
2	802.11a	100.00	-	-	10 Hz	0.00
1	5GHz 802.11n HT20	100.00	-	-	10 Hz	0.00
2	5GHz 802.11n HT20	100.00	-	-	10 Hz	0.00
1	5GHz 802.11n HT40	100.00	-	-	10 Hz	0.00
2	5GHz 802.11n HT40	100.00	-	-	10 Hz	0.00
1	5GHz 802.11ac VHT20	100.00	-	-	10 Hz	0.00
2	5GHz 802.11ac VHT20	100.00	-	-	10 Hz	0.00
1	5GHz 802.11ac VHT40	100.00	-	-	10 Hz	0.00
2	5GHz 802.11ac VHT40	100.00	-	-	10 Hz	0.00
1	5GHz 802.11ac VHT80	100.00	-	-	10 Hz	0.00
2	5GHz 802.11ac VHT80	100.00	-	-	10 Hz	0.00

<Ant. 1>

802.11a



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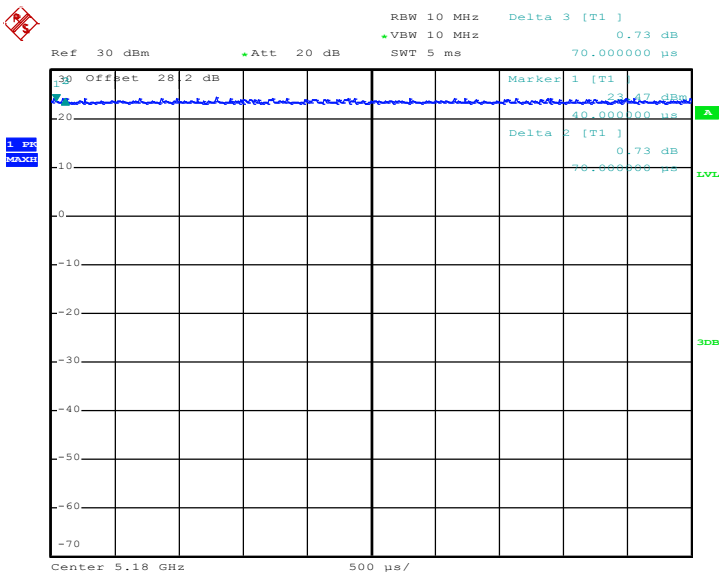
802.11n HT20



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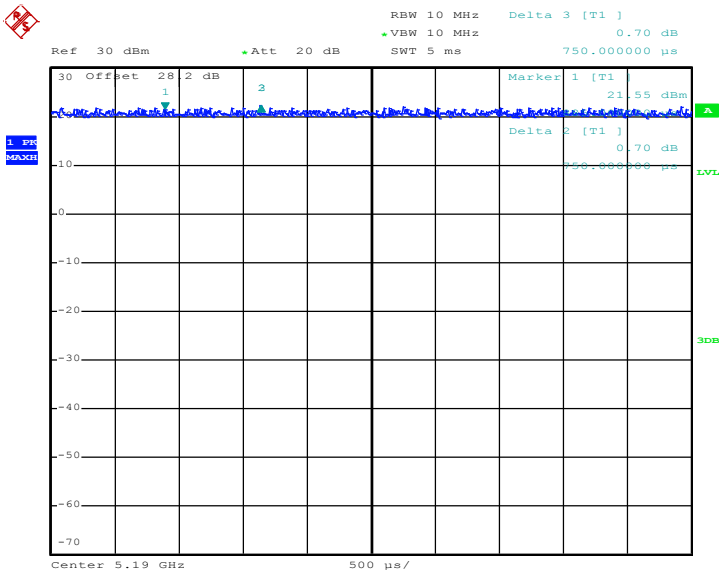
802.11n HT40



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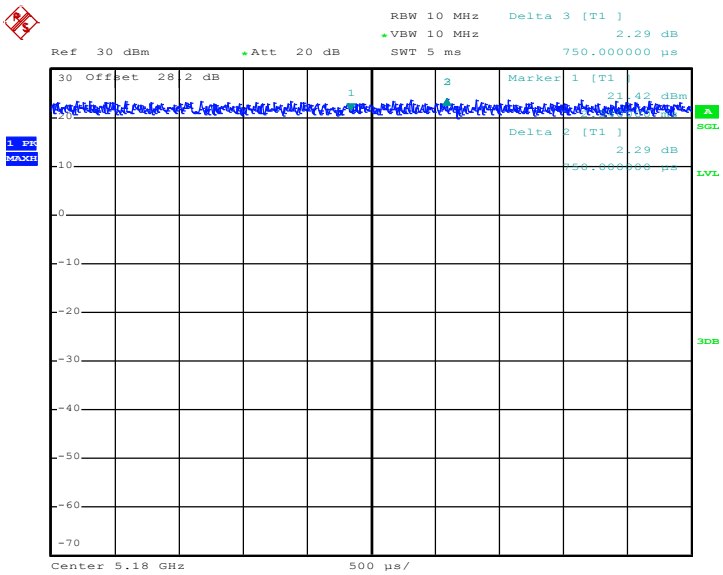
802.11ac VHT20



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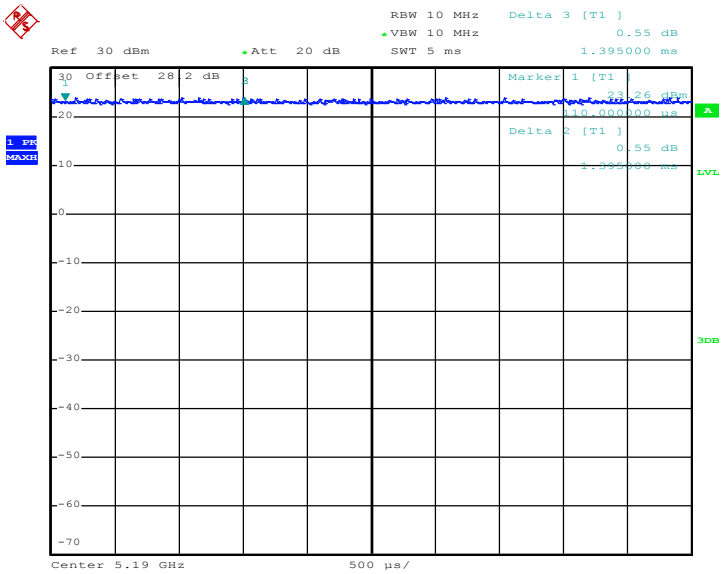
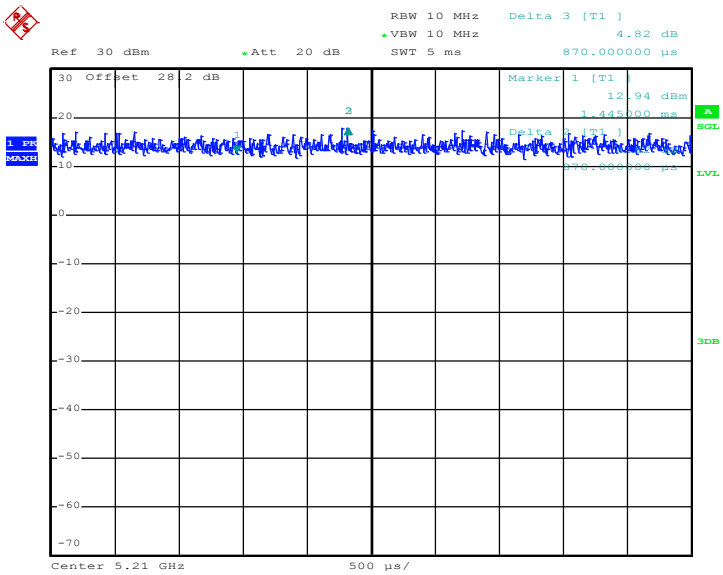
802.11ac VHT40



Date: 4.JUL.2018 04:15:46

802.11ac VHT80



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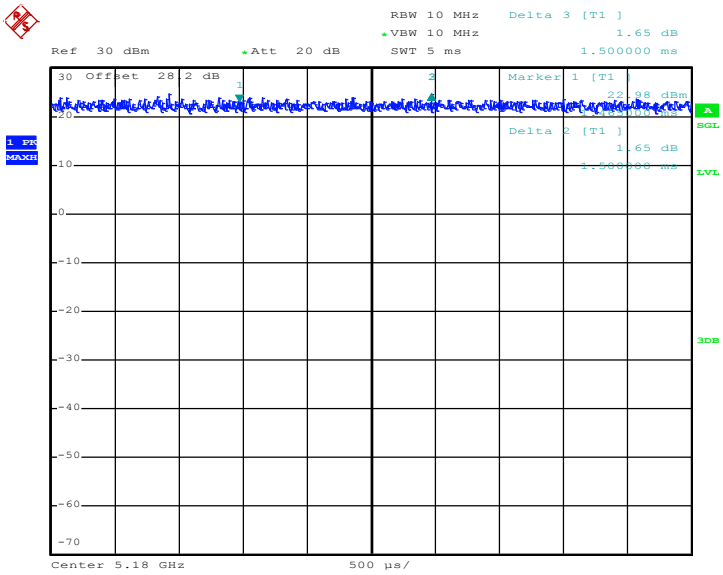
<Ant. 2>

802.11a



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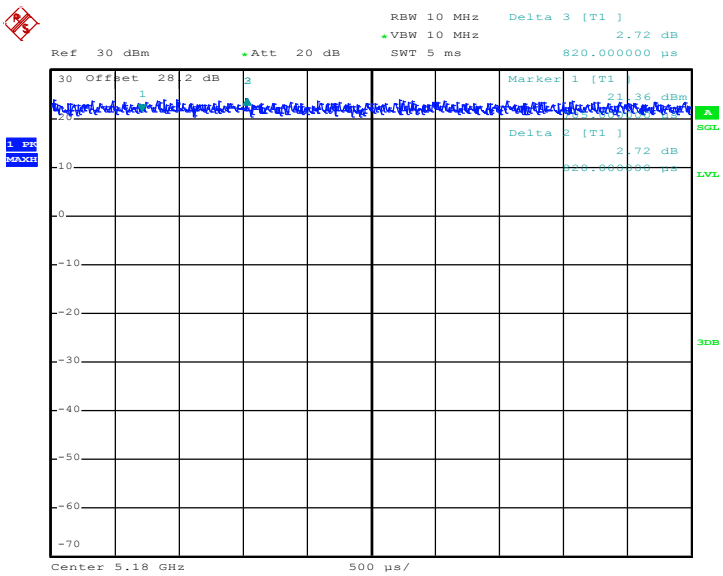
802.11n HT20



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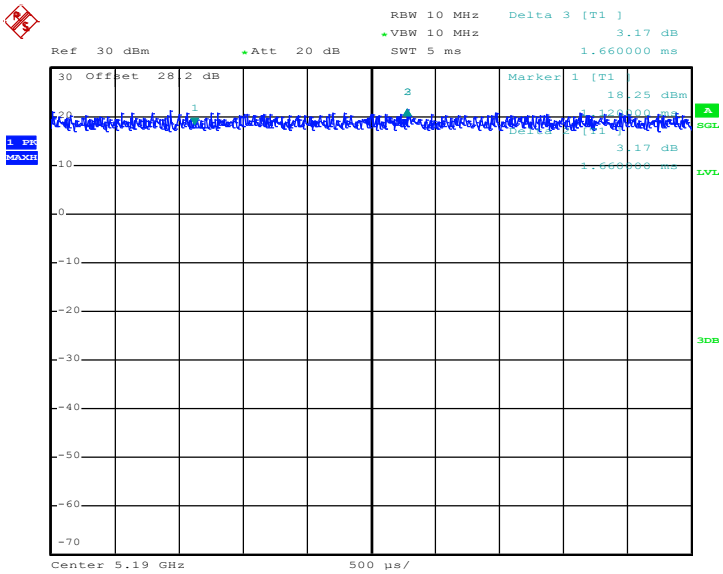
802.11n HT40



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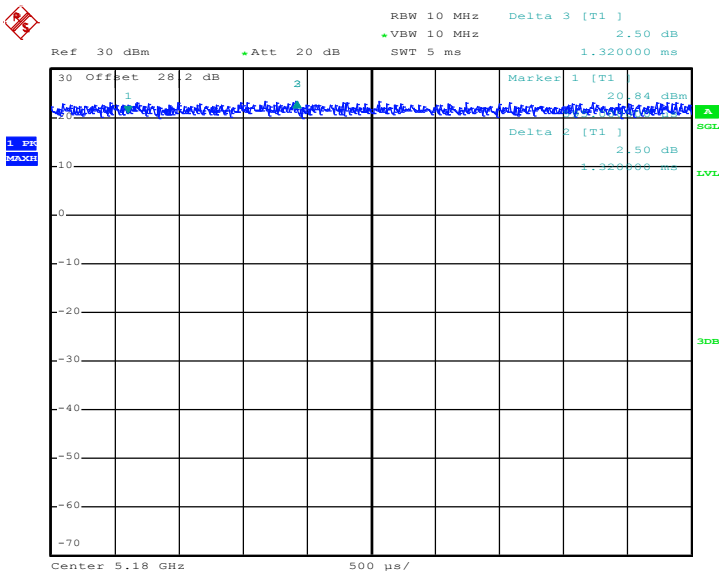
802.11ac VHT20



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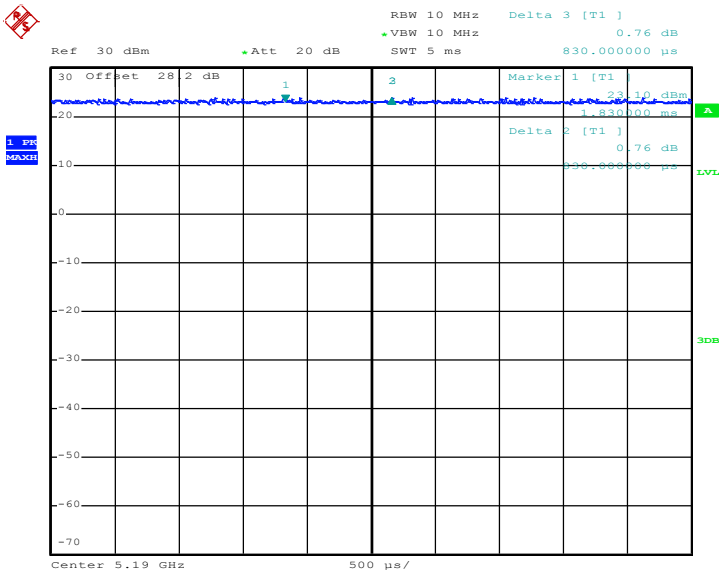
802.11ac VHT40



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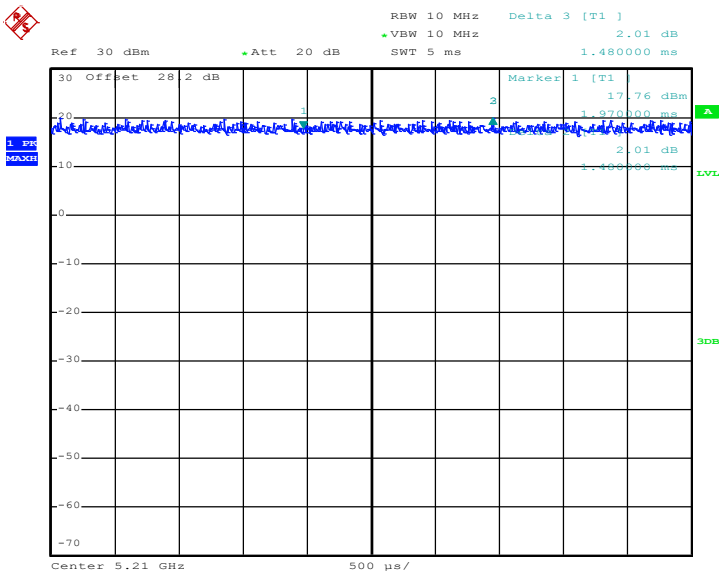
802.11ac VHT80



Date: 4.JUL.2018 04:05:17

———THE END———

Appendix D. External Subcontractors to Perform Testing Data

The test report as below presents all the conducted test item and conduction emission test data performed by the subcontracted Sporton laboratory located in Taiwan.

FCC RADIO TEST REPORT

FCC ID	:	**2AP64-2872**
Equipment	:	**Digital Media Receiver**
Model name	:	**C1125P**
Applicant	:	**Gargantuan LLC** **303 North Glenoaks Blvd., Ste 200** **Burbank, CA 91502**
Standard	:	**FCC Part 15 Subpart E §15.407**

The product was completed on Jul. 17, 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.

Jones Tsai

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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Appendix A. Conducted Test Results
Appendix B. AC Conducted Emission Test Result

History of this test report

Report No.	Version	Description	Issued Date
FR840308-01I	01	Initial issue of report	Aug. 02, 2018

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)
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	15.207	AC Conducted Emission	Pass
3.5	15.407 (c)	Automatically Discontinue Transmission	Pass
3.6	15.203 & 15.407 (a)	Antenna Requirement	Pass

Reviewed by: Joseph Lin

Report Producer: Wii Chang

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	C1125P
FCC ID	2AP64-2872
EUT supports Radios application	WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz
Maximum Output Power	**<Ant. 1>** 802.11a : 18.96 dBm / 0.0787 W 802.11n HT20 : 18.90 dBm / 0.0776 W 802.11n HT40 : 17.82 dBm / 0.0605 W 802.11ac VHT20: 18.87 dBm / 0.0771 W 802.11ac VHT40: 17.77 dBm / 0.0598 W 802.11ac VHT80: 16.61 dBm / 0.0458 W **<Ant. 2>** 802.11a : 19.81 dBm / 0.0957 W 802.11n HT20 : 19.02 dBm / 0.0798 W 802.11n HT40 : 18.14 dBm / 0.0652 W 802.11ac VHT20: 19.00 dBm / 0.0794 W 802.11ac VHT40: 18.05 dBm / 0.0638 W 802.11ac VHT80: 17.03 dBm / 0.0505 W
99% Occupied Bandwidth	**<Ant. 1>** 802.11a : 25.85 MHz 802.11n HT20 : 28.55 MHz 802.11n HT40 : 42.90 MHz 802.11ac VHT80 : 77.88 MHz **<Ant. 2>** 802.11a : 27.05 MHz 802.11n HT20 : 25.55 MHz 802.11n HT40 : 39.50 MHz 802.11ac VHT80 : 77.88 MHz
Antenna Type / Gain	**Ant. 1 :** Fixed Internal Antenna type with gain 3.90 dBi **Ant. 2 :** Fixed Internal Antenna type with gain 4.00 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

1.3 Modification of EUT

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

1.4 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No.52, 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

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

1.5 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 662911 D01 Multiple Transmitter Output 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

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)

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.

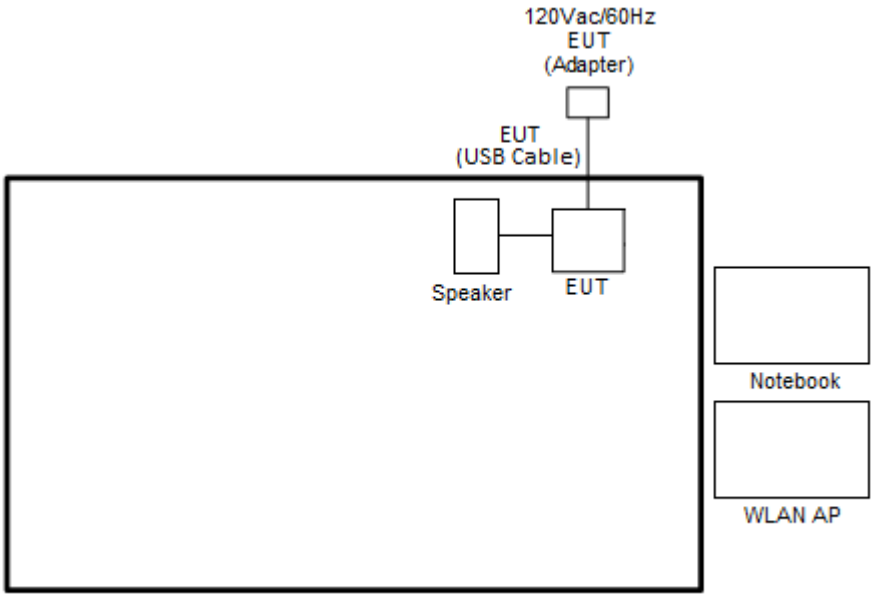
2.2 Test Mode

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

Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + Play News + External Speaker + USB Cable (Charging from Adapter)

2.3 Connection Diagram of Test System

<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.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Speaker	JAWBONE	JAMBOX	V3J-JBE	Shielded, 0.5 m	N/A

2.5 EUT Operation Test Setup

The RF test items, utility “Compliance.exe” 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.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

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

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

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

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

26dB and 99% Occupied bandwidth are reporting only.

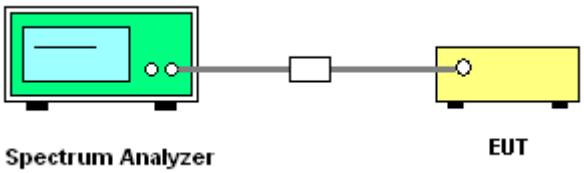
3.1.2 Measuring Instruments

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 ≥ 3 x RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

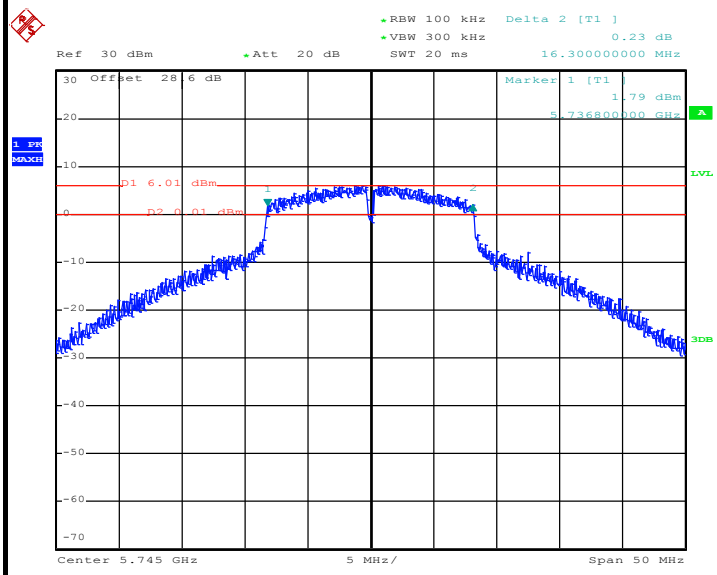
3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

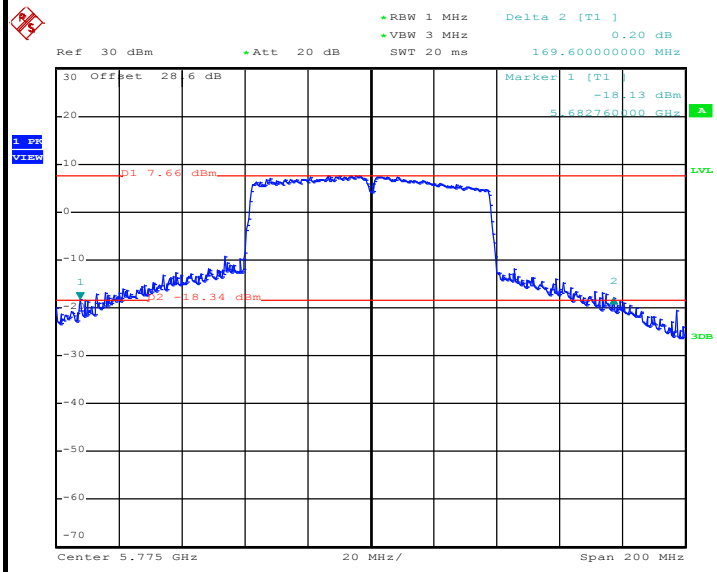
Please refer to Appendix A.

Minimum 6dB Bandwidth



Date: 17.JUL.2018 15:33:48

Maximum 26dB Bandwidth



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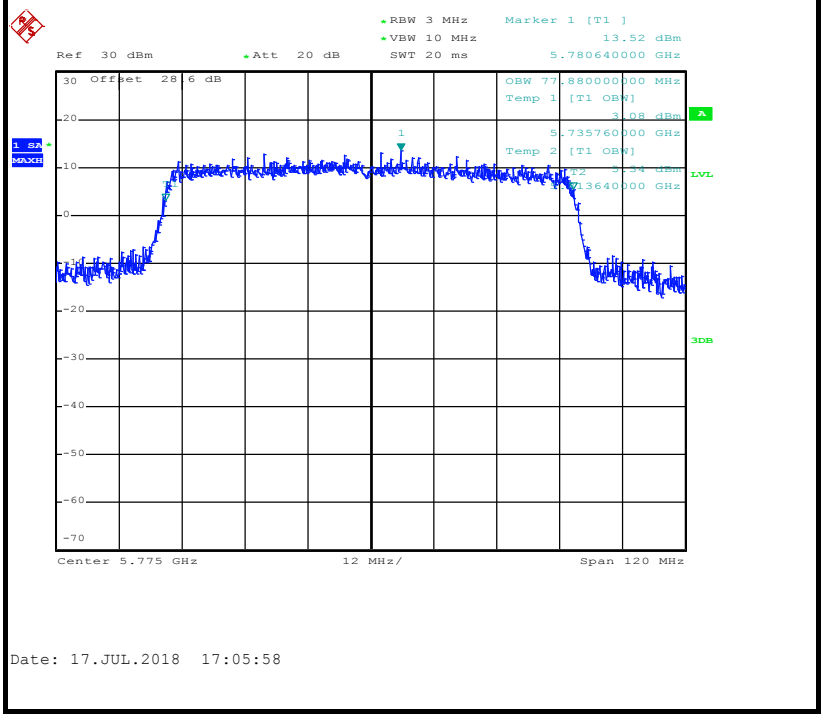
Maximum 99% Occupied Bandwidth



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

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

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

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

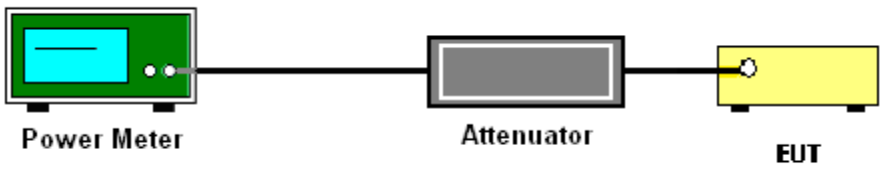
3.2.3 Test Procedures

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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.

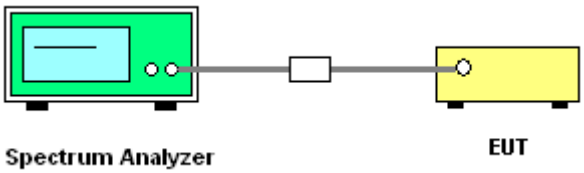
 # Method SA-2 #

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

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW ≥ 1 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(500kHz/RBW) to the test result.
- Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

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

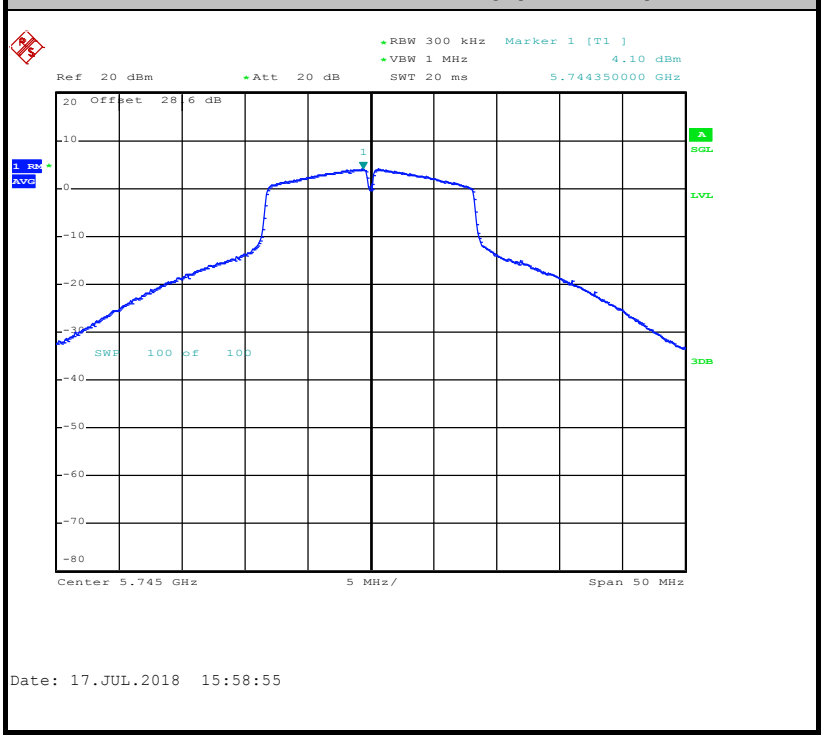
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/MHz)



3.4 AC Conducted Emission Measurement

3.4.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

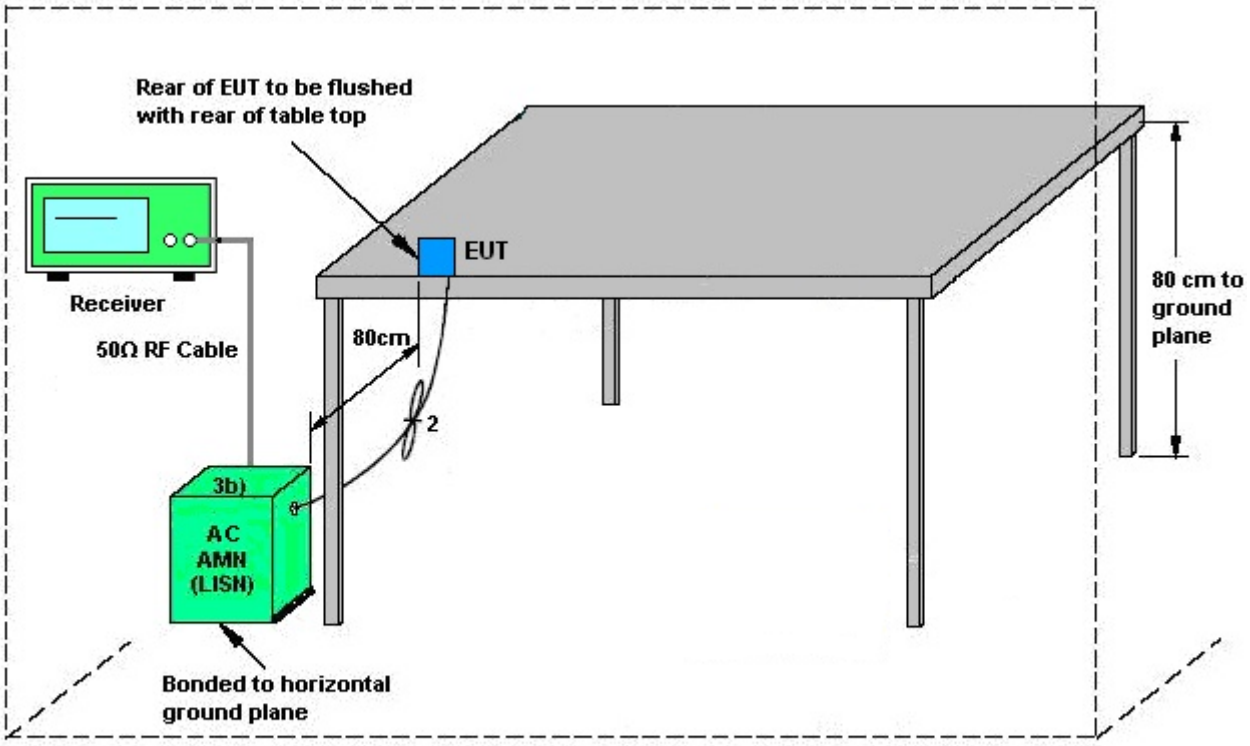
3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 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.

3.4.4 Test Setup



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

3.4.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.5 Automatically Discontinue Transmission

3.5.1 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.

3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

3.5.3 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.

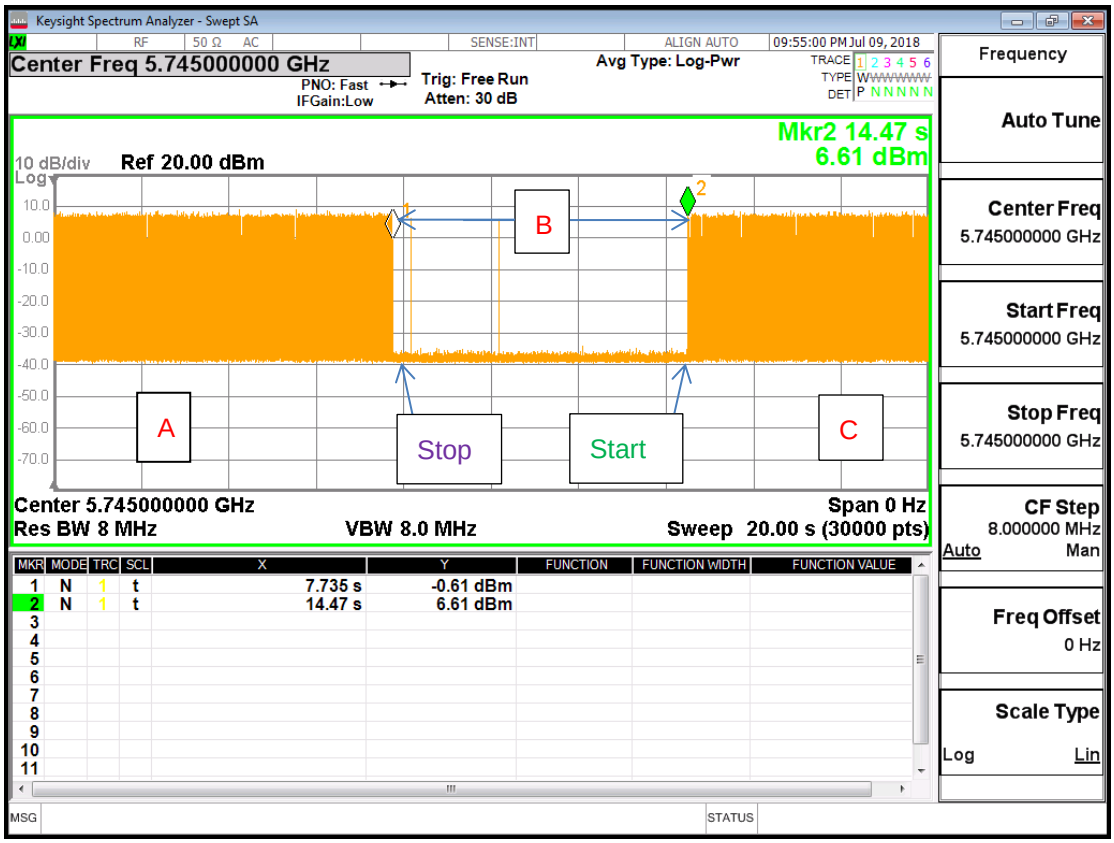
B. Information stop: stop supplying information to the access point.

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.

3.6 Antenna Requirements

3.6.1 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.

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.6.3 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	Jun. 26, 2018~ Jul. 17, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1207349	300MHz~40GHz	Sep. 07, 2017	Jun. 26, 2018~ Jul. 17, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2017	Jun. 26, 2018~ Jul. 17, 2018	Nov. 20, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 13, 2017	Jun. 26, 2018~ Jul. 17, 2018	Nov. 12, 2018	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Jun. 26, 2018~ Jul. 17, 2018	Feb. 28, 2019	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jun. 25, 2018	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	3.6GHz	Dec. 08, 2017	Jun. 25, 2018	Dec. 07, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 30, 2017	Jun. 25, 2018	Nov. 29, 2018	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jun. 25, 2018	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 03, 2018	Jun. 25, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 03, 2018	Jun. 25, 2018	Jan. 02, 2019	Conduction (CO05-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.70**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Kai Liao	Temperature:	21~25	°C
Test Date:	2018/6/26 ~ 2018/7/17	Relative Humidity:	51~54	%

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

Band IV												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	149	5745	25.85	25.60	45.10	44.10	16.30	16.30	0.5	Pass
11a	6Mbps	1	157	5785	24.70	25.90	45.00	43.60	16.35	16.30	0.5	Pass
11a	6Mbps	1	165	5825	25.10	27.05	46.35	45.80	16.30	16.30	0.5	Pass
HT20	MCS0	1	149	5745	26.00	23.45	45.84	45.10	17.55	17.55	0.5	Pass
HT20	MCS0	1	157	5785	25.90	24.40	46.38	44.80	17.60	17.60	0.5	Pass
HT20	MCS0	1	165	5825	28.55	25.55	49.08	47.30	17.70	17.50	0.5	Pass
HT40	MCS0	1	151	5755	41.30	39.50	91.92	89.52	36.30	36.40	0.5	Pass
HT40	MCS0	1	159	5795	42.90	38.90	91.92	84.96	36.20	36.40	0.5	Pass
VHT80	MCS0	1	155	5775	77.88	77.88	169.60	156.40	76.56	76.56	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	0.00	0.00	18.84	19.69	30.00	30.00	3.90	4.00	Pass
11a	6Mbps	1	157	5785	0.00	0.00	18.75	19.56	30.00	30.00	3.90	4.00	Pass
11a	6Mbps	1	165	5825	0.00	0.00	18.96	19.81	30.00	30.00	3.90	4.00	Pass
HT20	MCS0	1	149	5745	0.00	0.00	18.68	18.87	30.00	30.00	3.90	4.00	Pass
HT20	MCS0	1	157	5785	0.00	0.00	18.68	18.83	30.00	30.00	3.90	4.00	Pass
HT20	MCS0	1	165	5825	0.00	0.00	18.90	19.02	30.00	30.00	3.90	4.00	Pass
HT40	MCS0	1	151	5755	0.00	0.00	17.82	18.14	30.00	30.00	3.90	4.00	Pass
HT40	MCS0	1	159	5795	0.00	0.00	17.69	17.91	30.00	30.00	3.90	4.00	Pass
VHT20	MCS0	1	149	5745	0.00	0.00	18.66	18.85	30.00	30.00	3.90	4.00	Pass
VHT20	MCS0	1	157	5785	0.00	0.00	18.65	18.81	30.00	30.00	3.90	4.00	Pass
VHT20	MCS0	1	165	5825	0.00	0.00	18.87	19.00	30.00	30.00	3.90	4.00	Pass
VHT40	MCS0	1	151	5755	0.00	0.00	17.77	18.05	30.00	30.00	3.90	4.00	Pass
VHT40	MCS0	1	159	5795	0.00	0.00	17.64	17.90	30.00	30.00	3.90	4.00	Pass
VHT80	MCS0	1	155	5775	0.00	0.00	16.61	17.03	30.00	30.00	3.90	4.00	Pass

Report Number : FR840308-01I

TEST RESULTS DATA
Power Spectral Density

Band IV															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)		Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	0.00	0.00	2.22	2.22	5.80	6.32	30.00	30.00	3.90	4.00	Pass
11a	6Mbps	1	157	5785	0.00	0.00	2.22	2.22	5.37	6.10	30.00	30.00	3.90	4.00	Pass
11a	6Mbps	1	165	5825	0.00	0.00	2.22	2.22	5.65	6.21	30.00	30.00	3.90	4.00	Pass
HT20	MCS0	1	149	5745	0.00	0.00	2.22	2.22	5.29	5.49	30.00	30.00	3.90	4.00	Pass
HT20	MCS0	1	157	5785	0.00	0.00	2.22	2.22	5.16	5.26	30.00	30.00	3.90	4.00	Pass
HT20	MCS0	1	165	5825	0.00	0.00	2.22	2.22	5.27	5.45	30.00	30.00	3.90	4.00	Pass
HT40	MCS0	1	151	5755	0.00	0.00	2.22	2.22	0.90	1.19	30.00	30.00	3.90	4.00	Pass
HT40	MCS0	1	159	5795	0.00	0.00	2.22	2.22	0.66	0.83	30.00	30.00	3.90	4.00	Pass
VHT80	MCS0	1	155	5775	0.00	0.00	2.22	2.22	-3.98	-3.65	30.00	30.00	3.90	4.00	Pass

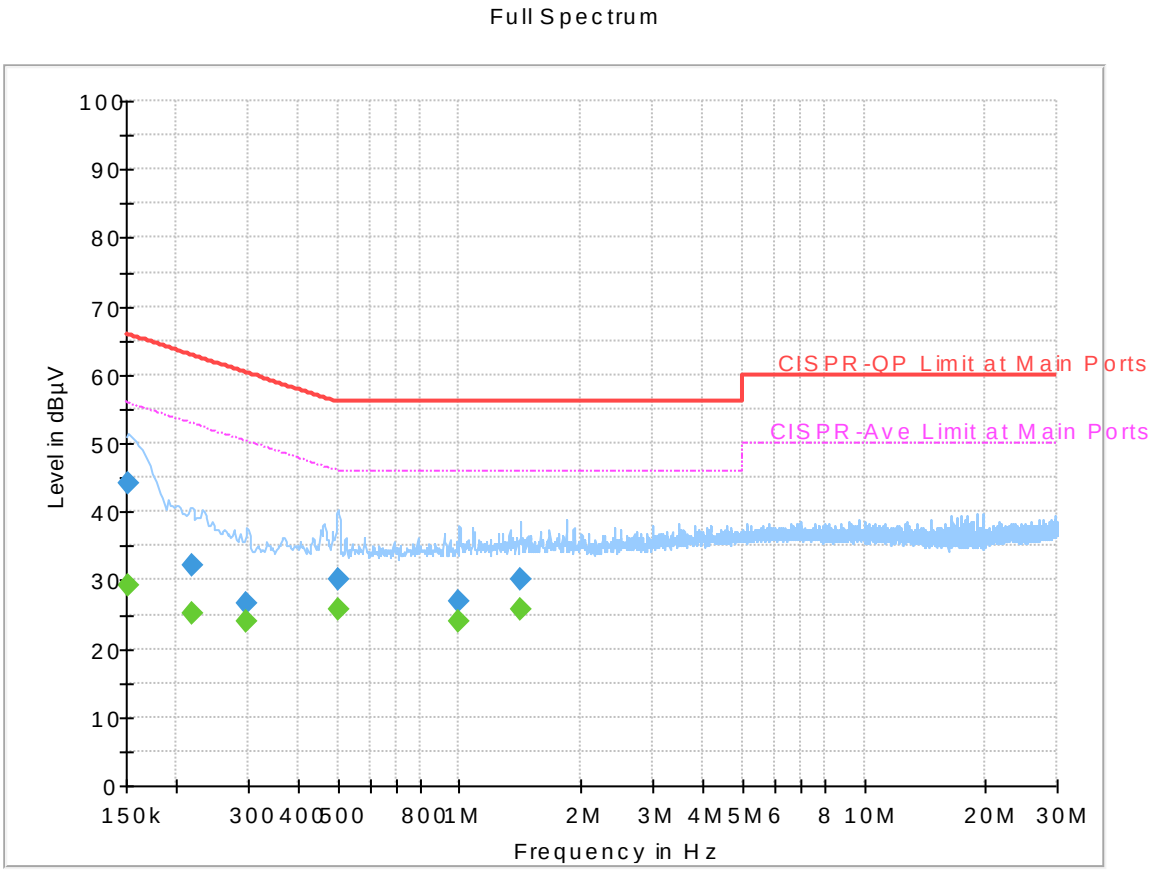
Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Kai-Chun Chu	**Temperature :**	25~27℃
		Relative Humidity :	50~52%

EUT Information

Report NO :	840308-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line

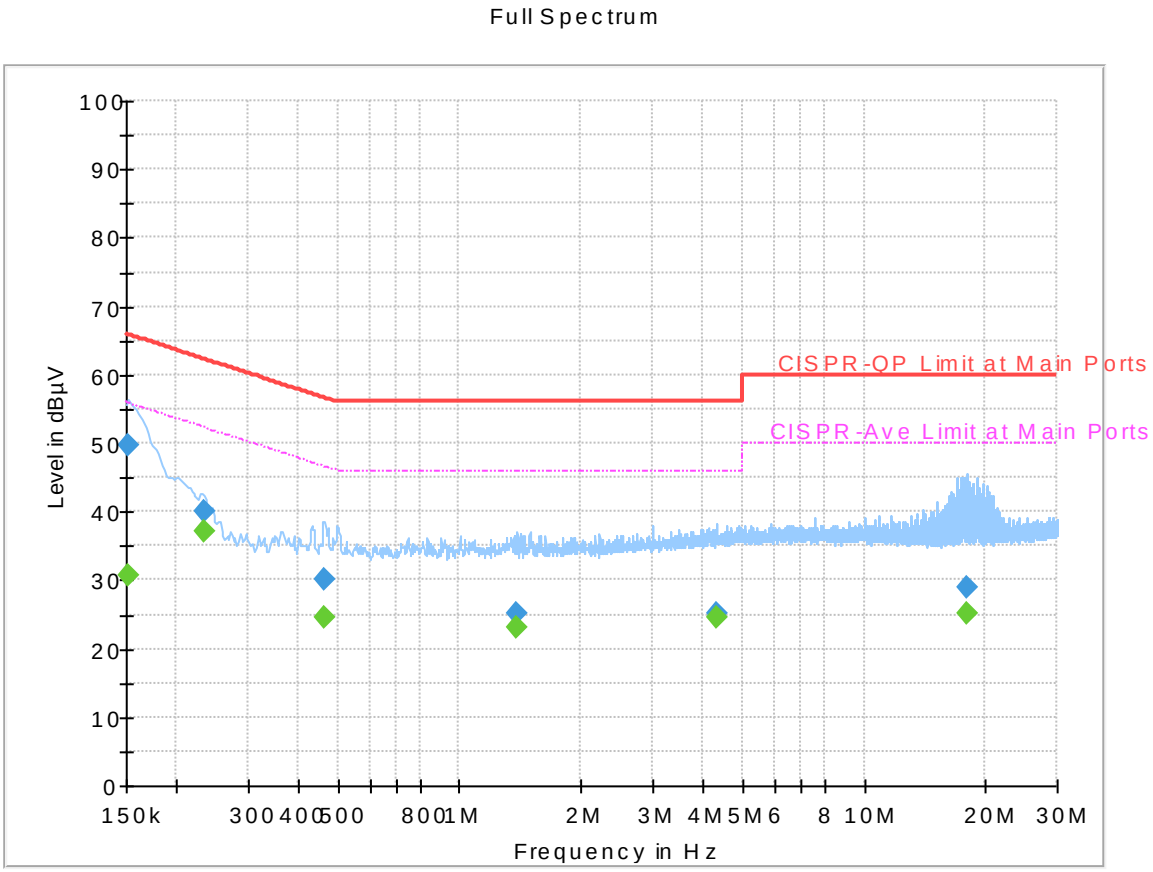


Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	29.38	55.88	26.50	L1	OFF	19.5
0.152250	44.01	---	65.88	21.87	L1	OFF	19.5
0.217500	---	25.24	52.91	27.67	L1	OFF	19.5
0.217500	32.04	---	62.91	30.87	L1	OFF	19.5
0.298500	---	23.99	50.28	26.29	L1	OFF	19.5
0.298500	26.67	---	60.28	33.61	L1	OFF	19.5
0.501000	---	25.63	46.00	20.37	L1	OFF	19.5
0.501000	30.00	---	56.00	26.00	L1	OFF	19.5
0.998250	---	24.05	46.00	21.95	L1	OFF	19.6
0.998250	26.87	---	56.00	29.13	L1	OFF	19.6
1.414500	---	25.85	46.00	20.15	L1	OFF	19.6
1.414500	30.19	---	56.00	25.81	L1	OFF	19.6

EUT Information

Report NO :	840308-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	30.57	55.88	25.31	N	OFF	19.5
0.152250	49.72	---	65.88	16.16	N	OFF	19.5
0.233250	---	37.08	52.33	15.25	N	OFF	19.5
0.233250	39.97	---	62.33	22.36	N	OFF	19.5
0.465000	---	24.58	46.60	22.02	N	OFF	19.5
0.465000	30.11	---	56.60	26.49	N	OFF	19.5
1.387500	---	23.13	46.00	22.87	N	OFF	19.6
1.387500	25.00	---	56.00	31.00	N	OFF	19.6
4.310250	---	24.45	46.00	21.55	N	OFF	19.7
4.310250	25.01	---	56.00	30.99	N	OFF	19.7
17.922750	---	25.16	50.00	24.84	N	OFF	20.2
17.922750	29.08	---	60.00	30.92	N	OFF	20.2