



FCC RADIO TEST REPORT

FCC ID : ACJFZL1A
Equipment : Tablet Computer
Brand Name : Panasonic
Model name : FZ-L1AC
Marketing Name : FZ-L1
Applicant : Panasonic Corporation of North America
Two Riverfront Plaza, 9th Floor, Newark, NJ 07102-5490
Manufacturer : Panasonic Mobile Communications Co., Ltd.
600 Saedo-cho, Tsuzuki-ku, Yokohama City 224-8539, Japan
Standard : FCC Part 15 Subpart E §15.407

The product was received on Jul. 04, 2018 and testing was started from Oct. 20, 2018 and completed on Nov. 01, 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 report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Joseph Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FR870418F	01	Initial issue of report	Nov. 13, 2018
FR870418F	02	Add all the test plots of 6dB, 26dB and 99% occupied bandwidth in section 3.1.5.	Nov. 19, 2018



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403 (i)	6dB & 26dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407 (a)	Maximum Conducted Output Power	Pass	-
3.3	15.407 (a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	Under limit 7.57 dB at 30.540 MHz
3.5	15.207	AC Conducted Emission	Pass	Under limit 3.18 dB at 13.560 MHz
3.6	15.407 (c)	Automatically Discontinue Transmission	Pass	-
3.7	15.203 & 15.407 (a)	Antenna Requirement	Pass	-

Reviewed by: Wii Chang

Report Producer: Yimin Ho



1 General Description

1.1 Product Feature of Equipment Under Test

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

Product Specification subjective to this standard	
Sample 1	EUT with BCR Landscape
Sample 2	EUT with BCR Portrait
Sample 3	EUT without BCR
Antenna Type	WLAN: Monopole Antenna Bluetooth: Monopole Antenna GNSS: Monopole Antenna NFC: Loop Antenna

1.2 Modification of EUT

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

1.3 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 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.

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

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



1.4 Applicable Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ ANSI C63.10-2013

Remark:

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



2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

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

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

2.2 Test Mode

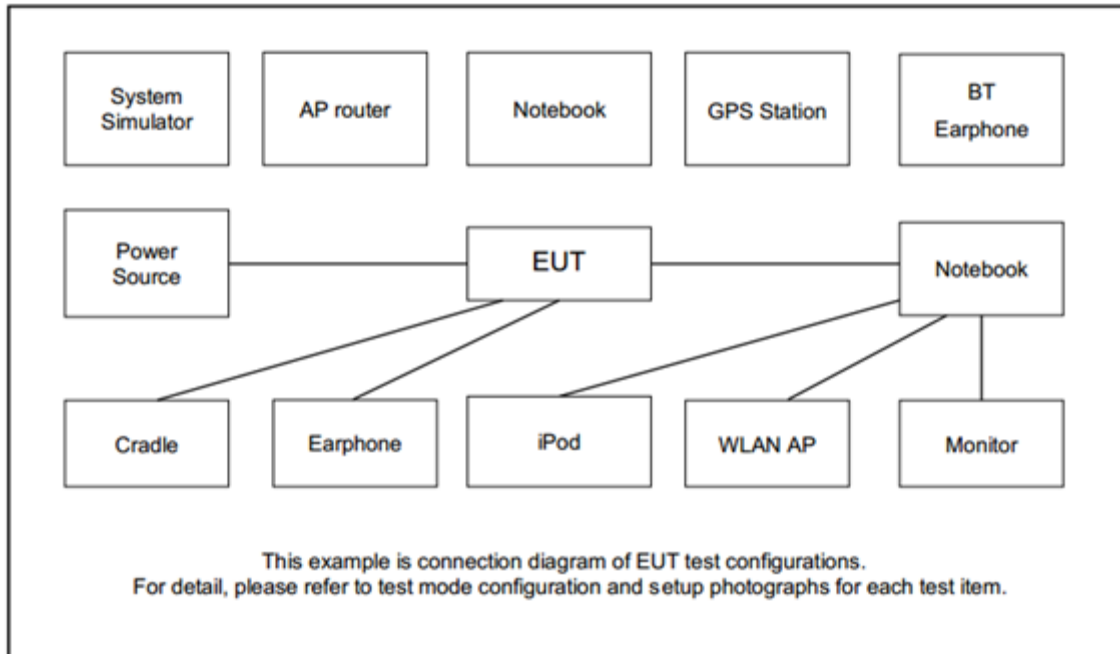
Final test modes are considering the modulation and worse data rates as below table.

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

Test Cases	
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN (5GHz) Link + NFC On + Earphone + SD Card + USB Cable 2 (Data Link with Notebook) + Cradle (Charging from Adapter) for Sample 3
Remark: 1. Data Link with Notebook means data application transferred mode between EUT and Notebook. 2. For Radiated Test Cases, the tests were performed with USB Cable 1 and Sample 3.	

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
2.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded ,1.8 m
3.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A
5.	iPod	Apple	A1285	FCC DoC	Shielded, 1.2 m	N/A
6.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A



2.5 EUT Operation Test Setup

The RF test items, utility “QRCT” 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.

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

3 Test Result

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

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

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

26dB and 99% Occupied bandwidth are reporting only.

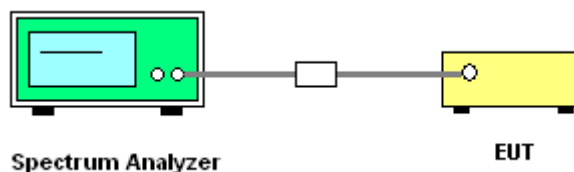
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

3.1.4 Test Setup



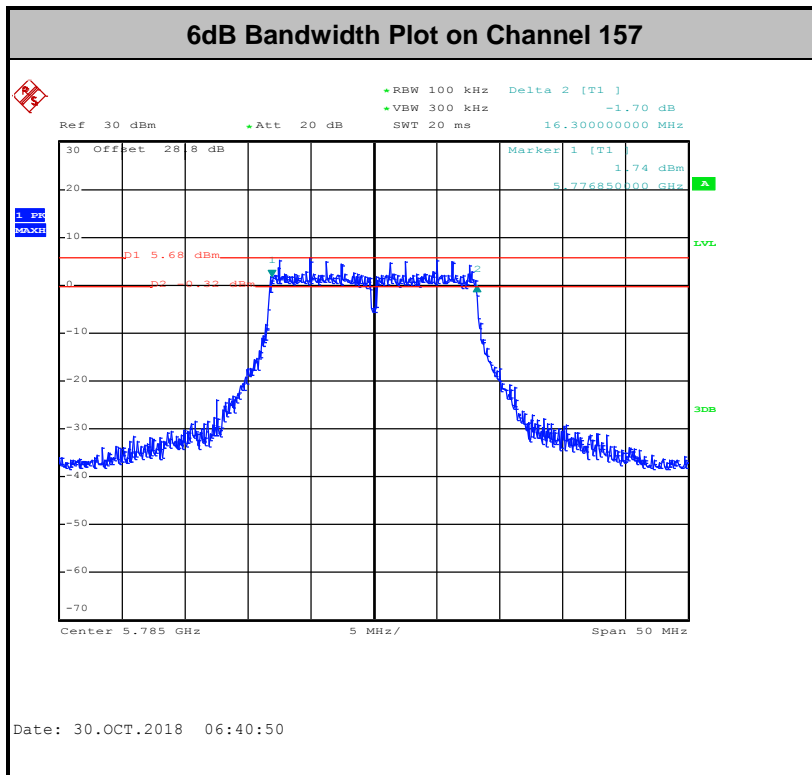
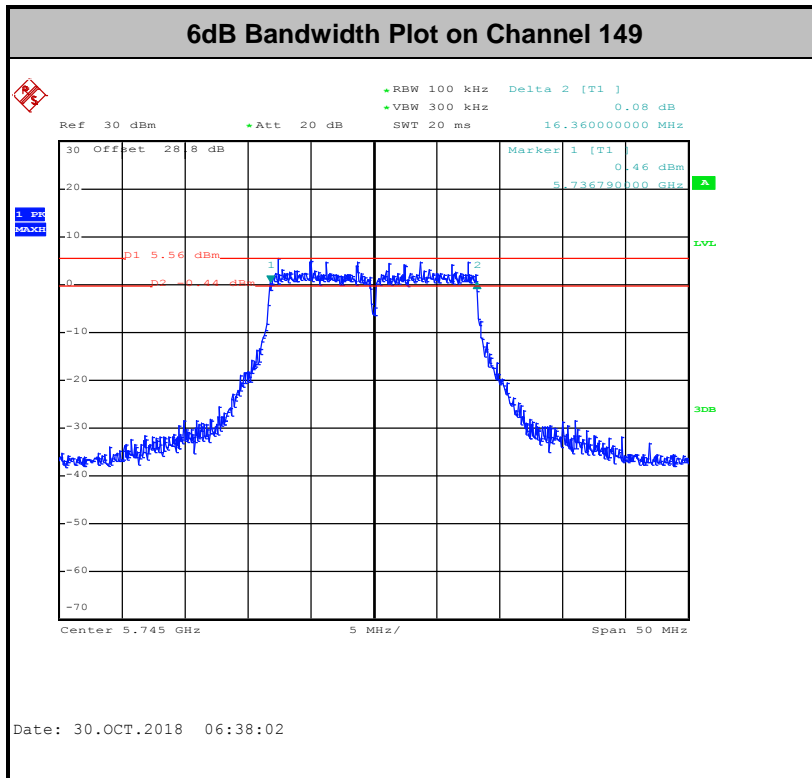
3.1.5 Test Result of 6dB Bandwidth

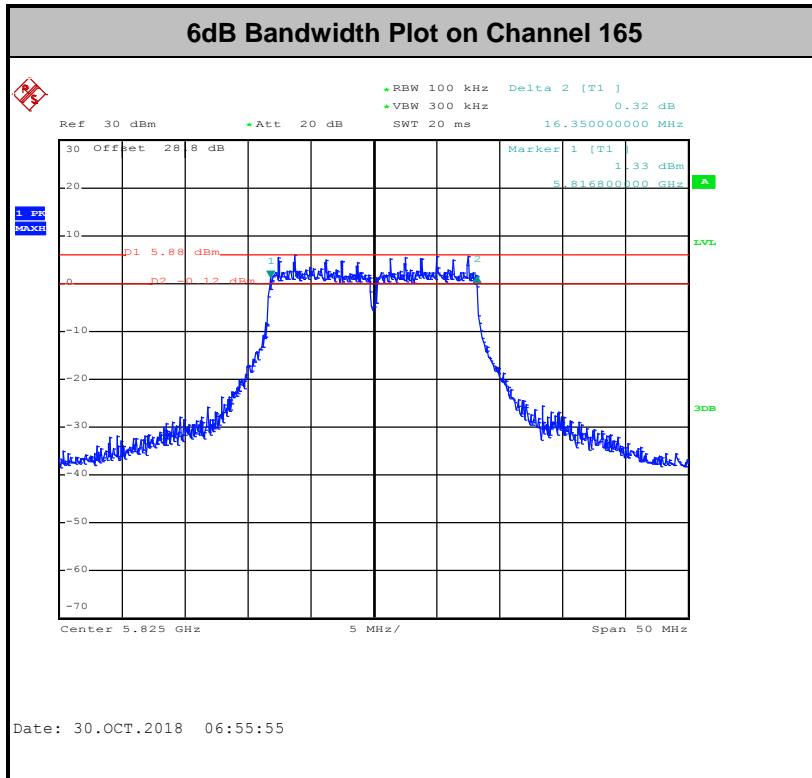
Please refer to Appendix A.



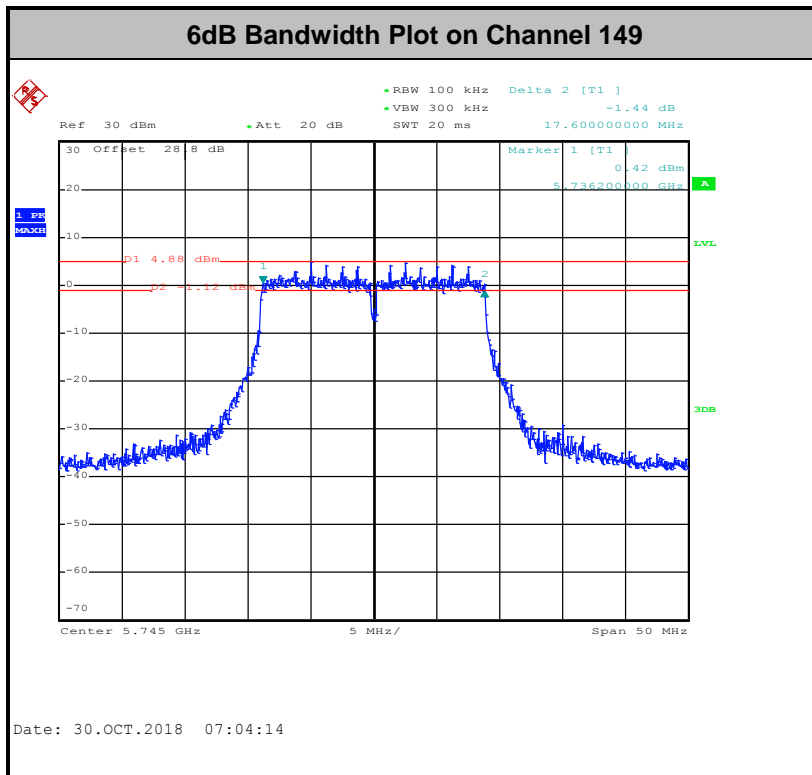
6dB Bandwidth

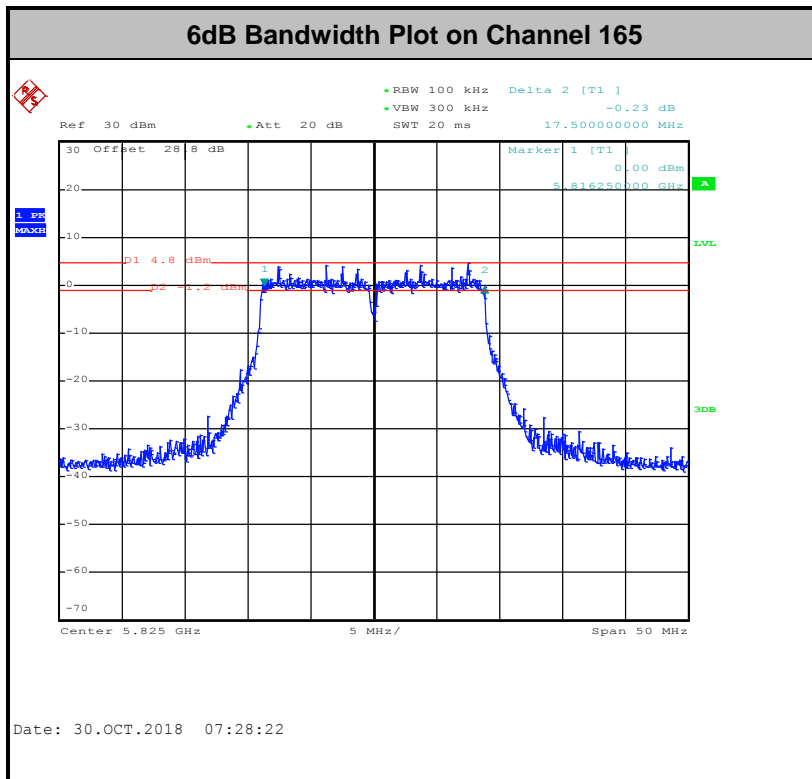
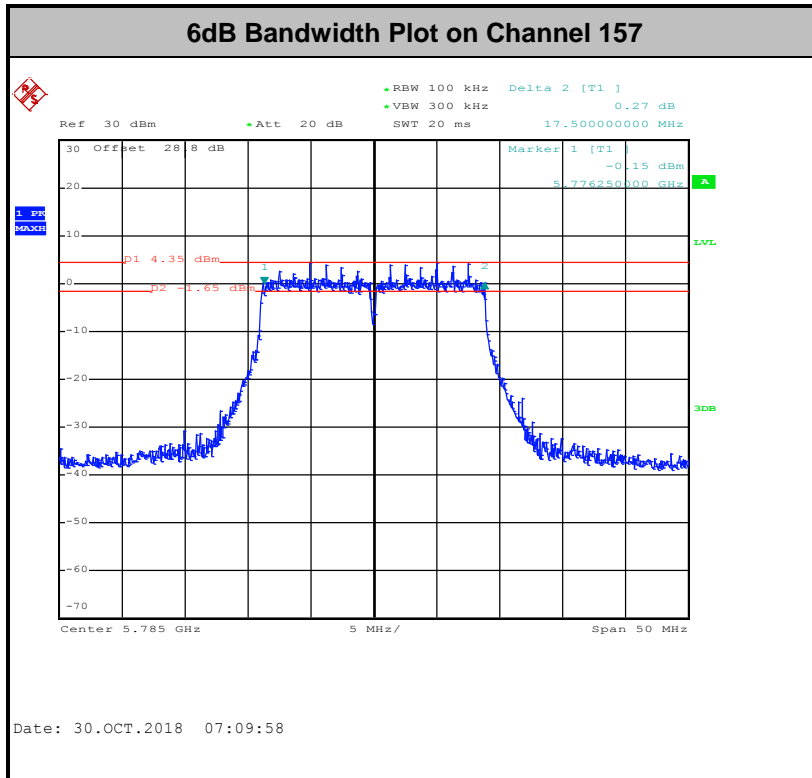
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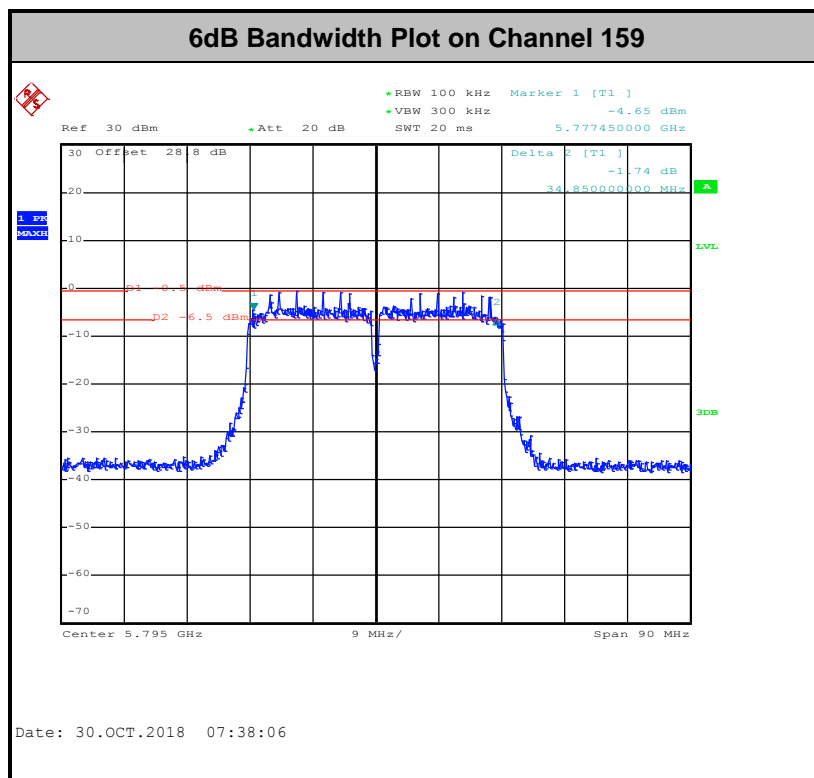
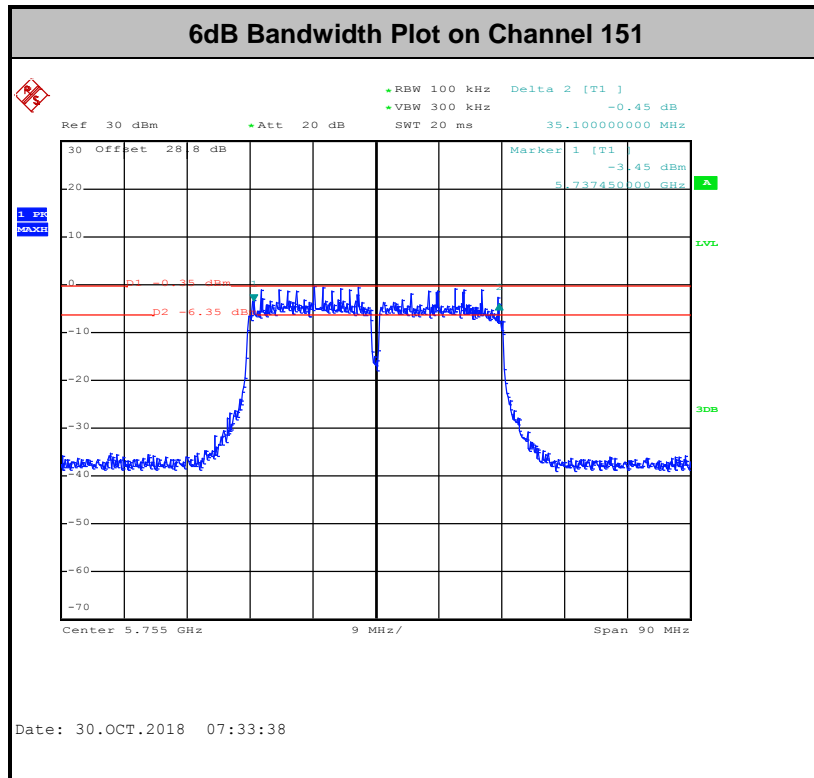
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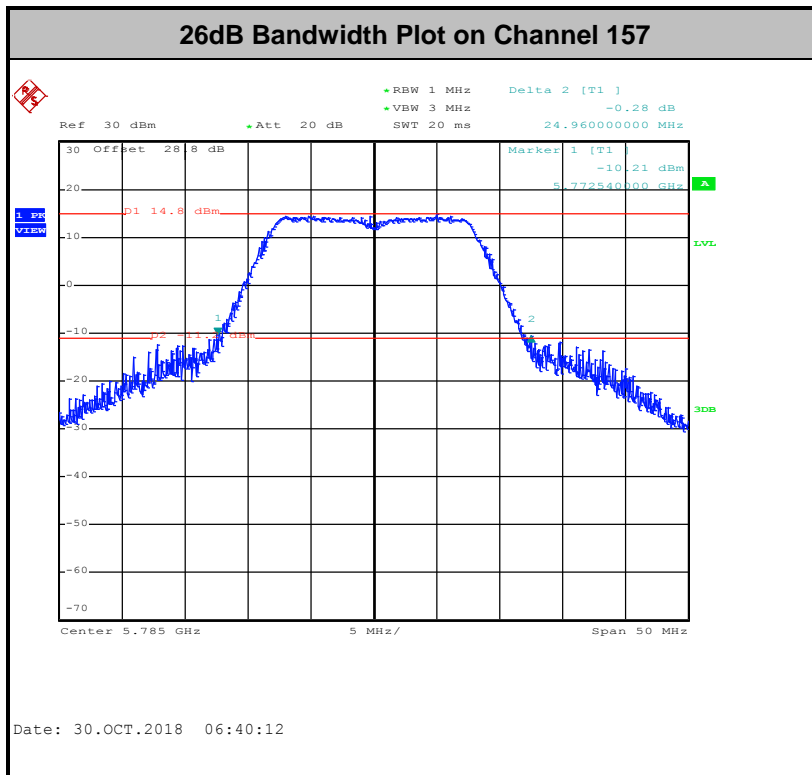
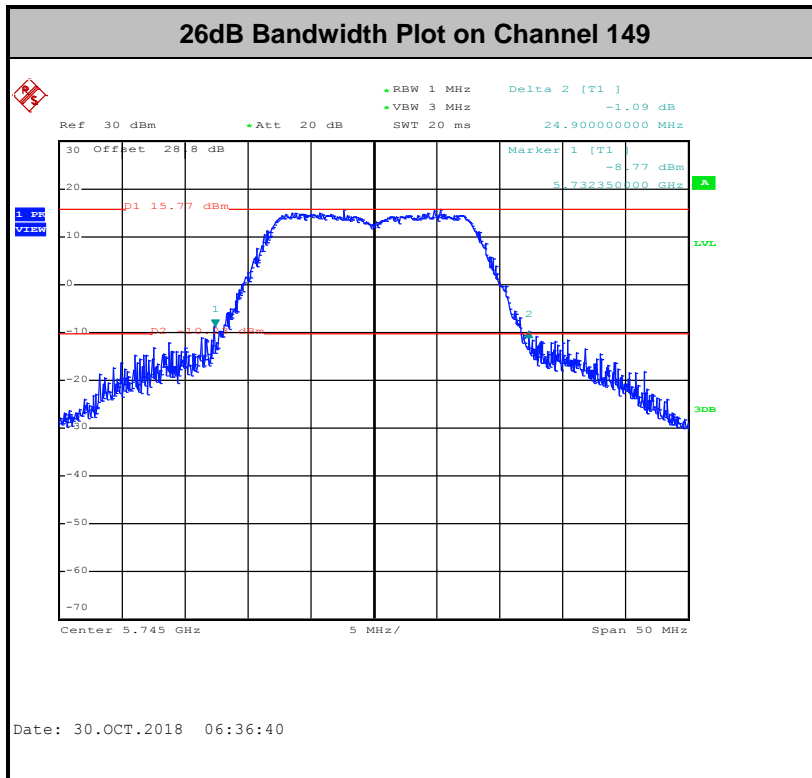
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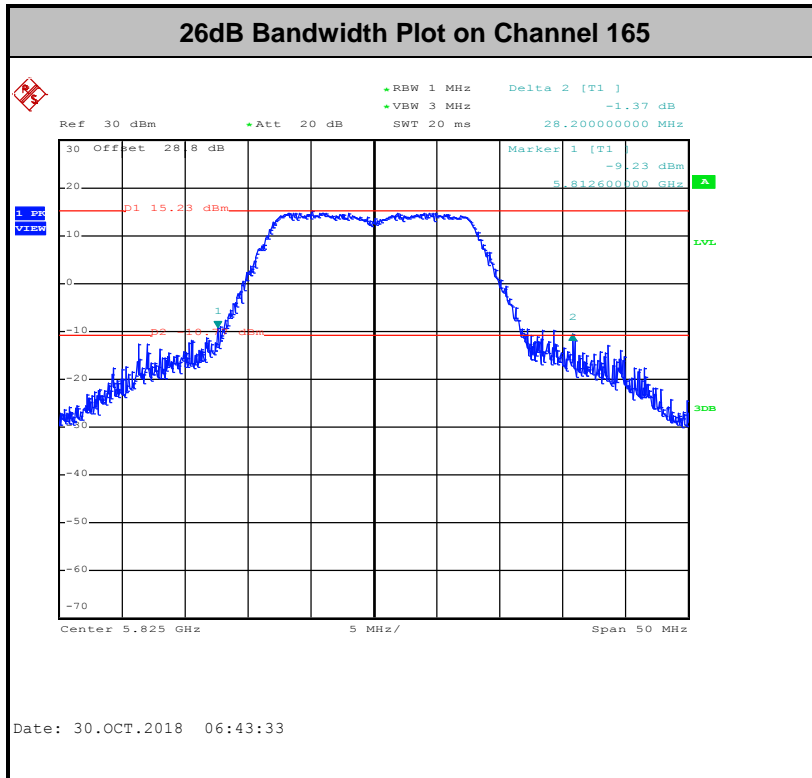




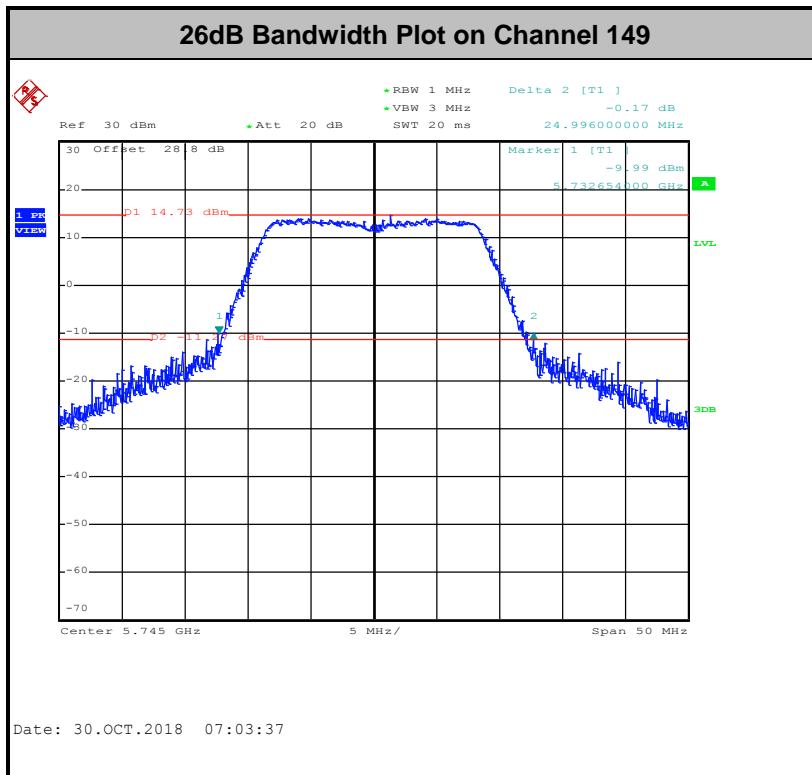
26dB Bandwidth

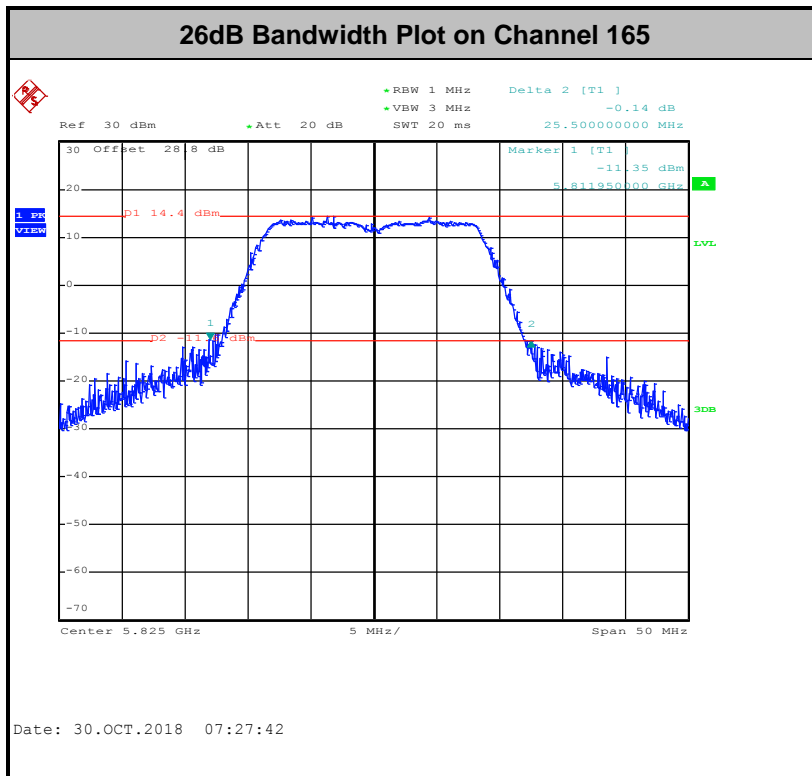
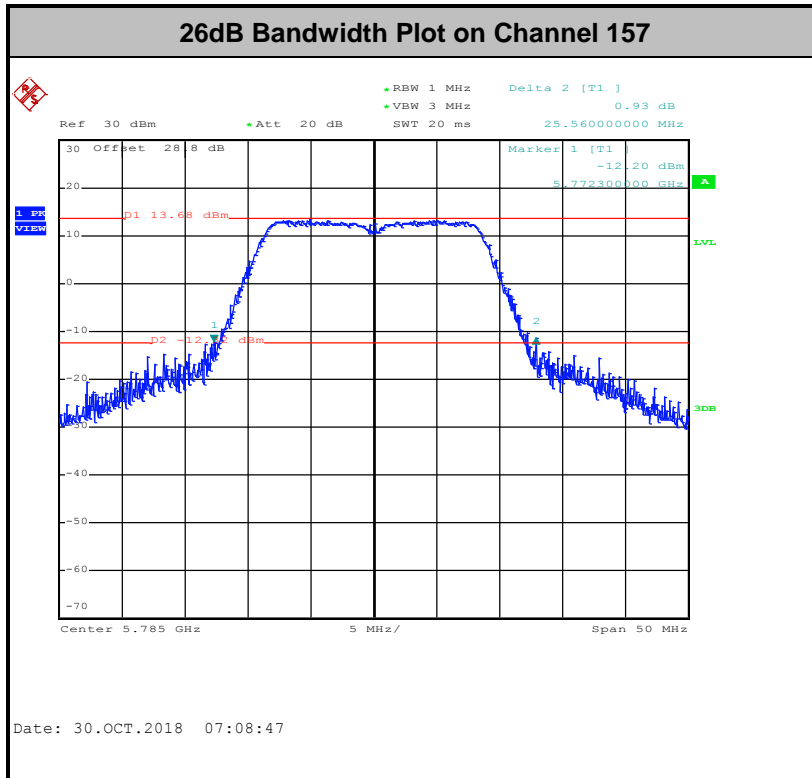
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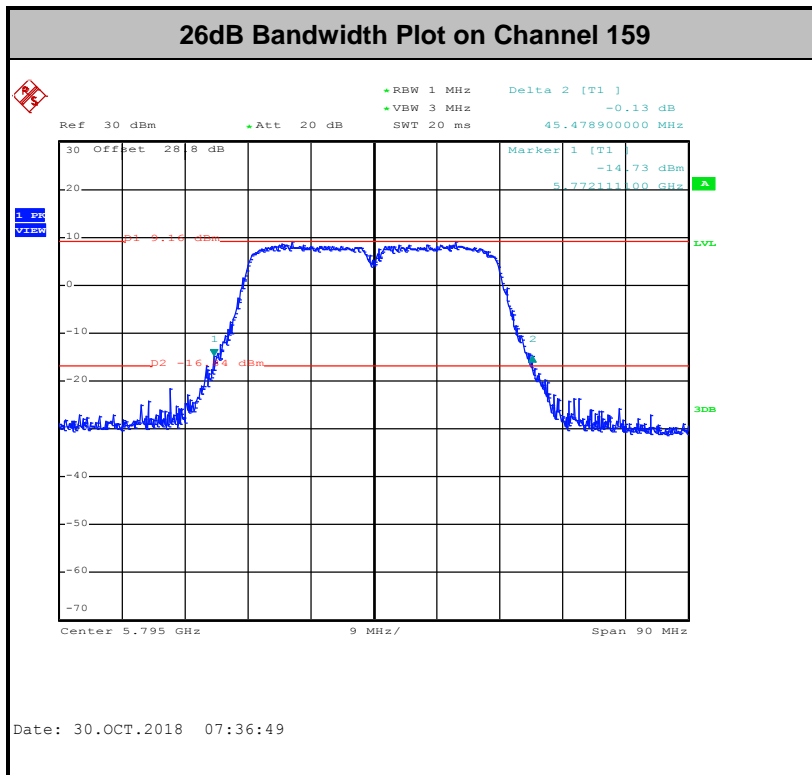
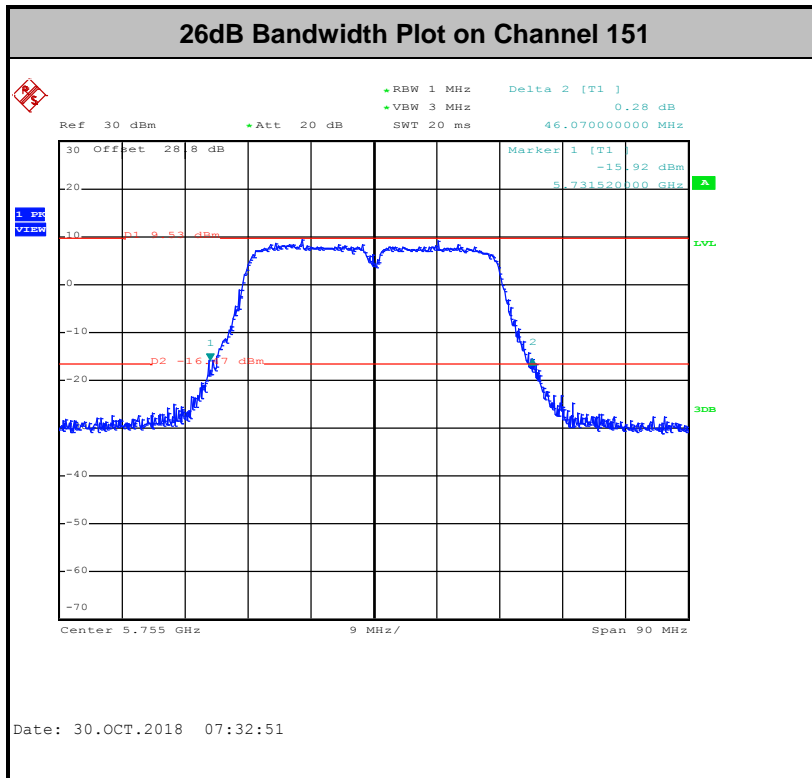
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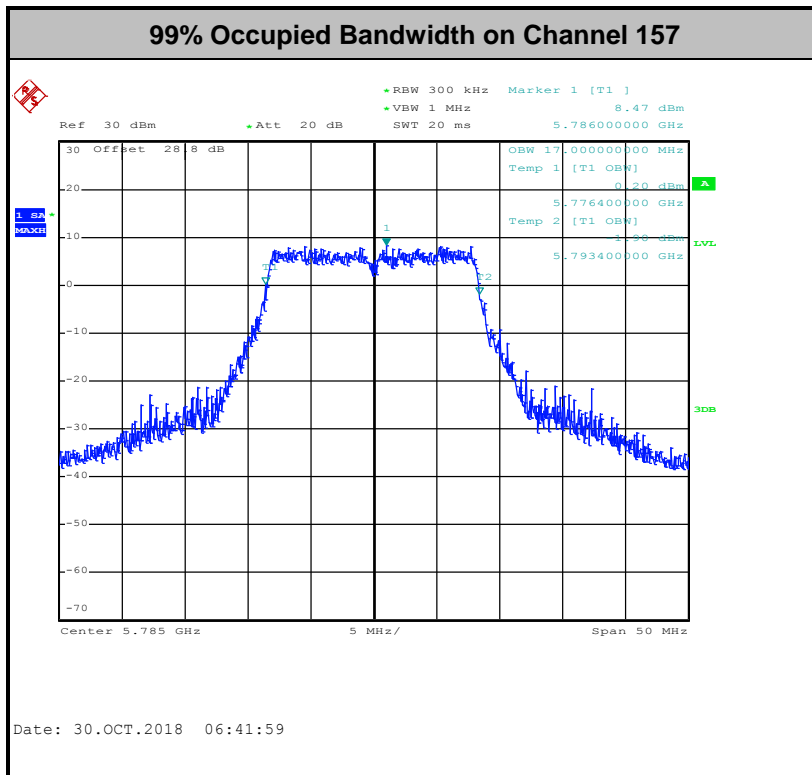
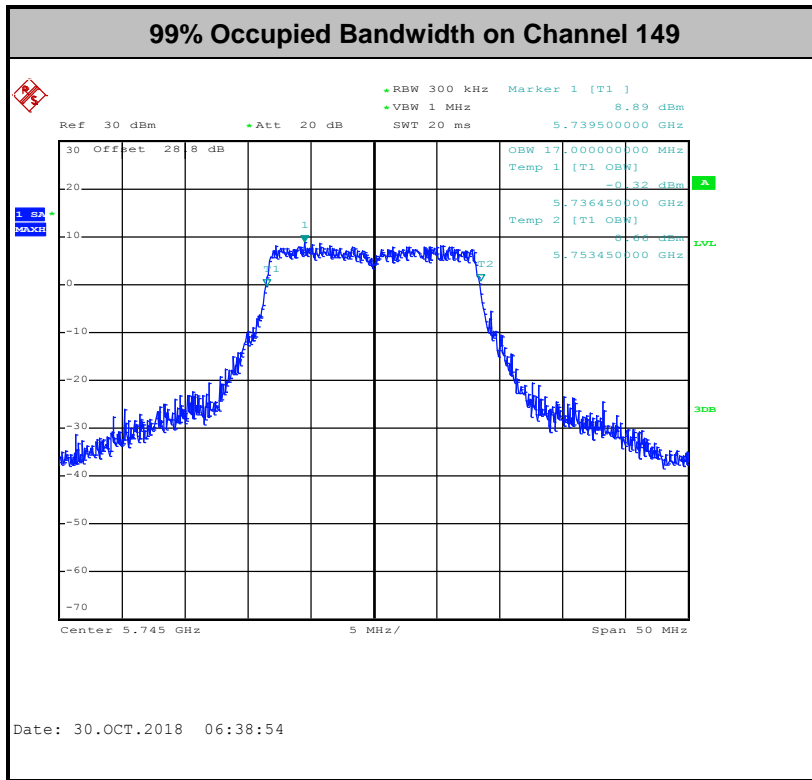
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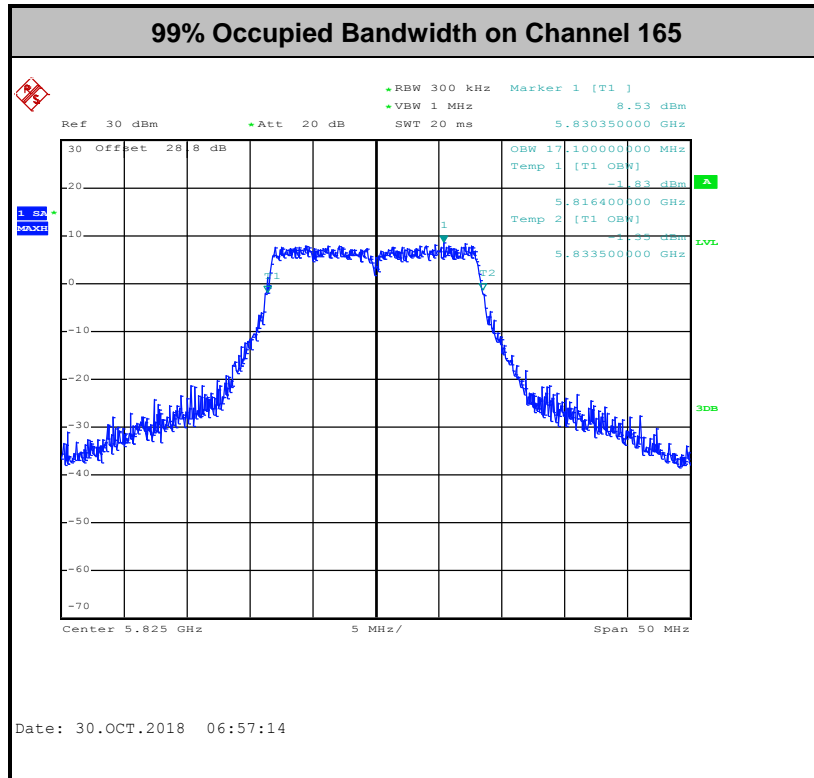




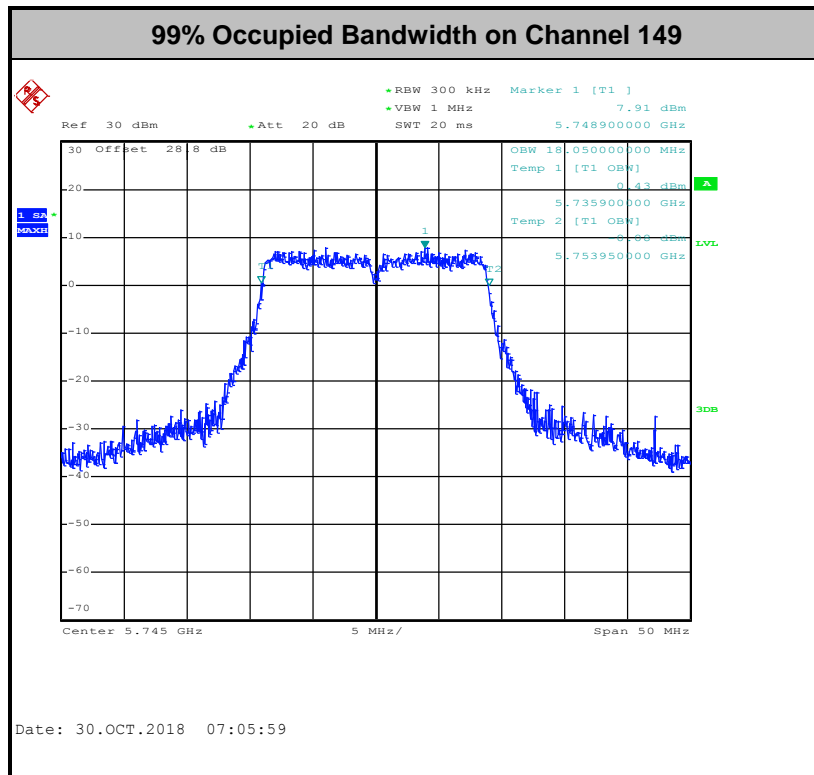
99% Occupied Bandwidth

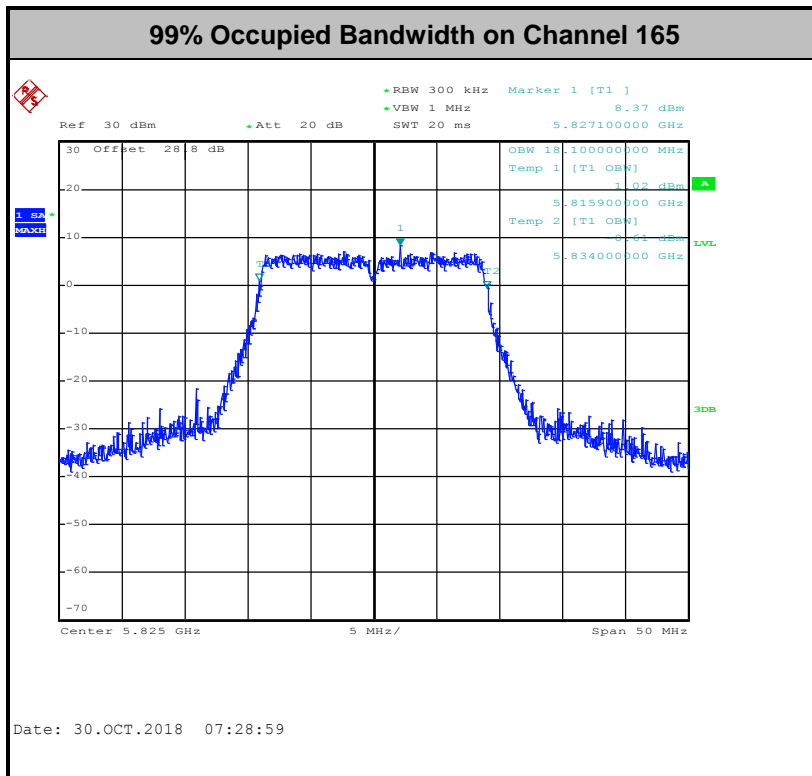
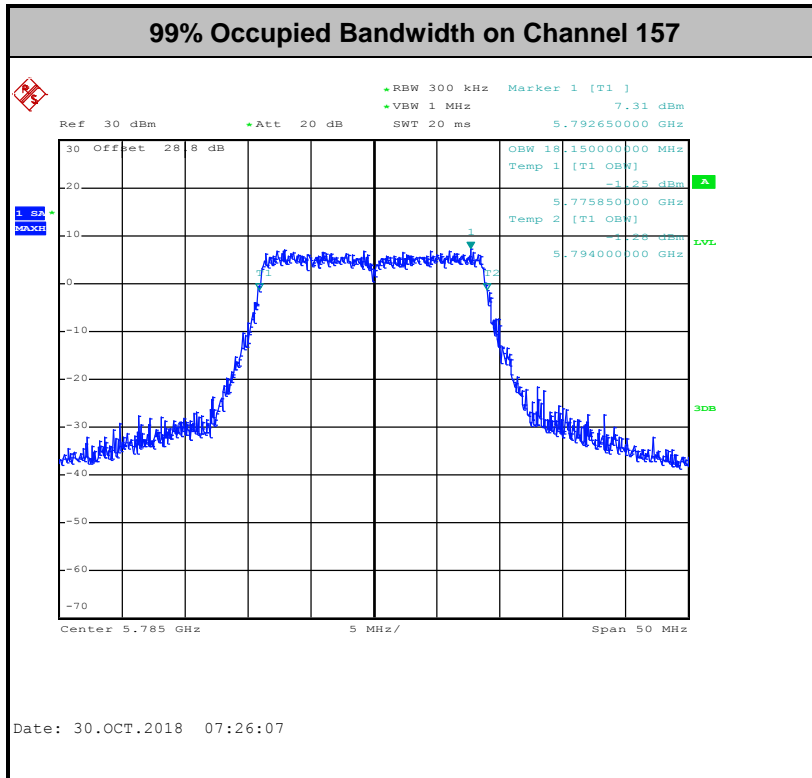
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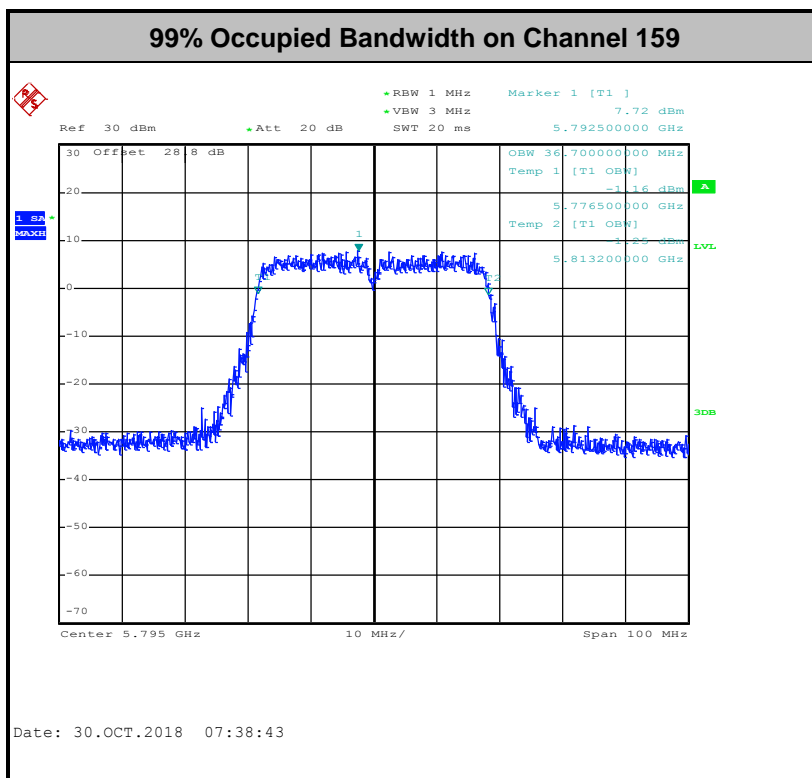
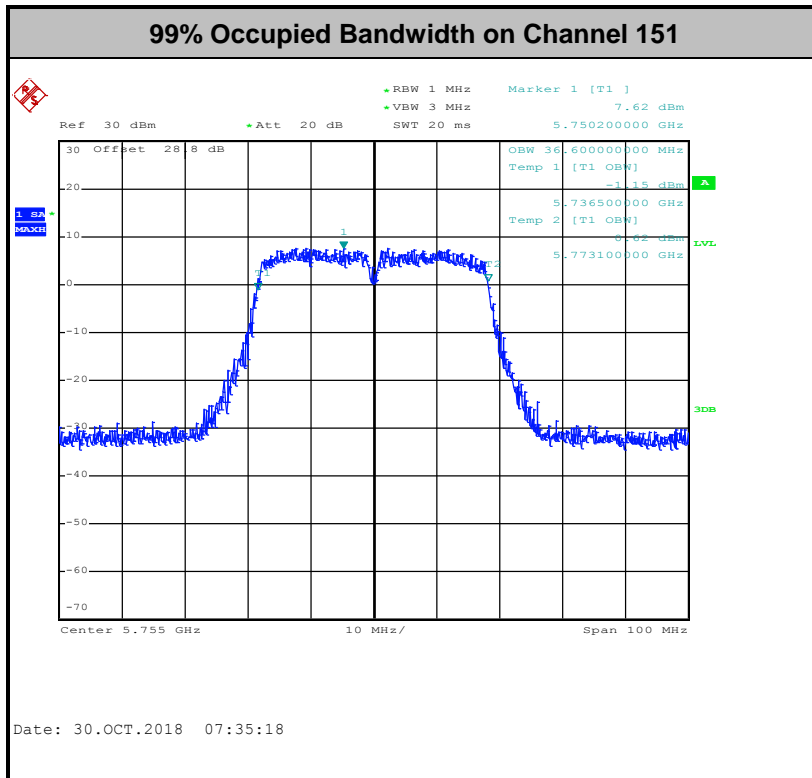
<802.11n HT20>







<802.11n HT40>



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.

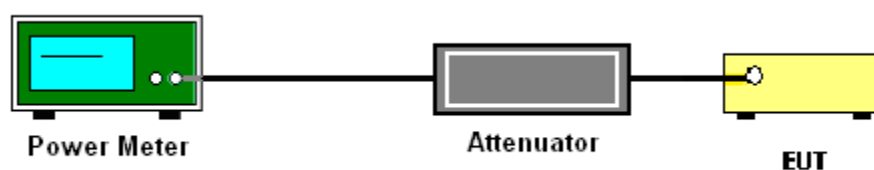
3.2.3 Test Procedures

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

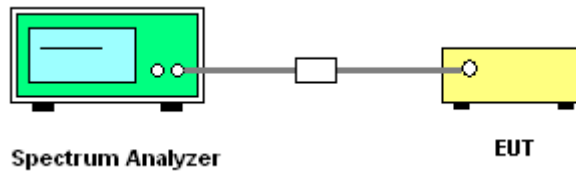
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section F) Maximum power spectral density.

Method SA-2

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

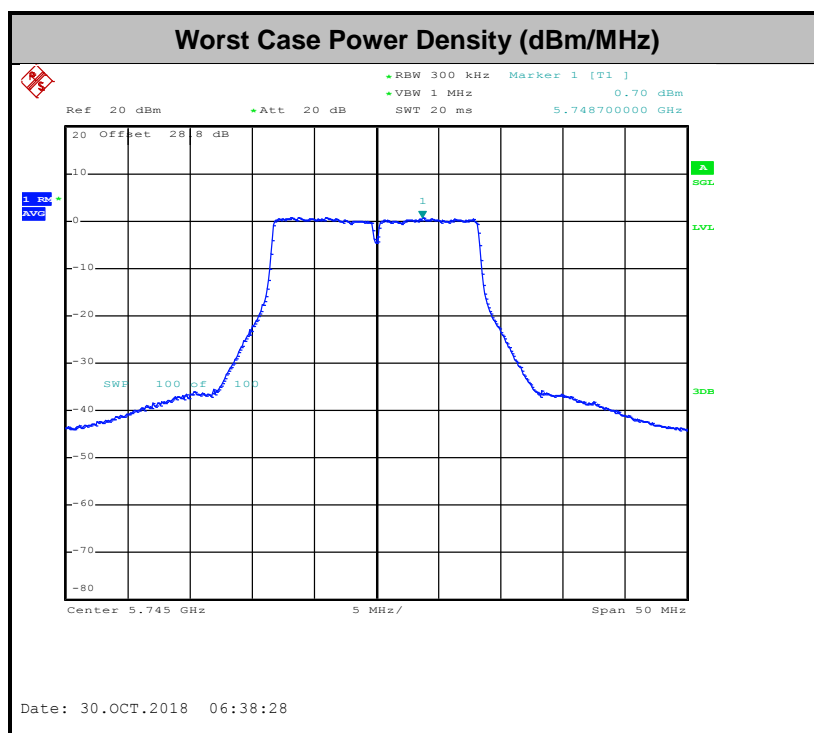
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 300 kHz.
 - Set VBW \geq 1 MHz.
 - Number of points in sweep \geq 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add $10 \log(500\text{kHz}/\text{RBW})$ 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.





3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5.725-5.85 GHz band:
 15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- (2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table,

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

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

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

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



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

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

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

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

3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

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

(1) Procedure for Unwanted Emissions Measurements Below 1000MHz

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

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

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

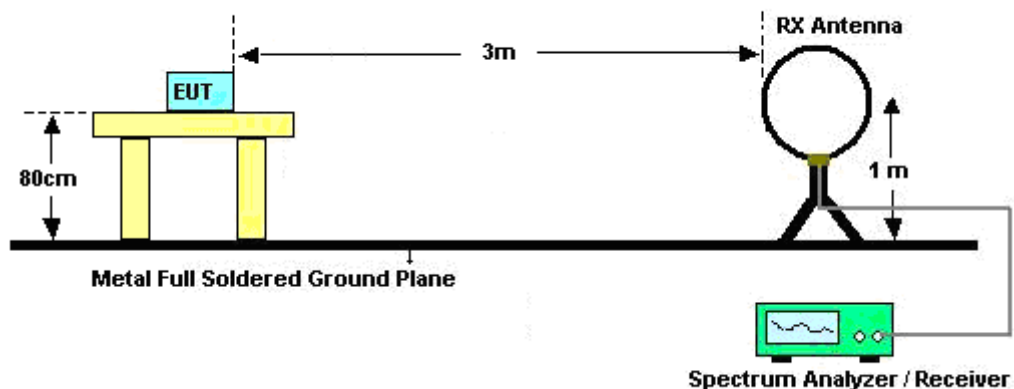
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

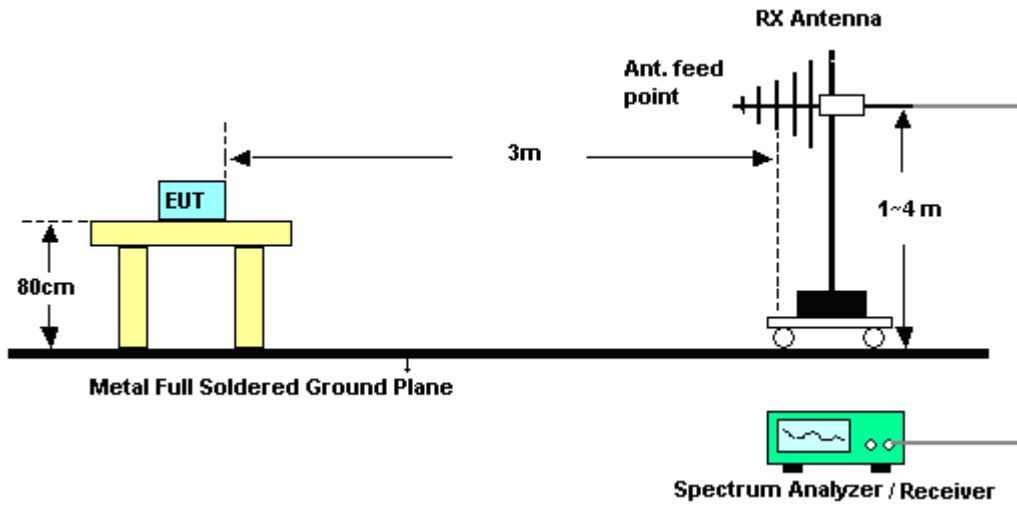
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

3.4.4 Test Setup

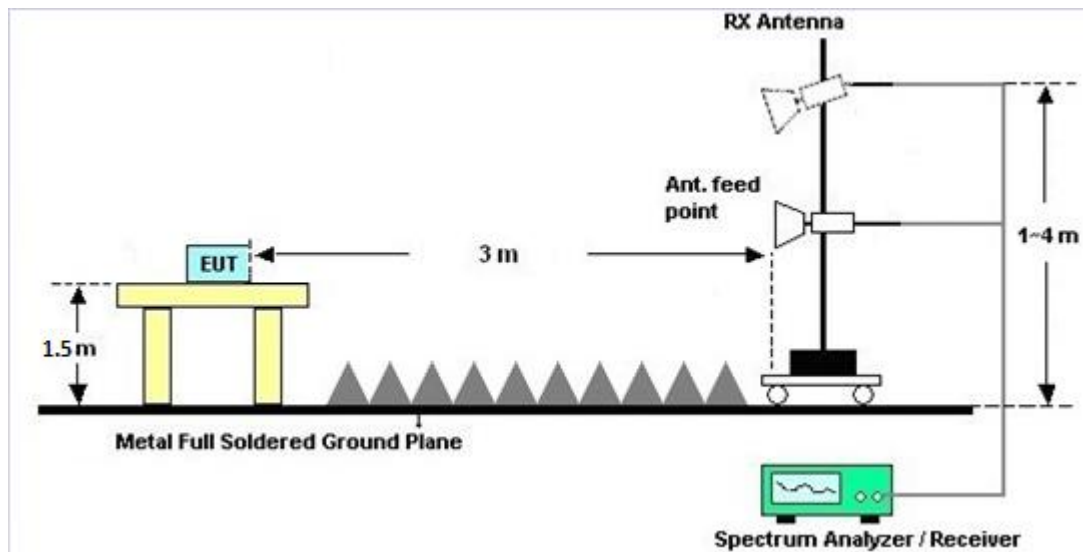
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.



3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.



3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

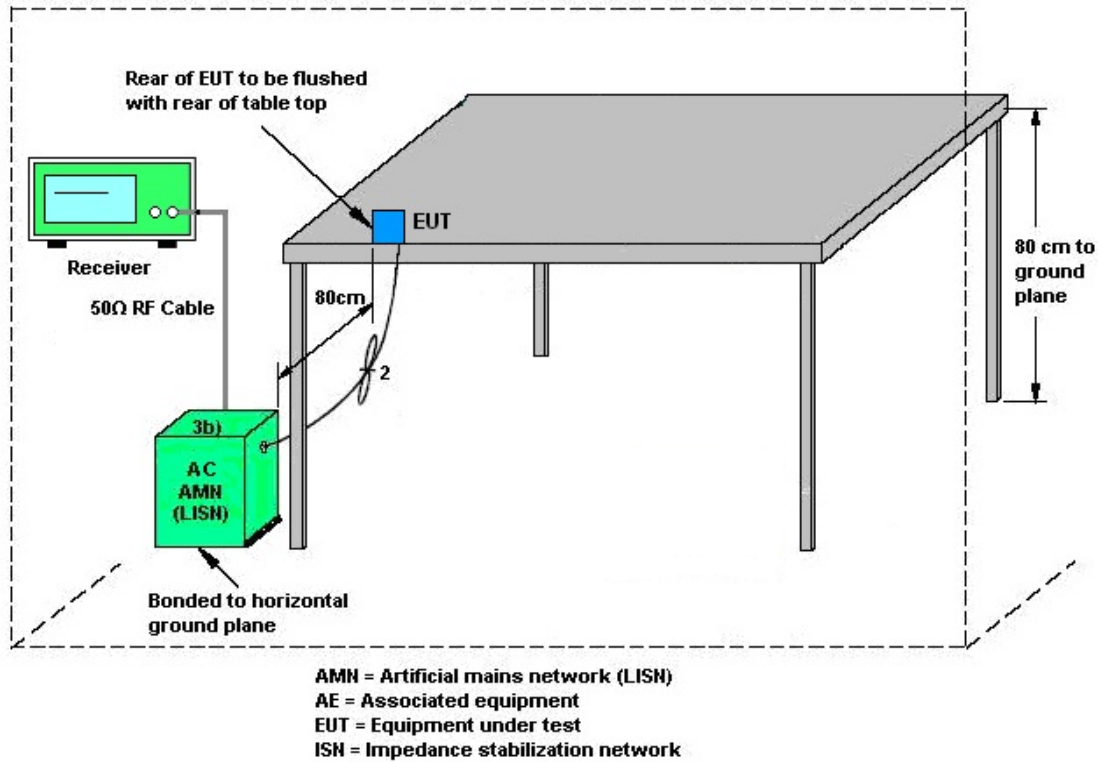
3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

3.5.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.6 Automatically Discontinue Transmission

3.6.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

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
Filter	Wainwright	WHKX8-5872. 5-6750-18000 -40ST	SN4	6.75 GHz Highpass	May 22, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	May 21, 2019	Radiation (03CH13-HY)
EMI Test Receiver	Agilent	N9038A (MXE)	MY532900 53	20Hz to 26.5GHz	Jan. 16, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Jan. 15, 2019	Radiation (03CH13-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Nov. 10, 2017	Oct. 25, 2018 ~ Nov. 01, 2018	Nov. 09, 2018	Radiation (03CH13-HY)
Filter	Wainwright	WLKS1200-8 SS	SN3	1.2G Low Pass	Nov. 21, 2017	Oct. 25, 2018 ~ Nov. 01, 2018	Nov. 20, 2018	Radiation (03CH13-HY)
Amplifier	MITEQ	TTA1840-35- HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 16, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Jul. 15, 2019	Radiation (03CH13-HY)
Amplifier	Sonoma-Instru ment	310 N	187282	9KHz~1GHz	Dec. 21, 2016	Oct. 25, 2018 ~ Nov. 01, 2018	Dec. 20, 2018	Radiation (03CH13-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	40103&07	30MHz to 1GHz	Jan. 10, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Jan. 09, 2019	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-124 1	1GHz ~ 18GHz	Jun. 29, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Jun. 28, 2019	Radiation (03CH13-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590074	1GHz~18GHz	May 21, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	May 20, 2019	Radiation (03CH13-HY)
Preamplifier	Keysight	83017A	MY532701 47	1GHz~26.5GHz	Feb. 02, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Feb. 01, 2019	Radiation (03CH13-HY)
Spectrum Analyzer	Keysight	N9010A	MY553705 26	10Hz~44GHz	Mar. 15, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Mar. 14, 2019	Radiation (03CH13-HY)
Antenna Mast	EMEC	AM-BS-4500- B	N/A	1m~4m	N/A	Oct. 25, 2018 ~ Nov. 01, 2018	N/A	Radiation (03CH13-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Oct. 25, 2018 ~ Nov. 01, 2018	N/A	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 584	18GHz- 40GHz	Nov. 27, 2017	Oct. 25, 2018 ~ Nov. 01, 2018	Nov. 26, 2018	Radiation (03CH13-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800	2025787	1GHZ~18GHZ	Mar. 12, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Mar. 11, 2019	Radiation (03CH13-HY)
Preamplifier	Jet-Power	JPA0118-55-3 03	171000180 0054001	1GHZ~18GHZ	Apr. 16, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Apr. 15, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0030/126E	30M-18G	Jan. 22, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Jan. 21, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	335041/4	30M-18G	Jan. 22, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Jan. 21, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24961/ 4	30M~18GHz	Jan. 22, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Jan. 21, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30M~40GHz	Mar. 14, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Mar. 13, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30M~40GHz	Mar. 14, 2018	Oct. 25, 2018 ~ Nov. 01, 2018	Mar. 13, 2019	Radiation (03CH13-HY)
Software	AUDIX	E3 6.2009-8-24c	RK-001124	N/A	N/A	Oct. 25, 2018 ~ Nov. 01, 2018	N/A	Radiation (03CH13-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1132003	N/A	Aug. 16, 2018	Oct. 20, 2018 ~ Oct. 30, 2018	Aug. 15, 2019	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1126017	300MHz~40GHz	Aug. 16, 2018	Oct. 20, 2018 ~ Oct. 30, 2018	Aug. 15, 2019	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2017	Oct. 20, 2018 ~ Oct. 30, 2018	Nov. 20, 2018	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 07, 2017	Oct. 20, 2018 ~ Oct. 30, 2018	Nov. 06, 2018	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC130048 4	N/A	Mar. 01, 2018	Oct. 20, 2018 ~ Oct. 30, 2018	Feb. 28, 2019	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Oct. 25, 2018	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9KHz~3.6GHz	Dec. 08, 2017	Oct. 25, 2018	Dec. 07, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 30, 2017	Oct. 25, 2018	Nov. 29, 2018	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Oct. 25, 2018	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 03, 2018	Oct. 25, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 03, 2018	Oct. 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% ($U = 2Uc(y)$)	2.2
-------------------------------------------------------------------------	-----

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.9
-------------------------------------------------------------------------	-----

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.4
-------------------------------------------------------------------------	-----

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.3
-------------------------------------------------------------------------	-----

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Shiming Liu and Shiang Wang	Temperature:	21~25	°C
Test Date:	2018/10/20 ~ 2018/10/30	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	17.00	-	24.90	-	16.36	-	0.5	Pass
11a	6Mbps	1	157	5785	17.00	-	24.96	-	16.30	-	0.5	Pass
11a	6Mbps	1	165	5825	17.10	-	28.20	-	16.35	-	0.5	Pass
HT20	MCS0	1	149	5745	18.05	-	25.00	-	17.60	-	0.5	Pass
HT20	MCS0	1	157	5785	18.15	-	25.56	-	17.50	-	0.5	Pass
HT20	MCS0	1	165	5825	18.10	-	25.50	-	17.50	-	0.5	Pass
HT40	MCS0	1	151	5755	36.60	-	46.07	-	35.10	-	0.5	Pass
HT40	MCS0	1	159	5795	36.70	-	45.48	-	34.85	-	0.5	Pass

TEST RESULTS DATA
Average Power Table

Band IV														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	0.59	-	17.49	-		30.00	-	0.00	-	Pass
11a	6Mbps	1	157	5785	0.59	-	17.14	-		30.00	-	0.00	-	Pass
11a	6Mbps	1	165	5825	0.59	-	17.32	-		30.00	-	0.00	-	Pass
HT20	MCS0	1	149	5745	0.63	-	16.49	-		30.00	-	0.00	-	Pass
HT20	MCS0	1	157	5785	0.63	-	16.11	-		30.00	-	0.00	-	Pass
HT20	MCS0	1	165	5825	0.63	-	16.27	-		30.00	-	0.00	-	Pass
HT40	MCS0	1	151	5755	0.63	-	14.18	-		30.00	-	0.00	-	Pass
HT40	MCS0	1	159	5795	0.63	-	14.05	-		30.00	-	0.00	-	Pass

TEST RESULTS DATA
Power Spectral Density

Band IV																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	0.59	-	2.22	-	3.51	-		30.00	-	0.00	-	Pass
11a	6Mbps	1	157	5785	0.59	-	2.22	-	3.45	-		30.00	-	0.00	-	Pass
11a	6Mbps	1	165	5825	0.59	-	2.22	-	3.42	-		30.00	-	0.00	-	Pass
HT20	MCS0	1	149	5745	0.63	-	2.22	-	2.42	-		30.00	-	0.00	-	Pass
HT20	MCS0	1	157	5785	0.63	-	2.22	-	2.08	-		30.00	-	0.00	-	Pass
HT20	MCS0	1	165	5825	0.63	-	2.22	-	2.31	-		30.00	-	0.00	-	Pass
HT40	MCS0	1	151	5755	0.63	-	2.22	-	-2.78	-		30.00	-	0.00	-	Pass
HT40	MCS0	1	159	5795	0.63	-	2.22	-	-2.79	-		30.00	-	0.00	-	Pass

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



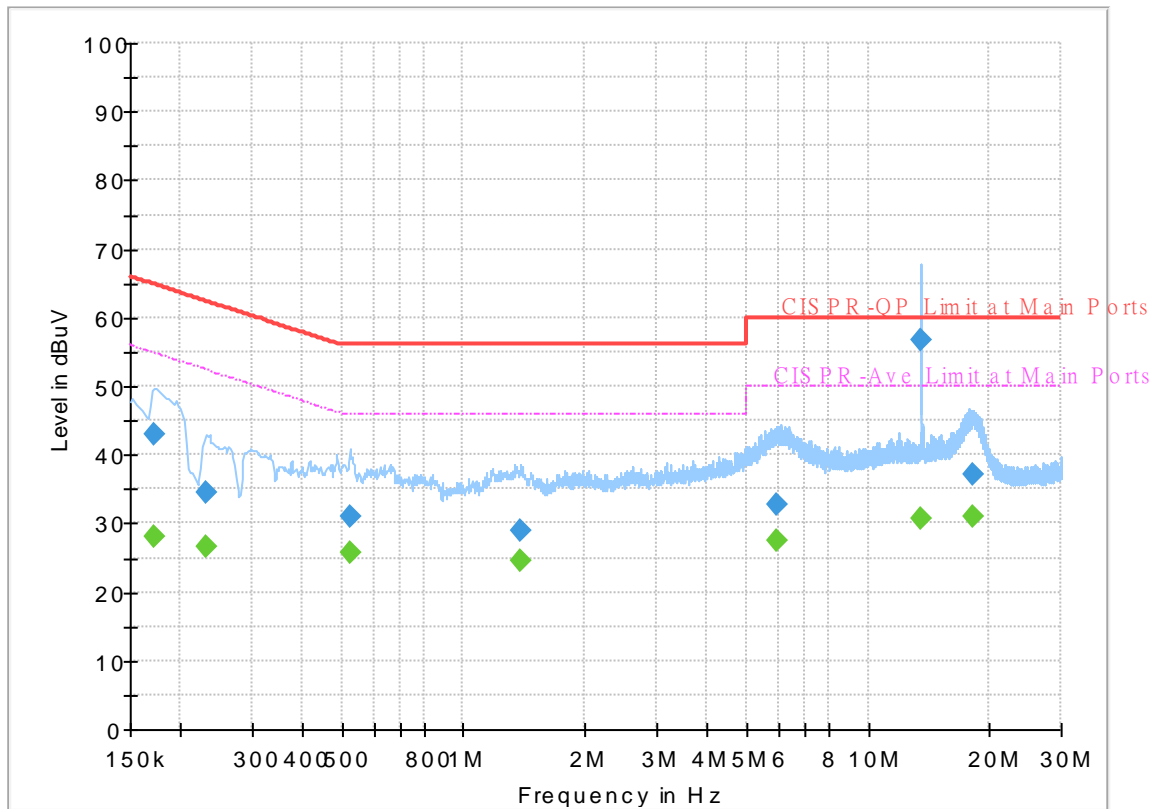
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Jimmy Chang	Temperature :	24~26°C
		Relative Humidity :	50~52%

EUT Information

Report NO : 870418
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Line

Full Spectrum



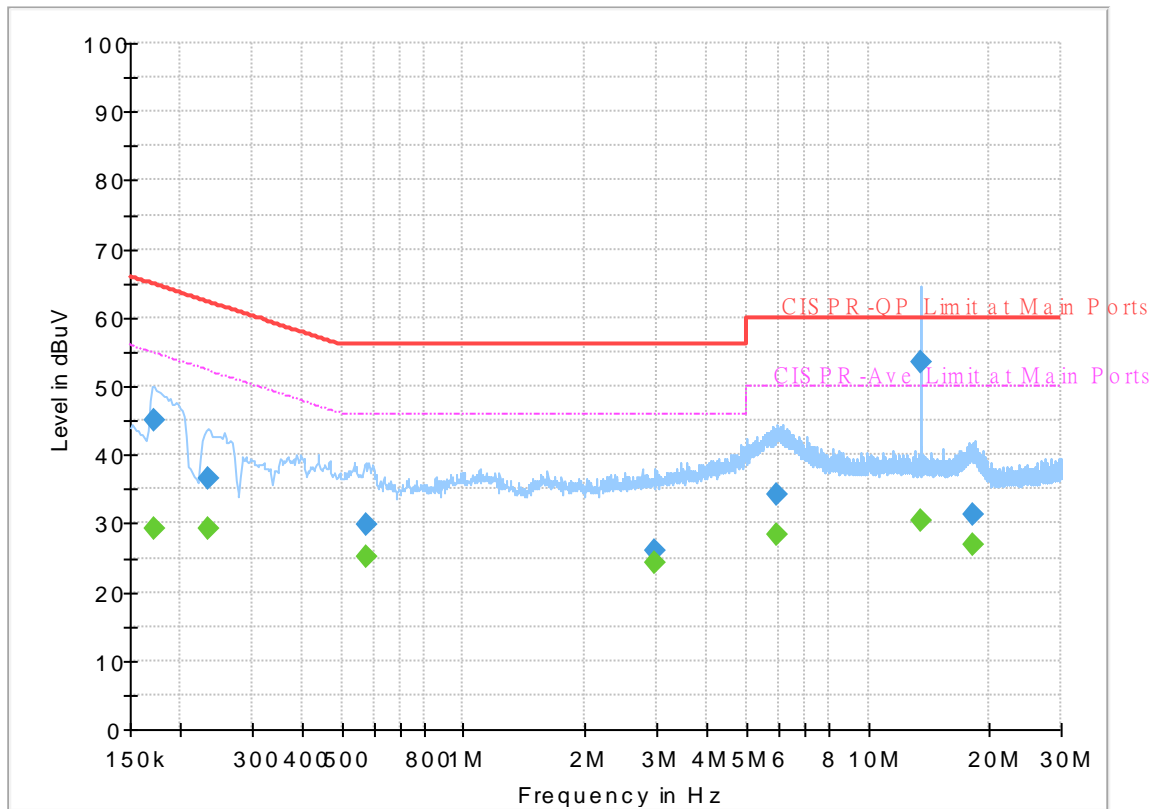
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.172500	---	28.01	54.84	26.83	L1	OFF	19.5
0.172500	43.05	---	64.84	21.79	L1	OFF	19.5
0.231000	---	26.57	52.41	25.84	L1	OFF	19.5
0.231000	34.56	---	62.41	27.85	L1	OFF	19.5
0.525750	---	25.76	46.00	20.24	L1	OFF	19.5
0.525750	30.96	---	56.00	25.04	L1	OFF	19.5
1.383000	---	24.47	46.00	21.53	L1	OFF	19.6
1.383000	28.95	---	56.00	27.05	L1	OFF	19.6
5.925750	---	27.60	50.00	22.40	L1	OFF	19.8
5.925750	32.84	---	60.00	27.16	L1	OFF	19.8
13.560000	---	30.68	50.00	19.32	L1	OFF	20.0
13.560000	56.82	---	60.00	3.18	L1	OFF	20.0
18.267000	---	30.86	50.00	19.14	L1	OFF	20.2
18.267000	37.07	---	60.00	22.93	L1	OFF	20.2

EUT Information

Report NO : 870418
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.172500	---	29.29	54.84	25.55	N	OFF	19.5
0.172500	45.07	---	64.84	19.77	N	OFF	19.5
0.233250	---	29.10	52.33	23.23	N	OFF	19.5
0.233250	36.64	---	62.33	25.69	N	OFF	19.5
0.573000	---	25.14	46.00	20.86	N	OFF	19.5
0.573000	29.75	---	56.00	26.25	N	OFF	19.5
2.980500	---	24.35	46.00	21.65	N	OFF	19.6
2.980500	26.02	---	56.00	29.98	N	OFF	19.6
5.982000	---	28.34	50.00	21.66	N	OFF	19.8
5.982000	34.18	---	60.00	25.82	N	OFF	19.8
13.560000	---	30.32	50.00	19.68	N	OFF	20.1
13.560000	53.61	---	60.00	6.39	N	OFF	20.1
18.118500	---	26.93	50.00	23.07	N	OFF	20.2
18.118500	31.24	---	60.00	28.76	N	OFF	20.2



Appendix C. Radiated Spurious Emission

Test Engineer :	Alex Jheng, Fu Chen, and Wilson Wu	Temperature :	24~25°C
		Relative Humidity :	48~50%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.	
		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)	
802.11a CH 149 5745MHz		5618.2	50.51	-17.69	68.2	40.38	32.07	7.7	29.64	100	255	P	H	
		5693.4	50.89	-49.44	100.33	40.62	32.17	7.77	29.67	100	255	P	H	
		5715.8	57.37	-52.26	109.63	47.07	32.19	7.79	29.68	100	255	P	H	
		5724	64.2	-55.72	119.92	53.86	32.21	7.81	29.68	100	255	P	H	
	*	5745	102.57	-	-	92.19	32.24	7.83	29.69	100	255	P	H	
	*	5745	95.33	-	-	84.95	32.24	7.83	29.69	100	255	A	H	
														H
														H
			5649.2	50.09	-18.11	68.2	39.92	32.09	7.73	29.65	100	36	P	V
			5692.4	50.73	-48.87	99.6	40.46	32.17	7.77	29.67	100	36	P	V
			5720	57.17	-53.63	110.8	46.83	32.21	7.81	29.68	100	36	P	V
			5724.8	67.9	-53.84	121.74	57.56	32.21	7.81	29.68	100	36	P	V
	*		5745	102.82	-	-	92.44	32.24	7.83	29.69	100	36	P	V
	*		5745	95.54	-	-	85.16	32.24	7.83	29.69	100	36	A	V
													V	
													V	



WIFI	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11a CH 157 5785MHz		5644.2	51.21	-16.99	68.2	41.05	32.09	7.72	29.65	100	255	P	H	
		5663	49.62	-28.23	77.85	39.43	32.12	7.73	29.66	100	255	P	H	
		5718	49.81	-60.43	110.24	39.47	32.21	7.81	29.68	100	255	P	H	
		5724	50.07	-69.85	119.92	39.73	32.21	7.81	29.68	100	255	P	H	
	*	5785	102.94	-	-	92.51	32.29	7.86	29.72	100	255	P	H	
	*	5785	95.24	-	-	84.81	32.29	7.86	29.72	100	255	A	H	
		5852	50.69	-66.95	117.64	40.17	32.38	7.88	29.74	100	255	P	H	
		5873.8	51.24	-54.3	105.54	40.68	32.43	7.88	29.75	100	255	P	H	
		5900	50.78	-35.88	86.66	40.19	32.46	7.89	29.76	100	255	P	H	
		5926.8	49.34	-18.86	68.2	38.72	32.5	7.89	29.77	100	255	P	H	
														H
														H
			5624.8	50.8	-17.4	68.2	40.67	32.07	7.7	29.64	100	35	P	V
			5698.6	51.08	-53.09	104.17	40.81	32.17	7.77	29.67	100	35	P	V
			5718.8	50.33	-60.13	110.46	39.99	32.21	7.81	29.68	100	35	P	V
			5721.4	48.72	-65.27	113.99	38.38	32.21	7.81	29.68	100	35	P	V
	*		5785	103.52	-	-	93.09	32.29	7.86	29.72	100	35	P	V
	*		5785	95.35	-	-	84.92	32.29	7.86	29.72	100	35	A	V
			5852.4	49.76	-66.97	116.73	39.24	32.38	7.88	29.74	100	35	P	V
			5872	50.66	-55.38	106.04	40.1	32.43	7.88	29.75	100	35	P	V
			5906.4	51.44	-30.49	81.93	40.83	32.48	7.89	29.76	100	35	P	V
			5930.8	50.1	-18.1	68.2	39.48	32.5	7.89	29.77	100	35	P	V
													V	
													V	



WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11a CH 165 5825MHz	*	5825	102.27	-	-	91.76	32.36	7.88	29.73	100	254	P	H	
	*	5825	94.89	-	-	84.38	32.36	7.88	29.73	100	254	A	H	
		5851.4	54.86	-64.15	119.01	44.34	32.38	7.88	29.74	100	254	P	H	
		5855.8	52.63	-57.95	110.58	42.08	32.41	7.88	29.74	100	254	P	H	
		5883.4	51.12	-47.84	98.96	40.57	32.43	7.88	29.76	100	254	P	H	
		5928.4	49.75	-18.45	68.2	39.13	32.5	7.89	29.77	100	254	P	H	
														H
														H
	*	5825	103.8	-	-	93.29	32.36	7.88	29.73	100	41	41	P	V
	*	5825	96.08	-	-	85.57	32.36	7.88	29.73	100	41	41	A	V
		5851.6	54.68	-63.87	118.55	44.16	32.38	7.88	29.74	100	41	41	P	V
		5856	51.74	-58.78	110.52	41.19	32.41	7.88	29.74	100	41	41	P	V
		5903.8	51.12	-32.73	83.85	40.53	32.46	7.89	29.76	100	41	41	P	V
		5949	50.29	-17.91	68.2	39.65	32.53	7.89	29.78	100	41	41	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	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	46.52	-27.48	74	50.16	39.92	12.74	56.3	100	0	P	H
		17235	49.68	-18.52	68.2	50.3	40.84	15.11	56.57	100	0	P	H
													H
													H
		11490	49.49	-24.51	74	53.13	39.92	12.74	56.3	100	0	P	V
		17235	49.1	-19.1	68.2	49.72	40.84	15.11	56.57	100	0	P	V
802.11a CH 157 5785MHz		11570	46.97	-27.03	74	50.73	39.76	12.78	56.3	100	0	P	H
		17355	51	-17.2	68.2	51.4	41.26	15.15	56.81	100	0	P	H
													H
													H
		11570	48.73	-25.27	74	52.49	39.76	12.78	56.3	100	0	P	V
		17355	49.21	-18.99	68.2	49.61	41.26	15.15	56.81	100	0	P	V
802.11a CH 165 5825MHz		11650	46.71	-27.29	74	50.57	39.62	12.82	56.3	100	0	P	H
		17475	50.17	-18.03	68.2	50.34	41.68	15.2	57.05	100	0	P	H
													H
													H
		11650	49.76	-24.24	74	53.62	39.62	12.82	56.3	100	0	P	V
		17475	48.91	-19.29	68.2	49.08	41.68	15.2	57.05	100	0	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	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT20 CH 149 5745MHz		5631.2	51.17	-17.03	68.2	41.03	32.07	7.72	29.65	100	253	P	H	
		5692	52.25	-47.05	99.3	41.98	32.17	7.77	29.67	100	253	P	H	
		5719.4	57.66	-52.97	110.63	47.32	32.21	7.81	29.68	100	253	P	H	
		5724.6	69.03	-52.26	121.29	58.69	32.21	7.81	29.68	100	253	P	H	
	*	5745	101.87	-	-	91.49	32.24	7.83	29.69	100	253	P	H	
	*	5745	94.33	-	-	83.95	32.24	7.83	29.69	100	253	A	H	
														H
														H
			5634.2	50.2	-18	68.2	40.04	32.09	7.72	29.65	100	36	P	V
			5692	50.16	-49.14	99.3	39.89	32.17	7.77	29.67	100	36	P	V
			5719.6	58.47	-52.22	110.69	48.13	32.21	7.81	29.68	100	36	P	V
			5724	62.3	-57.62	119.92	51.96	32.21	7.81	29.68	100	36	P	V
	*		5745	102.43	-	-	92.05	32.24	7.83	29.69	100	36	P	V
	*		5745	94.68	-	-	84.3	32.24	7.83	29.69	100	36	A	V
														V
														V



WIFI	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT20 CH 157 5785MHz		5620	50.19	-18.01	68.2	40.06	32.07	7.7	29.64	100	256	P	H	
		5667.2	50.52	-30.44	80.96	40.29	32.14	7.75	29.66	100	256	P	H	
		5702.8	50.48	-55.51	105.99	40.17	32.19	7.79	29.67	100	256	P	H	
		5722.4	48.86	-67.41	116.27	38.52	32.21	7.81	29.68	100	256	P	H	
	*	5785	101.65	-	-	91.22	32.29	7.86	29.72	100	256	P	H	
	*	5785	93.69	-	-	83.26	32.29	7.86	29.72	100	256	A	H	
		5852.2	49.15	-68.03	117.18	38.63	32.38	7.88	29.74	100	256	P	H	
		5855.8	49.84	-60.74	110.58	39.29	32.41	7.88	29.74	100	256	P	H	
		5880.8	50.94	-49.95	100.89	40.38	32.43	7.88	29.75	100	256	P	H	
		5929.2	50.79	-17.41	68.2	40.17	32.5	7.89	29.77	100	256	P	H	
														H
														H
			5624.8	50.39	-17.81	68.2	40.26	32.07	7.7	29.64	100	41	P	V
			5659.4	51.21	-23.97	75.18	41.02	32.12	7.73	29.66	100	41	P	V
			5706.8	49.53	-57.58	107.11	39.23	32.19	7.79	29.68	100	41	P	V
			5723.2	48.95	-69.15	118.1	38.61	32.21	7.81	29.68	100	41	P	V
	*		5785	102.98	-	-	92.55	32.29	7.86	29.72	100	41	P	V
	*		5785	94.37	-	-	83.94	32.29	7.86	29.72	100	41	A	V
			5852.8	48.88	-66.94	115.82	38.36	32.38	7.88	29.74	100	41	P	V
			5872.2	50.53	-55.45	105.98	39.97	32.43	7.88	29.75	100	41	P	V
		5920	51.85	-20.04	71.89	41.25	32.48	7.89	29.77	100	41	P	V	
		5945.4	51.1	-17.1	68.2	40.46	32.53	7.89	29.78	100	41	P	V	
													V	
													V	



WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT20 CH 165 5825MHz	*	5825	101.12	-	-	90.61	32.36	7.88	29.73	100	253	P	H	
	*	5825	93.82	-	-	83.31	32.36	7.88	29.73	100	253	A	H	
		5850.2	54.26	-67.48	121.74	43.74	32.38	7.88	29.74	100	253	P	H	
		5856.8	51.66	-58.64	110.3	41.11	32.41	7.88	29.74	100	253	P	H	
		5876.8	50.49	-53.37	103.86	39.93	32.43	7.88	29.75	100	253	P	H	
		5948.4	50.46	-17.74	68.2	39.82	32.53	7.89	29.78	100	253	P	H	
														H
														H
	*	5825	102.87	-	-	92.36	32.36	7.88	29.73	100	41	41	P	V
	*	5825	94.76	-	-	84.25	32.36	7.88	29.73	100	41	41	A	V
		5850.4	55.36	-65.93	121.29	44.84	32.38	7.88	29.74	100	41	41	P	V
		5856.4	52.6	-57.81	110.41	42.05	32.41	7.88	29.74	100	41	41	P	V
		5876.4	54.43	-49.73	104.16	43.87	32.43	7.88	29.75	100	41	41	P	V
		5944.2	49.45	-18.75	68.2	38.81	32.53	7.89	29.78	100	41	41	P	V
														V
														V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



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

WIFI	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		11490	46.63	-27.37	74	50.27	39.92	12.74	56.3	100	0	P	H
		17235	48.87	-19.33	68.2	49.49	40.84	15.11	56.57	100	0	P	H
													H
													H
		11490	48.16	-25.84	74	51.8	39.92	12.74	56.3	100	0	P	V
		17235	49.21	-18.99	68.2	49.83	40.84	15.11	56.57	100	0	P	V
													V
802.11n HT20 CH 157 5785MHz		11570	48.25	-25.75	74	52.01	39.76	12.78	56.3	100	0	P	H
		17355	48.57	-19.63	68.2	48.97	41.26	15.15	56.81	100	0	P	H
													H
													H
		11570	48.74	-25.26	74	52.5	39.76	12.78	56.3	100	0	P	V
		17355	48.75	-19.45	68.2	49.15	41.26	15.15	56.81	100	0	P	V
													V
802.11n HT20 CH 165 5825MHz		11650	46.22	-27.78	74	50.08	39.62	12.82	56.3	100	0	P	H
		17475	50.09	-18.11	68.2	50.26	41.68	15.2	57.05	100	0	P	H
													H
													H
		11650	49.54	-24.46	74	53.4	39.62	12.82	56.3	100	0	P	V
		17475	49.94	-18.26	68.2	50.11	41.68	15.2	57.05	100	0	P	V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												



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

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT40 CH 151 5755MHz		5633.8	50.74	-17.46	68.2	40.58	32.09	7.72	29.65	100	254	P	H	
		5684.2	50.6	-42.94	93.54	40.33	32.17	7.77	29.67	100	254	P	H	
		5718.8	52.13	-58.33	110.46	41.79	32.21	7.81	29.68	100	254	P	H	
		5723.8	54.44	-65.02	119.46	44.1	32.21	7.81	29.68	100	254	P	H	
	*	5755	96.75	-	-	86.34	32.26	7.84	29.69	100	254	P	H	
	*	5755	89.48	-	-	79.07	32.26	7.84	29.69	100	254	A	H	
		5853.6	49.77	-64.22	113.99	39.22	32.41	7.88	29.74	100	254	P	H	
		5858.8	50.76	-58.97	109.73	40.22	32.41	7.88	29.75	100	254	P	H	
		5892.4	51.37	-40.92	92.29	40.79	32.46	7.88	29.76	100	254	P	H	
		5930.6	49.81	-18.39	68.2	39.19	32.5	7.89	29.77	100	254	P	H	
														H
														H
			5611.6	50.84	-17.36	68.2	40.74	32.04	7.7	29.64	100	35	P	V
			5695.6	52.02	-49.94	101.96	41.75	32.17	7.77	29.67	100	35	P	V
			5719.6	52.51	-58.18	110.69	42.17	32.21	7.81	29.68	100	35	P	V
			5723	55.76	-61.88	117.64	45.42	32.21	7.81	29.68	100	35	P	V
	*		5755	97.32	-	-	86.91	32.26	7.84	29.69	100	35	P	V
	*		5755	89.76	-	-	79.35	32.26	7.84	29.69	100	35	A	V
			5851.6	49.03	-69.52	118.55	38.51	32.38	7.88	29.74	100	35	P	V
			5856.4	50.28	-60.13	110.41	39.73	32.41	7.88	29.74	100	35	P	V
		5923.6	52.09	-17.14	69.23	41.47	32.5	7.89	29.77	100	35	P	V	
		5941.6	51.46	-16.74	68.2	40.82	32.53	7.89	29.78	100	35	P	V	
													V	
													V	



WIFI	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT40 CH 159 5795MHz		5624	50.2	-18	68.2	40.07	32.07	7.7	29.64	100	256	P	H	
		5677.6	50.17	-38.49	88.66	39.94	32.14	7.75	29.66	100	256	P	H	
		5707.2	50.71	-56.51	107.22	40.41	32.19	7.79	29.68	100	256	P	H	
		5720.8	48.13	-64.49	112.62	37.79	32.21	7.81	29.68	100	256	P	H	
	*	5795	96.92	-	-	86.45	32.31	7.88	29.72	100	256	P	H	
	*	5795	89.4	-	-	78.93	32.31	7.88	29.72	100	256	A	H	
		5853	50.38	-64.98	115.36	39.86	32.38	7.88	29.74	100	256	P	H	
		5867.8	49.28	-57.93	107.21	38.74	32.41	7.88	29.75	100	256	P	H	
		5888.6	50.33	-44.77	95.1	39.75	32.46	7.88	29.76	100	256	P	H	
		5926	50.45	-17.75	68.2	39.83	32.5	7.89	29.77	100	256	P	H	
														H
														H
			5614.2	50.74	-17.46	68.2	40.64	32.04	7.7	29.64	100	40	P	V
			5692	49.49	-49.81	99.3	39.22	32.17	7.77	29.67	100	40	P	V
			5706.8	51.07	-56.04	107.11	40.77	32.19	7.79	29.68	100	40	P	V
			5723.8	49.85	-69.61	119.46	39.51	32.21	7.81	29.68	100	40	P	V
	*		5795	98.05	-	-	87.58	32.31	7.88	29.72	100	40	P	V
	*		5795	89.89	-	-	79.42	32.31	7.88	29.72	100	40	A	V
			5854	49.64	-63.44	113.08	39.09	32.41	7.88	29.74	100	40	P	V
			5868.4	50.16	-56.89	107.05	39.62	32.41	7.88	29.75	100	40	P	V
		5911	50.47	-28.06	78.53	39.87	32.48	7.89	29.77	100	40	P	V	
		5929.4	49.87	-18.33	68.2	39.25	32.5	7.89	29.77	100	40	P	V	
													V	
													V	
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line. 													



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

WIFI	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	47.72	-26.28	74	51.37	39.9	12.75	56.3	100	0	P	H
		17265	48.7	-19.5	68.2	49.25	40.96	15.12	56.63	100	0	P	H
													H
													H
		11510	49.47	-24.53	74	53.12	39.9	12.75	56.3	100	0	P	V
		17265	50.43	-17.77	68.2	50.98	40.96	15.12	56.63	100	0	P	V
													V
802.11n HT40 CH 159 5795MHz		11590	48.23	-25.77	74	52.01	39.73	12.79	56.3	100	0	P	H
		17385	49.75	-18.45	68.2	50.07	41.38	15.17	56.87	100	0	P	H
													H
													H
		11590	48.29	-25.71	74	52.07	39.73	12.79	56.3	100	0	P	V
		17385	49.27	-18.93	68.2	49.59	41.38	15.17	56.87	100	0	P	V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

5GHz WIFI 802.11n HT40 (LF @ 3m)

WIFI	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)	
5GHz 802.11n HT40 LF		30	22.33	-17.67	40	29.56	24.39	0.72	32.34	-	-	P	H	
		91.02	19.51	-23.99	43.5	35.36	15.17	1.28	32.3	-	-	P	H	
		226.02	21.52	-24.48	46	36.05	15.85	1.85	32.23	-	-	P	H	
		746.6	30.7	-15.3	46	31.62	27.95	3.22	32.09	-	-	P	H	
		885.9	35.79	-10.21	46	34.84	28.99	3.54	31.58	100	0	P	H	
		958.7	33.28	-12.72	46	29.47	31.07	3.71	30.97	-	-	P	H	
														H
														H
														H
														H
														H
														H
			30.54	32.43	-7.57	40	40.08	23.96	0.73	32.34	100	0	P	V
			41.61	27.86	-12.14	40	40.77	18.56	0.86	32.33	-	-	P	V
			71.85	20.52	-19.48	40	38.89	12.75	1.19	32.31	-	-	P	V
			773.2	30.7	-15.3	46	31.21	28.22	3.31	32.04	-	-	P	V
			894.3	37.82	-8.18	46	36.81	29.01	3.54	31.54	-	-	P	V
		955.2	32.97	-13.03	46	29.36	30.91	3.71	31.01	-	-	P	V	
													V	
													V	
													V	
													V	
													V	
													V	
Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against limit line. 													



Note symbol

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



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

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
= 55.45 (dBμV/m)
2. Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 55.45(dBμV/m) – 74(dBμV/m)
= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
= 43.54 (dBμV/m)
2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)
= 43.54(dBμV/m) – 54(dBμV/m)
= -10.46(dB)

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



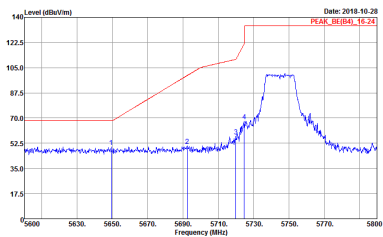
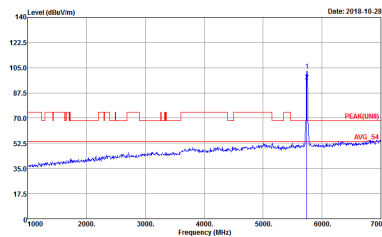
Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Alex Jheng, Fu Chen, and Wilson Wu	Temperature :	24~25°C
		Relative Humidity :	48~50%

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

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
	802.11a CH149 5745MHz	
	Horizontal	Fundamental
Peak	<p>Date: 2018-10-28 PEAK_BE(84)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : Z9</p>	<p>Date: 2018-10-28 PEAK(UNB) AVG_54</p> <p>Site : 03CH13-HY Condition : PEAK(UNB) 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : Z9</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
	802.11a CH149 5745MHz	
	Vertical	Fundamental
Peak	 <p>Site : 03CH13-11Y Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : Z9</p>	 <p>Site : 03CH13-11Y Condition : PEAK(FUN) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : Z9</p>

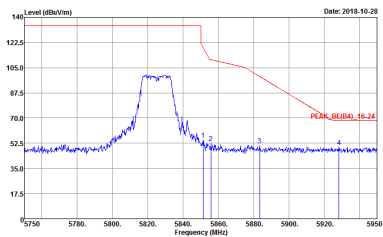
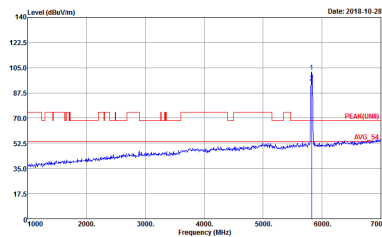


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
802.11a CH157 5785MHz		
Horizontal		Fundamental
<p>Peak</p>	<p>Date: 2018-10-28 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 30</p>	<p>Date: 2018-10-28 PEAKUNIB AVG_C1</p> <p>Site : 03CH13-HY Condition : PEAKUNIB 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 30</p>
<p>Peak</p>	<p>Date: 2018-10-28 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 30</p>	<p>Left blank</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
802.11a CH157 5785MHz		
Vertical		Fundamental
<p>Peak</p>	<p>Date: 2018-10-28 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 30</p>	<p>Date: 2018-10-28 PEAK(B4)</p> <p>Site : 03CH13-HY Condition : PEAK(B4)_16-24 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 30</p>
<p>Peak</p>	<p>Date: 2018-10-28 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 30</p>	<p>Left blank</p>



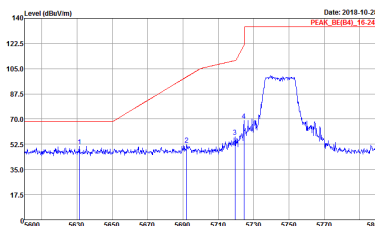
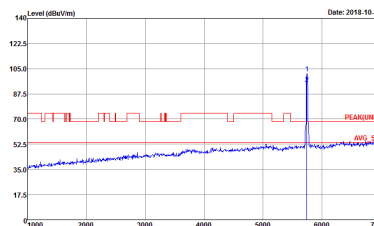
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
	802.11a CH165 5825MHz	
	Horizontal	Fundamental
Peak	 <p>Site : 03CH13-11Y Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 870418 Mode : 31</p>	 <p>Site : 03CH13-11Y Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 870418 Mode : 31</p>



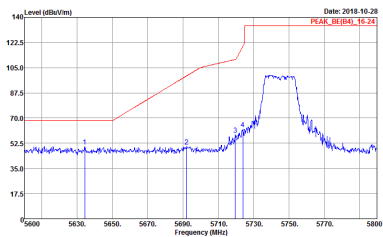
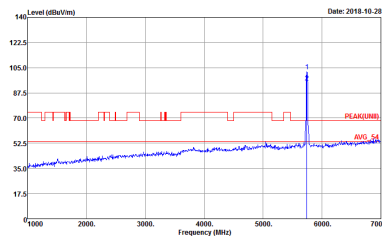
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
	802.11a CH165 5825MHz	
	Vertical	Fundamental
Peak	<p>Site : 03CH165-11Y Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : 31</p>	<p>Site : 03CH165-11Y Condition : PEAK(UB) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : 31</p>



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

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
	802.11n HT20 CH149 5745MHz	
	Horizontal	Fundamental
<p>Peak</p>	 <p>Site : 03CH13-HY Condition : PEAK_BE(84)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 870418 Mode : 32</p>	 <p>Site : 03CH13-HY Condition : PEAK(UNIT) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 870418 Mode : 32</p>

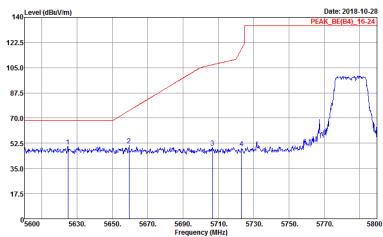
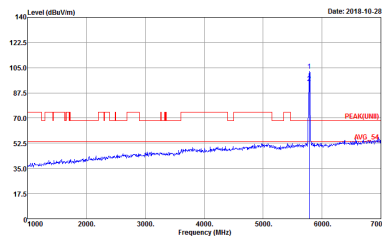
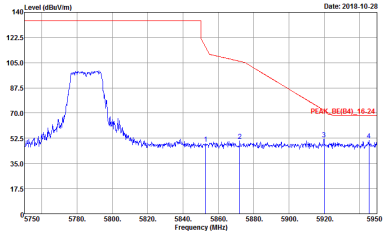


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
	802.11n HT20 CH149 5745MHz	
	Vertical	Fundamental
Peak	 <p>Site : 03CH13-11Y Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : 32</p>	 <p>Site : 03CH13-11Y Condition : PEAK(LINB)_3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : 32</p>

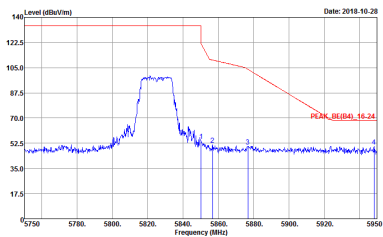
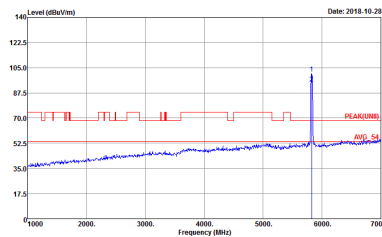


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
802.11n HT20 CH157 5785MHz		
Horizontal		Fundamental
<p>Peak</p>	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 33</p>	<p>Site : 03CH13-HY Condition : PEAKUNIB 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 33</p>
<p>Peak</p>	<p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 33</p>	<p>Left blank</p>

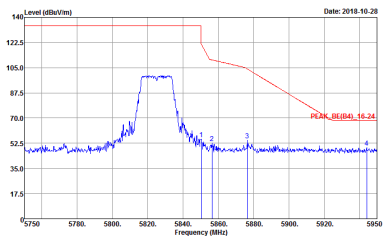
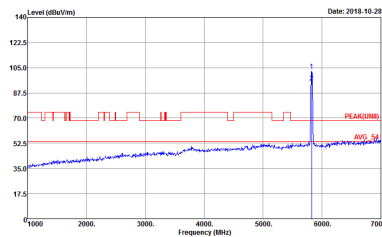


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
802.11n HT20 CH157 5785MHz		
Vertical		Fundamental
Peak	 <p>Date: 2018-10-28 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 33</p>	 <p>Date: 2018-10-28 PEAK(LNB) AVG_51</p> <p>Site : 03CH13-HY Condition : PEAK(LNB) 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 33</p>
Peak	 <p>Date: 2018-10-28 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 33</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
	802.11n HT20 CH165 5825MHz	
	Horizontal	Fundamental
<p>Peak</p>	 <p>Date: 2018-10-28</p> <p>Site : 03CH13-11Y Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 870418 Mode : 34</p>	 <p>Date: 2018-10-28</p> <p>Site : 03CH13-11Y Condition : PEAK(UNII) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 870418 Mode : 34</p>



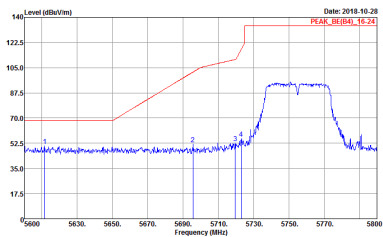
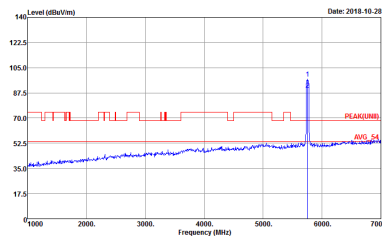
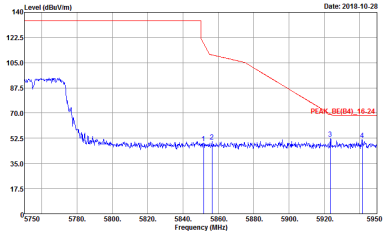
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
	802.11n HT20 CH165 5825MHz	
	Vertical	Fundamental
Peak	 <p>Date: 2018-10-28</p> <p>Site : 03CH13-11Y Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : 34</p>	 <p>Date: 2018-10-28</p> <p>Site : 03CH13-11Y Condition : PEAK(UNII) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : 34</p>



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

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
	802.11n HT40 CH151 5755MHz	
	Horizontal	Fundamental
<p>Peak</p>	<p>Site : 03CH13-11Y Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 870418 Mode : 35</p>	<p>Site : 03CH13-11Y Condition : PEAK(UNIT) 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 870418 Mode : 35</p>
<p>Peak</p>	<p>Site : 03CH13-11Y Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL Detector : Peak Project : 870418 Mode : 35</p>	<p>Left blank</p>

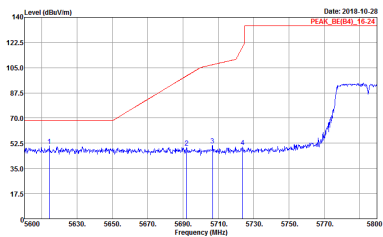
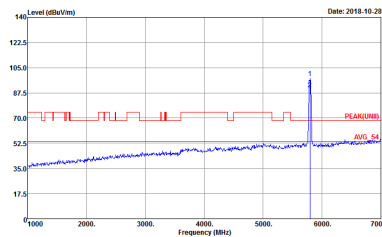
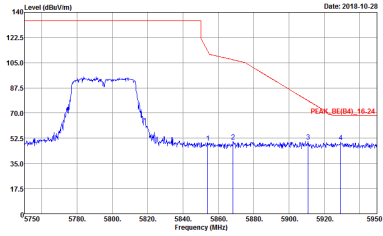


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
802.11n HT40 CH151 5755MHz		
Vertical		Fundamental
Peak	 <p>Date: 2018-10-28 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 35</p>	 <p>Date: 2018-10-28 PEAK(LINB) AVG 21</p> <p>Site : 03CH13-HY Condition : PEAK(LINB) 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 35</p>
Peak	 <p>Date: 2018-10-28 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 35</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
802.11n HT40 CH159 5795MHz		
Horizontal		Fundamental
<p>Peak</p>	<p>Date: 2018-10-28 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 36</p>	<p>Date: 2018-10-28 PEAKUNIB</p> <p>Site : 03CH13-HY Condition : PEAKUNIB 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 36</p>
<p>Peak</p>	<p>Date: 2018-10-28 PEAK_BE(B4)_16-24</p> <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 870418 Mode : 36</p>	<p>Left blank</p>

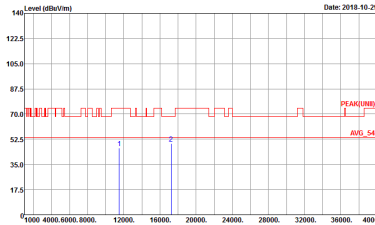
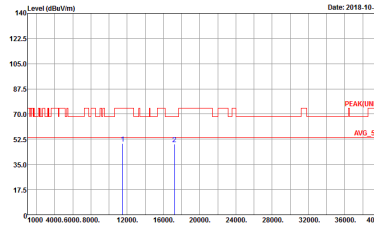


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
	802.11n HT40 CH159 5795MHz	
	Vertical	Fundamental
<p>Peak</p>	 <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : 36</p>	 <p>Site : 03CH13-HY Condition : PEAK(LINII) 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : 36</p>
<p>Peak</p>	 <p>Site : 03CH13-HY Condition : PEAK_BE(B4)_16-24 3m HORN_91200_1241 VERTICAL Detector : Peak Project : 870418 Mode : 36</p>	<p>Left blank</p>

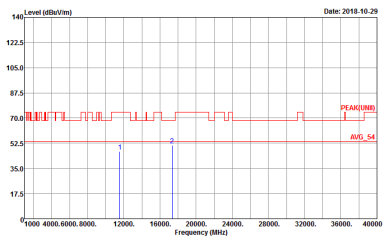
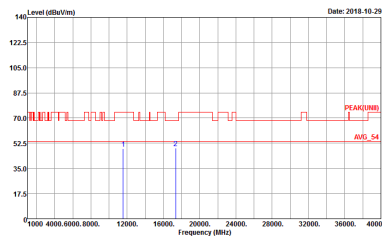


Band 4 - 5725~5850MHz

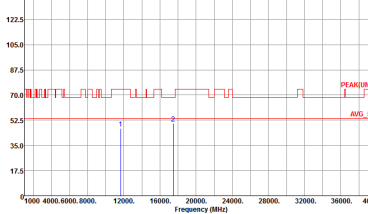
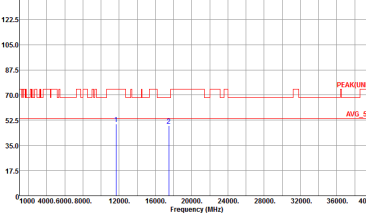
WIFI 802.11a (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
	802.11a CH149 5745MHz	
	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH13-HY Condition : PEAR(LINE1) 3m SHF_HORN_576 HORIZONTAL Detector : Peak Project : 870418 Mode : 29</p>	 <p>Site : 03CH13-HY Condition : PEAR(LINE1) 3m SHF_HORN_576 VERTICAL Detector : Peak Project : 870418 Mode : 29</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
802.11a CH157 5785MHz		
Horizontal		Vertical
<p>Peak</p> <p>Avg.</p>	 <p>Site : 03CH12-11Y Condition : PEAK(LINE1) 3m SHF_HORN_576 HORIZONTAL Detector : Peak Project : 870418 Mode : 30</p>	 <p>Site : 03CH12-11Y Condition : PEAK(LINE1) 3m SHF_HORN_576 VERTICAL Detector : Peak Project : 870418 Mode : 30</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
	802.11a CH165 5825MHz	
	Horizontal	Vertical
<p>Peak Avg.</p>	<p data-bbox="430 492 798 515">Date: 2018-10-28</p>  <p data-bbox="430 728 702 795">Site : 03CHE2-11Y Condition : PEAK(LINE1) 3m SHF_HORN_576 HORIZONTAL Detector : Peak Project : 870418 Mode : -31</p>	<p data-bbox="909 492 1276 515">Date: 2018-10-28</p>  <p data-bbox="909 728 1181 795">Site : 03CHE2-11Y Condition : PEAK(LINE1) 3m SHF_HORN_576 VERTICAL Detector : Peak Project : 870418 Mode : -31</p>



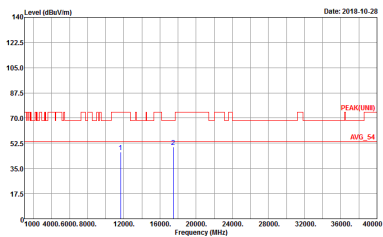
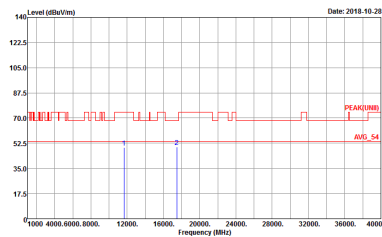
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

Table with 2 columns: Horizontal and Vertical. Each column contains a spectral plot of Level (dBm/100kHz) vs Frequency (MHz) for the 802.11n HT20 CH149 5745MHz band. The plots show a peak at approximately 5745 MHz and an average level of -54 dBm/100kHz. Metadata includes Site: 03CH13-HY, Condition: PEAK(LINII) 3m SHF_HORN_576 HORIZONTAL/VERTICAL, Detector: Peak, Project: 870418, and Mode: 32.



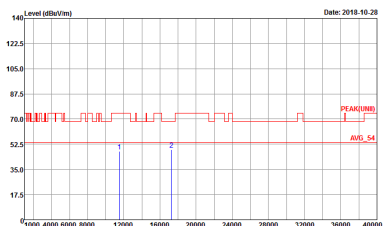
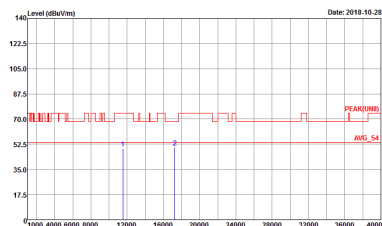
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
	802.11n HT20 CH157 5785MHz	
	Horizontal	Vertical
<p>Peak Avg.</p>	<p data-bbox="432 499 810 730"></p> <p data-bbox="432 734 702 792">Site : 03CHE2-11Y Condition : PEAK(LINE1) 3m SHF_HORN_576 HORIZONTAL Detector : Peak Project : 870418 Mode : 33</p>	<p data-bbox="906 499 1284 730"></p> <p data-bbox="906 734 1160 792">Site : 03CHE2-11Y Condition : PEAK(LINE1) 3m SHF_HORN_576 VERTICAL Detector : Peak Project : 870418 Mode : 33</p>



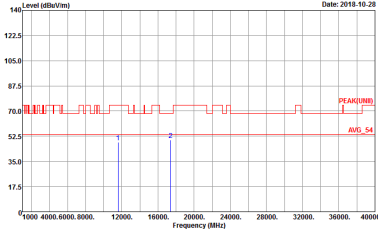
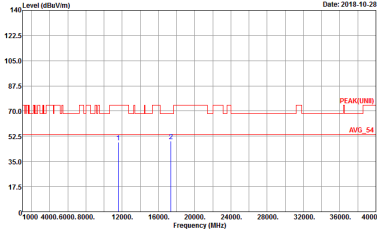
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
802.11n HT20 CH165 5825MHz		
Horizontal	Vertical	
<p>Peak Avg.</p>	 <p>Site : 03CH12-11Y Condition : PEAK(LINE1) 3m SHF_HORN_576 HORIZONTAL Detector : Peak Project : 870418 Mode : 34</p>	 <p>Site : 03CH12-11Y Condition : PEAK(LINE1) 3m SHF_HORN_576 VERTICAL Detector : Peak Project : 870418 Mode : 34</p>



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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
	802.11n HT40 CH151 5755MHz	
	Horizontal	Vertical
<p>Peak Avg.</p>	 <p>Site : 03CH13-HY Condition : PEAK(LINII) 3m SHF_HORN_576 HORIZONTAL Detector : Peak Project : 870418 Mode : 35</p>	 <p>Site : 03CH13-HY Condition : PEAK(LINII) 3m SHF_HORN_576 VERTICAL Detector : Peak Project : 870418 Mode : 35</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
	802.11n HT40 CH159 5795MHz	
	Horizontal	Vertical
<p>Peak Avg.</p>	<p data-bbox="432 499 810 730"></p> <p data-bbox="432 734 702 792">Site : 03CH12-11Y Condition : PEAK(LINE1) 3m SHF_HORN_576 HORIZONTAL Detector : Peak Project : 870418 Mode : 36</p>	<p data-bbox="906 499 1284 730"></p> <p data-bbox="906 734 1160 792">Site : 03CH12-11Y Condition : PEAK(LINE1) 3m SHF_HORN_576 VERTICAL Detector : Peak Project : 870418 Mode : 36</p>



Emission below 1GHz
5GHz WIFI 802.11n HT40 (LF)

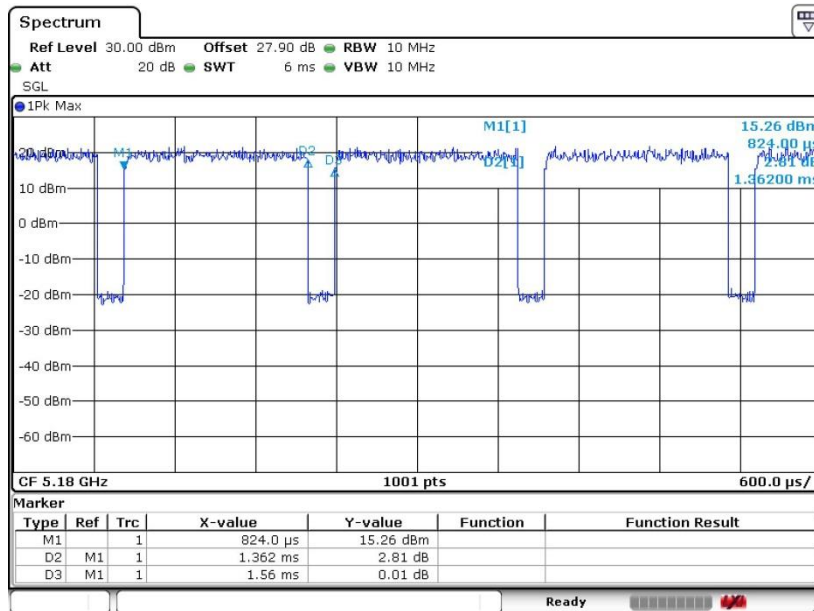
WIFI	5GHz 5725-5850MHz	
	802.11n HT40 LF	
	Horizontal	Vertical
QP / Peak	<p>Site : 03CH13-HY Condition : 1 QP 3m BIL06_40103 HORIZONTAL Detector : Peak Project : 870418 Mode : 37</p>	<p>Site : 03CH13-HY Condition : 1 QP 3m BIL06_40103 VERTICAL Detector : Peak Project : 870418 Mode : 37</p>



Appendix E. Duty Cycle Plots

Band	Duty Cycle (%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor (dB)
802.11a	87.31	1362.00	0.73	1kHz	0.59
5GHz 802.11n HT20	86.47	1278.00	0.78	1kHz	0.63
5GHz 802.11n HT40	86.59	639.00	1.56	3kHz	0.63

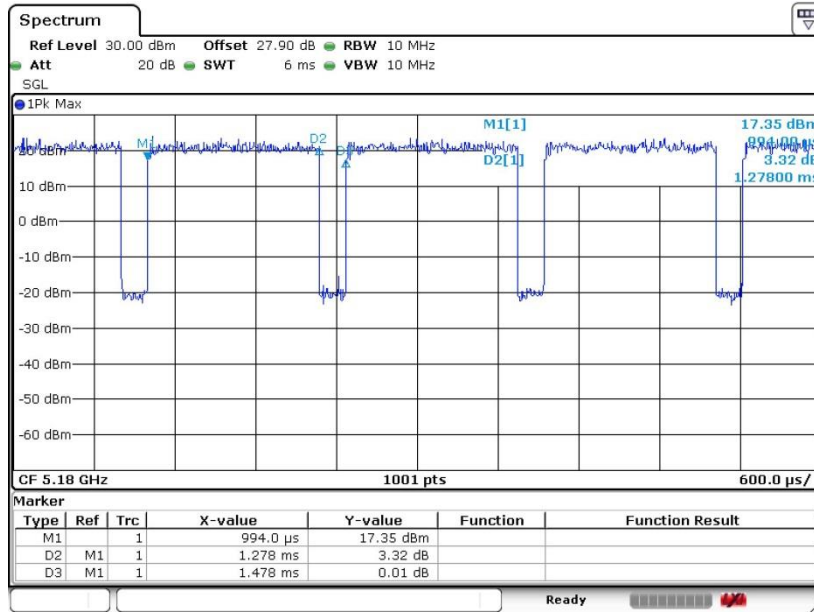
802.11a



Date: 20.OCT.2018 20:19:24

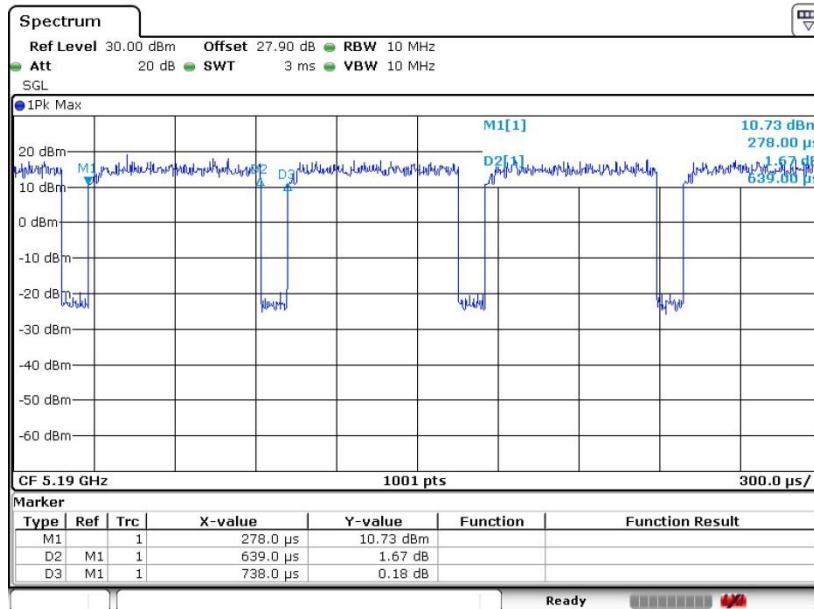


802.11n HT20



Date: 20.OCT.2018 20:29:22

802.11n HT40



Date: 20.OCT.2018 20:42:37