CERTIFICATION TEST REPORT

Report Number: R12935938-E6

Applicant	:	Microsoft Corporation One Microsoft Way Redmond, WA 98052-6399 USA
Model	:	1868
FCC ID	:	C3K1868
IC	:	3048A-1868
EUT Description	:	Portable Computing Device
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART E ISED RSS-247 ISSUE 2 ISED RSS-GEN ISSUE 5

Date Of Issue:
2019-09-18

Prepared by:
UL LLC
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NVLAP TESTING
NVLAP Lab code: 200246-0

REPORT REVISION HISTORY

Ver.	Issue Date	Revisions	Revised By
1	2019-08-29	Initial Issue	Brian T. Kiewra
2	2019-09-10	Added AC power adaptor to support equipment. Added “Intentionally Left Blank” to table on p.16. Added justification for waiving SISO testing to Section 5.5. Revised straddle channel BW for power. Revised 802.11nHT40 99%BW results in Section 8.3. Added model similarity explanation to Section 5.1	Brian T. Kiewra
3	2019-09-17	Added “Scope of Report” as Section 4. Revised 26 dB 160 MHz plots and removed EIRP tables.	Brian T. Kiewra
4	2019-09-18	Added IC to header in Section 9.4.1	Brian T. Kiewra

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399
USA

EUT DESCRIPTION: Portable Computing Device

MODEL: 1868

SERIAL NUMBER: See Section 5.4

DATE TESTED: 2019-07-07 to 2019-09-17

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart E	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-GEN Issue 5	Complies

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. government.

Approved & Released
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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC 14-30, FCC KDB 662911 D01 v02r01, FCC KDB 789033 D02 v02r01, ANSI C63.10-2013, FCC 06-96, RSS-GEN Issue 5, and RSS-247 Issue 2.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 12 Laboratory Drive, Research Triangle Park, NC 27709, USA and 2800 Perimeter Park Dr., Suite B, Morrisville, NC 27590, USA. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

12 Laboratory Dr.	2800 Perimeter Park Dr.
Site Code: 2180C	
☐ Chamber A RTP	☒ North Chamber
☐ Chamber C RTP	☒ South Chamber

UL LLC (RTP) is accredited by NVLAP, Laboratory Code 200246-0

4. SCOPE OF REPORT

This test report covers the radiated emissions and antenna port conducted emissions for model 1868 for 5.6 GHz 802.11a, n HT20, n HT40, ac VHT80, and ac VHT160. Antenna port conducted emissions data in this report is leveraged by model 1867. For model 1867, radiated emissions can be found in UL report number R12922855-E7. For model 1868, AC mains line conducted emissions and worst-case radiated emisisons can be found in UL report number R12935938-E11.

For the antenna port conducted emissons portion of this report, the worst-case antenna gain across both models was used to represent a worst-case scenario. Both models will be implemented with the same power.

Models 1867 and 1868 are electrically and RF equivalent as they use the same motherboard, radio module and on-board RF components. Both models share a common WiFi and BT power table. The radio-related firmware and driver versions are the same for the two models. The peak antenna gains are in the antenna gain section of the report. Antenna port conducted emissions measurements are done on model 1868 (FCC ID: C3K1868, IC: 3048A-1868) and the data is leveraged for model 1867 (FCC ID: C3K1867, IC: 3048A-1867). Highest antenna gain across the two models in each band has been considered while doing the conducted emissions measurements. Separate radiated & SAR measurements are done on each model.

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5. CALIBRATION AND UNCERTAINTY

5.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

5.2. SAMPLE CALCULATION

RADIATED EMISSIONS
Where relevant, the following sample calculation is provided:
Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

MAINS CONDUCTED EMISSIONS
Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
36.5 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	2.00%
RF output power, conducted	1.3 dB (PK) 0.45 dB (AV)
RF output power, radiated (SAC)	4.52 dB
Power Spectral Density, conducted	2.47 dB
All emissions, radiated	5.17 dB
Temperature	2.26°C
Humidity	6.79%
DC Supply voltages	1.70%
Time	3.39%

Uncertainty figures are valid to a confidence level of 95%.

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6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a Portable Computing Device that contains 802.11 a/ac/ax/b/g/n 20/40/80/160MHz 2x2 dual band and BT/BLE radios.

Models 1867 and 1868 are electrically and RF equivalent as they use the same motherboard, radio module and on-board RF components. Both models share a common WiFi and BT power table. The radio-related firmware and driver versions are the same for the two models. The peak antenna gains are in the antenna gain section of the report. Antenna port conducted emissions measurements are done on model 1868 (FCC ID: C3K1868, IC: 3048A-1868) and the data is leveraged for model 1867 (FCC ID: C3K1867, IC: 3048A-1867). Highest antenna gain across the two models in each band has been considered while doing the conducted emissions measurements. Separate radiated & SAR measurements are done on each model.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

5.6 GHz BAND

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5.6 GHz band, 2TX			
5500-5720	802.11a CDD	17.47	55.85
5500-5720	802.11n HT20 SDM	19.51	89.33
5510-5710	802.11n HT40 SDM	19.13	81.85
5530-5690	802.11ac VHT80 SDM	19.17	82.60
5570	802.11ac VHT160 SDM	17.02	50.35

SISO and MIMO per chain power are set to the same level.

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6.3. DESCRIPTION OF AVAILABLE ANTENNAS

Frequency Range (GHz)	Antenna Type	Peak Gain (dBi) Chain 0 (Right)	Peak Gain (dBi) Chain 1 (Left)
Model 1867			
2.4 to 2.48	PIFA	0.7	2.6
5.15 to 5.25		4.9	4.4
5.25 to 5.35		6.1	5.0
5.47 to 5.72		7.2	5.5
5.725 to 5.85		9.4	5.6
Model 1868			
2.4 to 2.48	PIFA	0.4	1.0
5.15 to 5.25		3.6	2.2
5.25 to 5.35		5.2	3.5
5.47 to 5.72		6.4	4.7
5.725 to 5.85		7.8	4.5

The 5 GHz WLAN radio utilizes Chain 0 and chain 1.

NOTE: Antenna 1 = Chain 0
Antenna 2 = Chain 1

6.4. SOFTWARE AND FIRMWARE

EUT	Serial Number	DRTU Version	OS Version	BT Driver Version	WiFi Driver Version	EUT's Power Supply (s/n)
R-557-1868-FCC-CONDUCTED-02	005210692757	11.1916.0-09531	MTEOS 1.652.0	21.0.19157.20088	99.0.43.8	0D130P01P9596
R-557-1868-FCC-CONDUCTED-03	005216792757	11.1916.0-09531	MTEOS 1.652.0	21.0.19157.20088	99.0.43.8	0D130P03GE596
R-557-1868-FCC-RADIATED-10	013886292757	11.1916.0-09531	MTEOS 1.652.0	21.0.19157.20088	99.0.43.8	0D130P02KC596
R-557-1868-FCC-RADIATED-11	013891692757	11.1916.0-09531	MTEOS 1.652.0	21.0.19157.20088	99.0.43.8	0D130P01S7596

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6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz, and power line conducted emissions were performed in worst-case test report R12935938-E11 (FCC ID: C3K1868, IC: 3048A-1868).

Band edge and radiated emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the highest power on low, middle and high channels.

The EUT has one intended orientations, X; therefore, all final radiated testing was performed with the EUT in X orientation.

Worst-case data rates as provided by the client were:

802.11a mode: 6 Mbps
802.11n HT20mode: MCS8
802.11n HT40mode: MCS8
802.11ac VHT80 mode: MCS0 (NSS=2)
802.11ac VHT160 mode: MCS0 (NSS=2)

All radios that can transmit simultaneously have been evaluated for radiated for all possible combinations of transmission and found to be in compliance.

MIMO and SISO power are same setting per chain, therefore MIMO mode tested as worst-case to cover SISO mode.

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6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
USB Hub	J5 Create	JCA374	AY2A1904000477 / AY6A1903004261	N/A
Earbuds	Sony	MDR-EX14AP	Non-Serialized	N/A
USB Flash Drive	Kingston	Data Traveler G4	Non-Serialized	N/A
AC Adaptor	Microsoft	1706	0D130P02KC596	N/A

I/O CABLES

I/O Cable List						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	Mains	1	12-pin	Mains	<3m	None
2	USB-A	1	USB-A	USB	<3m	None
3	USB-C	1	USB-C	USB	<3m	None
4	Aux	1	Aux	Aux	<3m	None

TEST SETUP

The test utility software was located on the EUT during the tests and was used to exercised the radios.

SETUP DIAGRAMS

Please refer to 12935938-EP1 for setup diagrams

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7. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville - North Chamber)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
1-18 GHz					
AT0067	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2019-03-22	2020-03-22
Gain-Loss Chains					
N-SAC03	Gain-loss string: 1-18GHz	Various	Various	2019-03-15	2020-03-15
Receiver & Software					
SA0026	Spectrum Analyzer	Agilent	N9030A	2019-03-19	2020-03-19
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
Additional Equipment used					
s/n 181474341	Environmental Meter	Fisher Scientific	15-077-963	2018-07-27	2020-07-27

NOTES:
1. For equipment listed above that was calibrated during the testing period, please note the equipment was used for testing after calibration.
2. For equipment listed above that has a calibration due date during the testing period, the testing was completed before the equipment expiration date.

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Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville - South Chamber)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
1-18 GHz					
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2019-04-22	2020-04-22
Gain-Loss Chains					
S-SAC03	Gain-loss string: 1-18GHz	Various	Various	2019-03-13	2020-03-13
Receiver & Software					
SA0025	Spectrum Analyzer	Agilent	N9030A	2019-02-28	2020-02-28
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
Additional Equipment used					
s/n 181474409	Environmental Meter	Fisher Scientific	15-077-963	2018-07-27	2020-07-27

NOTES:

1. For equipment listed above that was calibrated during the testing period, please note the equipment was used for testing after calibration.
2. For equipment listed above that has a calibration due date during the testing period, the testing was completed before the equipment expiration date.

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Test Equipment Used – Antenna Port Conducted Testing (Morrisville)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
SA0027	PXA Signal Analyzer	Keysight Technologies	MY54490254	2019-05-15	2020-05-15
s/n 160938893	Environmental Meter	Fisher Scientific	14-650-118	2019-06-17	2020-06-17
224604-002	Coaxial Testing Cable	Uti-flex	UFA147A-0-0180-200200	NA	NA
Antenna Port	Antenna Port Software	Antenna	Version 10.0.1	NA	NA
126431 (PRE0128068)	RF Power Meter	Anritsu	ML2495A	2019-04-30	2020-04-30
126430 (PRE0128067)	Pulse Power Sensor, 300MHz to 40GHz	Anritsu	MA2411B	2019-04-30	2020-04-30
PWM001 (PRE0136343)	RF Power Meter	Keysight Technologies	N1912A	2019-06-14	2020-06-14
PWS001 (PRE0137347)	Peak and Avg Power Sensor, 50MHz to 18GHz	Keysight Technologies	N1921A	2019-05-06	2020-05-06
T177	PSA Signal Analyzer	Keysight Technologies	E4446A	2019-04-22	2020-04-22
HI0090	Environmental Meter	Fisher Scientific	17-E670X-80-1	2019-06-17	2020-06-17
Antenna Port	Antenna Port Software	Antenna	Version 10.0.1	NA	NA

NOTES:

1. For equipment listed above that was calibrated during the testing period, please note the equipment was used for testing after calibration.
2. For equipment listed above that has a calibration due date during the testing period, the testing was completed before the equipment expiration date.

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8. MEASUREMENT METHOD

On Time and Duty Cycle: KDB 789033 D02 v02r01, Section B.

26 dB Emission BW: KDB 789033 D02 v02r01, Section C.1

99% Occupied BW: KDB 789033 D02 v02r01, Section D.

Conducted Output Power: KDB 789033 D02 v02r01, Section E.3.b (Method PM-G)

Power Spectral Density: KDB 789033 D02 v02r01, Section F

Unwanted emissions in restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.5 and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v02r01, Sections G.3 and G.5.

Use of IEEE 802.11 channels that straddle the UNII-2C and UNII-3 bands at 5725 MHz: KDB 789033 D02 v02r01, Section III

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9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

5.6 Band

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
802.11a CDD	2.087	2.134	0.978	97.80%	0.10	0.479
802.11n HT20 SDM	3.980	4.024	0.989	98.91%	0.00	0.010
802.11n HT40 SDM	3.975	4.024	0.988	98.78%	0.00	0.010
802.11ac VHT80 SDM	3.967	4.012	0.989	98.88%	0.00	0.010
802.11ac VHT160 SDM	2.784	2.829	0.984	98.41%	0.00	0.010

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DUTY CYCLE PLOTS

DUTY CYCLE 802.11a CDD MODE

DUTY CYCLE 802.11n HT20 SDM MODE

DUTY CYCLE 802.11n HT40 SDM MODE

DUTY CYCLE 802.11ac VHT80 SDM MODE

DUTY CYCLE 802.11ac VHT160 SDM MODE

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9.2. 26 dB BANDWIDTH

LIMITS

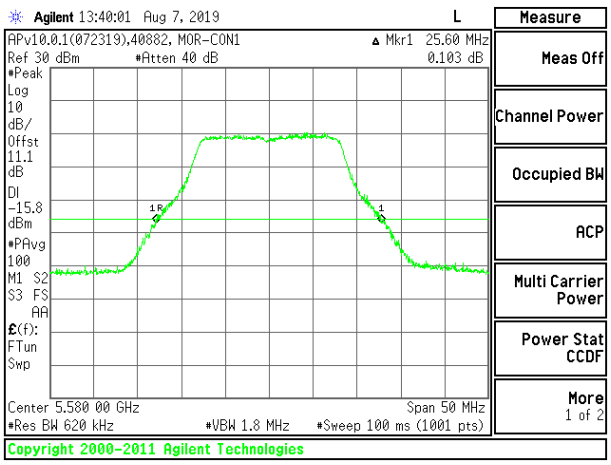
None; for reporting purposes only.

9.2.1. 802.11a MODE IN THE 5.6 GHz BAND

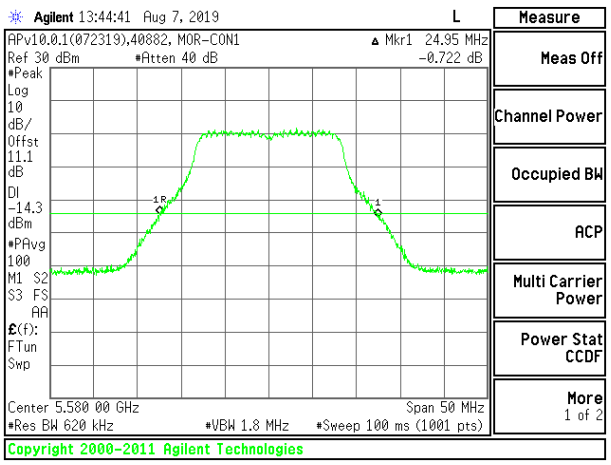
2TX Antenna 1 + Antenna 2 CDD MODE

Channel	Frequency (MHz)	26 dB Bandwidth Antenna 1 (MHz)	26 dB Bandwidth Antenna 2 (MHz)
Low	5500	25.70	25.50
Mid	5580	25.60	24.95
High	5700	25.70	25.00
144	5720	18.70	17.45

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

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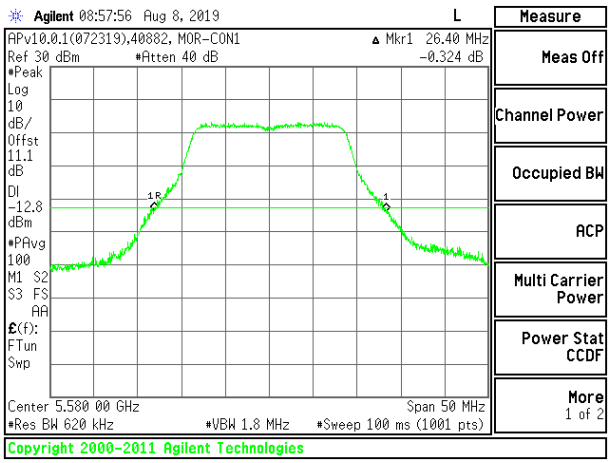
9.2.2. 802.11n HT20 MODE IN THE 5.6 GHz BAND

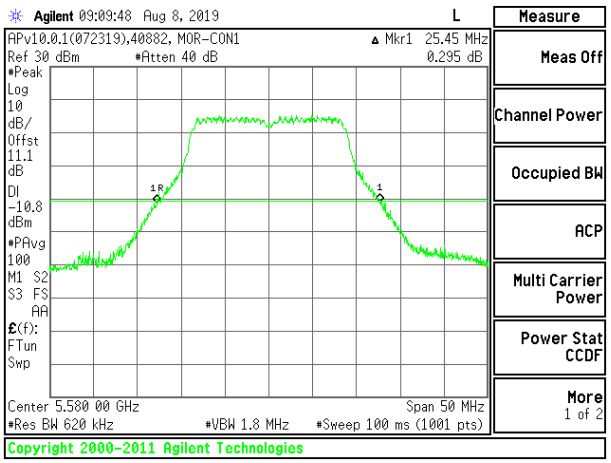
2TX Antenna 1 + Antenna 2 SDM MODE

Channel	Frequency (MHz)	26 dB Bandwidth Antenna 1 (MHz)	26 dB Bandwidth Antenna 2 (MHz)
Low	5500	26.60	25.60
Mid	5580	26.40	25.45
High	5700	27.65	25.45
144	5720	18.23	18.15

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

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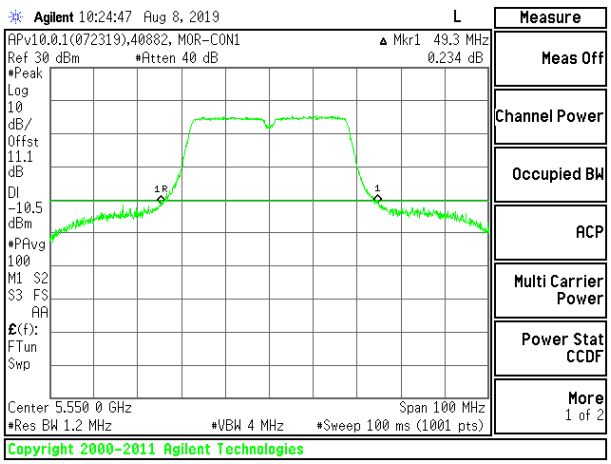
9.2.3. 802.11n HT40 MODE IN THE 5.6 GHz BAND

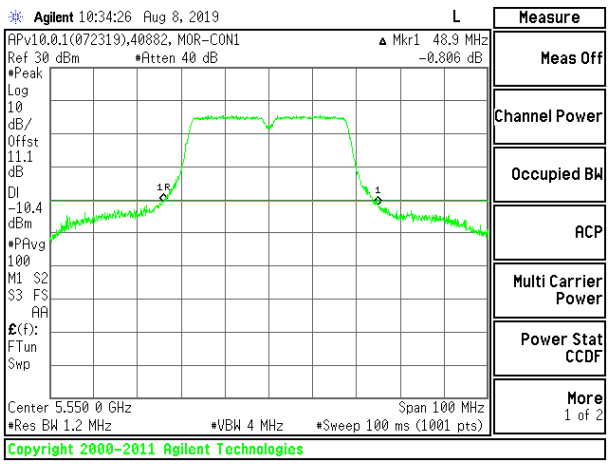
2TX Antenna 1 + Antenna 2 SDM MODE

Channel	Frequency (MHz)	26 dB Bandwidth Antenna 1 (MHz)	26 dB Bandwidth Antenna 2 (MHz)
Low	5510	46.70	46.30
Mid	5550	49.30	48.90
High	5670	48.80	46.10
142	5710	40.05	38.50

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

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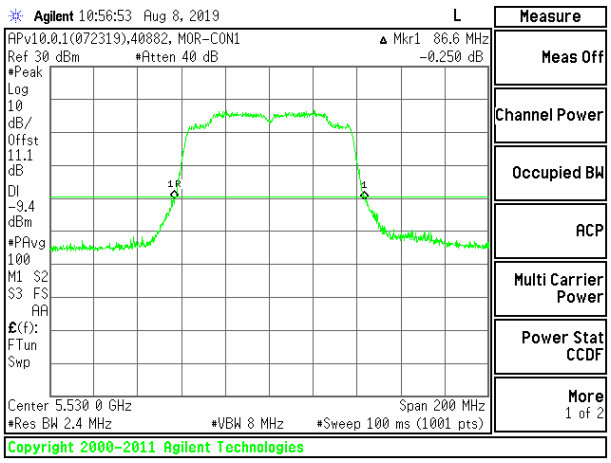
9.2.4. 802.11ac VHT80 MODE IN THE 5.6 GHz BAND

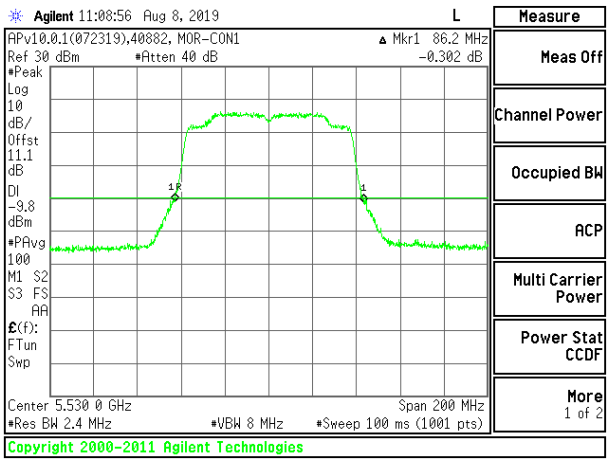
2TX Antenna 1 + Antenna 2 SDM MODE

Channel	Frequency (MHz)	26 dB Bandwidth Antenna 1 (MHz)	26 dB Bandwidth Antenna 2 (MHz)
Low	5530	86.60	86.20
High	5610	86.80	92.60
138	5690	78.00	81.90

LOW CHANNEL



LOW CHANNEL CHAIN 0



LOW CHANNEL CHAIN 1

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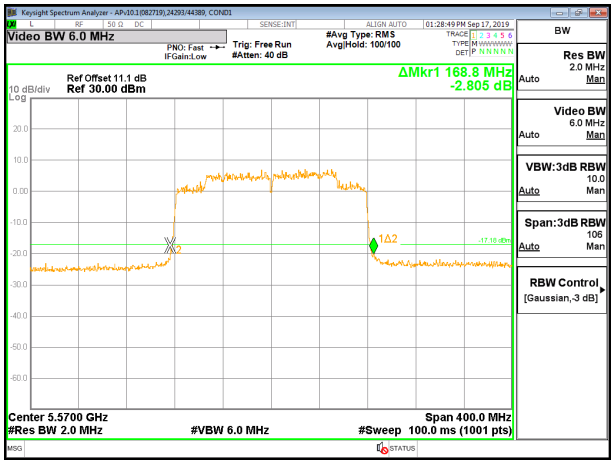
9.2.1. 802.11ac VHT160 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 SDM MODE

Channel	Frequency (MHz)	26 dB Bandwidth Antenna 1 (MHz)	26 dB Bandwidth Antenna 2 (MHz)
Mid	5570	168.80	168.80

MID CHANNEL

LOW CHANNEL CHAIN 0



LOW CHANNEL CHAIN 1

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9.3. 99% BANDWIDTH

LIMITS

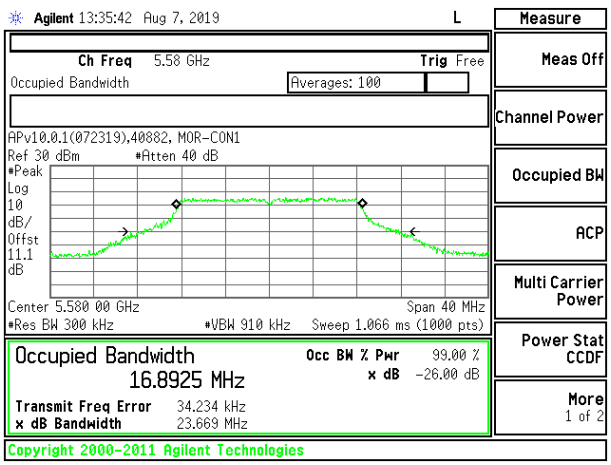
None; for reporting purposes only.

9.3.1. 802.11a MODE IN THE 5.6 GHz BAND

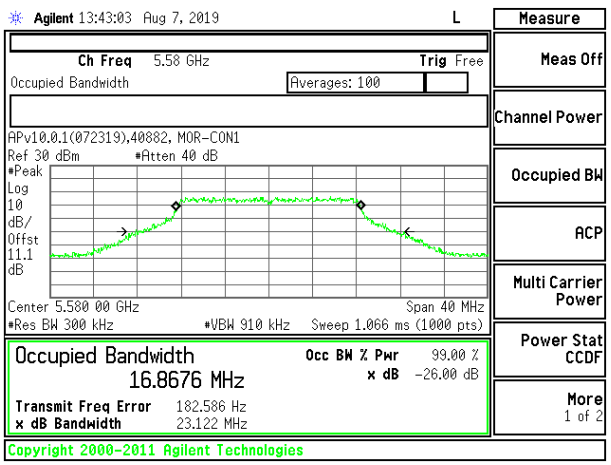
2TX Antenna 1 + Antenna 2 CDD MODE

Channel	Frequency (MHz)	99% Bandwidth Antenna 1 (MHz)	99% Bandwidth Antenna 2 (MHz)
Low	5500	16.8756	16.8919
Mid	5580	16.8925	16.8676
High	5700	16.8831	16.8973
144	5720	13.5320	13.4139

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

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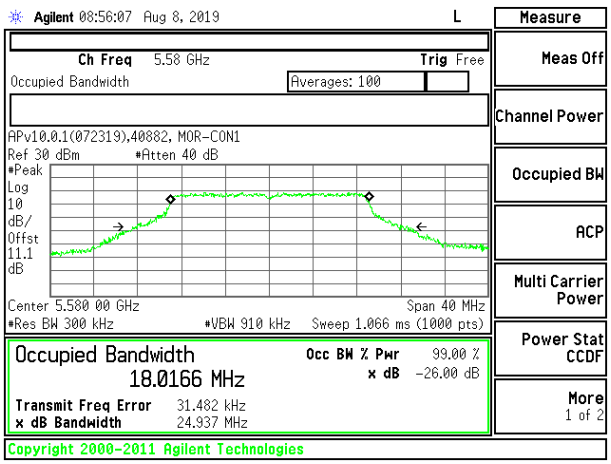
9.3.2. 802.11n HT20 MODE IN THE 5.6 GHz BAND

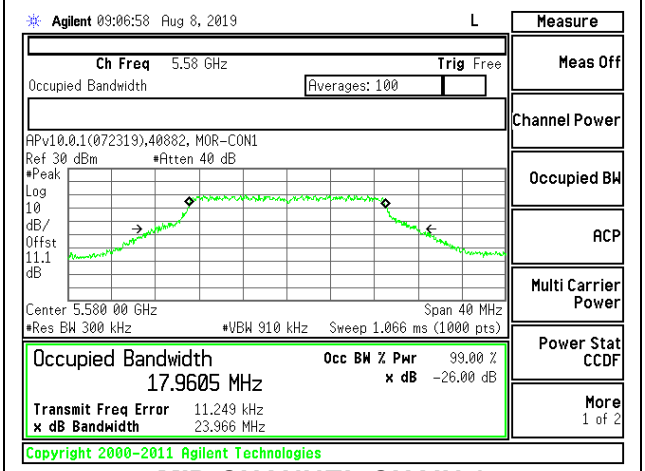
2TX Antenna 1 + Antenna 2 SDM MODE

Channel	Frequency (MHz)	99% Bandwidth Antenna 1 (MHz)	99% Bandwidth Antenna 2 (MHz)
Low	5500	18.0005	17.9682
Mid	5580	18.0166	17.9605
High	5700	18.0546	17.9633
144	5720	13.9836	13.9992

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

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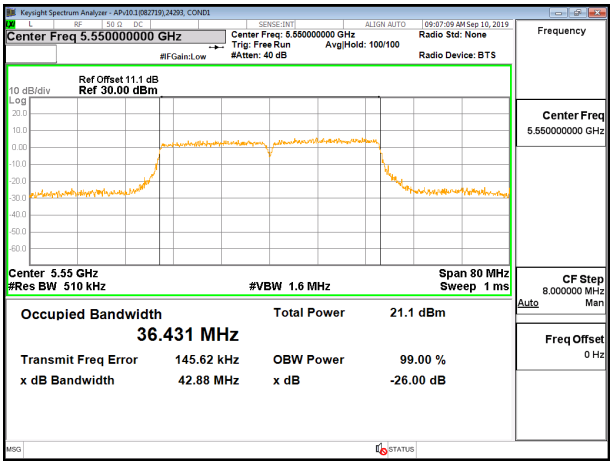
9.3.3. 802.11n HT40 MODE IN THE 5.6 GHz BAND

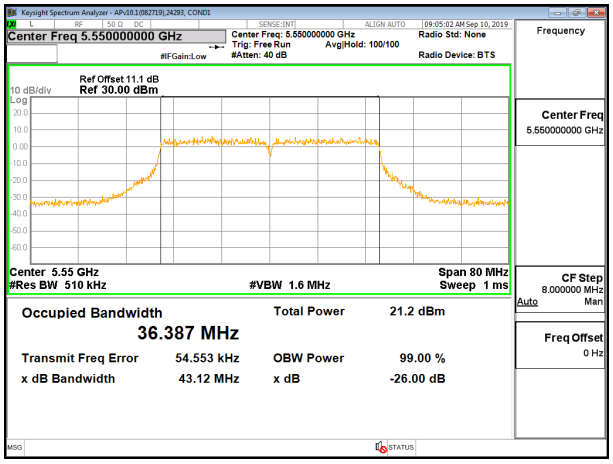
2TX Antenna 1 + Antenna 2 SDM MODE

Channel	Frequency (MHz)	99% Bandwidth Antenna 1 (MHz)	99% Bandwidth Antenna 2 (MHz)
Low	5510	36.556	36.421
Mid	5550	36.431	36.387
High	5670	36.454	36.450
142	5710	33.220	33.235

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

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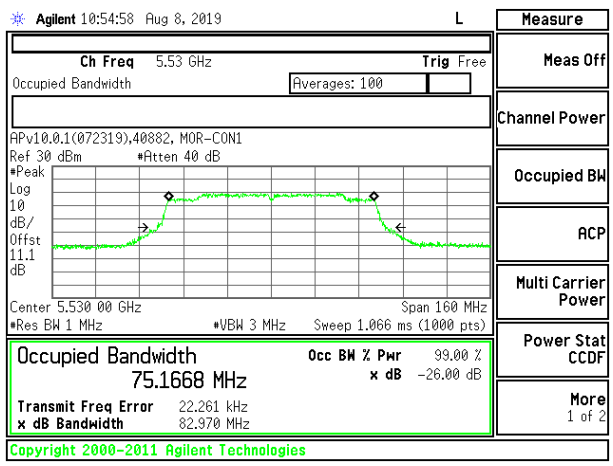
9.3.4. 802.11ac VHT80 MODE IN THE 5.6 GHz BAND

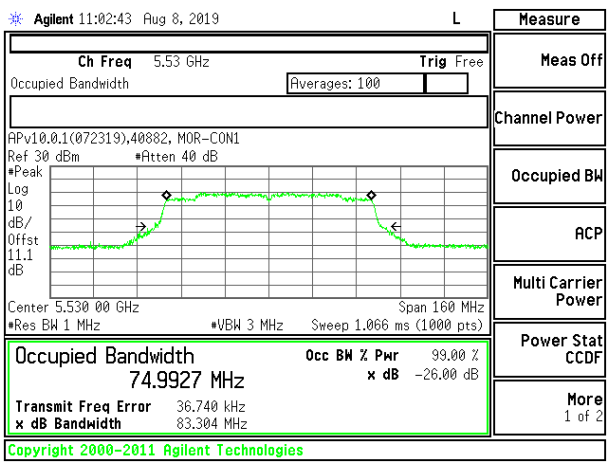
2TX Antenna 1 + Antenna 2 SDM MODE

Channel	Frequency (MHz)	99% Bandwidth Antenna 1 (MHz)	99% Bandwidth Antenna 2 (MHz)
Low	5530	75.1668	74.9927
High	5610	75.1339	75.1507
138	5690	72.4954	72.6328

LOW CHANNEL



LOW CHANNEL CHAIN 0



LOW CHANNEL CHAIN 1

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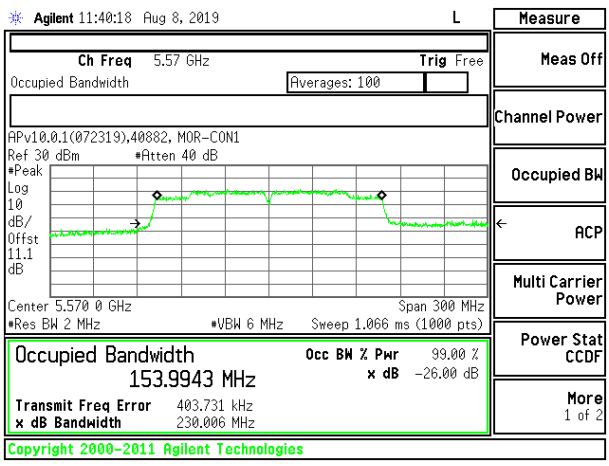
9.3.1. 802.11ac VHT160 MODE IN THE 5.6 GHz BAND

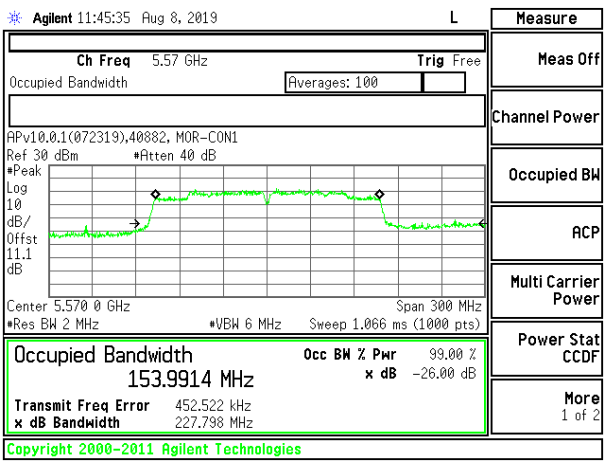
2TX Antenna 1 + Antenna 2 SDM MODE

Channel	Frequency (MHz)	99% Bandwidth Antenna 1 (MHz)	99% Bandwidth Antenna 2 (MHz)
MID	5570	153.9943	153.9914

MID CHANNEL



LOW CHANNEL CHAIN 0



LOW CHANNEL CHAIN 1

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9.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407

Band 5.15–5.25 GHz

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Bands 5.25-5.35 GHz and 5.47-5.725 GHz
The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Band 5.725-5.85 GHz

The maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, 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, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information.

RSS-247

Band 5.15-5.25 GHz
The maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log10B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

Band 5.25-5.35 GHz
The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

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Bands 5.47-5.6 GHz and 5.65-5.725 GHz
The maximum conducted output power shall not exceed 250 mW or 11 + 10 log10B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Band 5.725-5.85 GHz
The maximum conducted output power shall not exceed 1 W. The 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, both the maximum conducted output power and the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

TEST PROCEDURE

The measurement method used for output power is KDB 789033 D02 v02r01, Section E.3.b (Method PM-G).

The measurement method used for power spectral density is KDB 789033 D02 v02r01, Section F.

DIRECTIONAL ANTENNA GAIN

For 2 TX:

Tx chains are uncorrelated for power and correlated for PSD for CDD MIMO mode and uncorrelated for both power and PSD for SDM MIMO mode. The directional gains are as follows:

Band (GHz)	Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)	Correlated Chains Directional Gain (dBi)
1868				
5.6	6.4	4.7	5.63	8.60
1867				
5.6	7.2	5.5	6.43	9.40

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9.4.1. 802.11a MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE (FCC+IC)

Power

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5500	25.5000	16.8756	6.43	9.40
Mid	5580	24.9500	16.8676	6.43	9.40
High	5700	25.0000	16.8831	6.43	9.40
144	5720	17.4500	13.4139	6.43	9.40

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm/1MHz)	ISED PSD Limit (dBm/1MHz)
Low	5500	23.57	23.27	29.27	22.84	7.60	11.00
Mid	5580	23.57	23.27	29.27	22.84	7.60	11.00
High	5700	23.57	23.27	29.27	22.84	7.60	11.00
144	5720	22.99	22.28	28.28	21.85	7.60	11.00

Duty Cycle CF (dB)	0.10	Included in Calculations of Corr'd PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	14.32	14.41	17.38	22.84	-5.47
Mid	5580	14.47	14.43	17.46	22.84	-5.38
High	5700	14.42	14.34	17.39	22.84	-5.45
144	5720	14.43	14.49	17.47	21.85	-4.38

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/	Chain 1 Meas PSD (dBm/	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/	PSD Margin (dB)
Low	5500	2.813	3.137	6.088	7.60	-1.51
Mid	5580	3.448	3.672	6.672	7.60	-0.93
High	5700	3.373	3.694	6.647	7.60	-0.95
144	5720	3.812	4.309	7.178	7.60	-0.42

Note: As channel 144 (5720MHz) is only in the 5.6 band up to 5725MHz, the actual straddle channel 144 26dB BW and 99%BW calculated by: (OBW/2) + 5MHz

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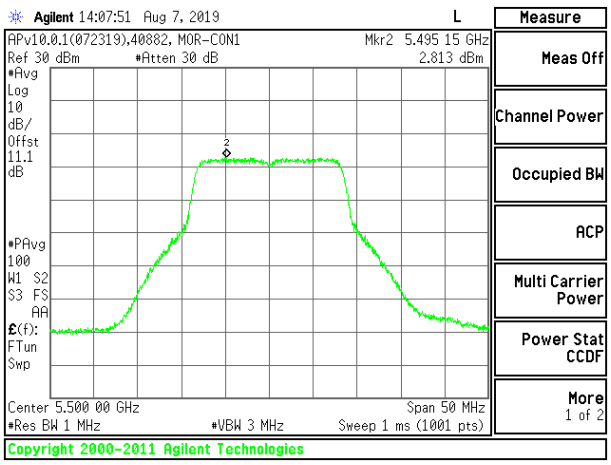
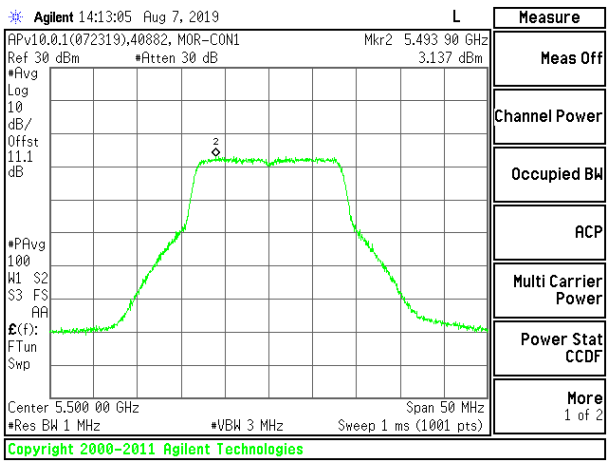
LOW CHANNEL

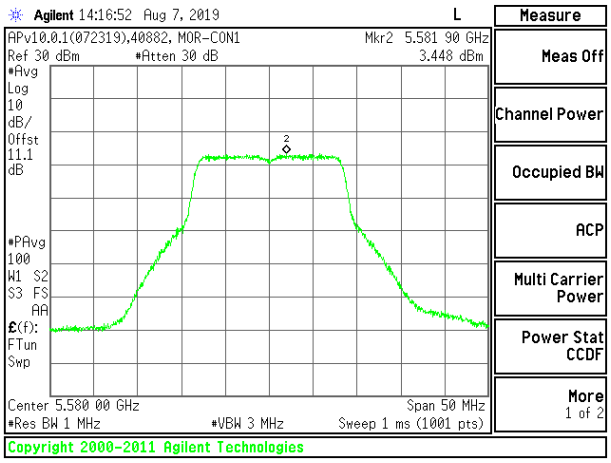


LOW CHANNEL CHAIN 0

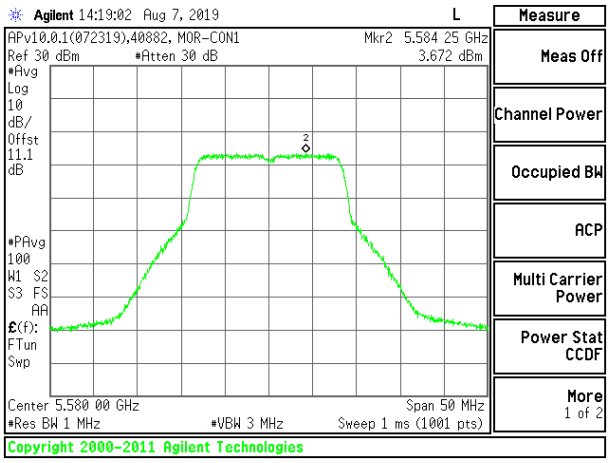


LOW CHANNEL CHAIN 1

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

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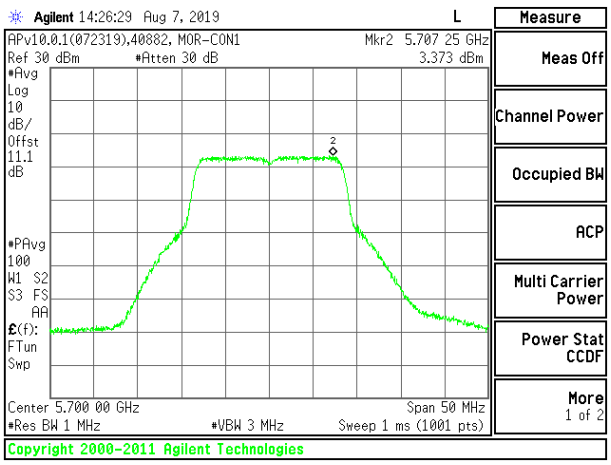
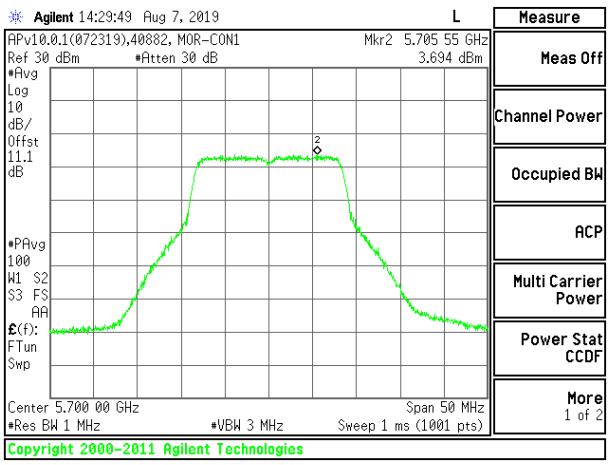
HIGH CHANNEL

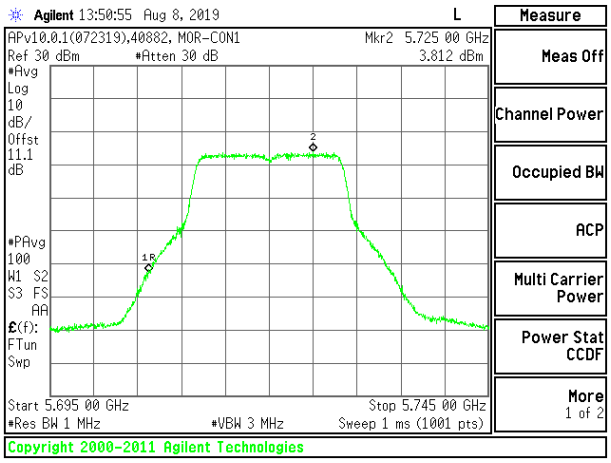


HIGH CHANNEL CHAIN 0

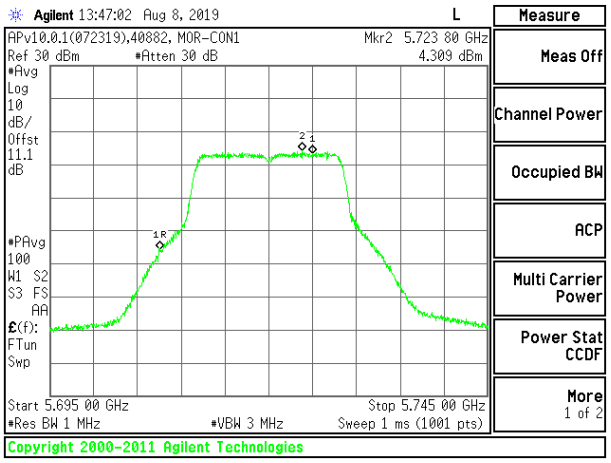


HIGH CHANNEL CHAIN 1

CHANNEL 144



CHANNEL 144 CHAIN 0



CHANNEL 144 CHAIN 1

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9.4.2. 802.11n HT20 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 SDM MODE (FCC+IC)

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5500	25.60	17.9682	6.43	6.43
Mid	5580	25.45	17.9605	6.43	6.43
High	5700	25.45	17.9633	6.43	6.43
144	5720	18.15	13.9836	6.43	6.43

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm/ 1MHz)	ISED PSD Limit (dBm/	PSD Limit (dBm/
Low	5500	23.57	23.55	29.55	23.12	10.57	11.00	10.57
Mid	5580	23.57	23.54	29.54	23.11	10.57	11.00	10.57
High	5700	23.57	23.54	29.54	23.11	10.57	11.00	10.57
144	5720	23.16	22.46	28.46	22.03	10.57	11.00	10.57

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5500	16.39	16.40	19.41	23.12	-3.71
Mid	5580	16.34	16.64	19.50	23.11	-3.61
High	5700	16.39	16.42	19.42	23.11	-3.70
144	5720	16.55	16.45	19.51	22.03	-2.52

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/	Chain 1 Meas PSD (dBm/	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5500	6.934	6.630	9.795	10.57	-0.78
Mid	5580	6.706	7.010	9.871	10.57	-0.70
High	5700	6.993	7.002	10.008	10.57	-0.56
144	5720	6.912	7.080	10.007	10.57	-0.56

Note: As channel 144 (5720MHz) is only in the 5.6 band up to 5725MHz, the actual straddle Channel 144 26dB BW and 99%BW calculated by: (OBW/2) + 5MHz

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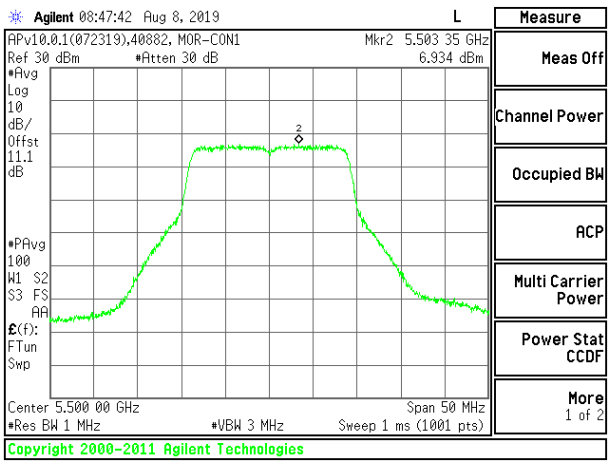
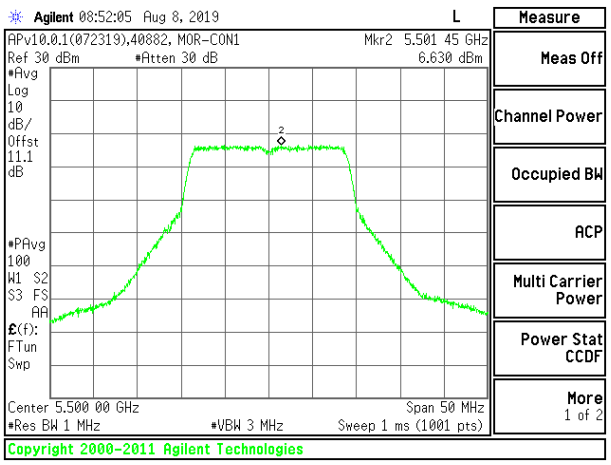
LOW CHANNEL

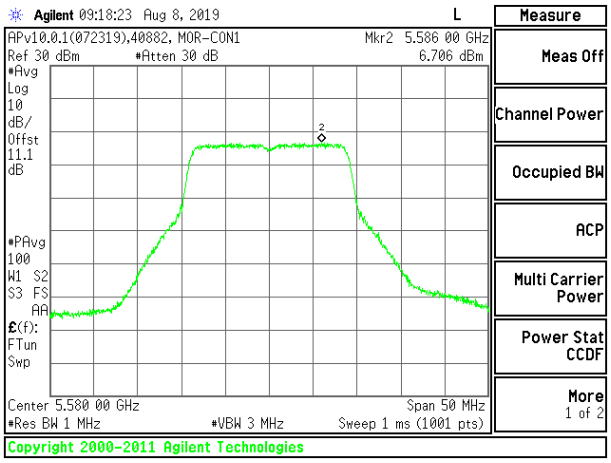


LOW CHANNEL CHAIN 0

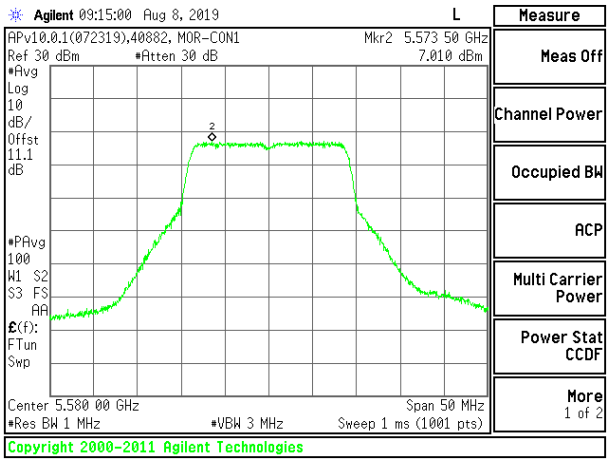


LOW CHANNEL CHAIN 1

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

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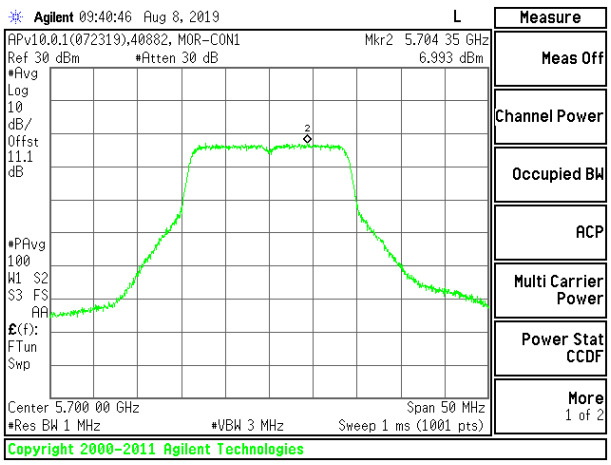
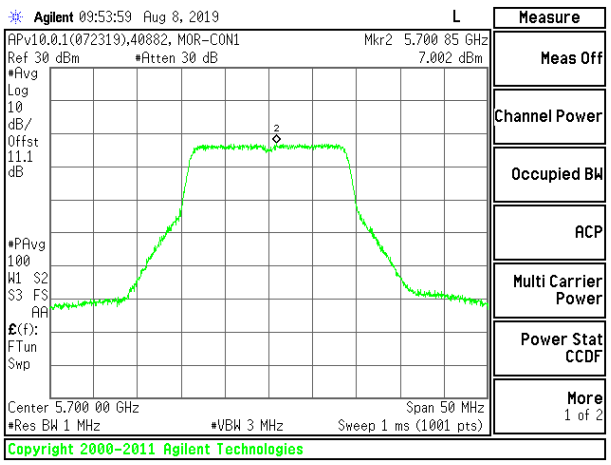
HIGH CHANNEL

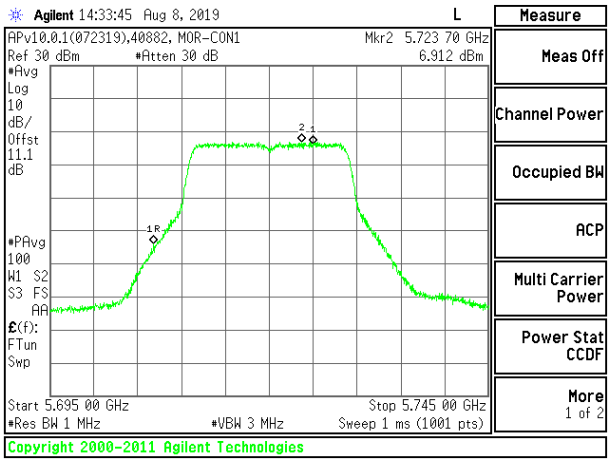


HIGH CHANNEL CHAIN 0

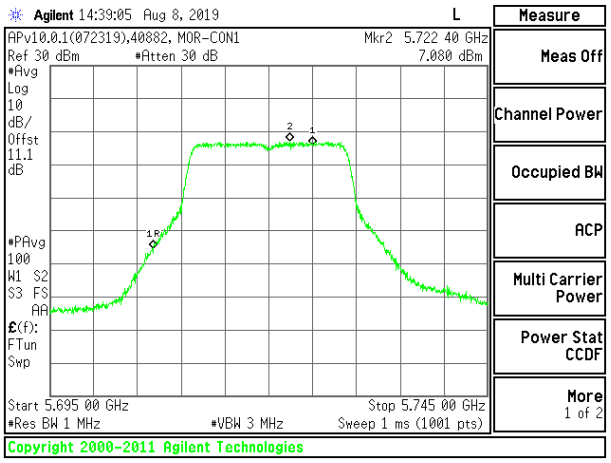


HIGH CHANNEL CHAIN 1

CHANNEL 144



CHANNEL 144 CHAIN 0



CHANNEL 144 CHAIN 1

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9.4.3. 802.11n HT40 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 SDM MODE (FCC+IC)

Power

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5510	46.30	36.421	6.43	6.43
Mid	5550	48.90	36.387	6.43	6.43
High	5670	46.10	36.450	6.43	6.43
142	5710	38.50	33.220	6.43	6.43

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm/ 1MHz)	ISED PSD Limit (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)
Low	5510	23.57	24.00	30.00	23.57	10.57	11.00	10.57
Mid	5550	23.57	24.00	30.00	23.57	10.57	11.00	10.57
High	5670	23.57	24.00	30.00	23.57	10.57	11.00	10.57
142	5710	23.57	24.00	30.00	23.57	10.57	11.00	10.57

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5510	16.00	16.11	19.07	23.57	-4.50
Mid	5550	16.04	16.20	19.13	23.57	-4.44
High	5670	15.95	16.01	18.99	23.57	-4.58
142	5710	16.13	15.99	19.07	23.57	-4.50

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas PSD (dBm/ 1MHz)	Chain 1 Meas PSD (dBm/ 1MHz)	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5510	3.835	4.042	6.95	10.57	-3.62
Mid	5550	4.964	5.061	8.02	10.57	-2.55
High	5670	4.302	4.761	7.55	10.57	-3.02
142	5710	5.448	5.873	8.68	10.57	-1.89

Note: As channel 142 (5710MHz) is only in the 5.6 band up to 5725MHz, the actual straddle Channel 142 26dB BW and 99%BW calculated by: (OBW/2) + 15MHz

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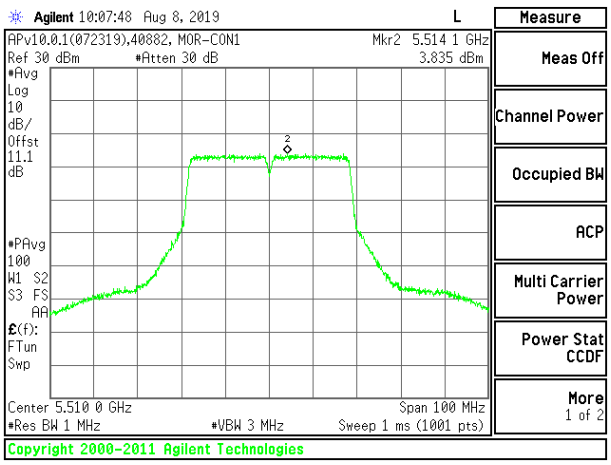
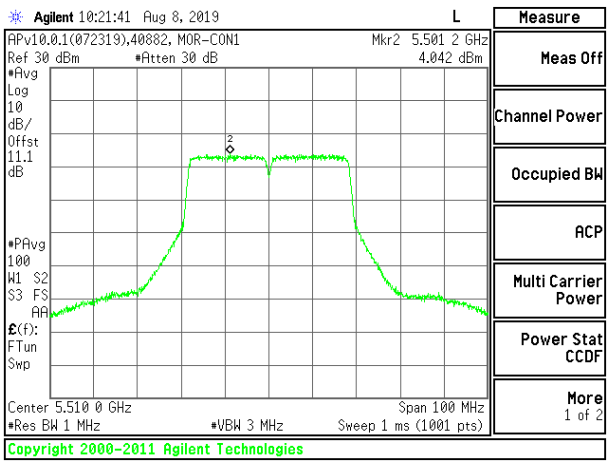
LOW CHANNEL

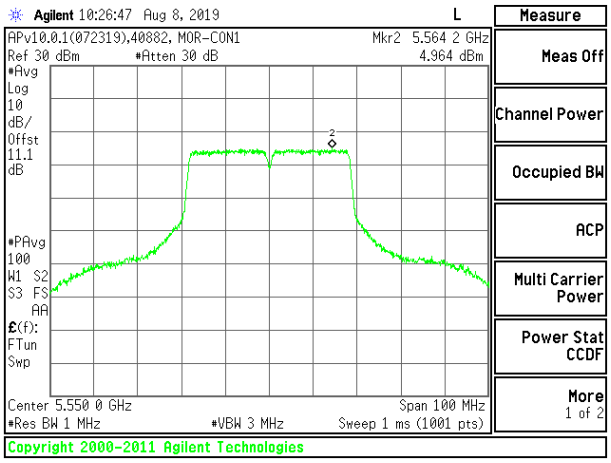


LOW CHANNEL CHAIN 0

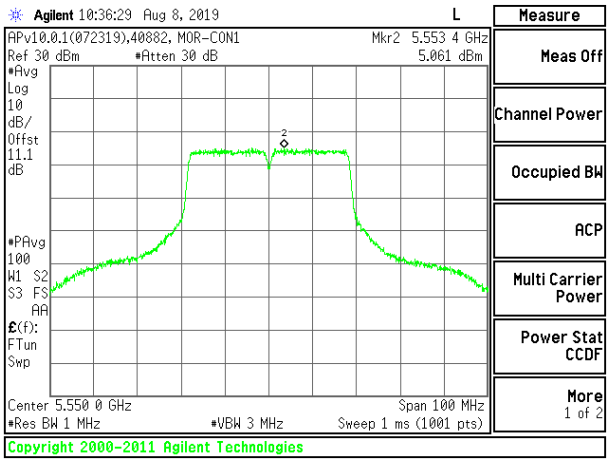


LOW CHANNEL CHAIN 1

MID CHANNEL



MID CHANNEL CHAIN 0



MID CHANNEL CHAIN 1

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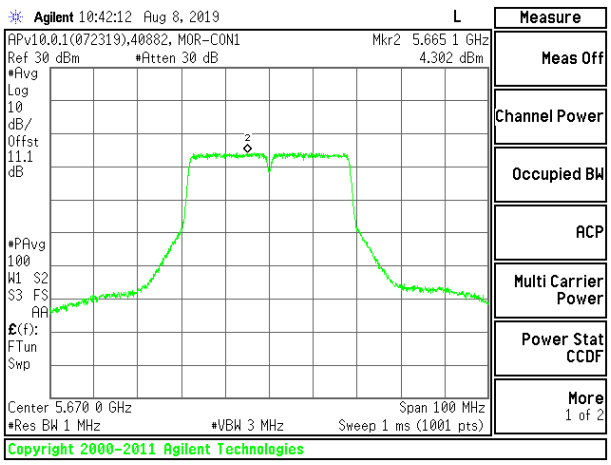
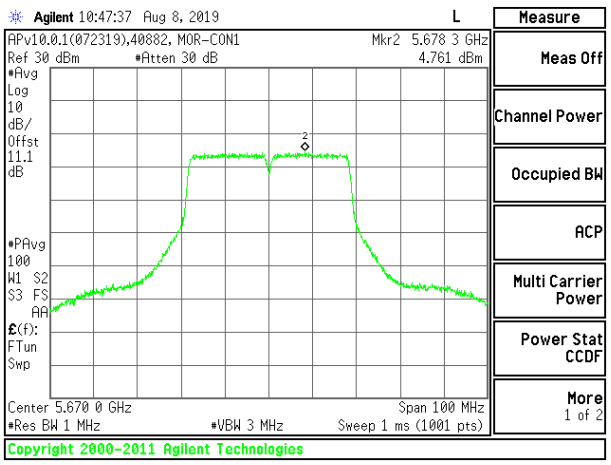
HIGH CHANNEL

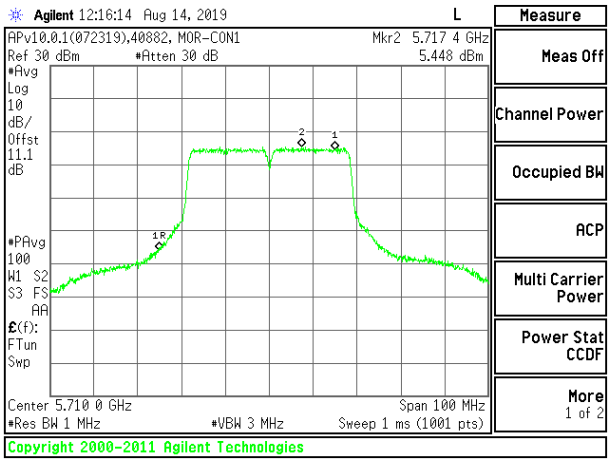


HIGH CHANNEL CHAIN 0

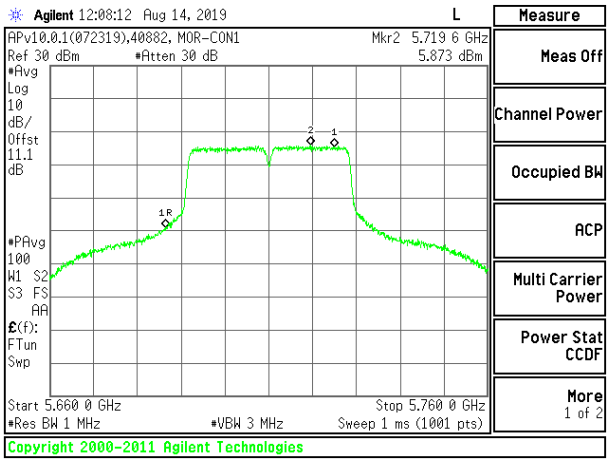


HIGH CHANNEL CHAIN 1

CHANNEL 142



CHANNEL 142 CHAIN 0



CHANNEL 142 CHAIN 1

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9.4.4. 802.11ac VHT80 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 SDM MODE (FCC+IC)

Power

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Low	5530	86.20	74.9927	6.43	6.43
High	5610	86.80	75.1339	6.43	6.43
138	5690	78.00	72.4954	6.43	6.43

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm/	ISED PSD Limit (dBm/	PSD Limit (dBm/
Low	5530	23.57	24.00	30.00	23.57	10.57	11.00	10.57
High	5610	23.57	24.00	30.00	23.57	10.57	11.00	10.57
138	5690	23.57	24.00	30.00	23.57	10.57	11.00	10.57

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD

Output Power Results

Channel	Frequency (MHz)	Antenna 1 Meas Power (dBm)	Antenna 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5530	15.73	16.16	18.96	23.57	-4.61
High	5610	16.08	16.23	19.17	23.57	-4.40
138	5690	16.12	16.14	19.14	23.57	-4.43

PSD Results

Channel	Frequency (MHz)	Antenna 1 Meas PSD (dBm/	Antenna 2 Meas PSD (dBm/	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5530	1.158	1.380	4.281	10.57	-6.29
High	5610	2.636	2.606	5.631	10.57	-4.94
138	5690	1.989	2.081	5.046	10.57	-5.52

Note: As channel 138 (5690MHz) is only in the 5.6 band up to 5725MHz, the actual straddle Channel 138 26dB BW and 99%BW calculated by: (OBW/2) + 35MHz

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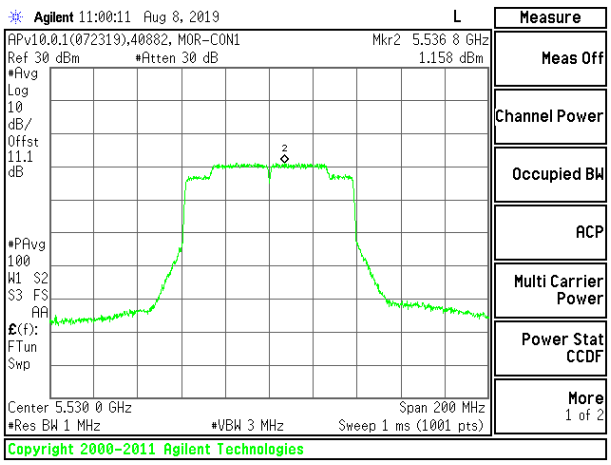
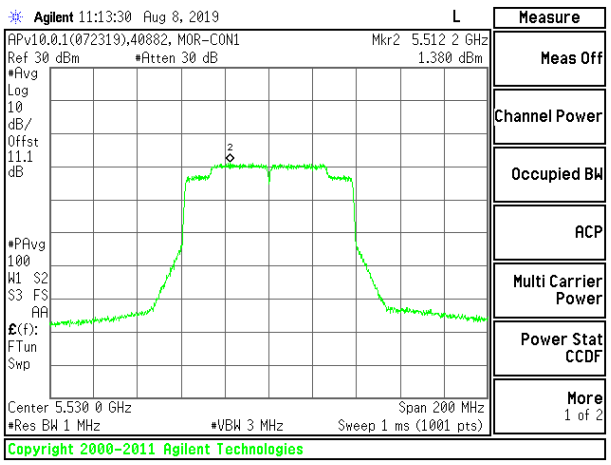
LOW CHANNEL

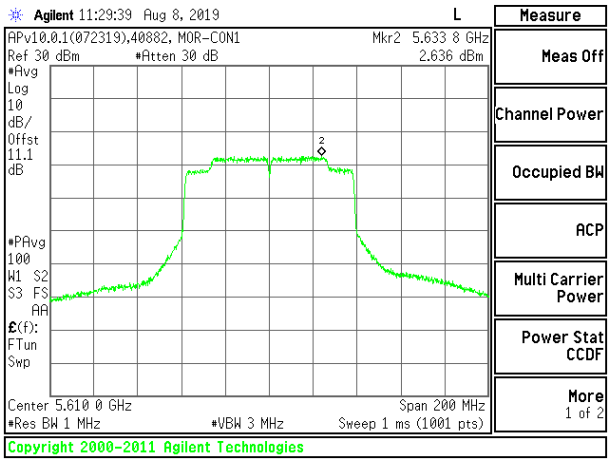


LOW CHANNEL CHAIN 0

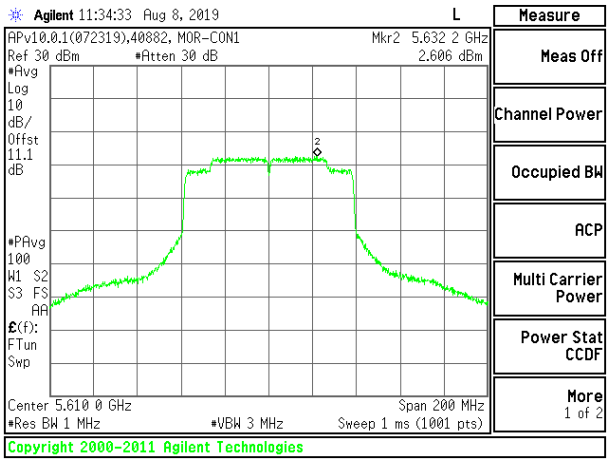


LOW CHANNEL CHAIN 1

HIGH CHANNEL



HIGH CHANNEL CHAIN 0



HIGH CHANNEL CHAIN 1

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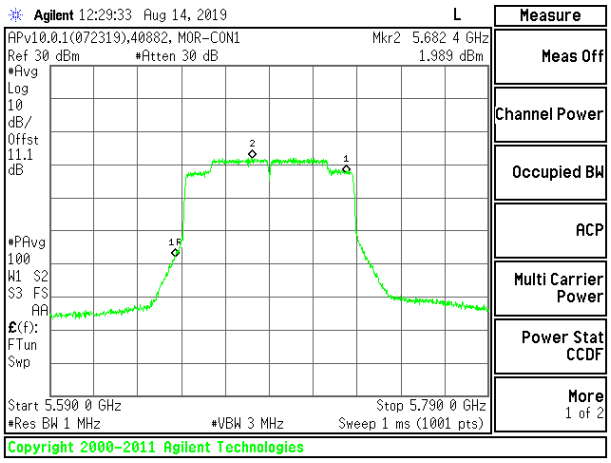
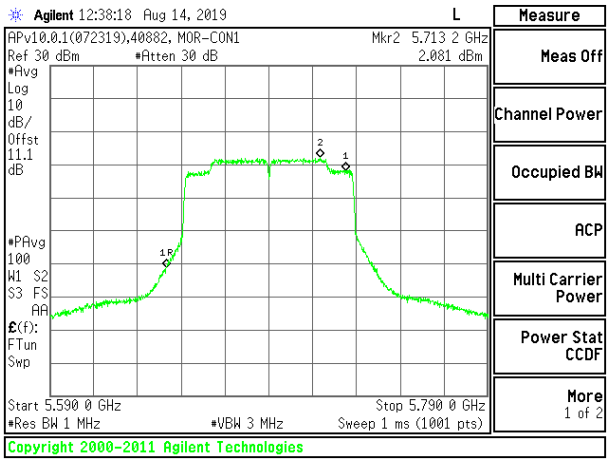
CHANNEL 138



CHANNEL 138 CHAIN 0



CHANNEL 138 CHAIN 1

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9.4.1. 802.11ac VHT160 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 SDM MODE (FCC + IC)

Power

Bandwidth and Antenna Gain

Channel	Frequency (MHz)	Min 26 dB BW (MHz)	Min 99% BW (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)
Mid	5570	280.80	153.9914	6.43	6.43

Limits

Channel	Frequency (MHz)	FCC Power Limit (dBm)	ISED Power Limit (dBm)	ISED EIRP Limit (dBm)	Power Limit (dBm)	FCC PSD Limit (dBm/	ISED PSD Limit (dBm/	PSD Limit (dBm/
Mid	5570	23.57	24.00	30.00	23.57	10.57	11.00	10.57

Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd Power & PSD

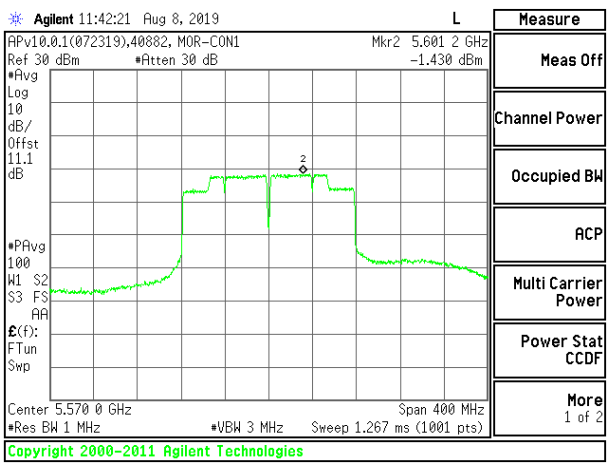
Output Power Results

Channel	Frequency (MHz)	Antenna 1 Meas Power (dBm)	Antenna 2 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Mid	5570	13.96	14.05	17.02	23.57	-6.55

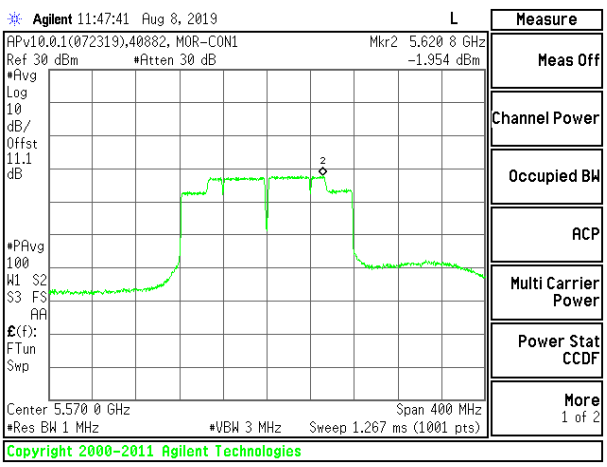
PSD Results

Channel	Frequency (MHz)	Antenna 1 Meas PSD (dBm/	Antenna 2 Meas PSD (dBm/	Total Corr'd PSD (dBm/ 1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Mid	5570	-1.430	-1.954	1.326	10.57	-9.24

MID CHANNEL



LOW CHANNEL CHAIN 0



LOW CHANNEL CHAIN 1

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10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209 - Restriced bands
FCC §15.407(b)(1-4) - Non-Restriced bands

After January 01, 2019 for Outside of the Restricted Bands Emissions

RSS 247 Issue 2 Sections
6.2.1.2 (for 5150-5250 MHz band)
6.2.2.2 (for 5250-5350 MHz band)
6.2.3.2 (for 5470-5600 MHz and 5650-5725 MHz bands)
6.2.4.2 (for 5725-5850 MHz band)

NCC LP0002 §2.7 and §2.8

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements. Detector used was RMS average detector.

The spectrum from 1GHz to 18GHz was investigated with the transmitter set to transmit the lowest, middle, and highest channels in the 5 GHz bands.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

Note: All frequencies were marked at the maximum emissions within the restricted band. This was due to the observed margins of the emissions to the non-restricted limit.

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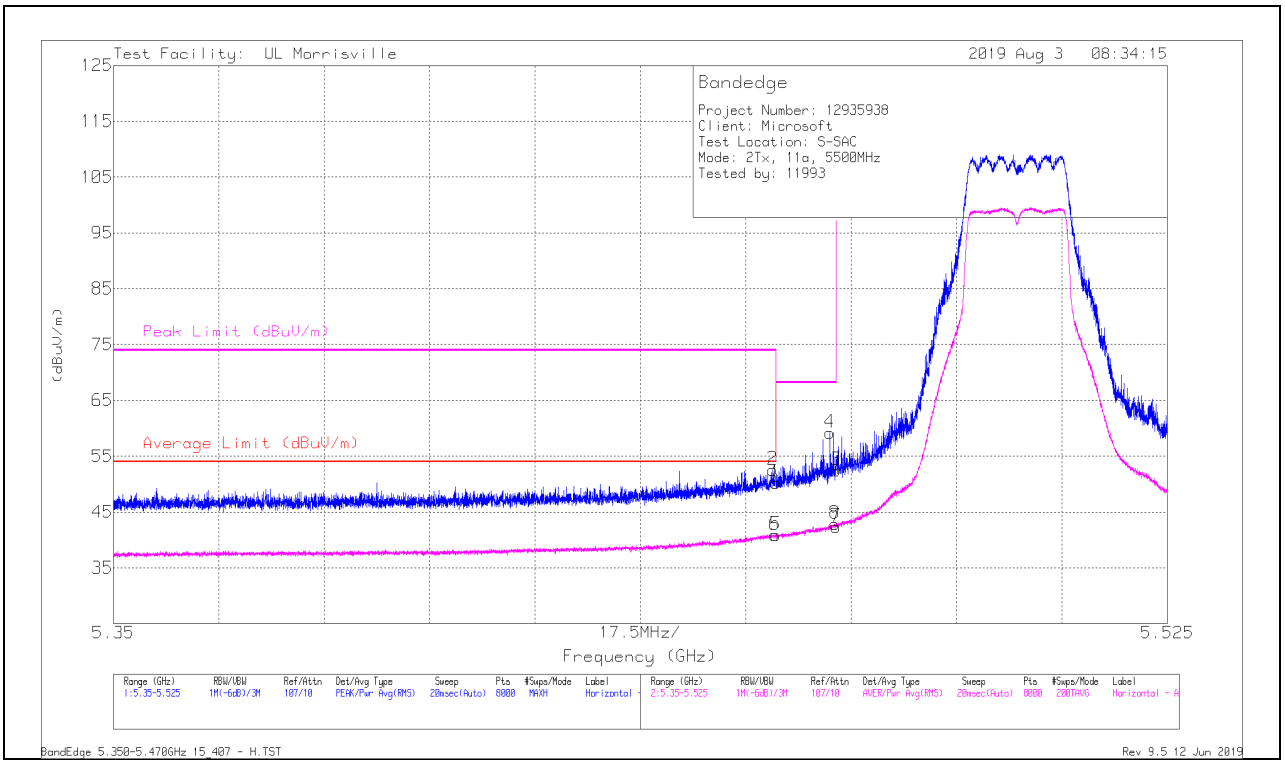
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 CDD MODE

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.45998	39.12	Pk	34.5	-23.4	0	50.22	-	-	74	-23.78	69	387	H
2	* ** 5.4595	41.51	Pk	34.5	-23.4	0	52.61	-	-	74	-21.39	69	387	H
5	* ** 5.45998	29.72	RMS	34.5	-23.4	.1	40.92	54	-13.08	-	-	69	387	H
6	* ** 5.45976	29.71	RMS	34.5	-23.4	.1	40.91	54	-13.09	-	-	69	387	H
4	5.46895	48.24	Pk	34.5	-23.5	0	59.24	-	-	68.2	-8.96	69	387	H
8	5.4698	31.8	RMS	34.5	-23.5	.1	42.9	-	-	-	-	69	387	H
3	5.46998	41.49	Pk	34.5	-23.5	0	52.49	-	-	68.2	-15.71	69	387	H
7	5.46998	31.3	RMS	34.5	-23.5	.1	42.4	-	-	-	-	69	387	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
RMS - RMS detection

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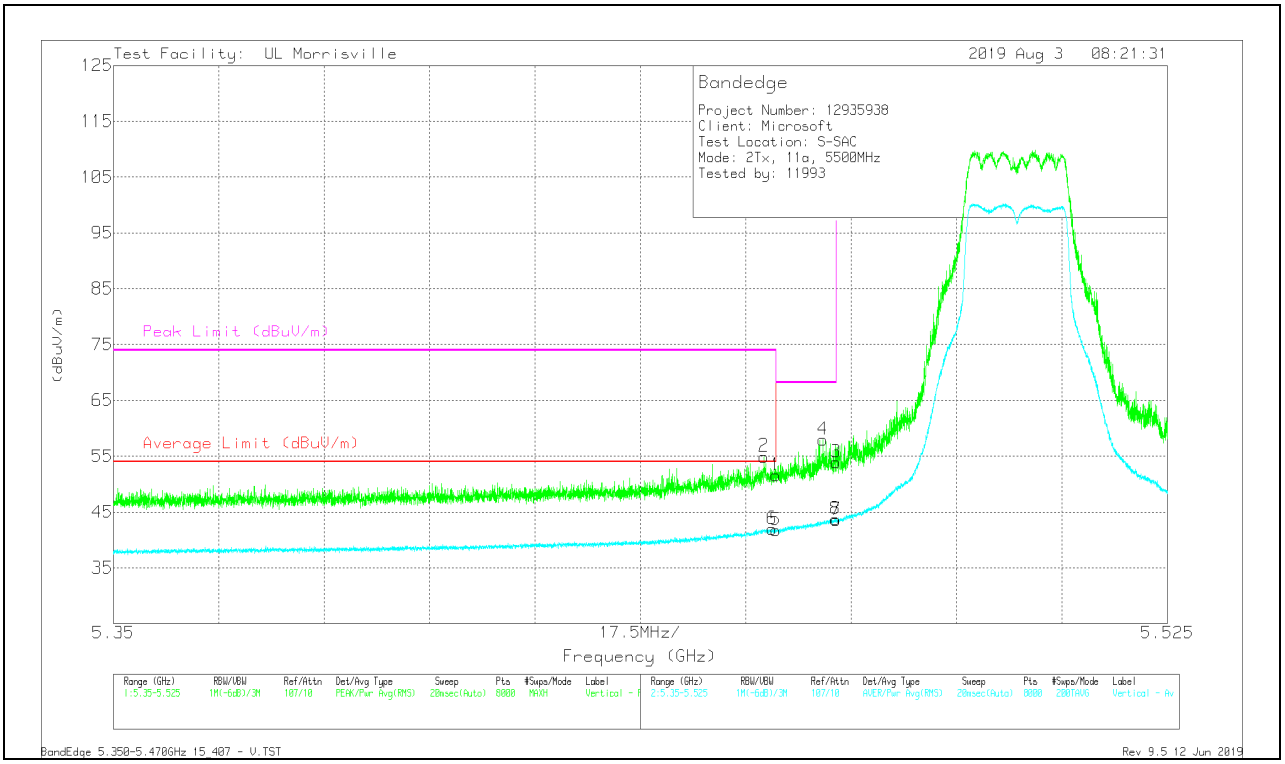
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.45998	40.47	Pk	34.5	-23.4	0	51.57	-	-	74	-22.43	5	393	V
2	* ** 5.45799	43.84	Pk	34.5	-23.4	0	54.94	-	-	74	-19.06	5	393	V
5	* ** 5.45998	30.55	RMS	34.5	-23.4	.1	41.75	54	-12.25	-	-	5	393	V
6	* ** 5.45937	30.81	RMS	34.5	-23.4	.1	42.01	54	-11.99	-	-	5	393	V
4	5.46784	46.93	Pk	34.5	-23.5	0	57.93	-	-	68.2	-10.27	5	393	V
8	5.46991	32.57	RMS	34.5	-23.5	.1	43.67	-	-	-	-	5	393	V
3	5.46998	42.89	Pk	34.5	-23.5	0	53.89	-	-	68.2	-14.31	5	393	V
7	5.46998	32.49	RMS	34.5	-23.5	.1	43.59	-	-	-	-	5	393	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
RMS - RMS detection

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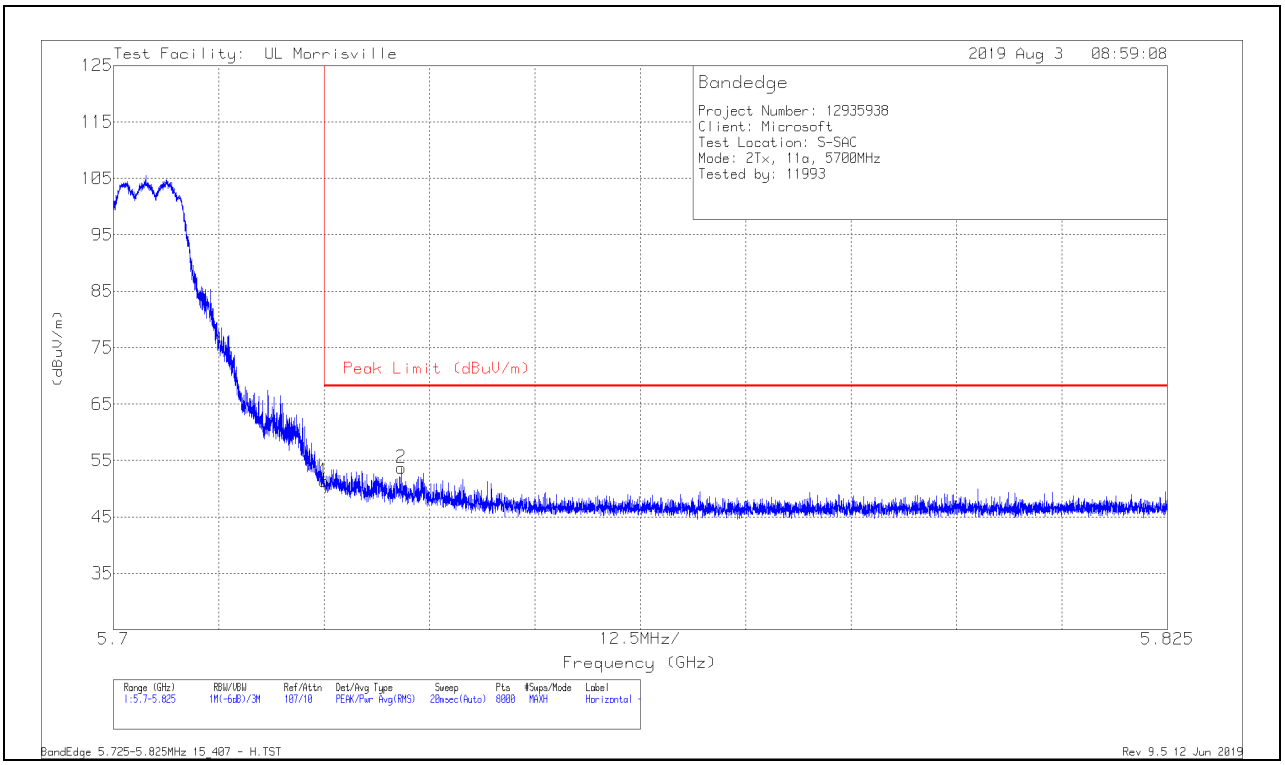
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	40.02	Pk	34.7	-23.3	51.42	68.2	-16.78	61	301	H
2	5.73413	42.33	Pk	34.7	-23.3	53.73	68.2	-14.47	61	301	H

Pk - Peak detector

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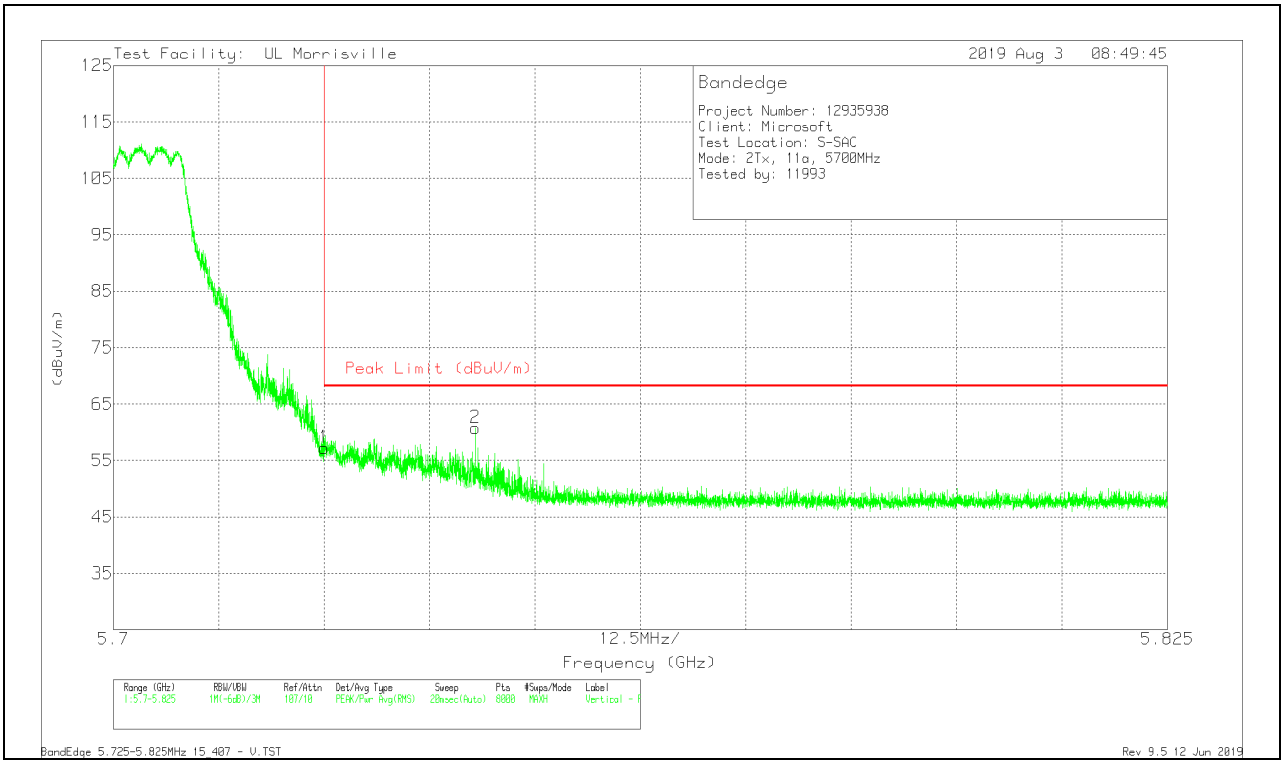
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	45.82	Pk	34.7	-23.3	0	57.22	68.2	-10.98	28	246	V
2	5.7429	49.47	Pk	34.7	-23.4	0	60.77	68.2	-7.43	28	246	V

Pk - Peak detector

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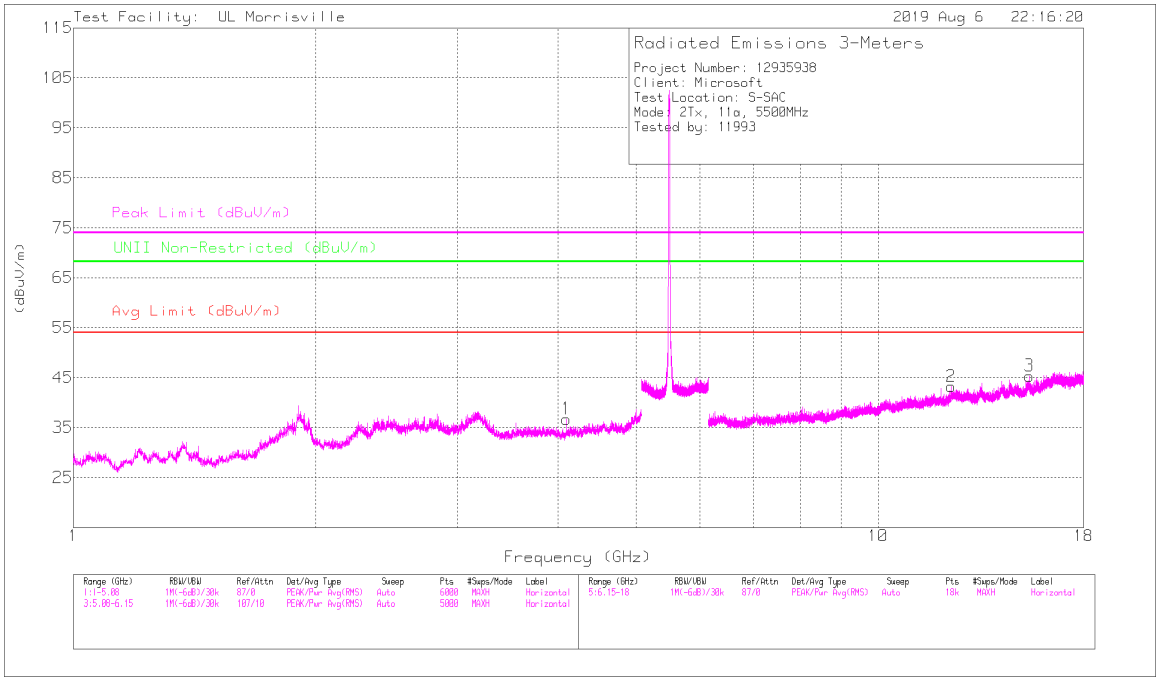
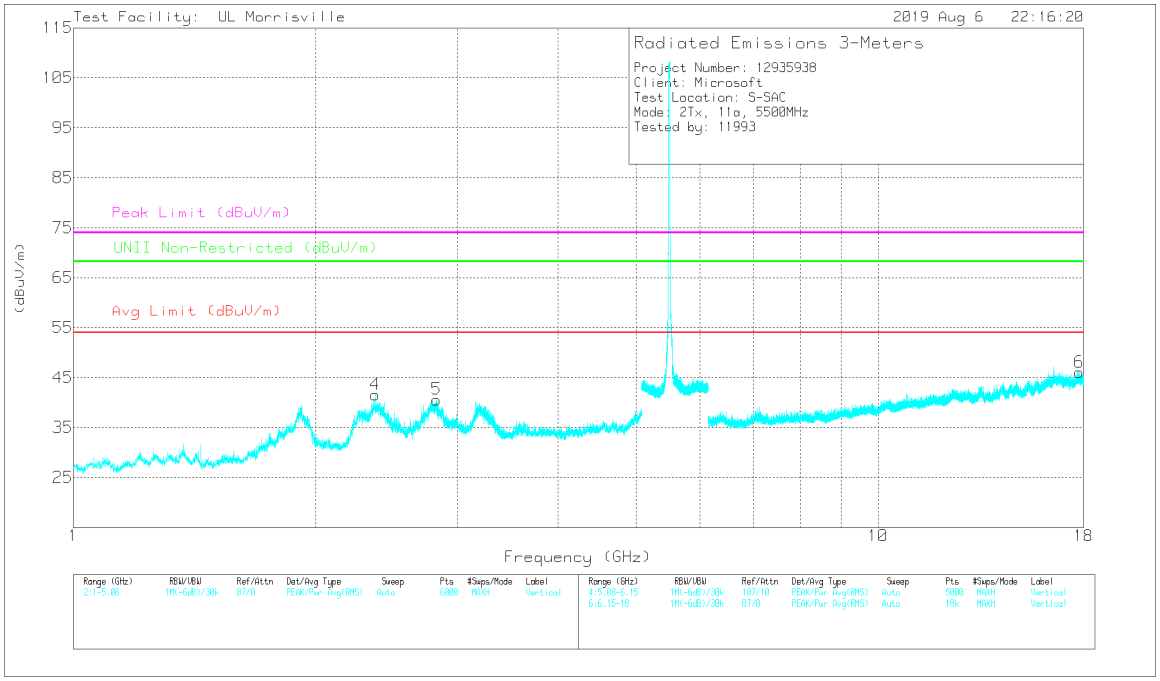
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.09418	40.44	PK-U	33.5	-32.1	0	41.84	-	-	74	-32.16	-	-	113	400	H
	* ** 4.09387	28	ADR	33.5	-32.1	.1	29.5	54	-24.5	-	-	-	-	113	400	H
4	* ** 2.36999	52.58	PK-U	31.8	-33.9	0	50.48	-	-	74	-23.52	-	-	99	236	V
	* ** 2.3699	39.98	ADR	31.8	-33.9	.1	37.98	54	-16.02	-	-	-	-	99	236	V
5	* ** 2.82417	52.65	PK-U	32.1	-33.6	0	51.15	-	-	74	-22.85	-	-	102	259	V
	* ** 2.82466	41.15	ADR	32.1	-33.6	.1	39.75	54	-14.25	-	-	-	-	102	259	V
2	* ** 12.32295	34.64	PK-U	38.8	-24.2	0	49.24	-	-	74	-24.76	-	-	197	165	H
	* ** 12.323	22.26	ADR	38.8	-24.2	.1	36.96	54	-17.04	-	-	-	-	197	165	H
3	* ** 15.41579	32.64	PK-U	39.9	-22.4	0	50.14	-	-	74	-23.86	-	-	311	364	H
	* ** 15.4157	20.98	ADR	39.9	-22.4	.1	38.58	54	-15.42	-	-	-	-	311	364	H
6	* ** 17.77355	33.46	PK-U	41.2	-22.1	0	52.56	-	-	74	-21.44	-	-	326	332	V
	* ** 17.77314	21.35	ADR	41.2	-22.1	.1	40.55	54	-13.45	-	-	-	-	326	332	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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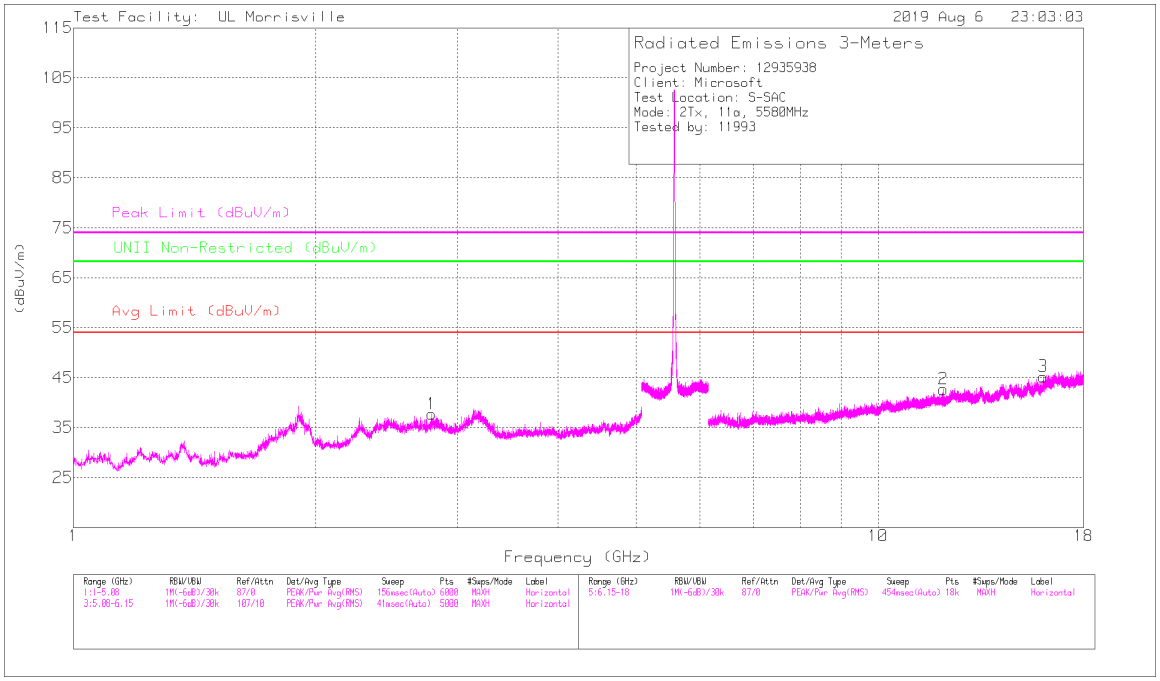
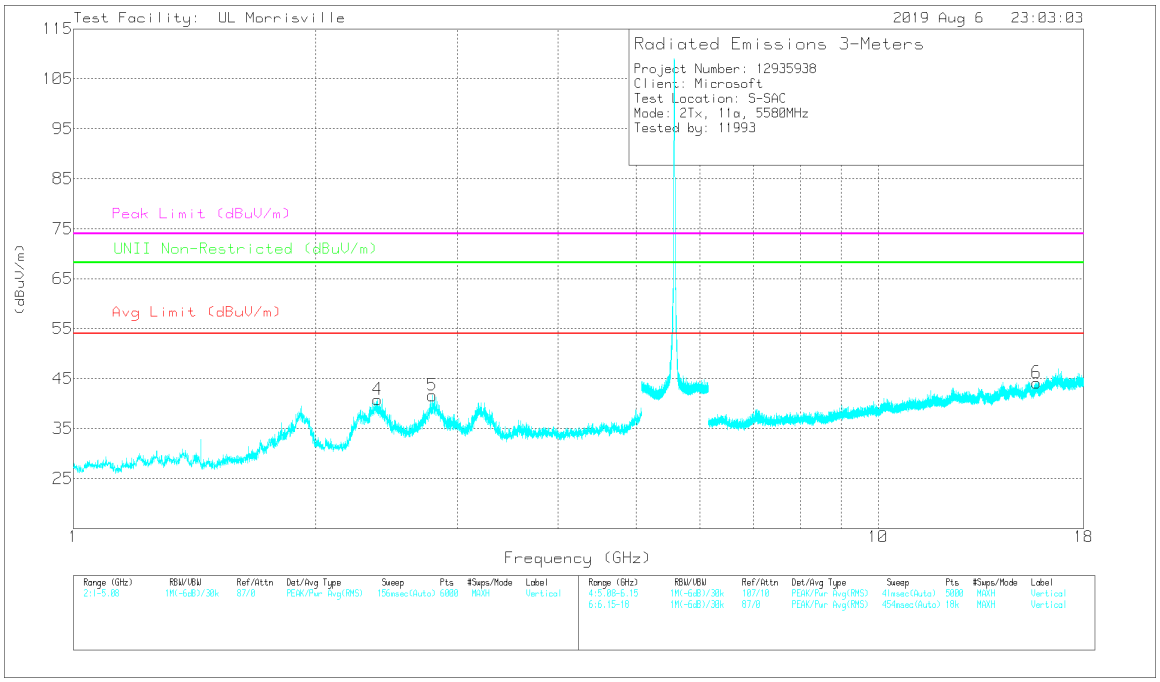
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.79075	46.73	PK-U	32.2	-33.5	0	45.43	-	-	74	-28.57	-	-	172	175	H
	* ** 2.78884	34.69	ADR	32.2	-33.5	.1	33.49	54	-20.51	-	-	-	-	172	175	H
4	* ** 2.38481	51.65	PK-U	31.9	-33.9	0	49.65	-	-	74	-24.35	-	-	97	256	V
	* ** 2.38488	39.79	ADR	31.9	-33.9	.1	37.89	54	-16.11	-	-	-	-	97	256	V
5	* ** 2.79223	51.54	PK-U	32.2	-33.5	0	50.24	-	-	74	-23.76	-	-	104	246	V
	* ** 2.79221	39.47	ADR	32.2	-33.5	.1	38.27	54	-15.73	-	-	-	-	104	246	V
2	* ** 12.04772	34.46	PK-U	38.7	-24.6	0	48.56	-	-	74	-25.44	-	-	83	340	H
	* ** 12.04699	21.92	ADR	38.7	-24.6	.1	36.12	54	-17.88	-	-	-	-	83	340	H
3	* ** 16.03689	34.54	PK-U	40.8	-23.9	0	51.44	-	-	74	-22.56	-	-	268	274	H
	* ** 16.03679	22.58	ADR	40.8	-23.9	.1	39.58	54	-14.42	-	-	-	-	268	274	H
6	* ** 15.73906	33.54	PK-U	40.3	-22.7	0	51.14	-	-	74	-22.86	-	-	137	216	V
	* ** 15.73599	21.81	ADR	40.3	-22.8	.1	39.41	54	-14.59	-	-	-	-	137	216	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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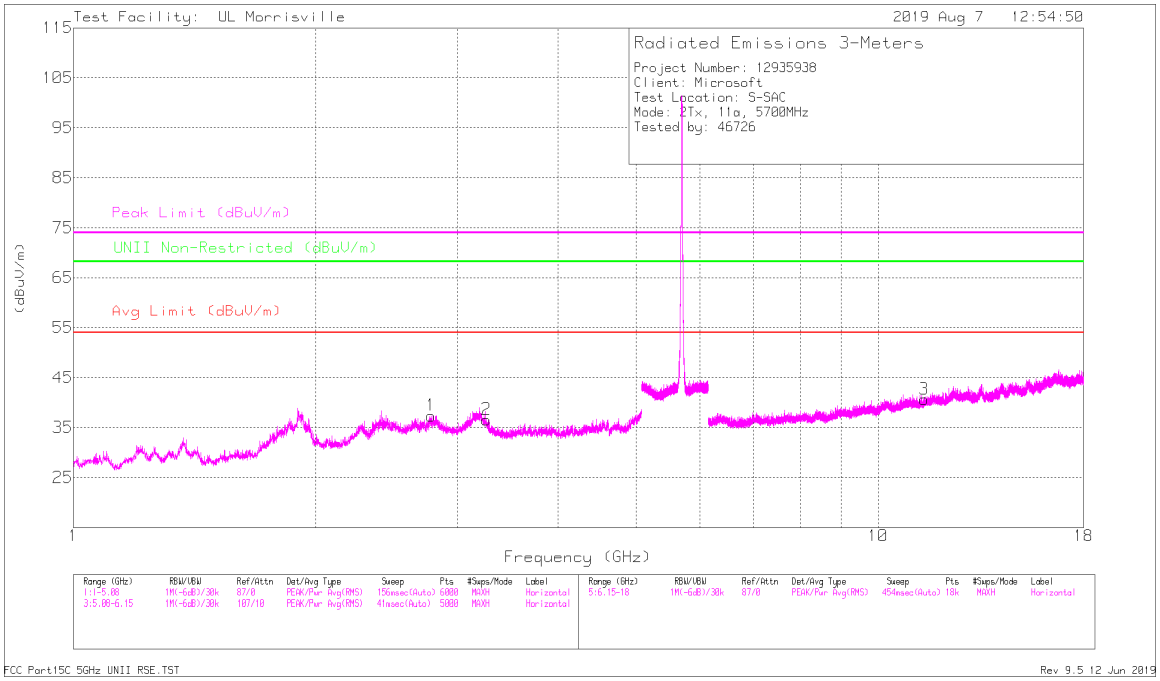
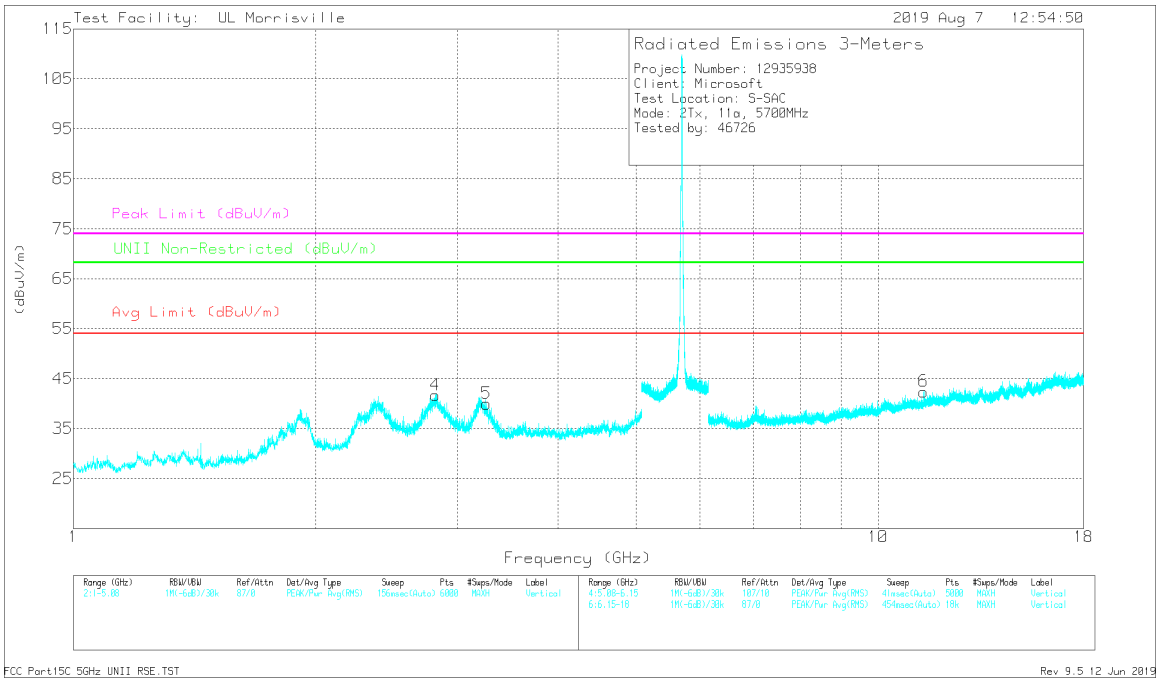
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.79578	47.65	PK-U	32.2	-33.5	0	46.35	-	-	74	-27.65	-	-	145	174	H
	* ** 2.79568	35.61	ADR	32.2	-33.5	.1	34.41	54	-19.59	-	-	-	-	145	174	H
2	* ** 3.26309	44.58	PK-U	33.1	-33.2	0	44.48	-	-	74	-29.52	-	-	286	142	H
	* ** 3.26307	32.83	ADR	33.1	-33.2	.1	32.83	54	-21.17	-	-	-	-	286	142	H
4	* ** 2.81311	51.81	PK-U	32.1	-33.5	0	50.41	-	-	74	-23.59	-	-	103	220	V
	* ** 2.81356	40.22	ADR	32.1	-33.5	.1	38.92	54	-15.08	-	-	-	-	103	220	V
5	* ** 3.26455	49.23	PK-U	33	-33.2	0	49.03	-	-	74	-24.97	-	-	104	214	V
	* ** 3.26454	37.13	ADR	33	-33.2	.1	37.03	54	-16.97	-	-	-	-	104	214	V
3	* ** 11.40128	38.41	PK-U	38.1	-24.6	0	51.91	-	-	74	-22.09	-	-	305	312	H
	* ** 11.40128	25.69	ADR	38.1	-24.6	.1	39.29	54	-14.71	-	-	-	-	305	312	H
6	* ** 11.39904	36.67	PK-U	38.1	-24.5	0	50.27	-	-	74	-23.73	-	-	20	208	V
	* ** 11.39901	24.55	ADR	38.1	-24.5	.1	38.25	54	-15.75	-	-	-	-	20	208	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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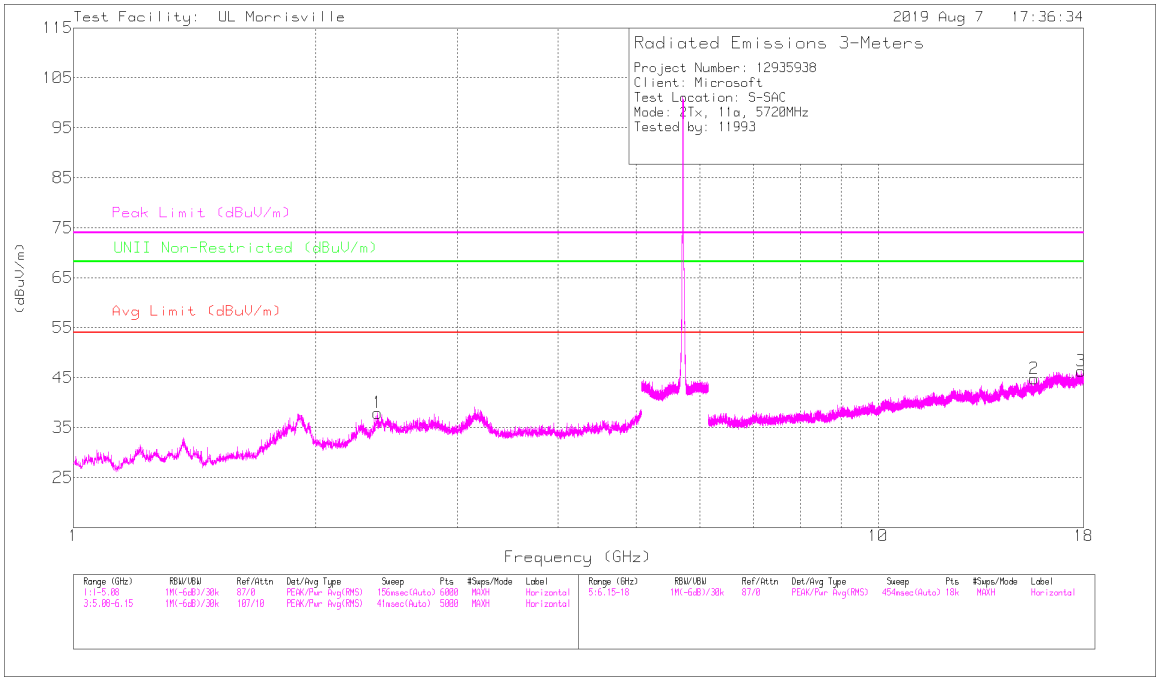
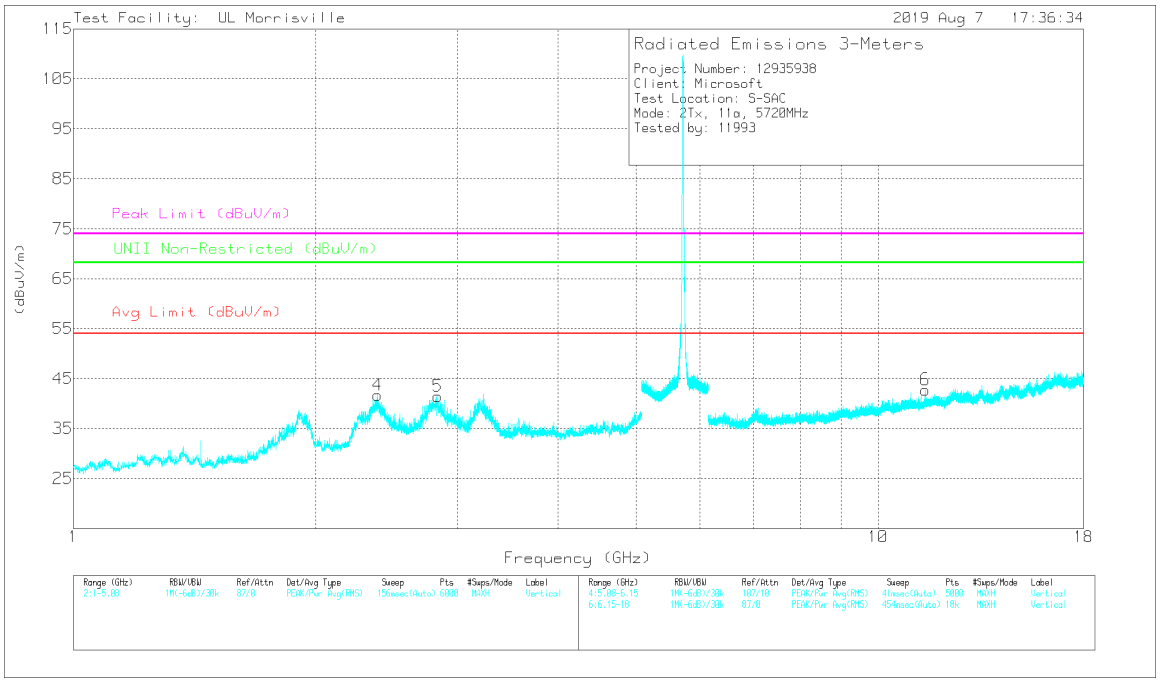
CHANNEL 144 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38866	47.83	PK-U	31.9	-33.9	0	45.83	-	-	74	-28.17	-	-	354	113	H
	* ** 2.38854	35.27	ADR	31.9	-33.9	.1	33.37	54	-20.63	-	-	-	-	354	113	H
4	* ** 2.3768	51.95	PK-U	31.8	-33.9	0	49.85	-	-	74	-24.15	-	-	96	246	V
	* ** 2.38928	39.78	ADR	31.9	-33.9	.1	37.88	54	-16.12	-	-	-	-	96	246	V
5	* ** 2.83338	51.57	PK-U	32.1	-33.6	0	50.07	-	-	74	-23.93	-	-	101	230	V
	* ** 2.83332	40.15	ADR	32.1	-33.6	.1	38.75	54	-15.25	-	-	-	-	101	230	V
2	* ** 15.63372	34.85	PK-U	40.1	-23.7	0	51.25	-	-	74	-22.75	-	-	184	276	H
	* ** 15.63471	22.48	ADR	40.1	-23.7	.1	38.98	54	-15.02	-	-	-	-	184	276	H
3	* ** 17.87065	34.13	PK-U	41.2	-22.1	0	53.23	-	-	74	-20.77	-	-	14	272	H
	* ** 17.87047	21.57	ADR	41.2	-22.1	.1	40.77	54	-13.23	-	-	-	-	14	272	H
6	* ** 11.44131	36.62	PK-U	38.1	-24.5	0	50.22	-	-	74	-23.78	-	-	52	101	V
	* ** 11.44354	25.14	ADR	38.1	-24.5	.1	38.84	54	-15.16	-	-	-	-	52	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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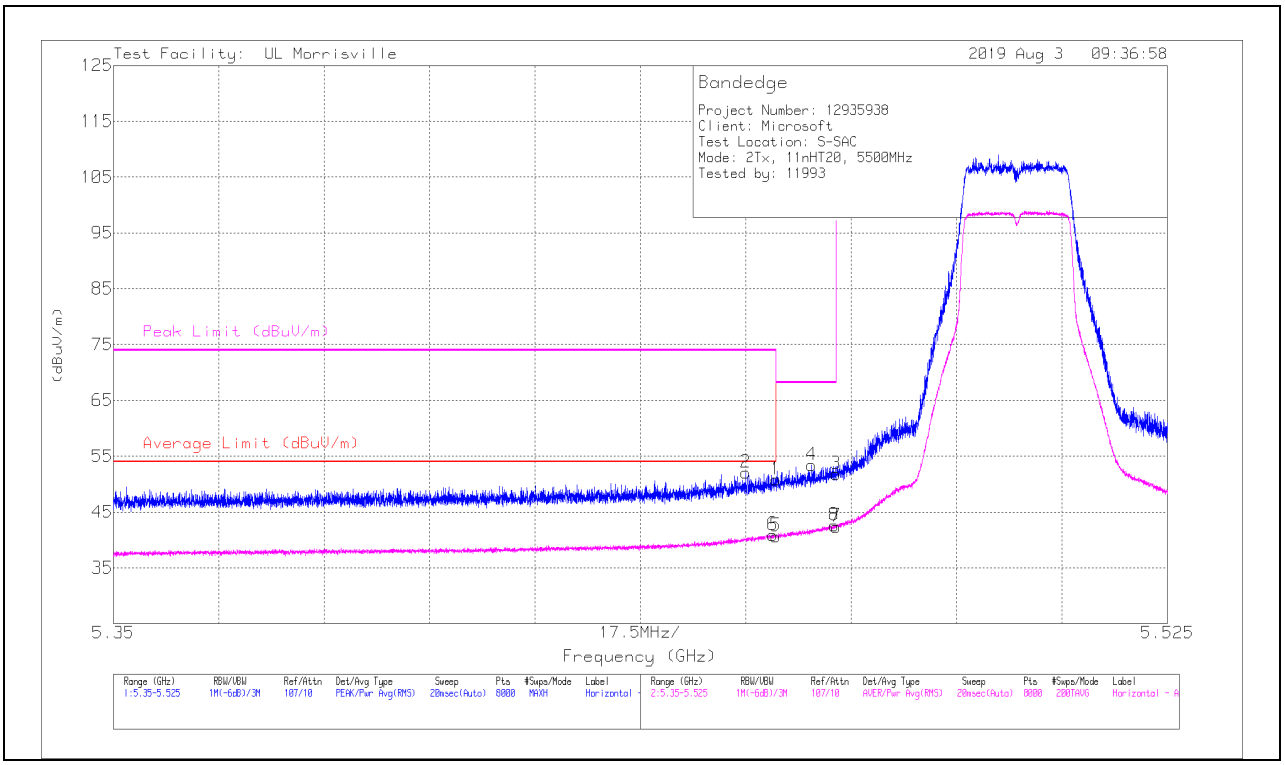
10.1.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 SDM MODE

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.45998	39.72	Pk	34.5	-23.4	50.82	-	-	74	-23.18	61	364	H
2	* ** 5.45495	40.95	Pk	34.5	-23.4	52.05	-	-	74	-21.95	61	364	H
5	* ** 5.45998	29.58	RMS	34.5	-23.4	40.68	54	-13.32	-	-	61	364	H
6	* ** 5.45943	29.82	RMS	34.5	-23.4	40.92	54	-13.08	-	-	61	364	H
4	5.46593	42.39	Pk	34.5	-23.5	53.39	-	-	68.2	-14.81	61	364	H
8	5.4697	31.62	RMS	34.5	-23.5	42.62	-	-	-	-	61	364	H
3	5.46998	40.83	Pk	34.5	-23.5	51.83	-	-	68.2	-16.37	61	364	H
7	5.46998	31.4	RMS	34.5	-23.5	42.4	-	-	-	-	61	364	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
RMS - RMS detection

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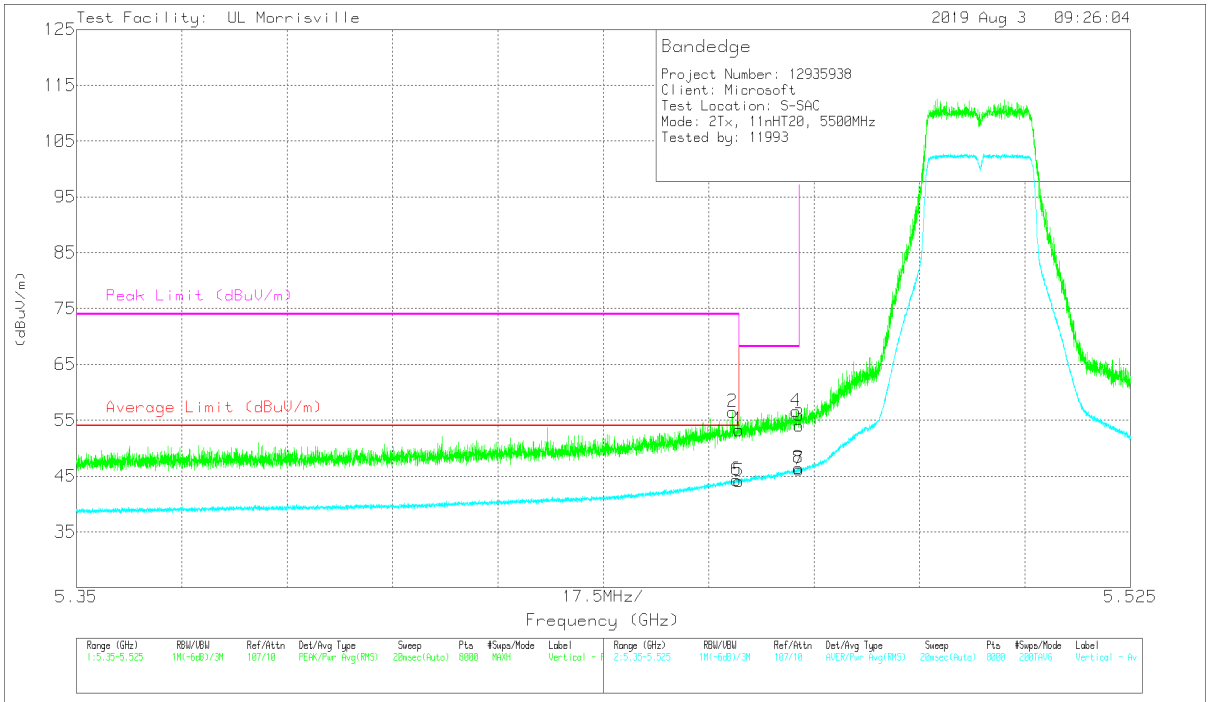
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.45998	42.15	Pk	34.5	-23.4	53.25	-	-	74	-20.75	24	259	V
2	* ** 5.45891	45.36	Pk	34.5	-23.4	56.46	-	-	74	-17.54	24	259	V
5	* ** 5.45998	32.94	RMS	34.5	-23.4	44.04	54	-9.96	-	-	24	259	V
6	* ** 5.45954	33.23	RMS	34.5	-23.4	44.33	54	-9.67	-	-	24	259	V
4	5.4695	45.58	Pk	34.5	-23.5	56.58	-	-	68.2	-11.62	24	259	V
8	5.46991	35.37	RMS	34.5	-23.5	46.37	-	-	-	-	24	259	V
3	5.46998	42.99	Pk	34.5	-23.5	53.99	-	-	68.2	-14.21	24	259	V
7	5.46998	35.18	RMS	34.5	-23.5	46.18	-	-	-	-	24	259	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
RMS - RMS detection

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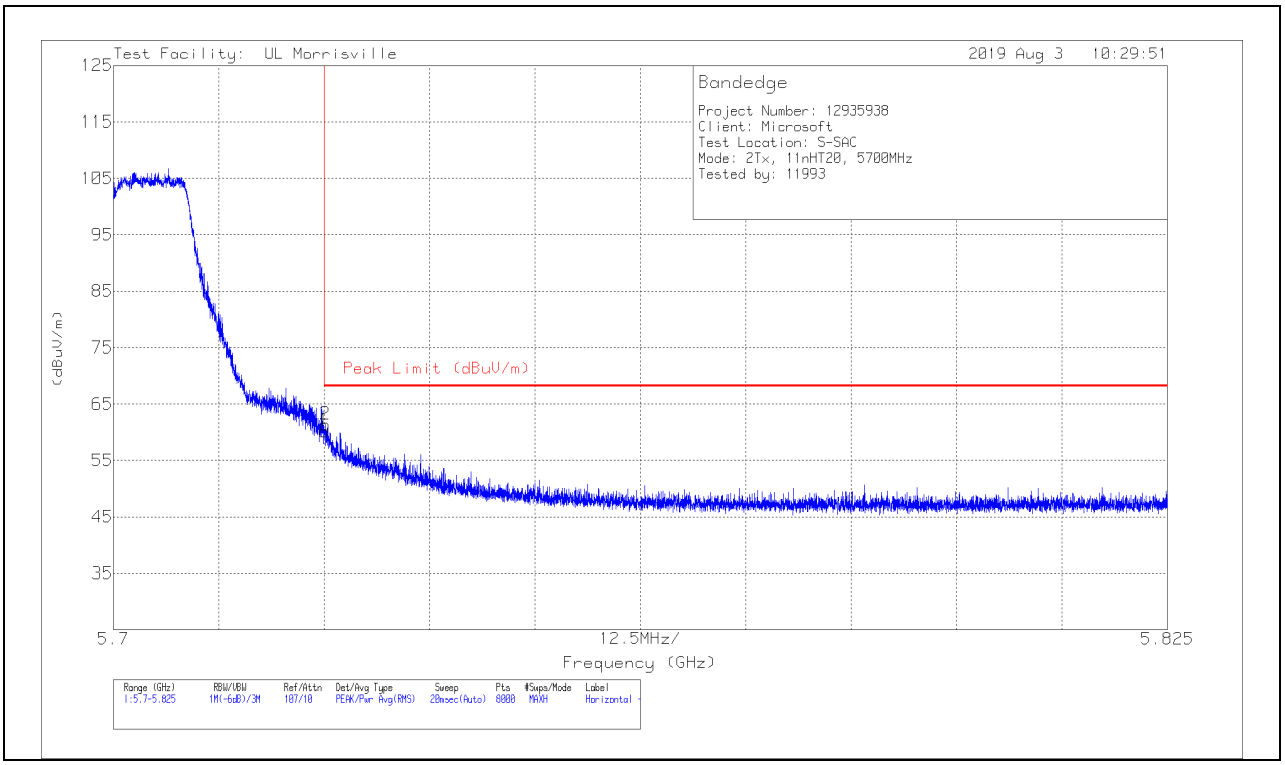
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	48.79	Pk	34.7	-23.3	60.19	68.2	-8.01	324	308	H
2	5.72516	49.93	Pk	34.7	-23.3	61.33	68.2	-6.87	324	308	H

Pk - Peak detector

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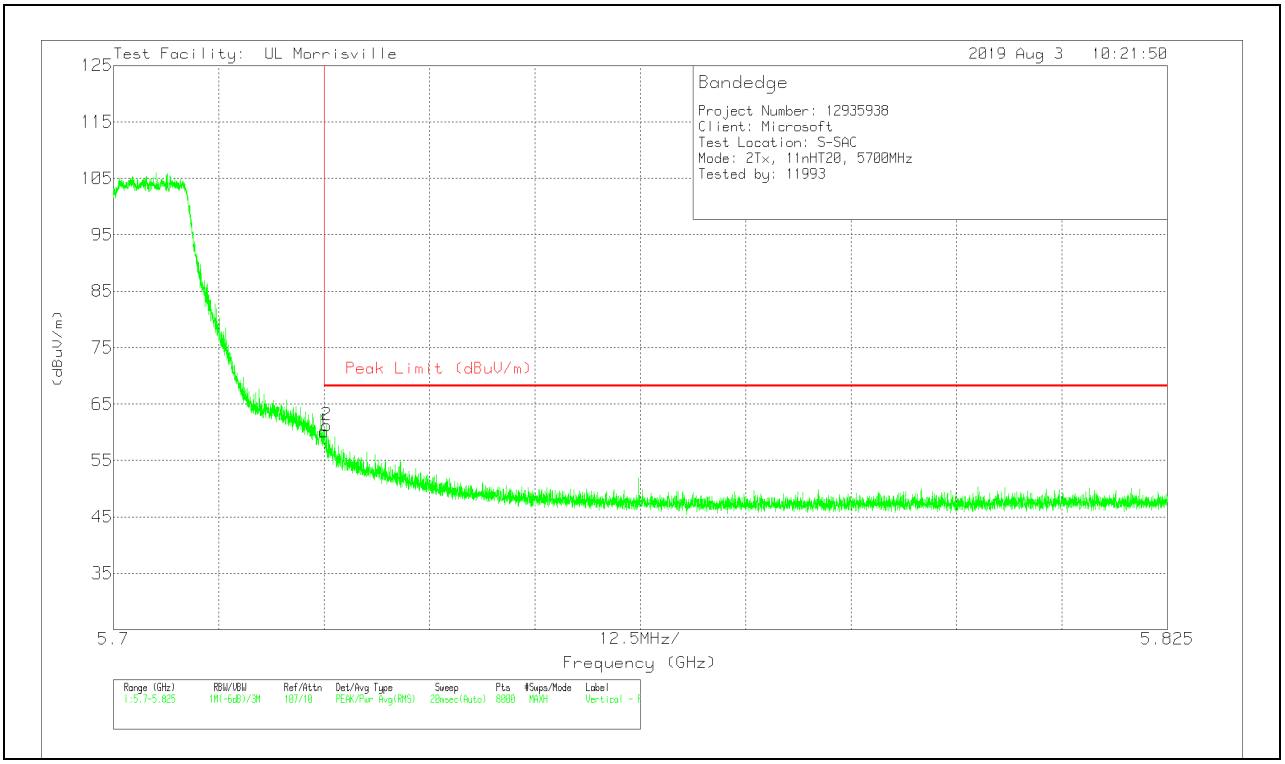
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.725	48.77	Pk	34.7	-23.3	60.17	68.2	-8.03	78	316	V
2	5.72525	49.87	Pk	34.7	-23.3	61.27	68.2	-6.93	78	316	V

Pk - Peak detector

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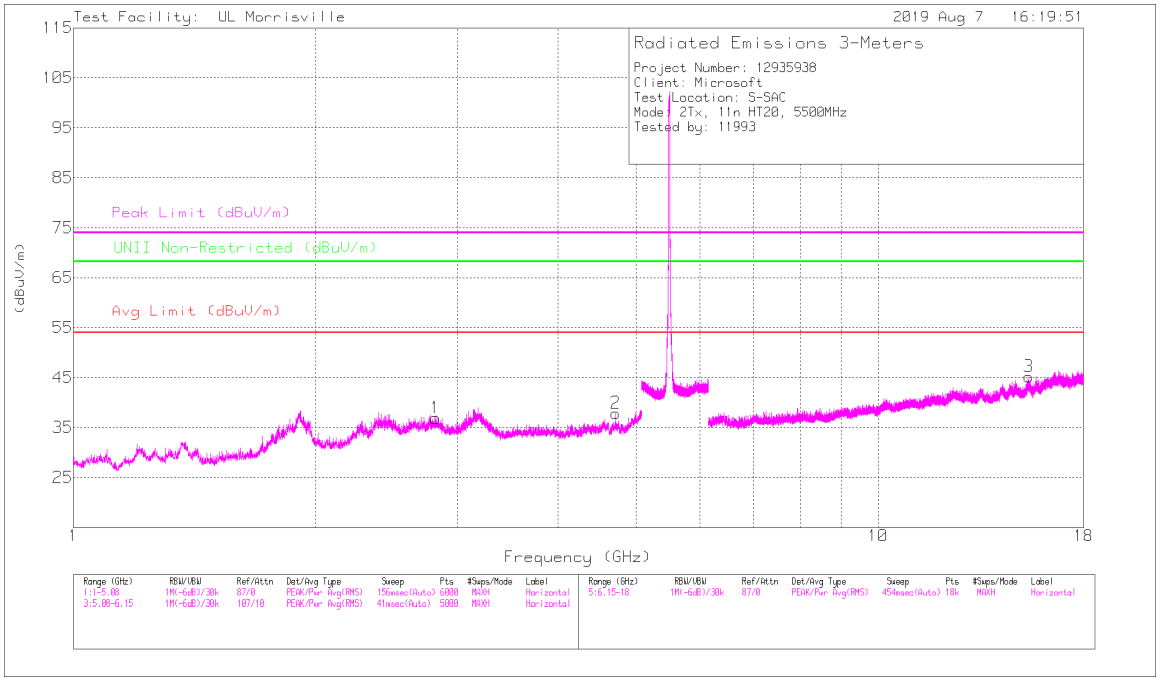
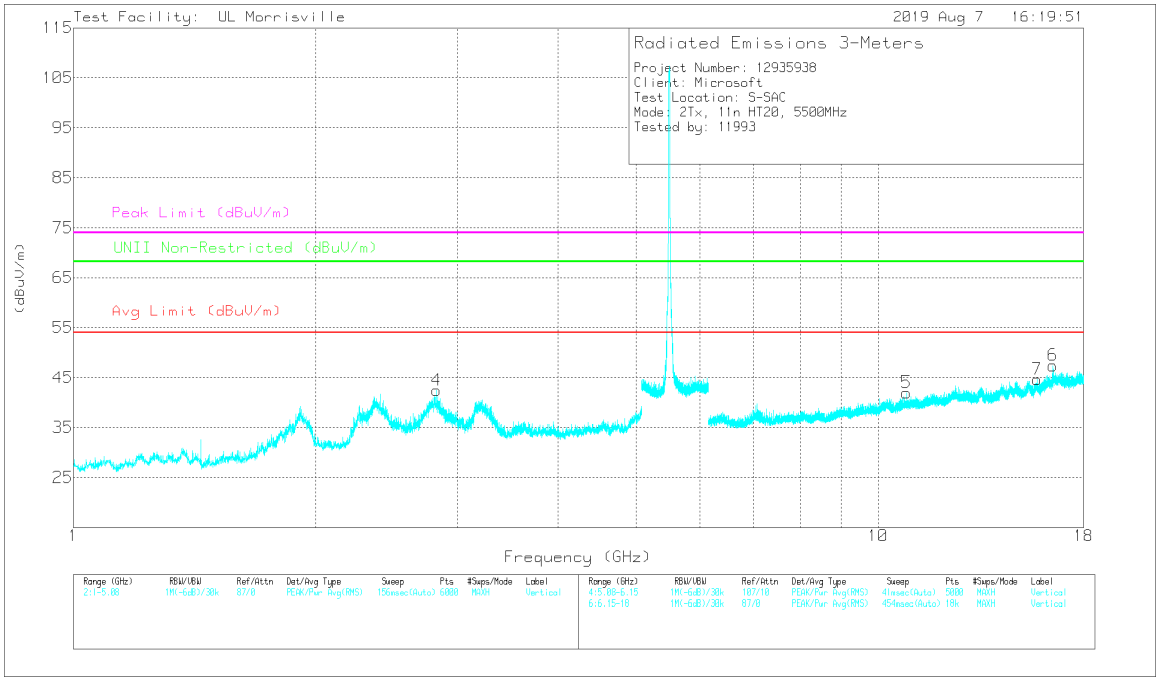
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.81574	46.92	PK-U	32.1	-33.6	45.42	-	-	74	-28.58	-	-	148	143	H
	* ** 2.81859	35.34	ADR	32.1	-33.6	33.84	54	-20.16	-	-	-	-	148	143	H
2	* ** 4.71689	38.68	PK-U	34	-31	41.68	-	-	74	-32.32	-	-	76	362	H
	* ** 4.71643	27.52	ADR	34	-31	30.52	54	-23.48	-	-	-	-	76	362	H
4	* ** 2.82708	52.54	PK-U	32.1	-33.6	51.04	-	-	74	-22.96	-	-	101	237	V
	* ** 2.82631	40.47	ADR	32.1	-33.6	38.97	54	-15.03	-	-	-	-	101	237	V
3	* ** 15.37734	33.39	PK-U	39.9	-22.3	50.99	-	-	74	-23.01	-	-	232	243	H
	* ** 15.37564	21.96	ADR	39.9	-22.4	39.46	54	-14.54	-	-	-	-	232	243	H
5	* ** 10.84188	34.51	PK-U	37.8	-24.6	47.71	-	-	74	-26.29	-	-	191	346	V
	* ** 10.84381	22.37	ADR	37.8	-24.6	35.57	54	-18.43	-	-	-	-	191	346	V
7	* ** 15.76186	32.85	PK-U	40.3	-22.8	50.35	-	-	74	-23.65	-	-	17	293	V
	* ** 15.76086	21.54	ADR	40.3	-22.8	39.04	54	-14.96	-	-	-	-	17	293	V
6	16.49486	42.1	PK-U	41.4	-23.4	60.1	-	-	-	-	68.2	-8.1	16	284	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average
Pk - Peak detector

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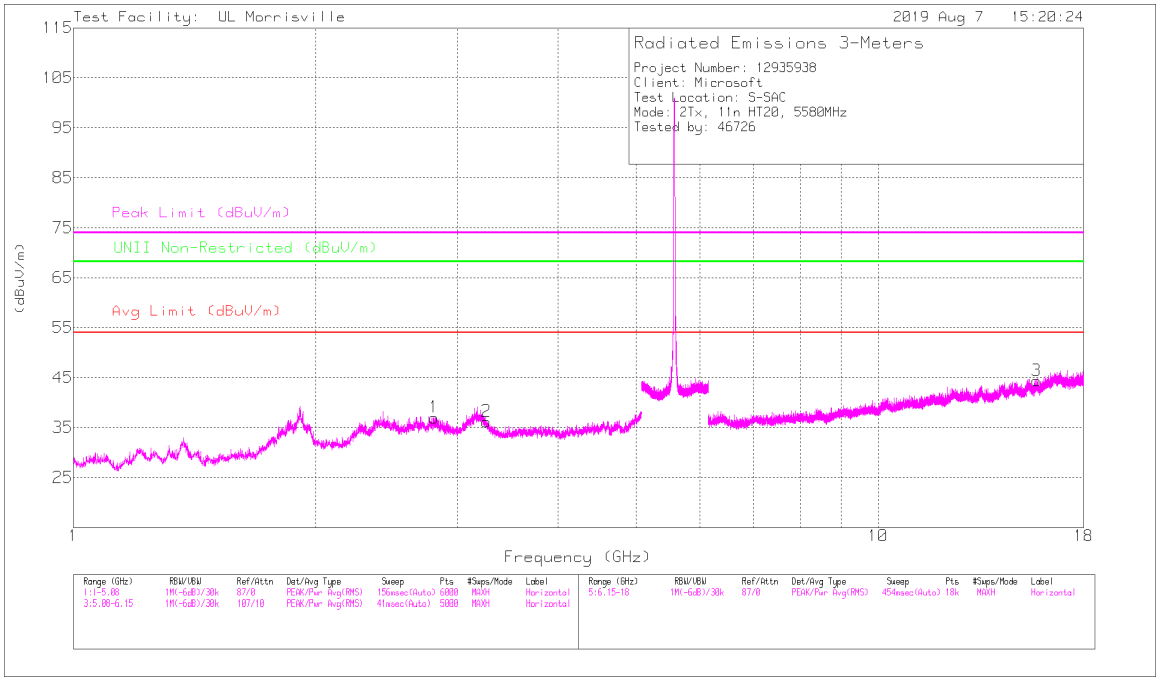
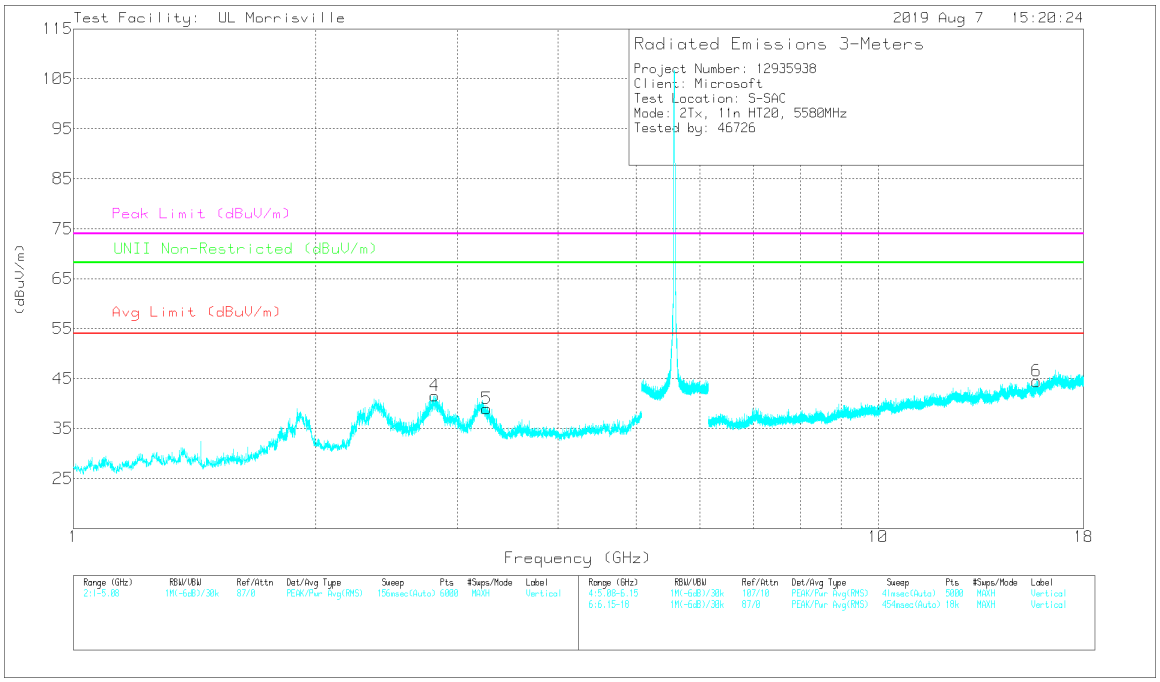
MID CHANNEL RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.81015	45	PK-U	32.1	-33.5	43.6	-	-	74	-30.4	-	-	189	256	H
	* ** 2.81012	33.04	ADR	32.1	-33.5	31.64	54	-22.36	-	-	-	-	189	256	H
2	* ** 3.26571	44.78	PK-U	33	-33.2	44.58	-	-	74	-29.42	-	-	21	116	H
	* ** 3.26565	32.18	ADR	33	-33.2	31.98	54	-22.02	-	-	-	-	21	116	H
4	* ** 2.81142	52.03	PK-U	32.1	-33.5	50.63	-	-	74	-23.37	-	-	103	241	V
	* ** 2.81128	39.97	ADR	32.1	-33.5	38.57	54	-15.43	-	-	-	-	103	241	V
5	* ** 3.26153	48.74	PK-U	33.1	-33.3	48.54	-	-	74	-25.46	-	-	102	218	V
	* ** 3.26152	36.5	ADR	33.1	-33.3	36.3	54	-17.7	-	-	-	-	102	218	V
3	* ** 15.74652	33.55	PK-U	40.3	-22.7	51.15	-	-	74	-22.85	-	-	330	233	H
	* ** 15.74646	21.69	ADR	40.3	-22.7	39.29	54	-14.71	-	-	-	-	330	233	H
6	* ** 15.74417	33.36	PK-U	40.3	-22.7	50.96	-	-	74	-23.04	-	-	93	163	V
	* ** 15.74417	21.27	ADR	40.3	-22.7	38.87	54	-15.13	-	-	-	-	93	163	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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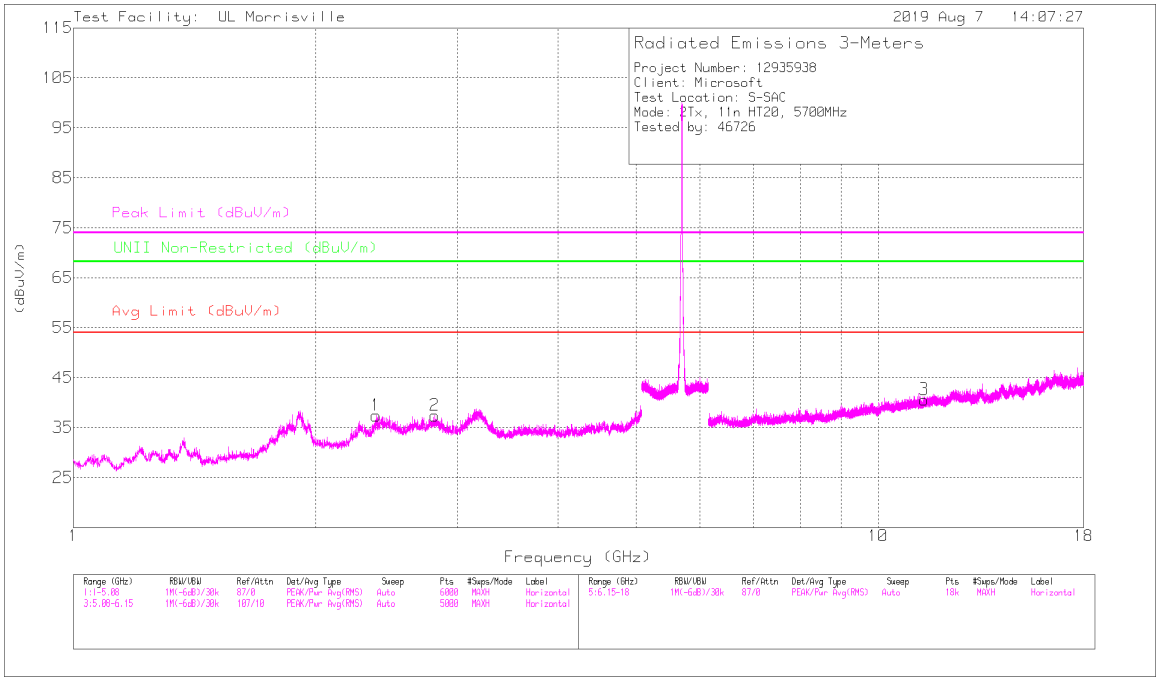
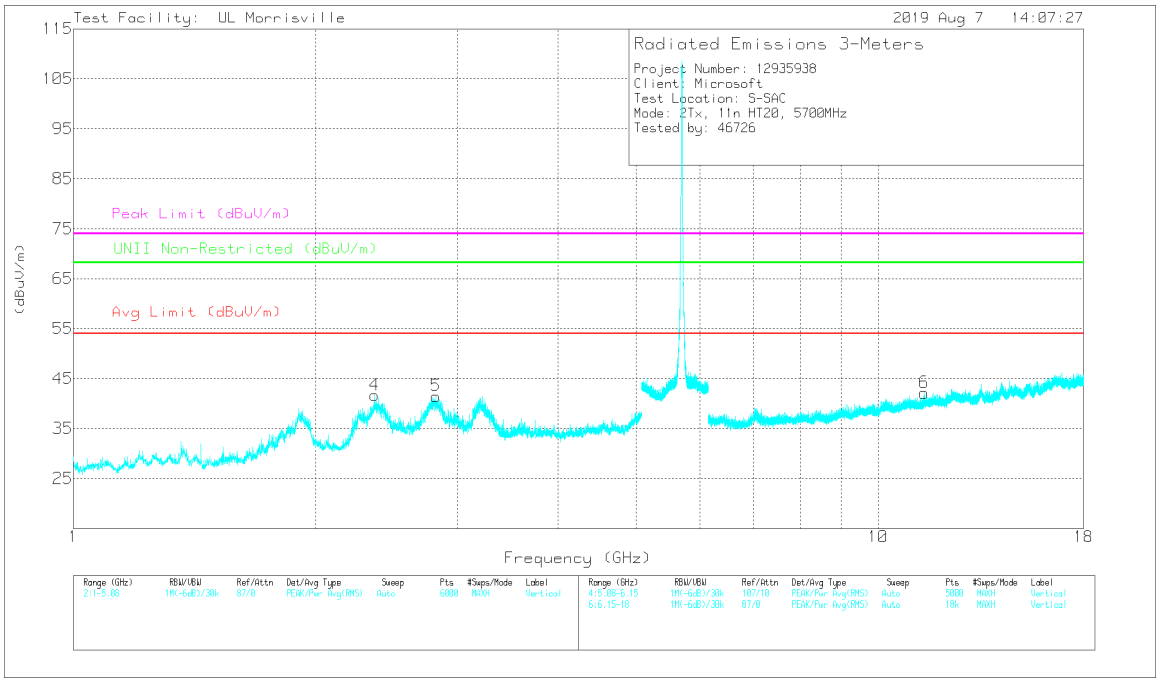
HIGH CHANNEL RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.38016	47.21	PK-U	31.9	-33.9	45.21	-	-	74	-28.79	-	-	357	137	H
	* ** 2.38023	34.88	ADR	31.9	-33.9	32.88	54	-21.12	-	-	-	-	357	137	H
2	* ** 2.81275	45.89	PK-U	32.1	-33.5	44.49	-	-	74	-29.51	-	-	138	148	H
	* ** 2.81281	34.09	ADR	32.1	-33.5	32.69	54	-21.31	-	-	-	-	138	148	H
4	* ** 2.367	51.71	PK-U	31.8	-33.9	49.61	-	-	74	-24.39	-	-	96	235	V
	* ** 2.36695	40.22	ADR	31.8	-33.9	38.12	54	-15.88	-	-	-	-	96	235	V
5	* ** 2.81866	52.27	PK-U	32.1	-33.6	50.77	-	-	74	-23.23	-	-	101	240	V
	* ** 2.81864	40.68	ADR	32.1	-33.6	39.18	54	-14.82	-	-	-	-	101	240	V
3	* ** 11.3994	37.39	PK-U	38.1	-24.5	50.99	-	-	74	-23.01	-	-	327	330	H
	* ** 11.39936	24.43	ADR	38.1	-24.5	38.03	54	-15.97	-	-	-	-	327	330	H
6	* ** 11.40055	38.02	PK-U	38.1	-24.6	51.52	-	-	74	-22.48	-	-	22	217	V
	* ** 11.40044	25.36	ADR	38.1	-24.6	38.86	54	-15.14	-	-	-	-	22	217	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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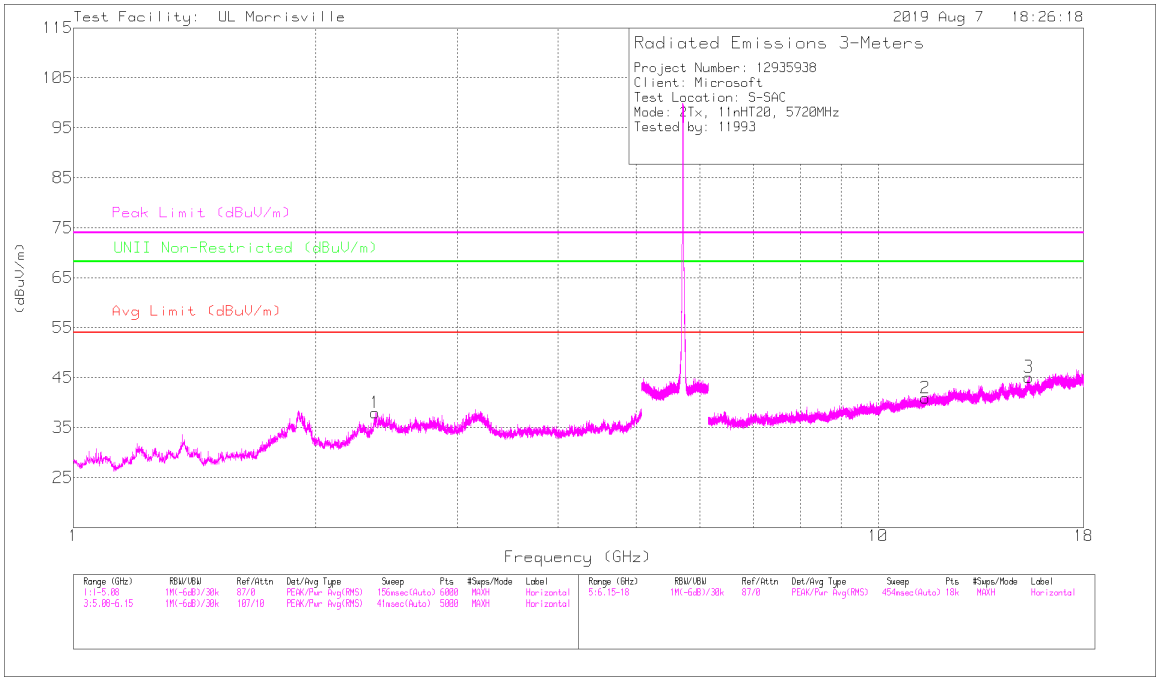
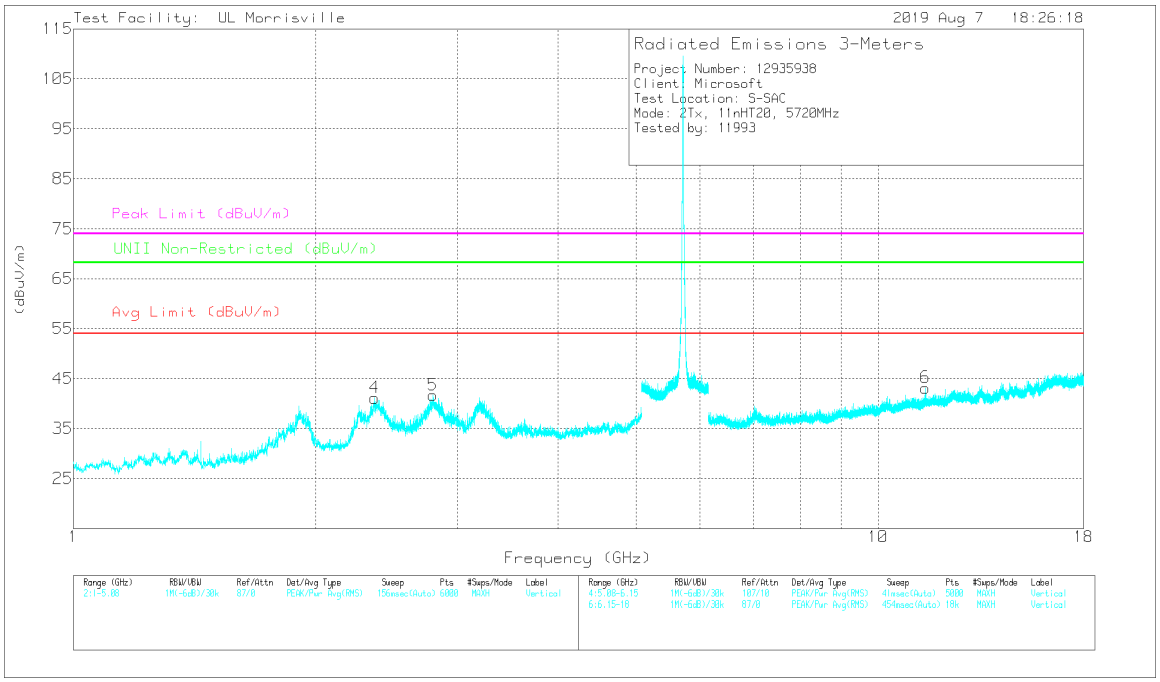
CHANNEL 144 RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.3721	46.73	PK-U	31.8	-33.9	44.63	-	-	74	-29.37	-	-	357	122	H
	* ** 2.3733	35.09	ADR	31.8	-33.9	32.99	54	-21.01	-	-	-	-	357	122	H
4	* ** 2.37041	52.36	PK-U	31.8	-33.9	50.26	-	-	74	-23.74	-	-	95	230	V
	* ** 2.36711	40.26	ADR	31.8	-33.9	38.16	54	-15.84	-	-	-	-	95	230	V
5	* ** 2.79801	51.67	PK-U	32.2	-33.5	50.37	-	-	74	-23.63	-	-	102	238	V
	* ** 2.79572	39.97	ADR	32.2	-33.5	38.67	54	-15.33	-	-	-	-	102	238	V
2	* ** 11.4417	39.7	PK-U	38.1	-24.5	53.3	-	-	74	-20.7	-	-	324	301	H
	* ** 11.44121	26.02	ADR	38.1	-24.5	39.62	54	-14.38	-	-	-	-	324	301	H
3	* ** 15.39883	33.29	PK-U	39.9	-22.1	51.09	-	-	74	-22.91	-	-	272	268	H
	* ** 15.40162	21.65	ADR	39.9	-22.1	39.45	54	-14.55	-	-	-	-	272	268	H
6	* ** 11.43998	37.79	PK-U	38.1	-24.5	51.39	-	-	74	-22.61	-	-	18	209	V
	* ** 11.43971	25.7	ADR	38.1	-24.5	39.3	54	-14.7	-	-	-	-	18	209	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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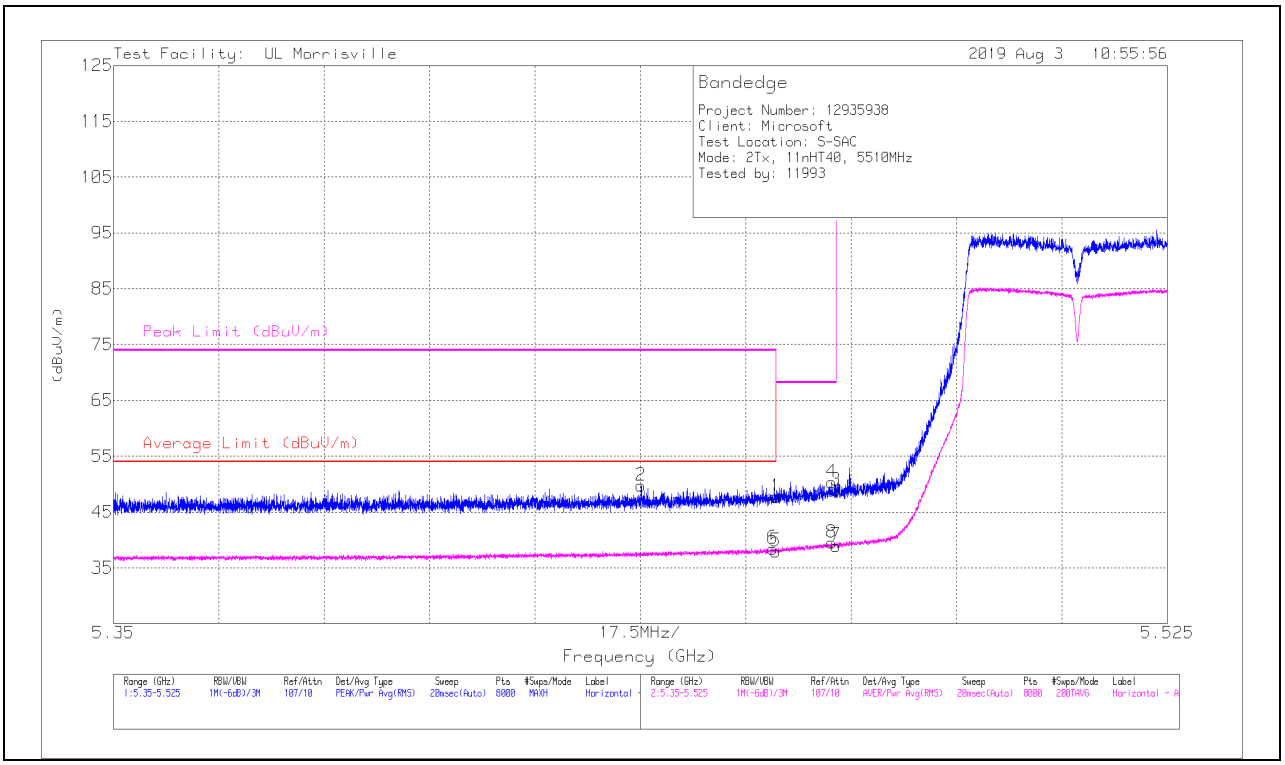
10.1.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 SDM MODE

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.45998	36.62	Pk	34.5	-23.4	47.72	-	-	74	-26.28	137	164	H
2	* ** 5.43762	38.64	Pk	34.5	-23.4	49.74	-	-	74	-24.26	137	164	H
5	* ** 5.45998	26.87	RMS	34.5	-23.4	37.97	54	-16.03	-	-	137	164	H
6	* ** 5.45943	27.37	RMS	34.5	-23.4	38.47	54	-15.53	-	-	137	164	H
8	5.46926	28.53	RMS	34.5	-23.5	39.53	-	-	-	-	137	164	H
4	5.46928	39.31	Pk	34.5	-23.5	50.31	-	-	68.2	-17.89	137	164	H
3	5.46998	37.85	Pk	34.5	-23.5	48.85	-	-	68.2	-19.35	137	164	H
7	5.46998	27.97	RMS	34.5	-23.5	38.97	-	-	-	-	137	164	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
RMS - RMS detection

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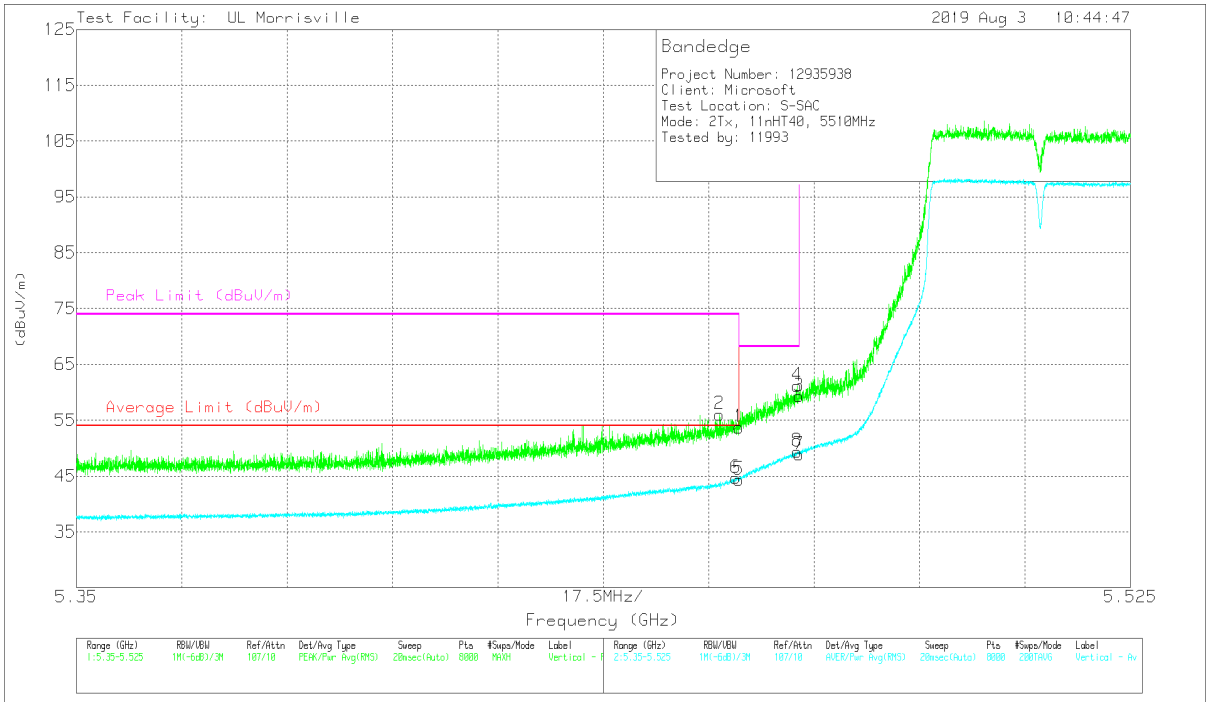
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.45998	42.63	Pk	34.5	-23.4	53.73	-	-	74	-20.27	50	233	V
2	* ** 5.45674	44.96	Pk	34.5	-23.4	56.06	-	-	74	-17.94	50	233	V
5	* ** 5.45998	33.26	RMS	34.5	-23.4	44.36	54	-9.64	-	-	50	233	V
6	* ** 5.45948	33.61	RMS	34.5	-23.4	44.71	54	-9.29	-	-	50	233	V
4	5.46965	50.19	Pk	34.5	-23.5	61.19	-	-	68.2	-7.01	50	233	V
8	5.46967	38.41	RMS	34.5	-23.5	49.41	-	-	-	-	50	233	V
3	5.46998	48.33	Pk	34.5	-23.5	59.33	-	-	68.2	-8.87	50	233	V
7	5.46998	37.87	RMS	34.5	-23.5	48.87	-	-	-	-	50	233	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
RMS - RMS detection

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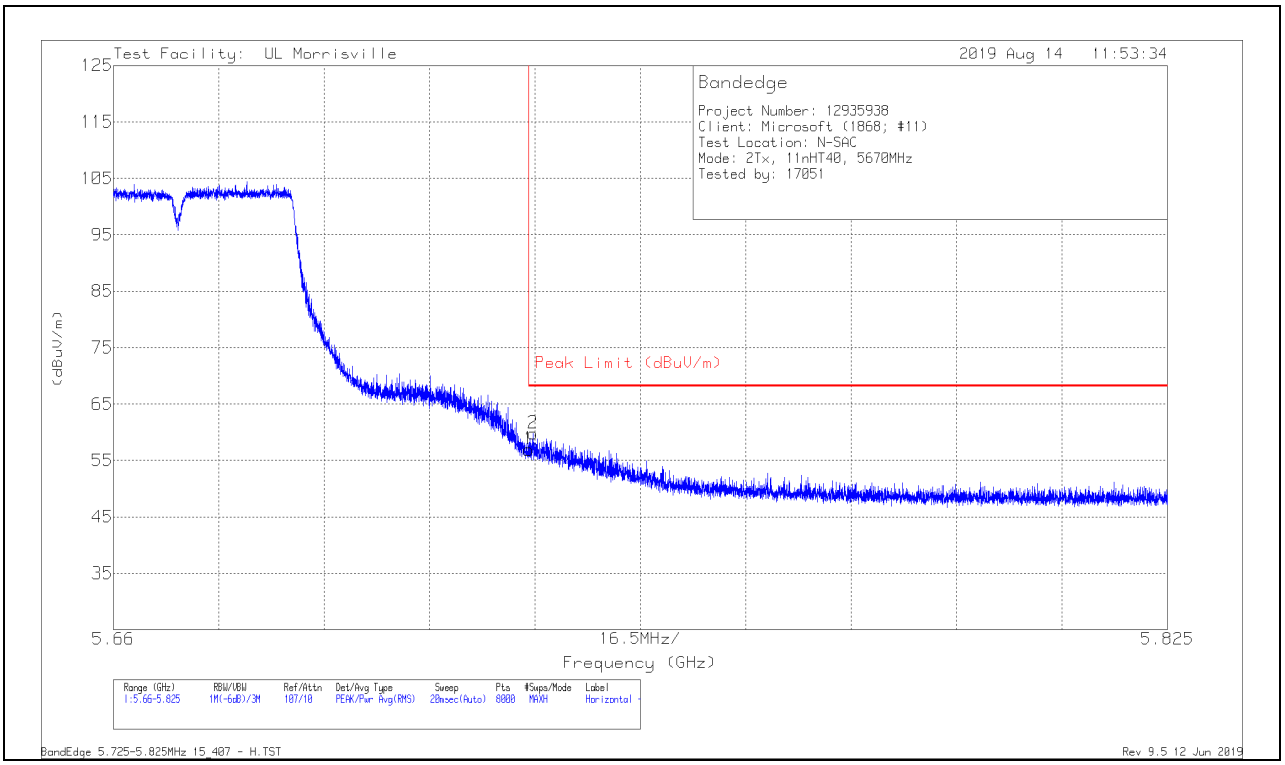
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.72502	45.24	Pk	34.6	-22.9	56.94	68.2	-11.26	258	328	H
2	5.72572	48.05	Pk	34.6	-22.9	59.75	68.2	-8.45	258	328	H

Pk - Peak detector

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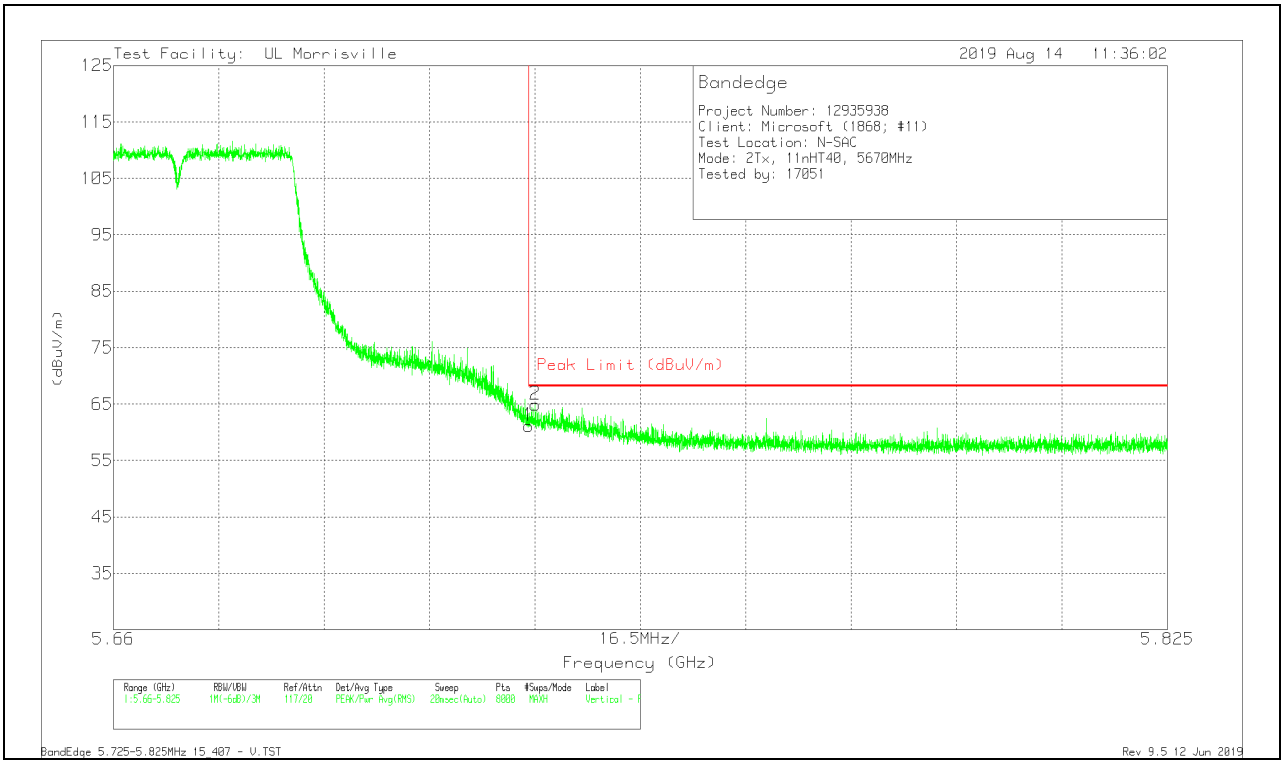
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.72502	49.46	Pk	34.6	-22.9	61.16	68.2	-7.04	287	249	V
2	5.72603	53.24	Pk	34.6	-22.9	64.94	68.2	-3.26	287	249	V

Pk - Peak detector

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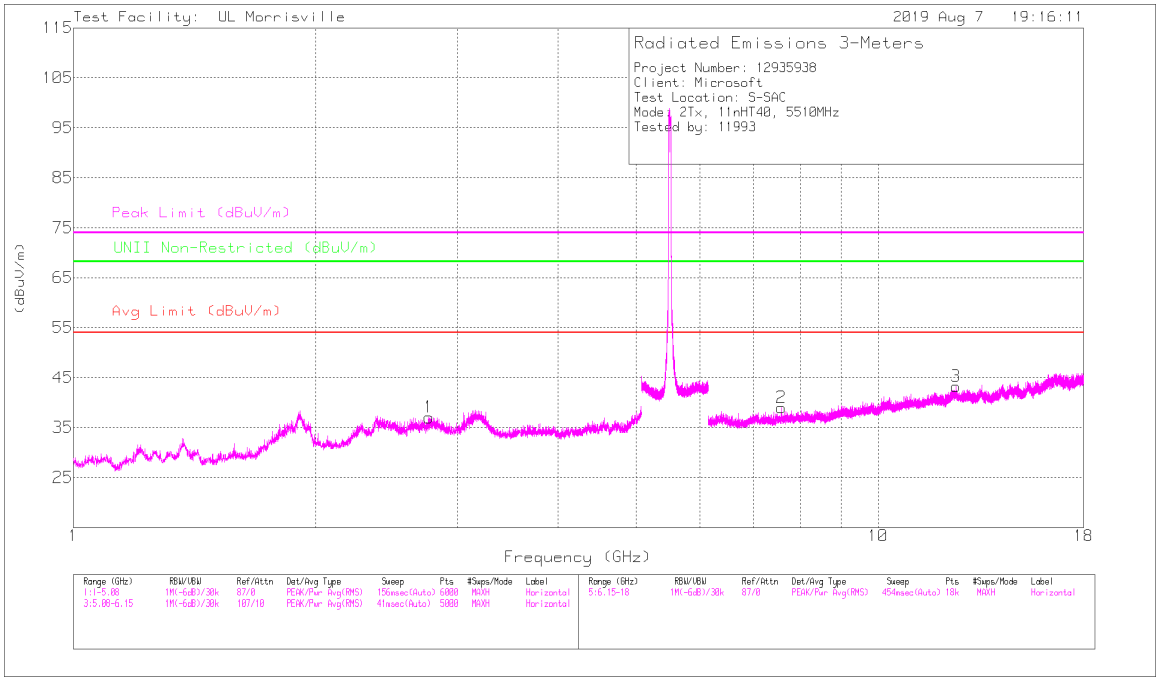
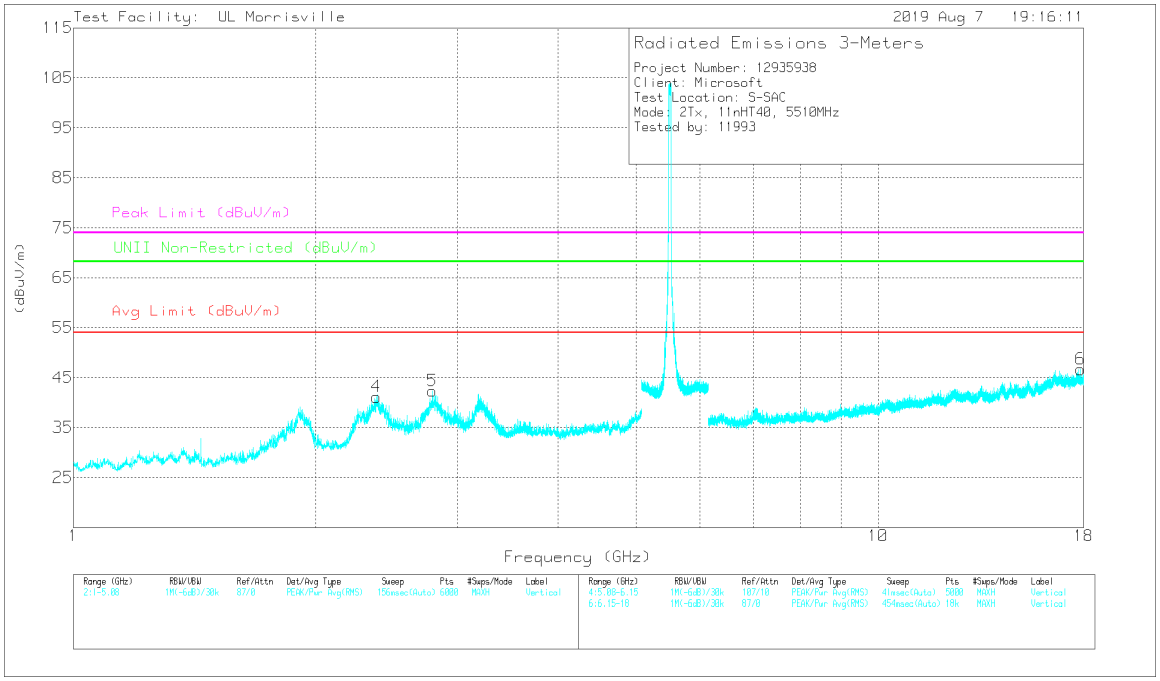
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.76616	46.87	PK-U	32.2	-33.5	45.57	-	-	74	-28.43	-	-	144	140	H
	* ** 2.76897	34.28	ADR	32.2	-33.5	32.98	54	-21.02	-	-	-	-	144	140	H
4	* ** 2.37734	52.12	PK-U	31.8	-33.9	50.02	-	-	74	-23.98	-	-	97	224	V
	* ** 2.37687	40.12	ADR	31.8	-33.9	38.02	54	-15.98	-	-	-	-	97	224	V
5	* ** 2.79411	51.58	PK-U	32.2	-33.5	50.28	-	-	74	-23.72	-	-	107	238	V
	* ** 2.79368	39.54	ADR	32.2	-33.5	38.24	54	-15.76	-	-	-	-	107	238	V
2	* ** 7.58181	36.43	PK-U	35.8	-27.7	44.53	-	-	74	-29.47	-	-	268	297	H
	* ** 7.58325	24.19	ADR	35.8	-27.7	32.29	54	-21.71	-	-	-	-	268	297	H
3	* ** 12.48894	33.51	PK-U	39	-23.8	48.71	-	-	74	-25.29	-	-	320	183	H
	* ** 12.4877	21.71	ADR	39	-23.8	36.91	54	-17.09	-	-	-	-	320	183	H
6	* ** 17.84421	33.07	PK-U	41.2	-22.3	51.97	-	-	74	-22.03	-	-	310	230	V
	* ** 17.84221	21.83	ADR	41.2	-22.3	40.73	54	-13.27	-	-	-	-	310	230	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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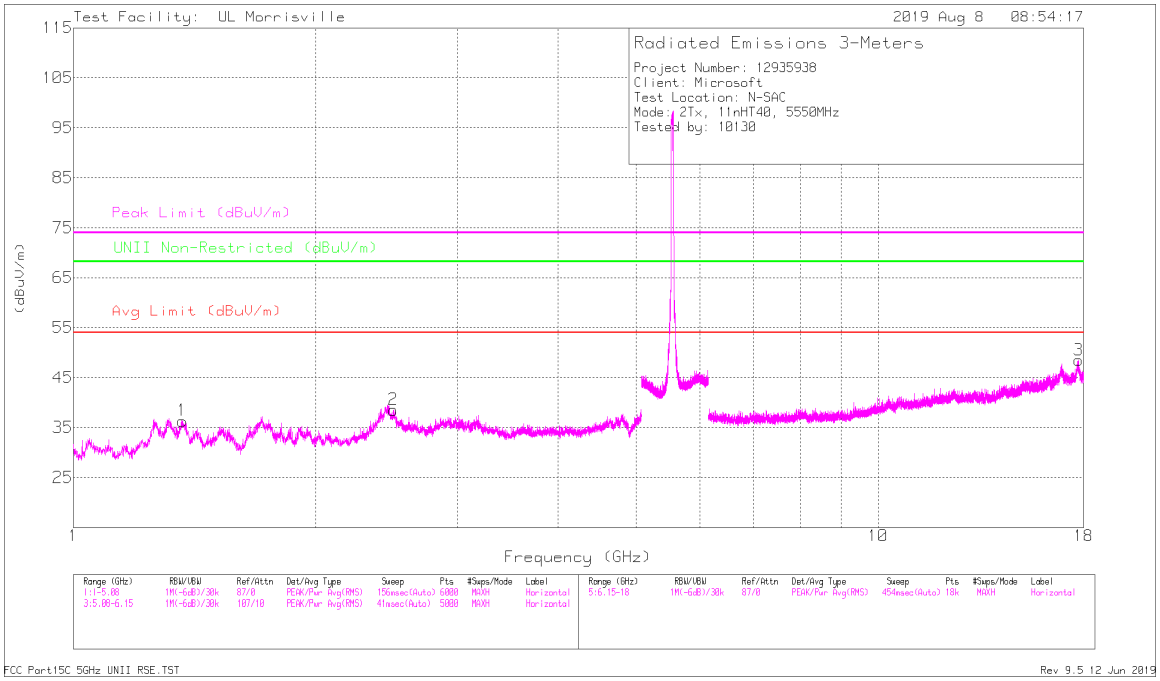
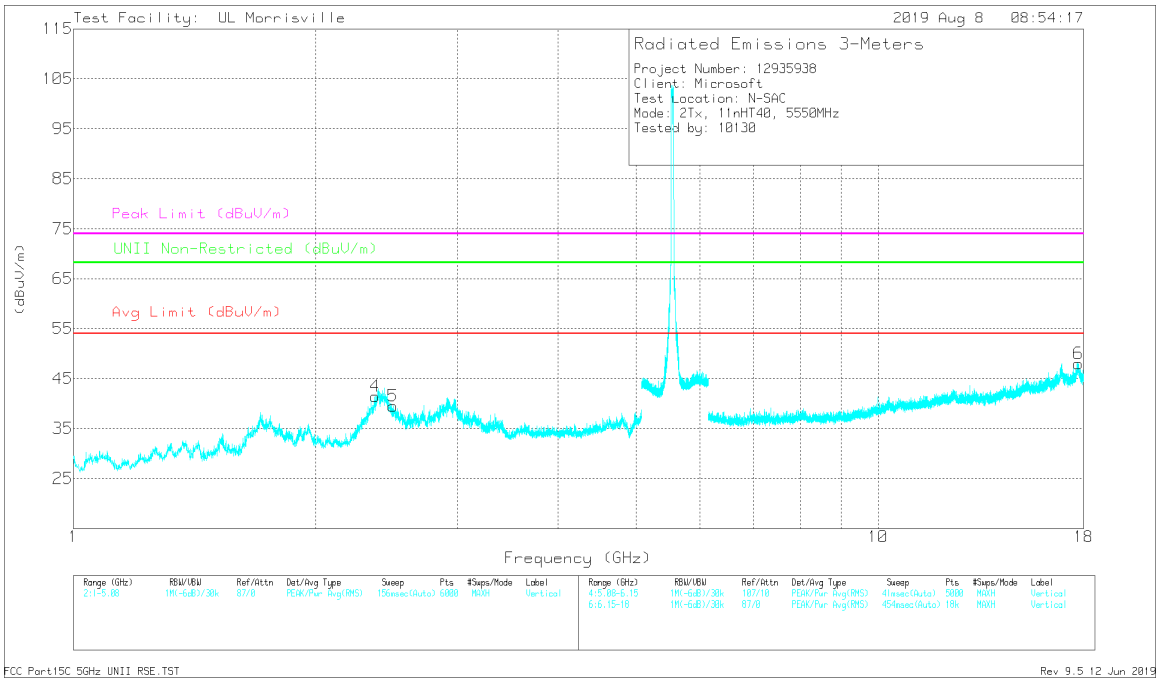
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.36467	52.88	PK-U	29.5	-36	46.38	-	-	74	-27.62	-	-	270	130	H
	* ** 1.36767	40.96	ADR	29.5	-36	34.46	54	-19.54	-	-	-	-	270	130	H
2	* ** 2.49635	47.98	PK-U	32.5	-34.2	46.28	-	-	74	-27.72	-	-	203	108	H
	* ** 2.49789	35.67	ADR	32.5	-34.2	33.97	54	-20.03	-	-	-	-	203	108	H
4	* ** 2.37104	52.27	PK-U	31.9	-34.1	50.07	-	-	74	-23.93	-	-	23	248	V
	* ** 2.37029	40.3	ADR	31.9	-34.1	38.1	54	-15.9	-	-	-	-	23	248	V
5	* ** 2.49518	50.57	PK-U	32.5	-34.2	48.87	-	-	74	-25.13	-	-	32	209	V
	* ** 2.49502	38	ADR	32.5	-34.2	36.3	54	-17.7	-	-	-	-	32	209	V
3	* ** 17.74396	33.51	PK-U	41.1	-20.5	54.11	-	-	74	-19.89	-	-	300	232	H
	* ** 17.74403	22.13	ADR	41.1	-20.5	42.73	54	-11.27	-	-	-	-	300	232	H
6	* ** 17.73407	33.22	PK-U	41.1	-20.3	54.02	-	-	74	-19.98	-	-	13	399	V
	* ** 17.73547	21.86	ADR	41.1	-20.3	42.66	54	-11.34	-	-	-	-	13	399	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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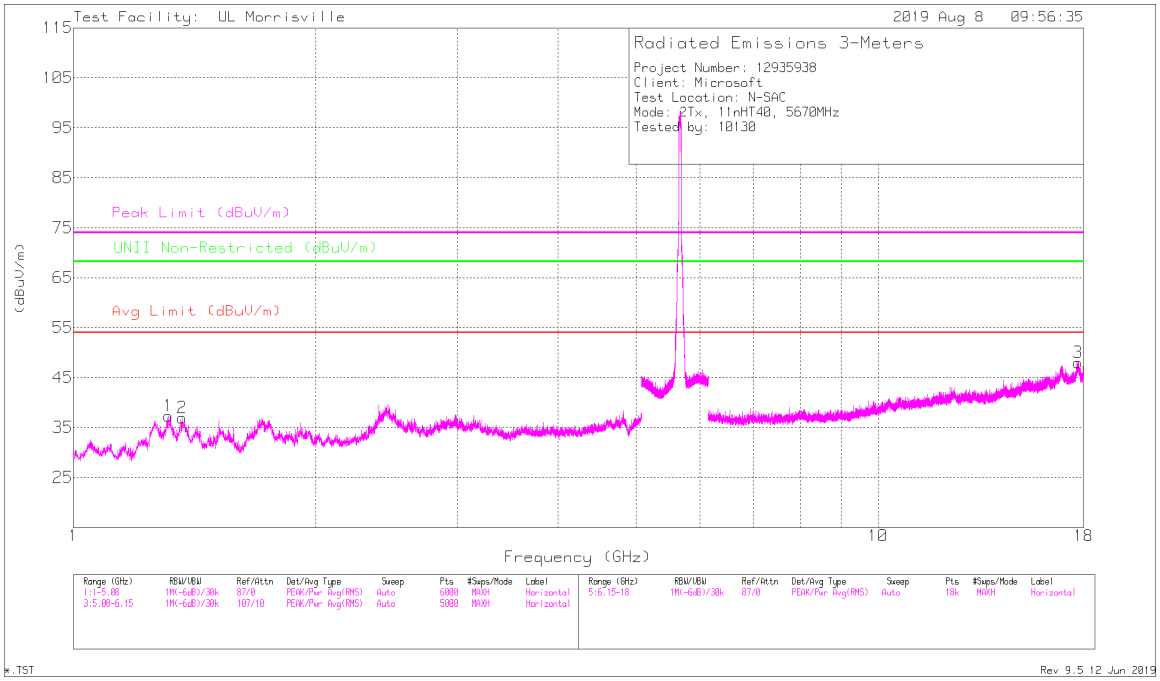
HIGH CHANNEL RESULTS



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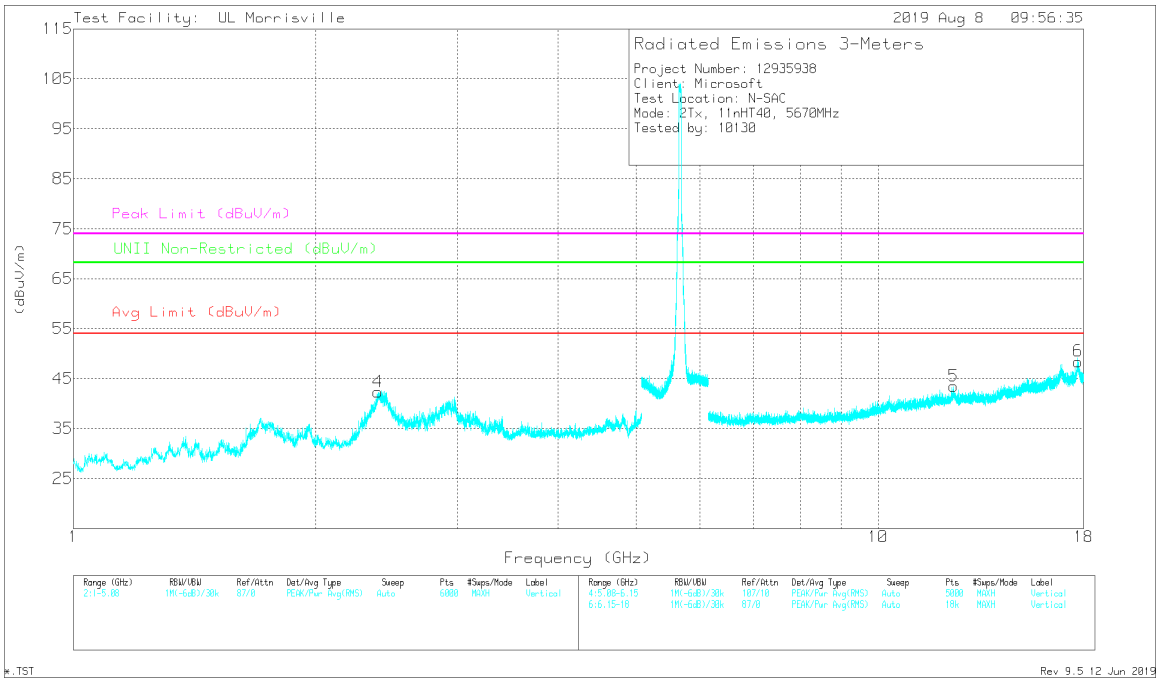

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.31361	53.27	PK-U	28.9	-36.1	46.12	-	-	74	-27.88	-	-	265	145	H
	* ** 1.31403	41.55	ADR	28.9	-36.1	34.4	54	-19.6	-	-	-	-	265	145	H
2	* ** 1.36367	50.86	PK-U	29.5	-36	44.41	-	-	74	-29.59	-	-	208	141	H
	* ** 1.36562	38.94	ADR	29.5	-36	32.49	54	-21.51	-	-	-	-	208	141	H
4	* ** 2.38859	53.86	PK-U	32	-34.1	51.81	-	-	74	-22.19	-	-	25	246	V
	* ** 2.38971	41.53	ADR	32	-34.1	39.48	54	-14.52	-	-	-	-	25	246	V
3	* ** 17.71296	33.43	PK-U	41.1	-20.8	53.78	-	-	74	-20.22	-	-	57	208	H
	* ** 17.71548	22.3	ADR	41.1	-20.7	42.75	54	-11.25	-	-	-	-	57	208	H
5	* ** 12.41104	34.65	PK-U	38.8	-24.8	48.7	-	-	74	-25.3	-	-	273	280	V
	* ** 12.41093	23.2	ADR	38.8	-24.8	37.25	54	-16.75	-	-	-	-	273	280	V
6	* ** 17.7143	33.87	PK-U	41.1	-20.8	54.22	-	-	74	-19.78	-	-	42	185	V
	* ** 17.71495	22.28	ADR	41.1	-20.8	42.63	54	-11.37	-	-	-	-	42	185	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
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PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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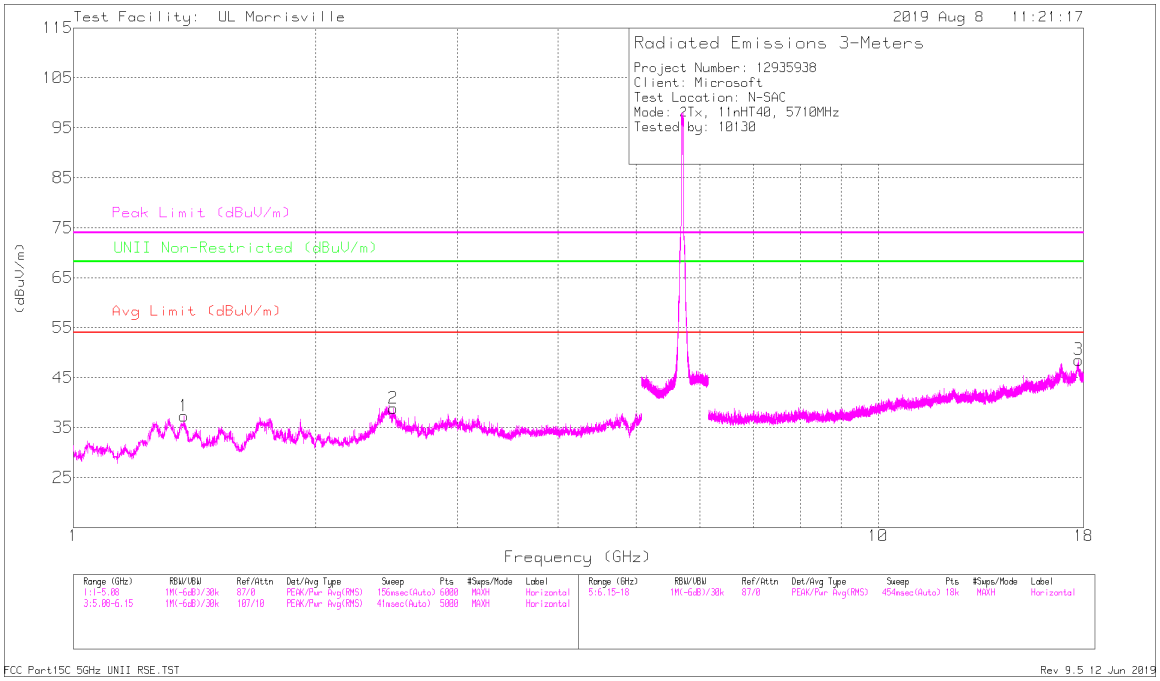
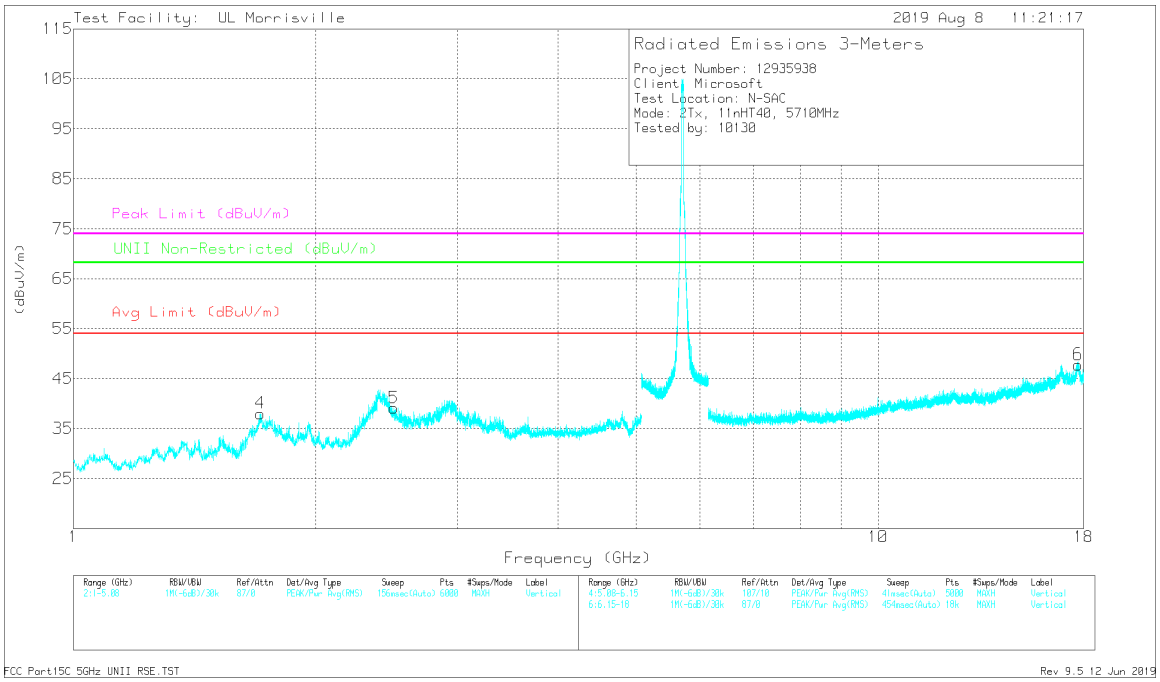
CHANNEL 142 RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.37011	52.1	PK-U	29.4	-36	45.55	-	-	74	-28.45	-	-	275	127	H
	* ** 1.37022	40.21	ADR	29.4	-36	33.66	54	-20.34	-	-	-	-	275	127	H
2	* ** 2.49751	48.83	PK-U	32.5	-34.2	47.18	-	-	74	-26.82	-	-	215	166	H
	* ** 2.49534	36.84	ADR	32.5	-34.2	35.19	54	-18.81	-	-	-	-	215	166	H
4	* ** 1.70721	50.87	PK-U	29.2	-35.4	44.72	-	-	74	-29.28	-	-	19	240	V
	* ** 1.70567	39.48	ADR	29.2	-35.4	33.33	54	-20.67	-	-	-	-	19	240	V
5	* ** 2.49954	50.79	PK-U	32.5	-34.2	49.14	-	-	74	-24.86	-	-	28	284	V
	* ** 2.49923	38	ADR	32.5	-34.2	36.35	54	-17.65	-	-	-	-	28	284	V
3	* ** 17.74794	33.54	PK-U	41.1	-20.6	54.09	-	-	74	-19.91	-	-	122	176	H
	* ** 17.74668	21.91	ADR	41.1	-20.5	42.56	54	-11.44	-	-	-	-	122	176	H
6	* ** 17.7059	34.34	PK-U	41.1	-21	54.49	-	-	74	-19.51	-	-	333	368	V
	* ** 17.70504	22.08	ADR	41.1	-21.1	42.13	54	-11.87	-	-	-	-	333	368	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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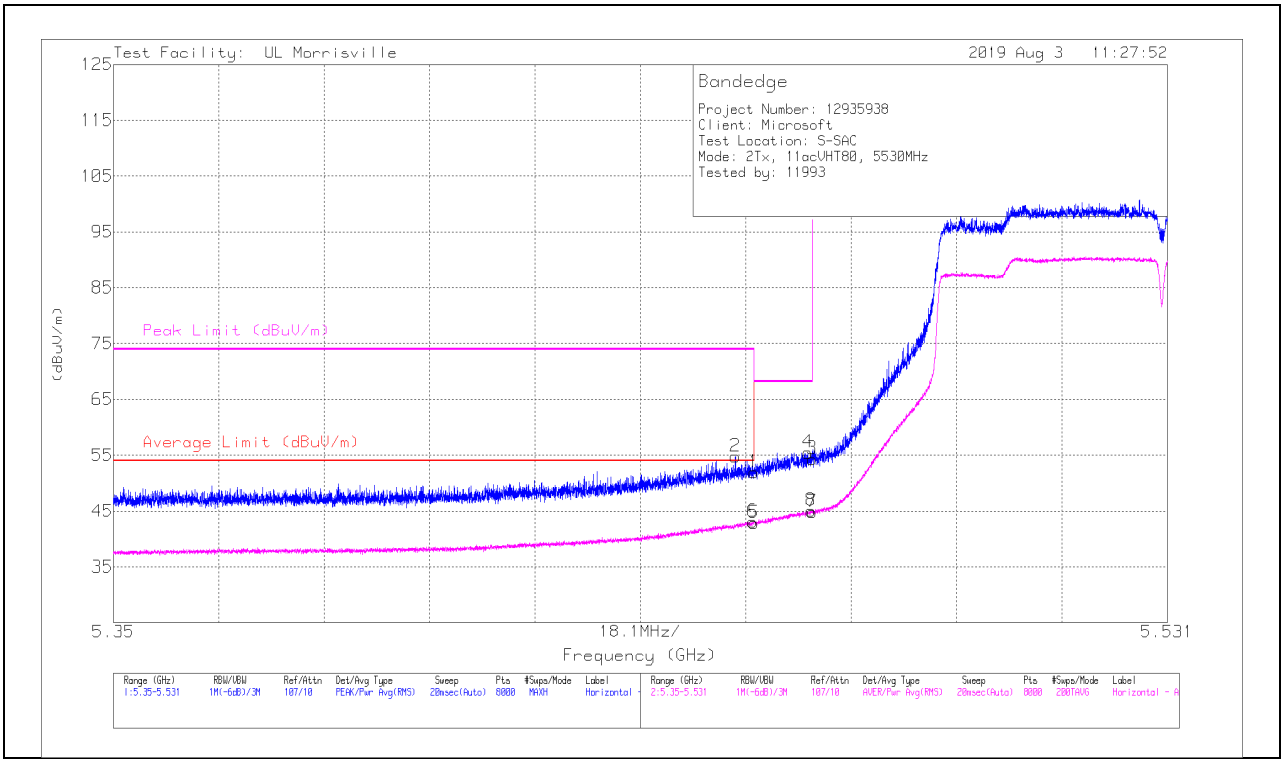
10.1.4. TX ABOVE 1 GHz 802.11ac VHT80 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 SDM MODE

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.46	40.87	Pk	34.5	-23.4	51.97	-	-	74	-22.03	62	396	H
2	* ** 5.4568	43.66	Pk	34.5	-23.4	54.76	-	-	74	-19.24	62	396	H
5	* ** 5.46	31.71	RMS	34.5	-23.4	42.81	54	-11.19	-	-	62	396	H
6	* ** 5.45981	32	RMS	34.5	-23.4	43.1	54	-10.9	-	-	62	396	H
4	5.46923	44.45	Pk	34.5	-23.5	55.45	-	-	68.2	-12.75	62	396	H
8	5.46975	34.08	RMS	34.5	-23.5	45.08	-	-	-	-	62	396	H
3	5.47	43.32	Pk	34.5	-23.5	54.32	-	-	68.2	-13.88	62	396	H
7	5.47	33.79	RMS	34.5	-23.5	44.79	-	-	-	-	62	396	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
RMS - RMS detection

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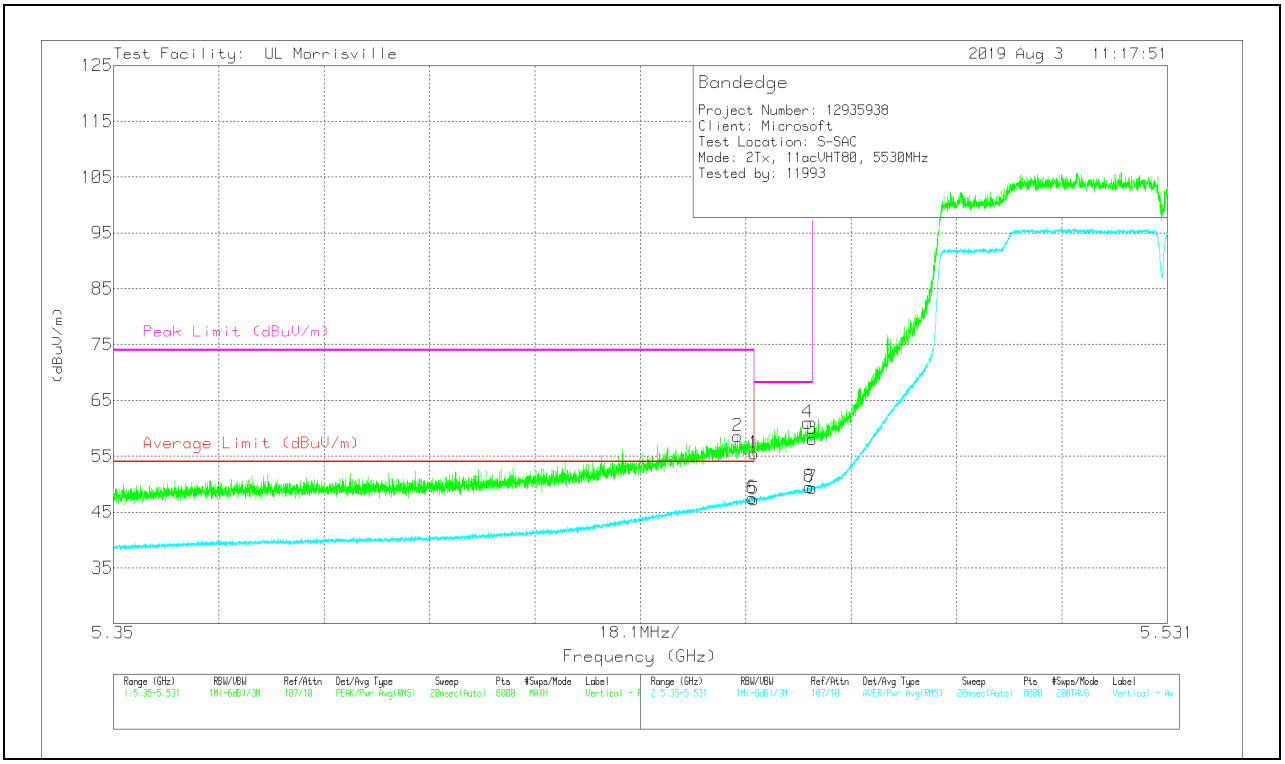
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.46	44.42	Pk	34.5	-23.4	55.52	-	-	74	-18.48	56	256	V
2	* ** 5.45719	47.5	Pk	34.5	-23.4	58.6	-	-	74	-15.4	56	256	V
5	* ** 5.46	36.19	RMS	34.5	-23.4	47.29	54	-6.71	-	-	56	256	V
6	* ** 5.4597	36.4	RMS	34.5	-23.4	47.5	54	-6.5	-	-	56	256	V
4	5.4692	49.99	Pk	34.5	-23.5	60.99	-	-	68.2	-7.21	56	256	V
8	5.46948	38.46	RMS	34.5	-23.5	49.46	-	-	-	-	56	256	V
3	5.47	47.07	Pk	34.5	-23.5	58.07	-	-	68.2	-10.13	56	256	V
7	5.47	38.38	RMS	34.5	-23.5	49.38	-	-	-	-	56	256	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
RMS - RMS detection

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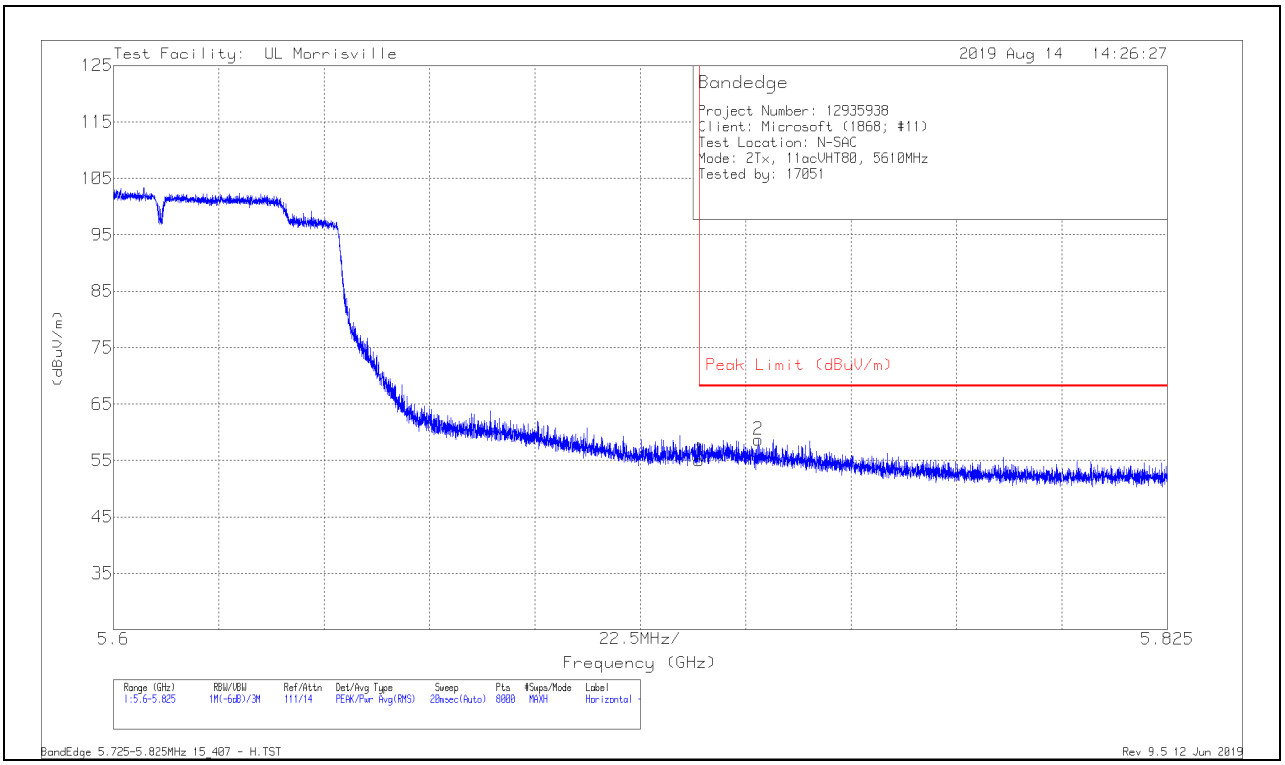
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.72501	43.34	Pk	34.6	-22.9	55.04	68.2	-13.16	258	328	H
2	5.73769	46.78	Pk	34.7	-22.8	58.68	68.2	-9.52	258	328	H

Pk - Peak detector

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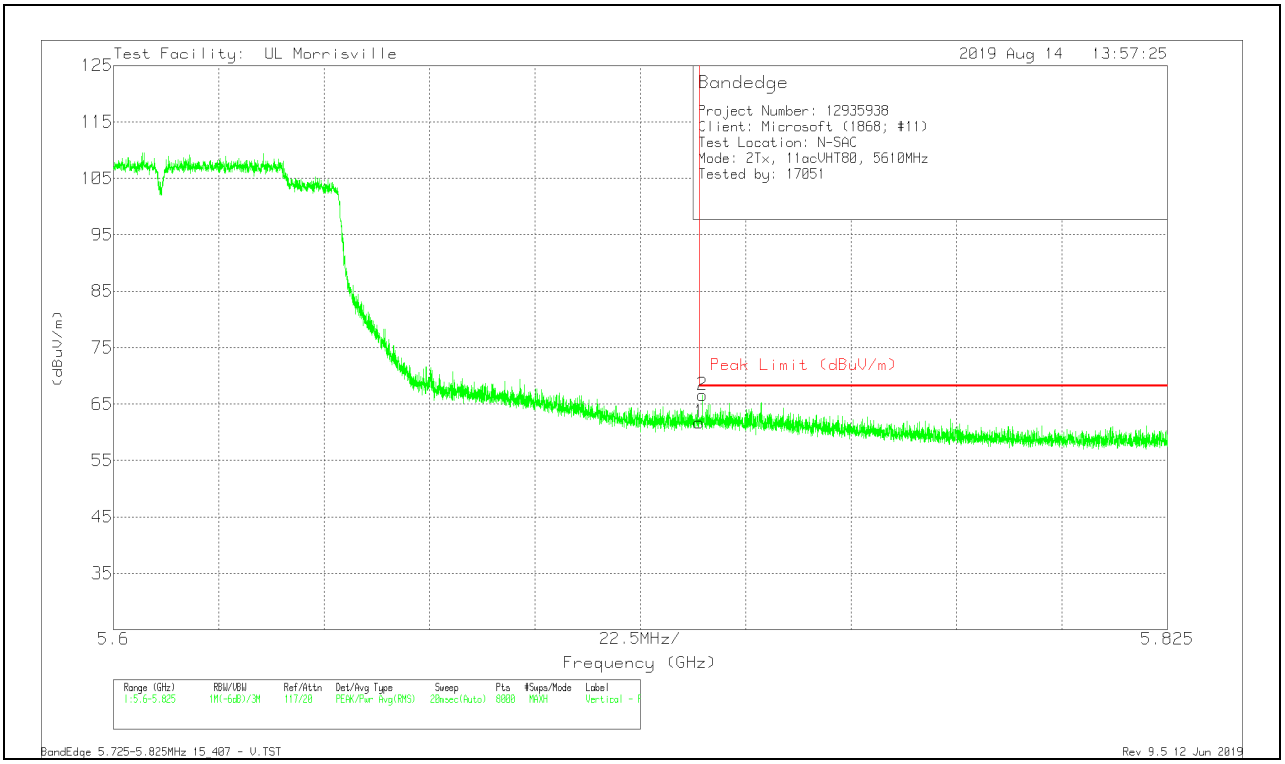
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.72501	50.04	Pk	34.6	-22.9	61.74	68.2	-6.46	287	245	V
2	5.72577	54.9	Pk	34.6	-22.9	66.6	68.2	-1.6	287	245	V

Pk - Peak detector

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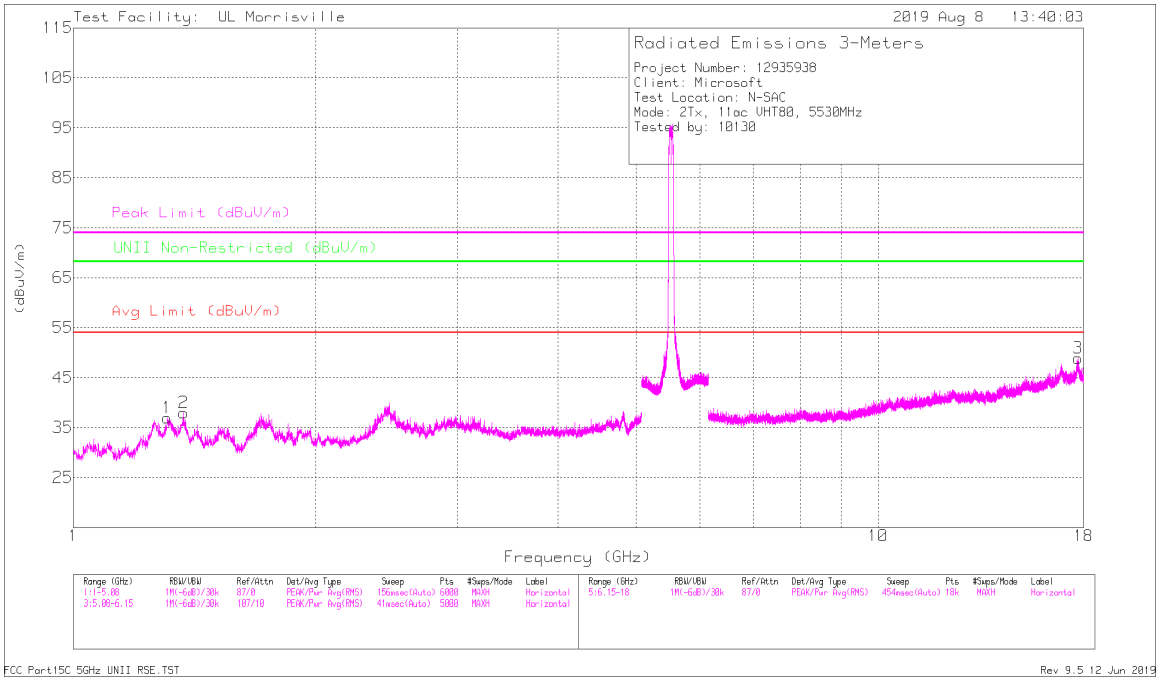
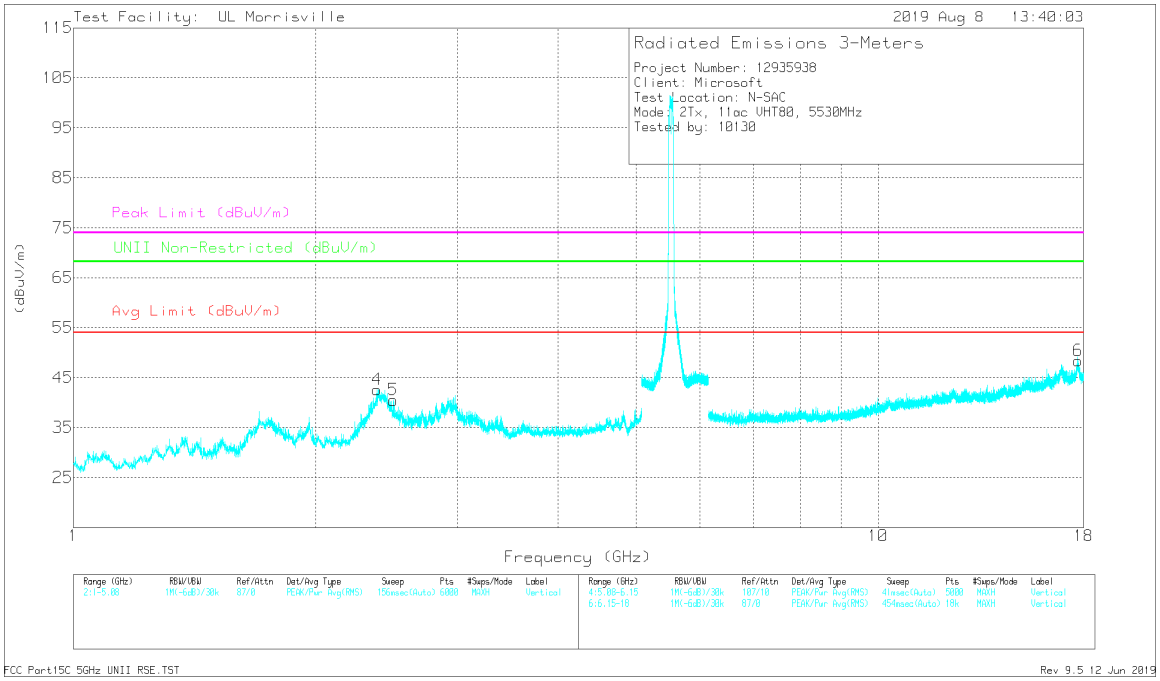
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.30669	44.71	PK-U	28.9	-36.2	37.47	-	-	74	-36.53	-	-	43	379	H
	* ** 1.30868	32.63	ADR	28.9	-36.2	25.39	54	-28.61	-	-	-	-	43	379	H
2	* ** 1.37216	48.59	PK-U	29.4	-36	42.05	-	-	74	-31.95	-	-	272	273	H
	* ** 1.36899	36.51	ADR	29.4	-36	29.97	54	-24.03	-	-	-	-	272	273	H
4	* ** 2.38658	53.73	PK-U	32	-34.1	51.69	-	-	74	-22.31	-	-	19	266	V
	* ** 2.38624	41.76	ADR	32	-34.1	39.72	54	-14.28	-	-	-	-	19	266	V
5	* ** 2.49817	44.73	PK-U	32.5	-34.2	43.09	-	-	74	-30.91	-	-	31	357	V
	* ** 2.49874	32.97	ADR	32.5	-34.2	31.33	54	-22.67	-	-	-	-	31	357	V
3	* ** 17.72915	33.89	PK-U	41.1	-20.3	54.75	-	-	74	-19.25	-	-	300	222	H
	* ** 17.72966	22.05	ADR	41.1	-20.3	42.91	54	-11.09	-	-	-	-	300	222	H
6	* ** 17.71587	33.63	PK-U	41.1	-20.7	54.09	-	-	74	-19.91	-	-	300	247	V
	* ** 17.71651	22.28	ADR	41.1	-20.7	42.74	54	-11.26	-	-	-	-	300	247	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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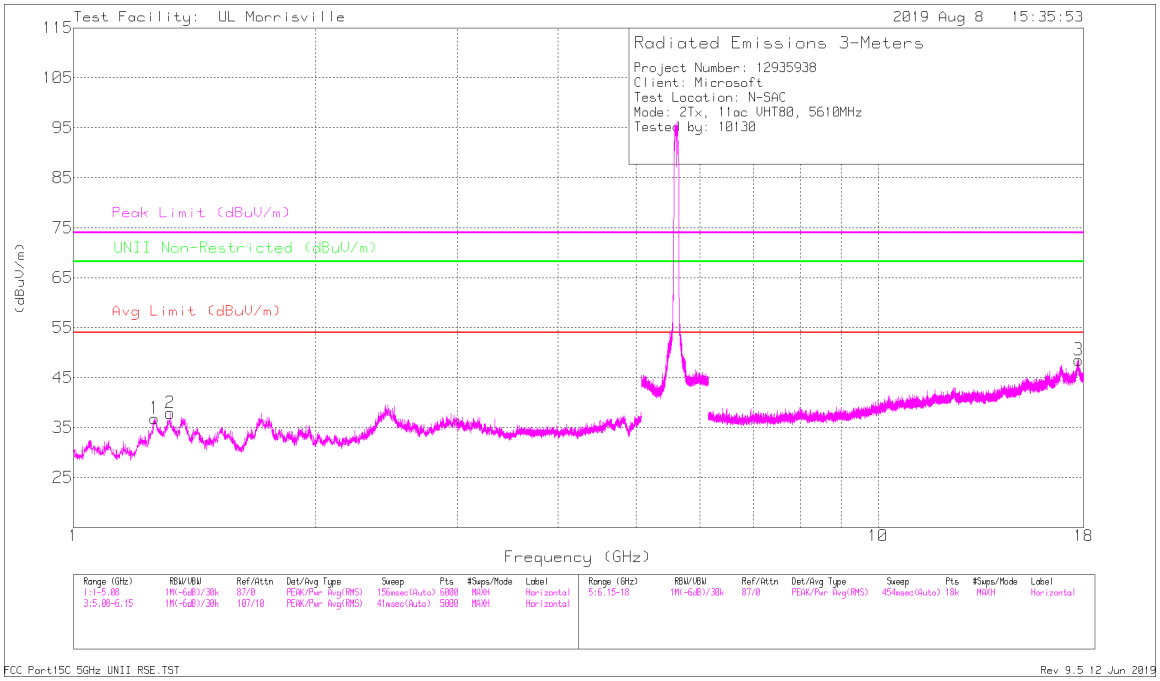
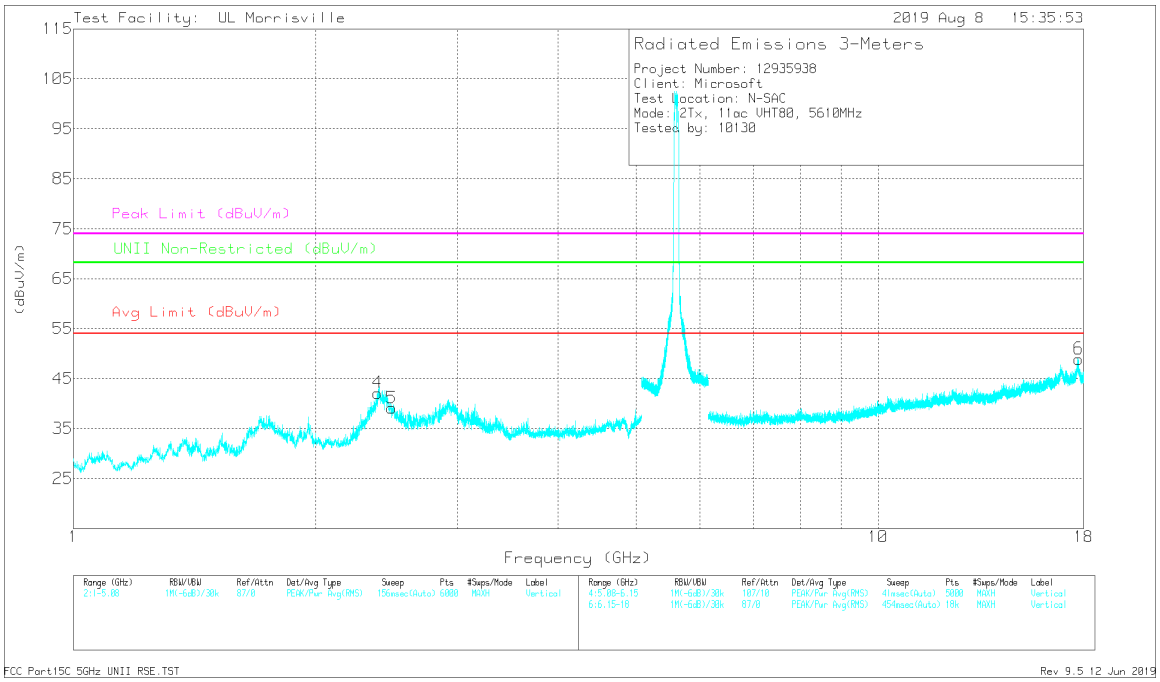
HIGH CHANNEL RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.26177	47.7	PK-U	29.2	-36.5	40.40	-	-	74	-33.60	-	-	200	357	H
	* 1.26116	35.37	ADR	29.2	-36.5	28.07	54	-25.93	-	-	-	-	200	357	H
2	* ** 1.31684	53.33	PK-U	28.9	-36.1	46.13	-	-	74	-27.87	-	-	265	155	H
	* ** 1.3164	42.03	ADR	28.9	-36.1	34.83	54	-19.17	-	-	-	-	265	155	H
4	* ** 2.38836	53.59	PK-U	32	-34.1	51.49	-	-	74	-22.51	-	-	25	215	V
	* ** 2.38806	41.76	ADR	32	-34.1	39.66	54	-14.34	-	-	-	-	25	215	V
5	* ** 2.48635	50.93	PK-U	32.4	-34.2	49.13	-	-	74	-24.87	-	-	23	259	V
	* ** 2.48716	39.03	ADR	32.4	-34.2	37.23	54	-16.77	-	-	-	-	23	259	V
3	* ** 17.74609	33.32	PK-U	41.1	-20.5	53.92	-	-	74	-20.08	-	-	157	125	H
	* ** 17.74505	21.94	ADR	41.1	-20.5	42.54	54	-11.46	-	-	-	-	157	125	H
6	* ** 17.74236	33.9	PK-U	41.1	-20.4	54.60	-	-	74	-19.40	-	-	356	231	V
	* ** 17.74123	22.08	ADR	41.1	-20.4	42.78	54	-11.22	-	-	-	-	356	231	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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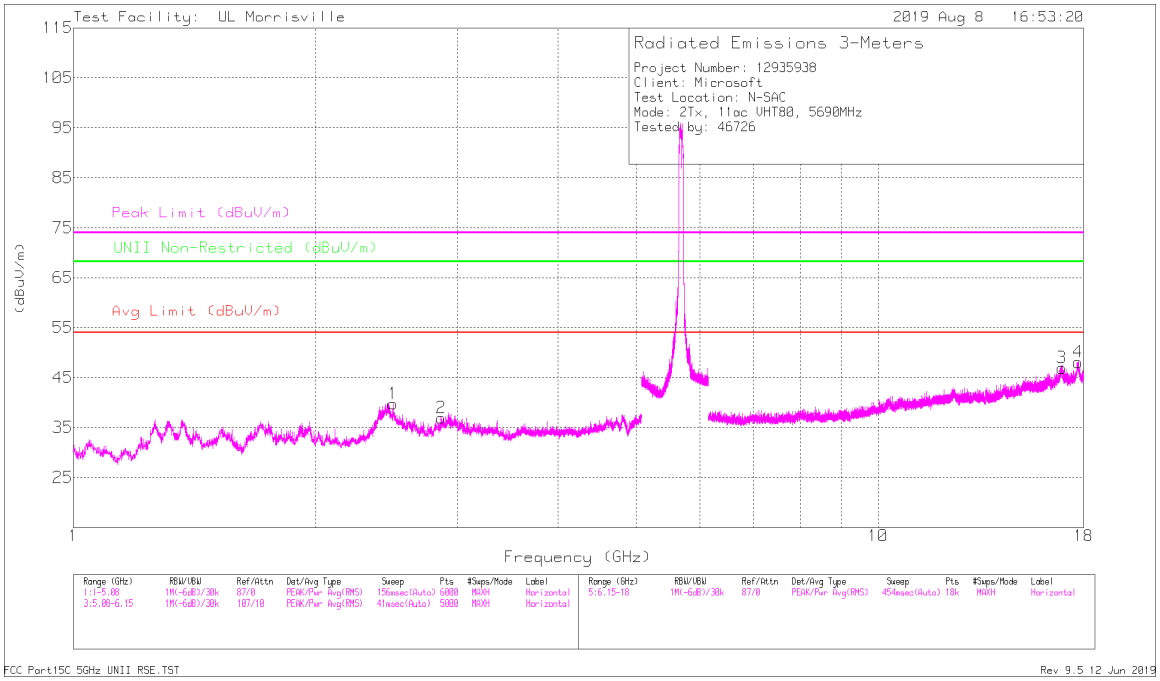
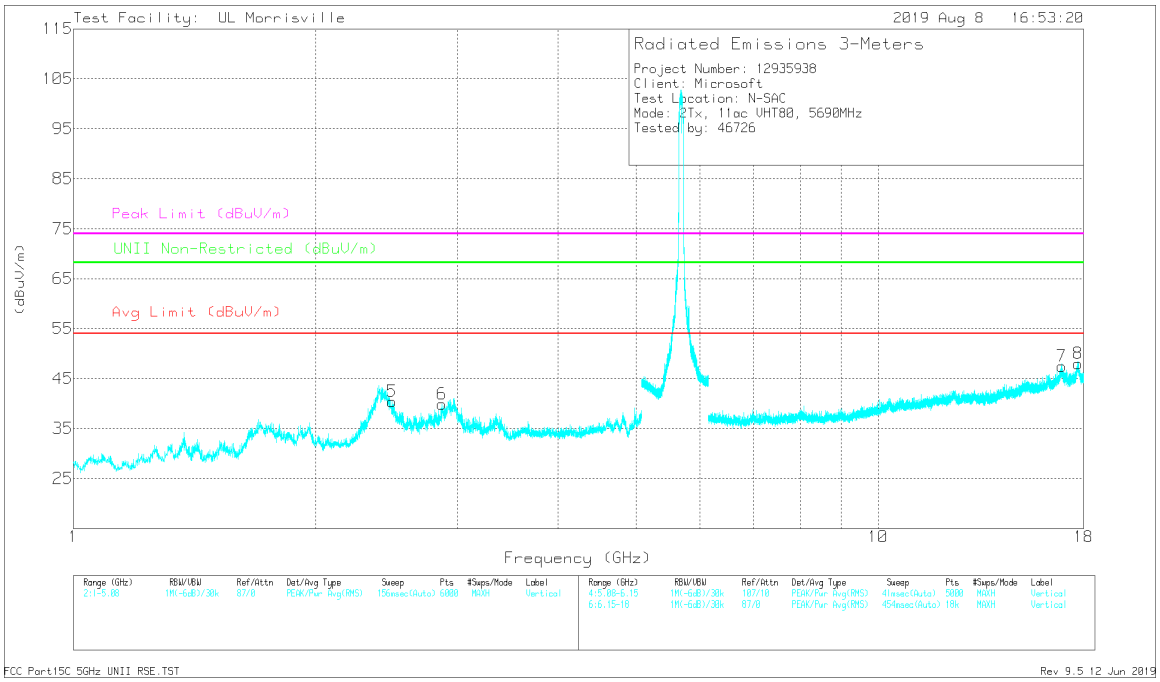
CHANNEL 138 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.49793	44.68	PK-U	32.5	-34.2	42.98	-	-	74	-31.02	-	-	218	358	H
	* ** 2.49795	32.71	ADR	32.5	-34.2	31.01	54	-22.99	-	-	-	-	218	358	H
2	* ** 2.86641	46.73	PK-U	32.5	-33.8	45.43	-	-	74	-28.57	-	-	297	128	H
	* ** 2.86658	34.64	ADR	32.5	-33.8	33.34	54	-20.66	-	-	-	-	297	128	H
5	* ** 2.48996	51.07	PK-U	32.4	-34.2	49.27	-	-	74	-24.73	-	-	29	263	V
	* ** 2.48995	38.63	ADR	32.4	-34.2	36.83	54	-17.17	-	-	-	-	29	263	V
6	* ** 2.86983	51.54	PK-U	32.5	-33.9	50.14	-	-	74	-23.86	-	-	31	228	V
	* ** 2.86984	38.59	ADR	32.5	-33.9	37.19	54	-16.81	-	-	-	-	31	228	V
4	* ** 17.72497	34.19	PK-U	41.1	-20.4	54.89	-	-	74	-19.11	-	-	161	269	H
	* ** 17.72496	22.06	ADR	41.1	-20.4	42.76	54	-11.24	-	-	-	-	161	269	H
8	* ** 17.72025	34.11	PK-U	41.1	-20.5	54.71	-	-	74	-19.29	-	-	275	195	V
	* ** 17.72019	22.04	ADR	41.1	-20.5	42.64	54	-11.36	-	-	-	-	275	195	V
7	16.89968	36.2	PK-U	41.3	-22.9	54.6	-	-	-	-	68.2	-13.6	104	262	V
3	16.92428	36.51	PK-U	41.4	-23.6	54.31	-	-	-	-	68.2	-13.89	139	114	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

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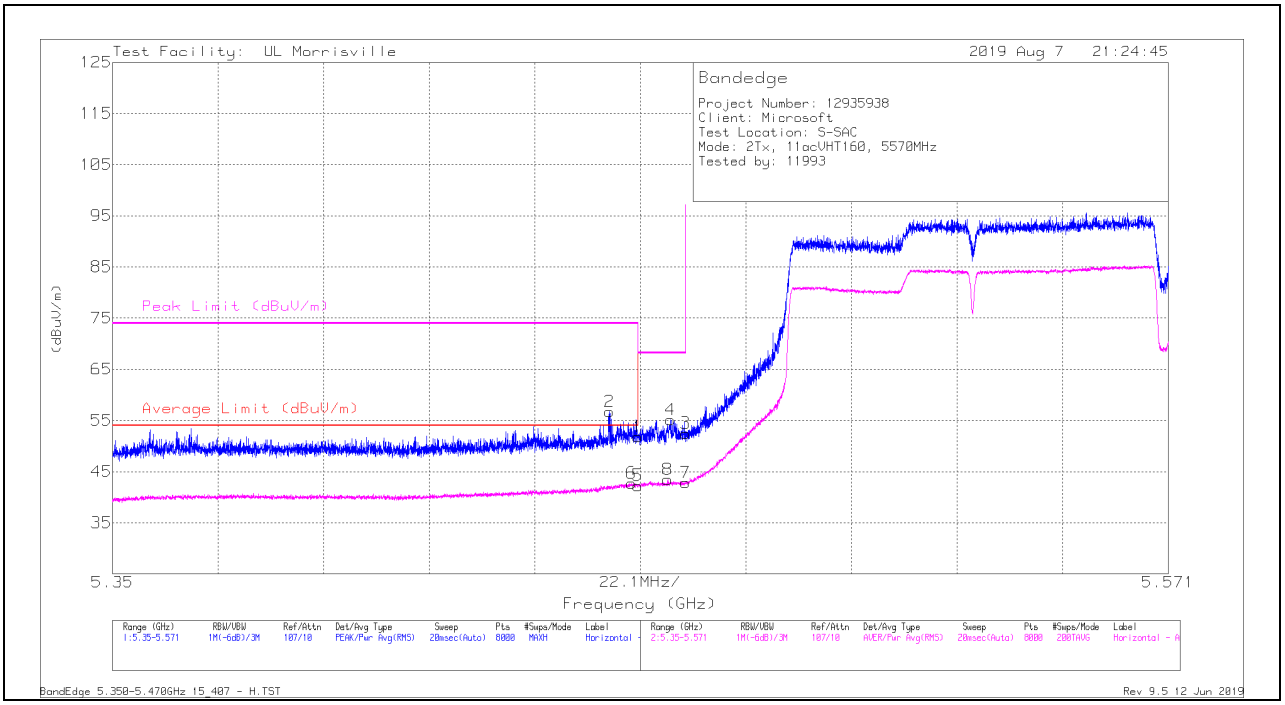
10.1.5. TX ABOVE 1 GHz 802.11ac VHT160 MODE IN THE 5.6 GHz BAND

2TX Antenna 1 + Antenna 2 SDM MODE

BANDEDGE (LOW)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.45999	40.69	Pk	34.5	-23.4	51.79	-	-	74	-22.21	20	396	H
2	* ** 5.45408	45.53	Pk	34.5	-23.3	56.73	-	-	74	-17.27	20	396	H
5	* ** 5.45999	31.17	RMS	34.5	-23.4	42.27	54	-11.73	-	-	20	396	H
6	* ** 5.45866	31.66	RMS	34.5	-23.4	42.76	54	-11.24	-	-	20	396	H
8	5.4662	32.49	RMS	34.5	-23.5	43.49	-	-	-	-	20	396	H
4	5.46681	44.11	Pk	34.5	-23.5	55.11	-	-	68.2	-13.09	20	396	H
3	5.46999	41.48	Pk	34.5	-23.5	52.48	-	-	68.2	-15.72	20	396	H
7	5.46999	31.81	RMS	34.5	-23.5	42.81	-	-	-	-	20	396	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
RMS - RMS detection

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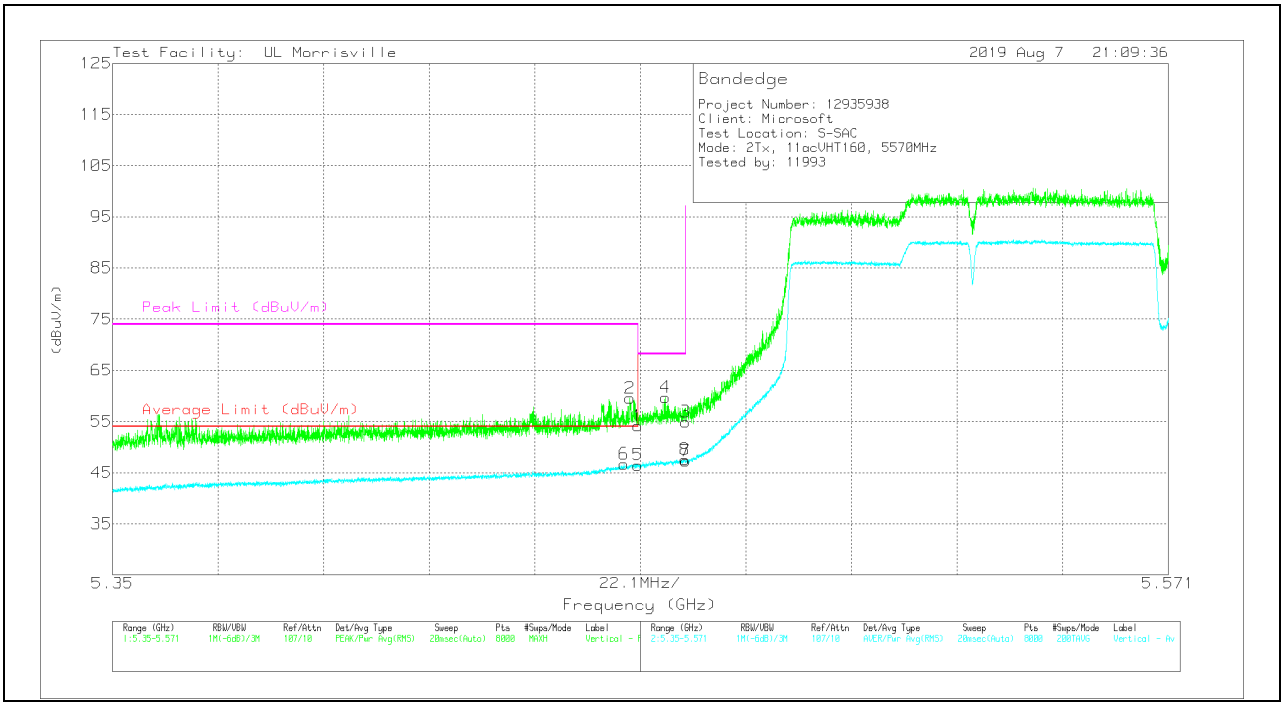
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 5.45999	43.04	Pk	34.5	-23.4	54.14	-	-	74	-19.86	44	302	V
2	* ** 5.4583	48.44	Pk	34.5	-23.4	59.54	-	-	74	-14.46	44	302	V
5	* ** 5.45999	35.37	RMS	34.5	-23.4	46.47	54	-7.53	-	-	44	302	V
6	* ** 5.45709	35.59	RMS	34.5	-23.4	46.69	54	-7.31	-	-	44	302	V
4	5.46573	48.73	Pk	34.5	-23.5	59.73	-	-	68.2	-8.47	44	302	V
8	5.46985	36.55	RMS	34.5	-23.5	47.55	-	-	-	-	44	302	V
3	5.46999	43.93	Pk	34.5	-23.5	54.93	-	-	68.2	-13.27	44	302	V
7	5.46999	36.29	RMS	34.5	-23.5	47.29	-	-	-	-	44	302	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector
RMS - RMS detection

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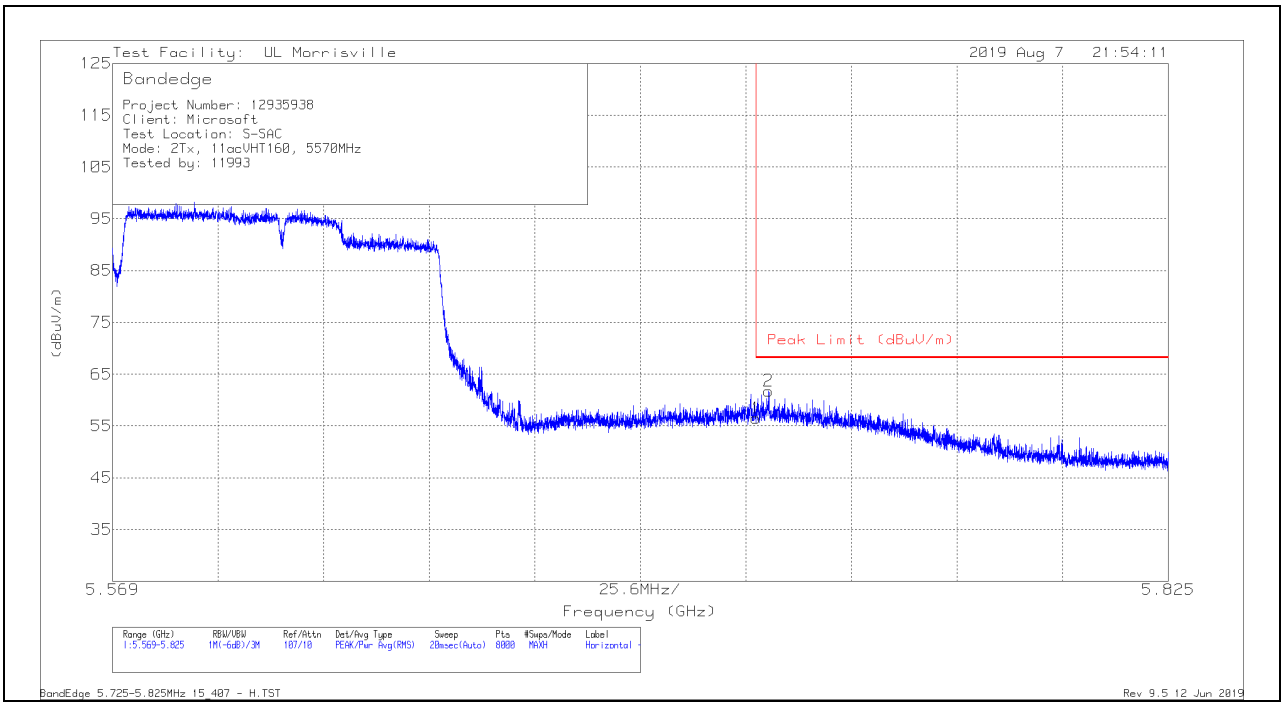
BANDEDGE (HIGH)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.72502	45.13	Pk	34.7	-23.3	56.53	68.2	-11.67	63	398	H
2	5.72812	50.27	Pk	34.7	-23.2	61.77	68.2	-6.43	63	398	H

Pk - Peak detector

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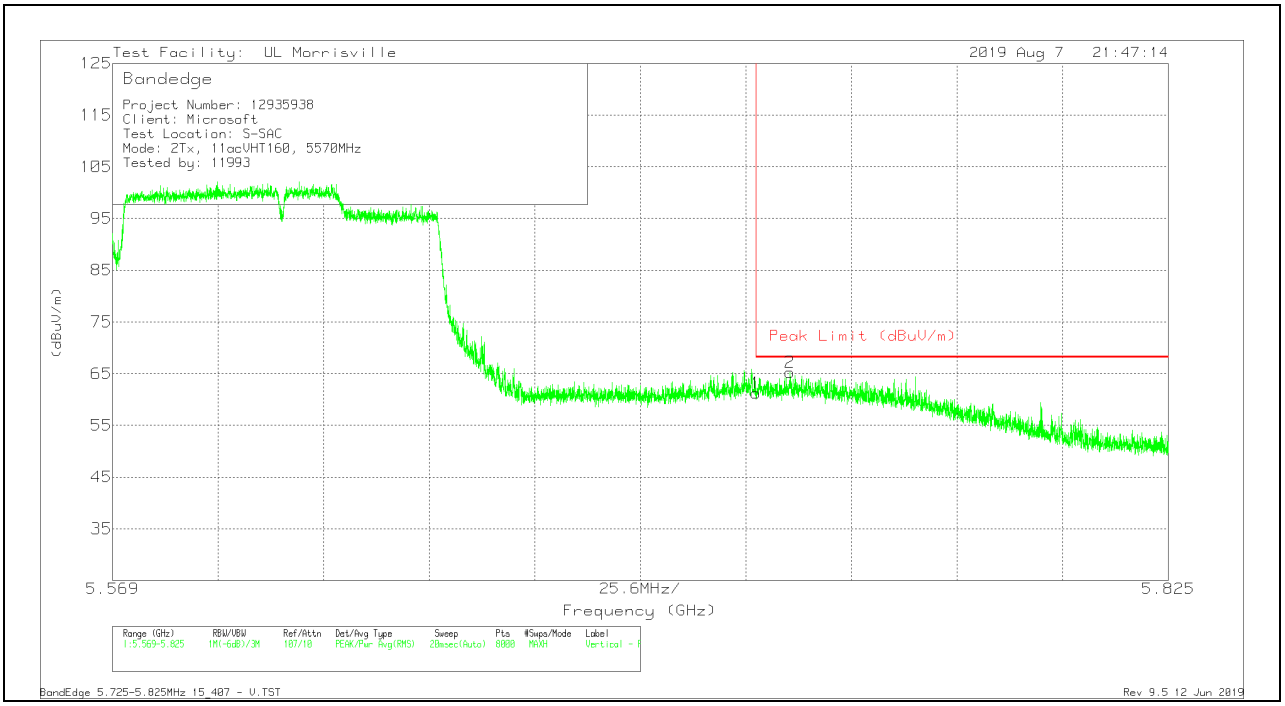
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	5.72502	49.85	Pk	34.7	-23.3	61.25	68.2	-6.95	347	234	V
2	5.73328	53.82	Pk	34.7	-23.3	65.22	68.2	-2.98	347	234	V

Pk - Peak detector

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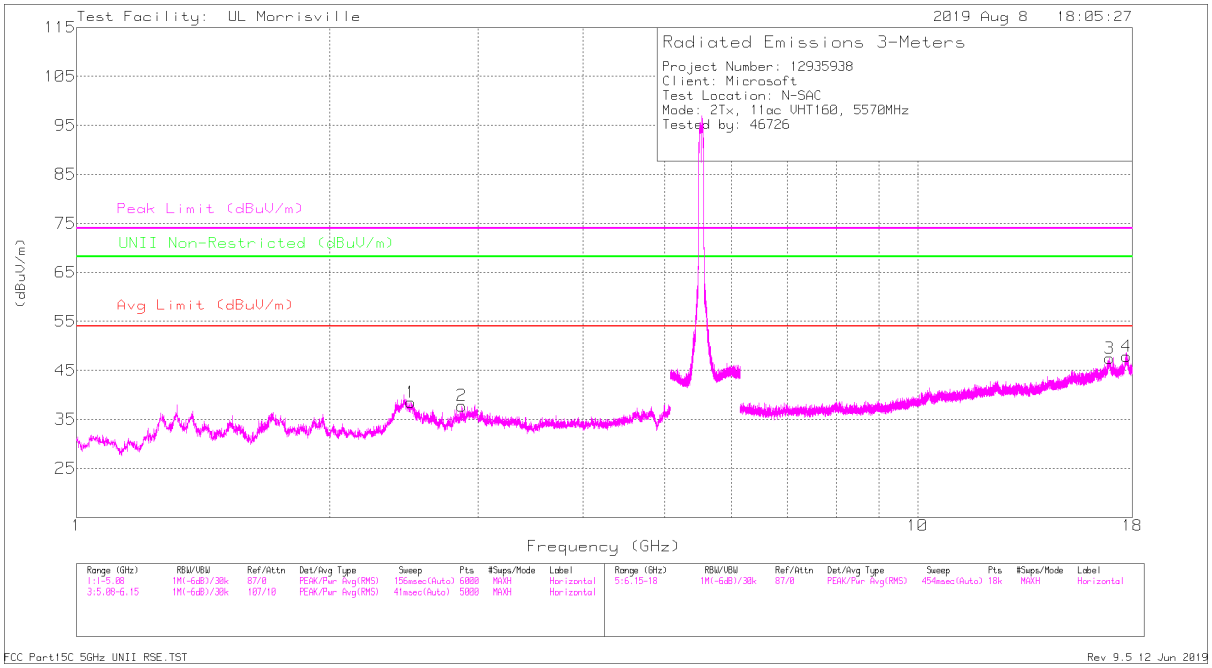
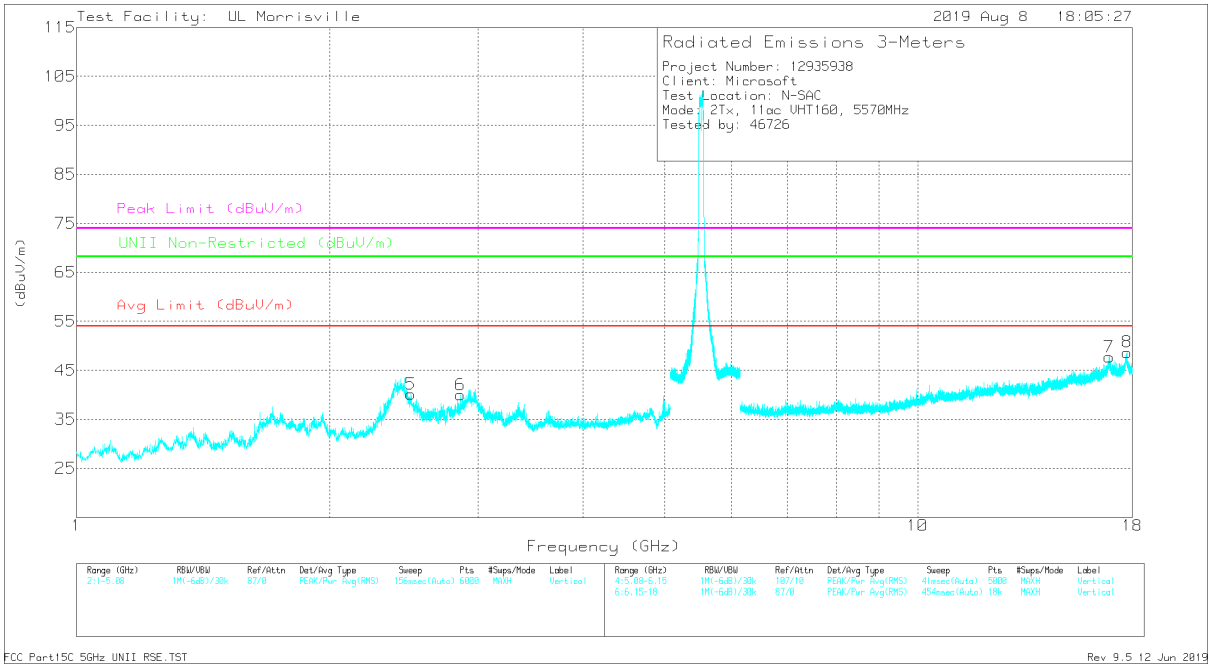
HARMONICS AND SPURIOUS EMISSIONS

MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 AF (dBuV/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.49804	48.33	PK-U	32.5	-34.2	46.63	-	-	74	-27.37	-	-	275	198	H
	* ** 2.49789	35.78	ADR	32.5	-34.2	34.08	54	-19.92	-	-	-	-	275	198	H
2	* ** 2.86999	46.47	PK-U	32.5	-33.9	45.07	-	-	74	-28.93	-	-	290	103	H
	* ** 2.87004	34.38	ADR	32.5	-33.9	32.98	54	-21.02	-	-	-	-	290	103	H
5	* ** 2.49367	49.04	PK-U	32.5	-34.2	47.34	-	-	74	-26.66	-	-	14	314	V
	* ** 2.49375	36.12	ADR	32.5	-34.2	34.42	54	-19.58	-	-	-	-	14	314	V
6	* ** 2.86237	50.14	PK-U	32.5	-33.8	48.84	-	-	74	-25.16	-	-	25	231	V
	* ** 2.86235	38.09	ADR	32.5	-33.8	36.79	54	-17.21	-	-	-	-	25	231	V
4	* ** 17.73494	34.19	PK-U	41.1	-20.3	54.99	-	-	74	-19.01	-	-	308	345	H
	* ** 17.73506	22.12	ADR	41.1	-20.3	42.92	54	-11.08	-	-	-	-	308	345	H
8	* ** 17.76415	34.2	PK-U	41.1	-21.2	54.1	-	-	74	-19.9	-	-	74	304	V
	* ** 17.76381	21.93	ADR	41.1	-21.2	41.83	54	-12.17	-	-	-	-	74	304	V
7	16.89807	36.1	PK-U	41.3	-22.9	54.5	-	-	-	-	68.2	-13.7	47	251	V
3	16.90341	35.36	PK-U	41.3	-22.9	53.76	-	-	-	-	68.2	-14.44	25	201	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK-U - U-NII: Maximum Peak
ADR - U-NII AD primary method, RMS average

10.2. WORST-CASE BELOW 1GHz AND ABOVE 18 GHz

Radiated emissions below 1GHz, above 18GHz, and power line conducted emissions were performed in worst-case test report R12935938-E11 (FCC ID: C3K1868, IC: 3048A-1868)

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11. AC LINE CONDUCTED EMISSIONS

Radiated emissions below 1GHz, above 18GHz, and power line conducted emissions were performed in worst-case test report R12935938-E11 (FCC ID: C3K1868, IC: 3048A-1868).

12. SETUP PHOTOS

Please refer to R12935938-EP1 for setup photos

END OF TEST REPORT

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