CERTIFICATION TEST REPORT

Report Number: R12935938-E11

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:
2019-09-16

Prepared by:
UL LLC
12 Laboratory Dr.
Research Triangle Park, NC 27709 U.S.A.
TEL: (919) 549-1400

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	2019-09-06	Added AC power adaptor to support equipment and remove 1867 antenna gains.	Brian T. Kiewra
3	2019-09-16	Added clarifying statement in Worst-Case section 6.5.	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 6.4

DATE TESTED: 2019-08-19 to 2019-08-28

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
For UL LLC By:

Jeffrey Moser
Operations Leader
UL – Consumer Technology Division

Prepared By:

Brian T. Kiewra
Project Engineer
UL – Consumer Technology Division

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, FCC KDB 905462 D02 and D03, 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 worst-case radiated emissions (Below 1GHz and above 18 GHz) and line conducted emissions for model 1868 for the 5.2-5.8 GHz bands (FCC ID: C3K1868, IC: 3048A-1868). All other testing is located in test reports R12935938-E5, -E6, -E7, -E8, -E9, and -E10 (FCC ID: C3K1868, IC: 3048A-1868).

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
All emissions, conducted	3.65 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%.

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.

6.2. MAXIMUM OUTPUT POWER

Refer to Model 1868 (FCC ID: C3K1868, IC: 3048A-1868) reports R12935938-E5, -E6, -E7, -E8, -E9, and -E10 for output power.

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

Frequency Range (GHz)	Antenna Type	Peak Gain (dBi) Chain 0 (Right)	Peak Gain (dBi) Chain 1 (Left)
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

This test reports covers worst-case radiated emissions below 1GHz, above 18GHz, and power line conducted emissions. All other testing located in test reports R12935938-E5, -E6, -E7, -E8, -E9, and -E10 (FCC ID: C3K1868, IC: 3048A-1868).

The EUT was set to transmit in the worst-case mode and on the worst-case channel based on power and PSD. This was determined to be 5.8 GHz HE20 26T mode (Report R12935938-E10).

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

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
AC Adaptor	Microsoft	1706	0D130P02KC596	N/A
Earbuds	Sony	MDR-EX14AP	Non-Serialized	N/A
USB Flash Drive	Kingston	Data Traveler G4	Non-Serialized	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

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.
0.009-30MHz (Loop Ant.)					
AT0059	Active Loop Antenna	ETS-Lindgren	6502	2019-07-30	2020-07-30
30-1000 MHz					
AT0074	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2019-07-16	2020-07-16
18-40 GHz					
AT0076	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2018-11-08	2019-11-08
AT0077	Horn Antenna, 26-40GHz	ARA	MWH-2640/B	2018-11-08	2019-11-08
Gain-Loss Chains					
N-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2019-05-02	2020-05-02
N-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2019-05-02	2020-05-02
N-SAC04	Gain-loss string: 18-40GHz	Various	Various	2018-09-30	2019-09-30
Receiver & Software					
SA0026	Spectrum Analyzer	Agilent	N9030A	2019-03-19	2020-03-19
SA0027 (18-40GHz RSE)	Spectrum Analyzer	Agilent	N9030A	2019-05-15	2020-05-15
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.

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2019-05-29	2020-05-29
s/n 181562858	Environmental Meter	Fisher Scientific	14-650-118	2018-09-04	2020-09-04
LISN003	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2018-08-21	2019-08-21
75141 (PRE0101521)	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2018-08-22	2019-08-22
TL001	Transient Limiter, 0.009-30MHz	Com-Power	LIT-930A	2019-05-29	2020-05-29
PS214	AC Power Source	Elgar	CW2501M (s/n 1523A02396)	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
MM0168	Multi-meter	Agilent	U1232A	2018-10-12	2019-10-31

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.

8. MEASUREMENT METHOD

Unwanted emissions in restricted bands: KDB 789033 D02 v02r01, Section II G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v02r01, Section II G.3, G.4, and G.5.

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

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9. RADIATED TEST RESULTS FOR 5GHz WLAN

LIMITS

FCC §15.205 and §15.209 - Restricted bands
FCC §15.407(b)(1-4) - Unrestriced bands
RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

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 80cm above the ground pland for mesurements below 1GHz and at 1.5 m above the ground plane for measurements 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 measurements below 1 GHz the resolution bandwidth is set to 200 Hz for measurements from 9kHz to 150kHz, 9kHz for measurements from 150kHz to 30 MHz and 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements from 30-1000 MHz. Peak detection is used unless otherwise noted as quasi-peak.

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 below 1GHz and above 18GHz is investigated with the transmitter set to the mode and channel with the highest output power and PSD.

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.

3D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel).

KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

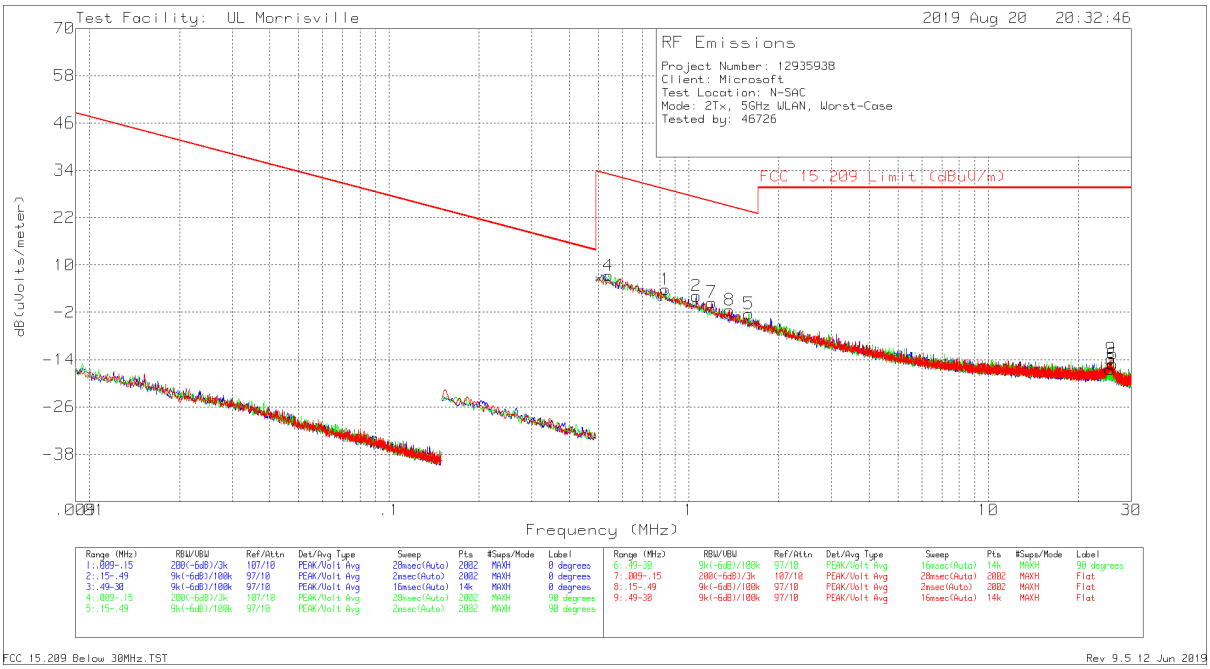
Note: All frequencies were marked at the maximum emissions within the restricted band. This was due to the observed margins of the emissions to the non-restricted limit.

General Note - This section covers the worst-case radiated emissions (Below 1GHz and above 18 GHz) for model 1868 for the 5.2-5.8 GHz bands (FCC ID: C3K1868, IC: 3048A-1868). All other radiated testing is located in test reports R12935938-E5, -E6, -E7, -E8, -E9, and -E10 (FCC ID: C3K1868, IC: 3048A-1868).

9.1. WORST CASE BELOW 30MHZ

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)

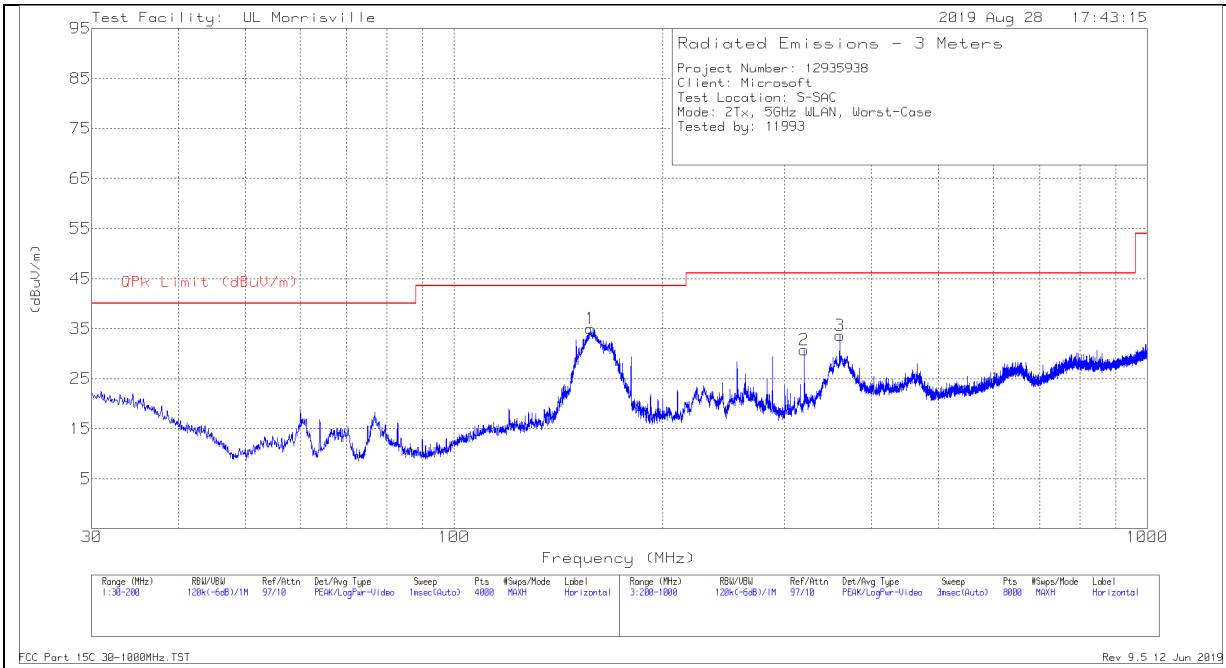
Note: All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (test distance / specification distance).



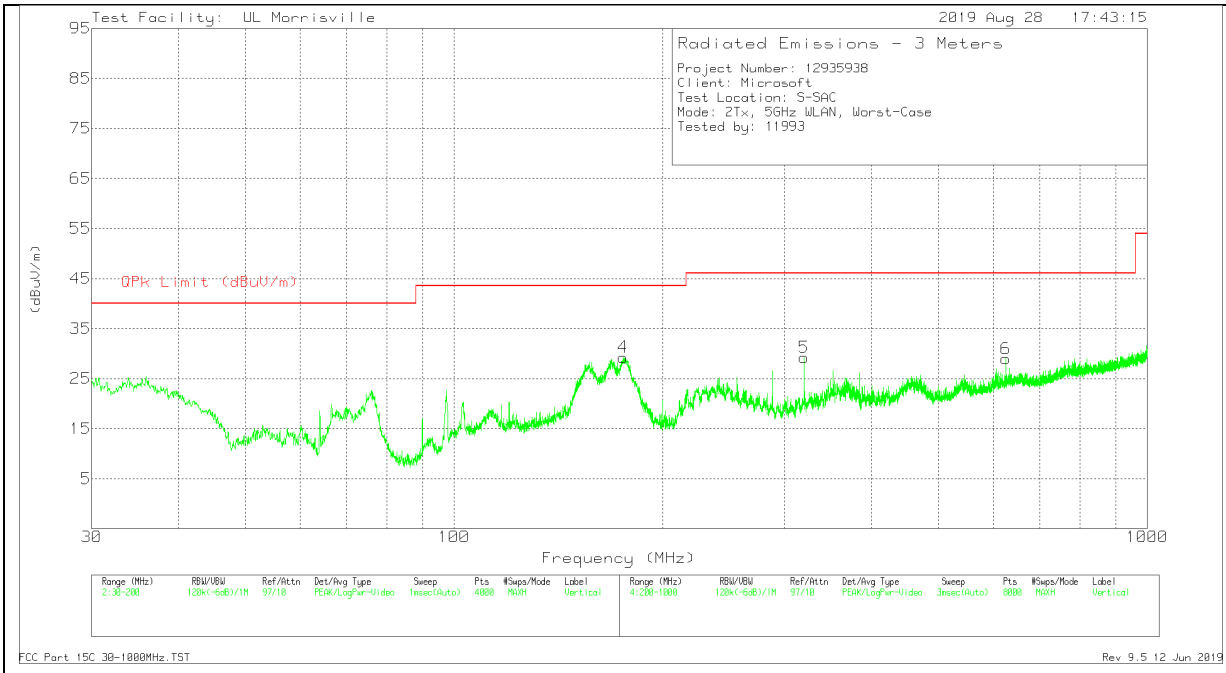
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0059 (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uV/m)	FCC 15.209 QP Limit (dBuV/m)	FCC 15.209 AV Limit (dBuV/m)	FCC 15.209 PK Limit (dBuV/m)	Worst-Case Margin (dB)	Azimuth (Degs)
4	.54059	36.82	Pk	10.4	.1	-40	7.32	32.95	-	-	-25.63	0-360
1	.83782	33.31	Pk	10.4	.1	-40	3.81	29.14	-	-	-25.33	0-360
2	1.06127	31.35	Pk	10.6	.2	-40	2.15	27.09	-	-	-24.94	0-360
7	1.19407	29.7	Pk	10.6	.2	-40	.5	26.06	-	-	-25.56	0-360
8	1.36798	27.78	Pk	10.6	.2	-40	-1.42	24.88	-	-	-26.3	0-360
5	1.58827	26.84	Pk	10.6	.2	-40	-2.36	23.59	-	-	-25.95	0-360
3	25.51196	13.43	Pk	9.2	.9	-40	-16.47	29.54	-	-	-46.01	0-360
9	25.72487	16.17	Pk	9.2	.9	-40	-13.73	29.54	-	-	-43.27	0-360
6	26.00312	14.9	Pk	9.1	.9	-40	-15.1	29.54	-	-	-44.64	0-360

Pk - Peak detector

9.2. WORST CASE 30-1000MHZ



HORIZONTAL



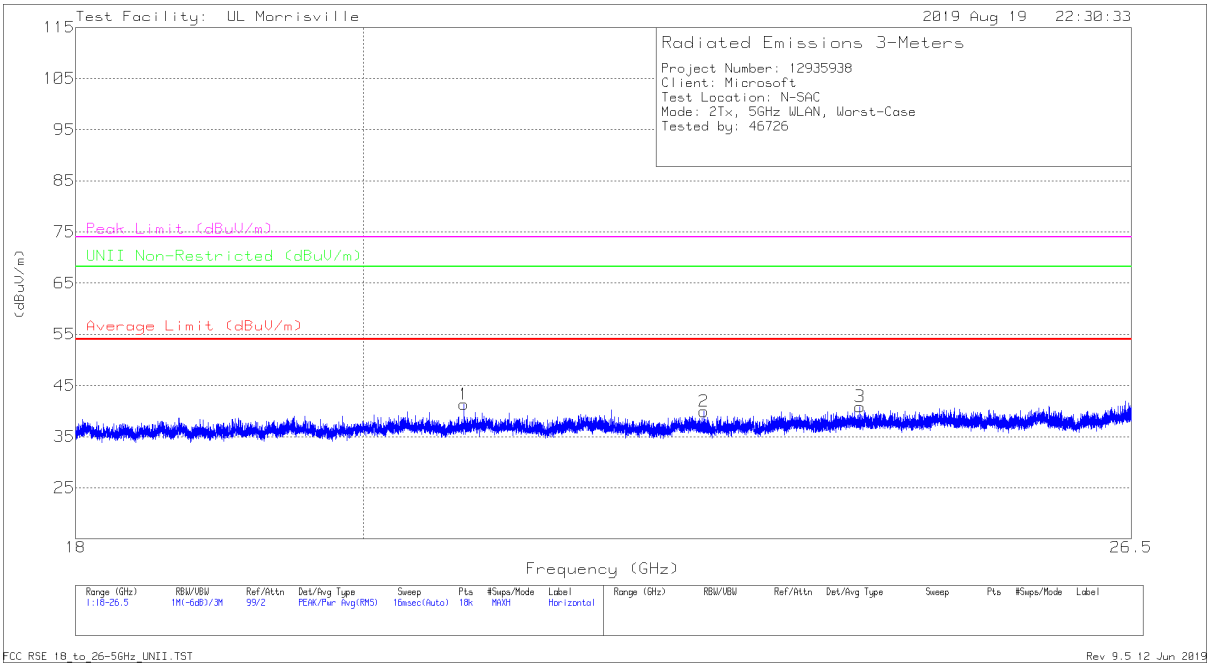
VERTICAL

30-1000MHz DATA

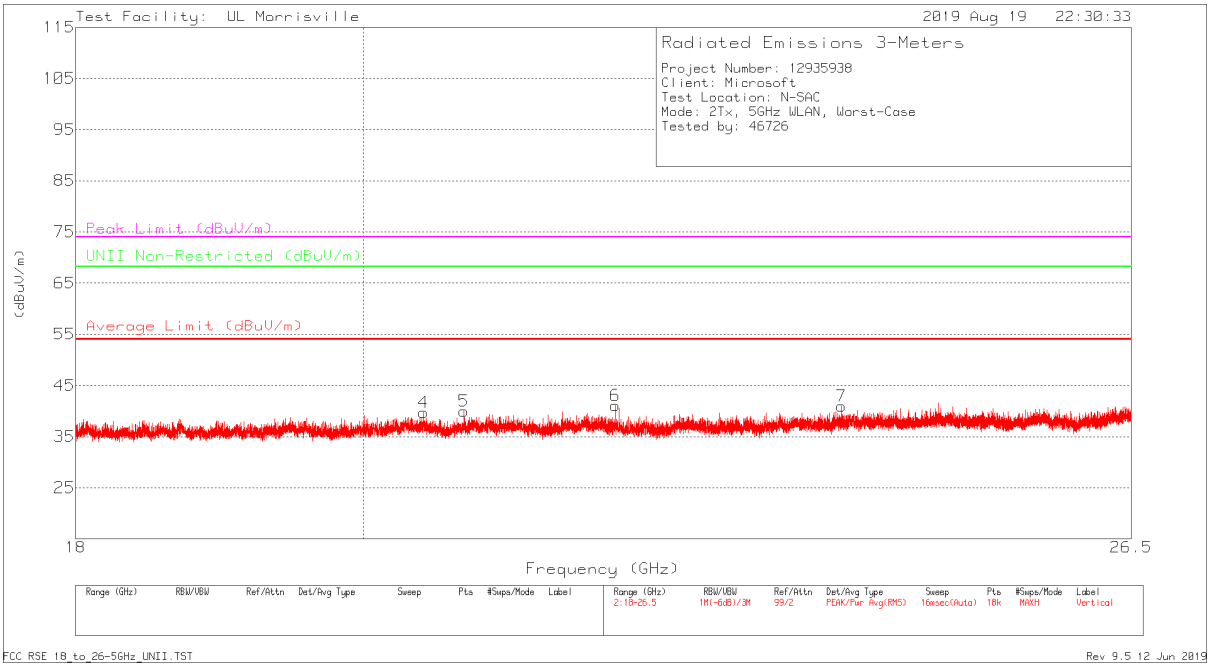
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0066 AF (dB/m)	Cbl/Amp	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	157.3417	49.07	Pk	16.5	-30.6	34.97	43.52	-8.55	0-360	198	H
4	175.3876	43.66	Pk	16	-30.4	29.26	43.52	-14.26	0-360	102	V
2	320.0156	41.65	Pk	18.7	-29.6	30.75	46.02	-15.27	0-360	102	H
5	320.0156	40.1	Pk	18.7	-29.6	29.2	46.02	-16.82	0-360	198	V
3	360.0208	43.7	Pk	19.4	-29.5	33.6	46.02	-12.42	0-360	102	H
6	624.6552	33.76	Pk	23.9	-28.7	28.96	46.02	-17.06	0-360	102	V

Pk - Peak detector

9.3. WORST CASE 18-26 GHZ



HORIZONTAL



VERTICAL

18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 20.75273	48.1	Pk	33	-39.8	41.3	54	-12.7	74	-32.7	-	-	0-360	249	H
2	* ** 22.65684	45.73	Pk	33.5	-39.3	39.93	54	-14.07	74	-34.07	-	-	0-360	299	H
3	* ** 23.99283	45.77	Pk	34	-38.9	40.87	54	-13.13	74	-33.13	-	-	0-360	249	H
4	* ** 20.44719	46.4	Pk	33.1	-39.8	39.7	54	-14.3	74	-34.3	-	-	0-360	299	V
5	* ** 20.75321	46.79	Pk	33	-39.8	39.99	54	-14.01	74	-34.01	-	-	0-360	299	V
7	* ** 23.82849	45.94	Pk	34	-39	40.94	54	-13.06	74	-33.06	-	-	0-360	202	V
6	21.93477	47.17	Pk	33.4	-39.5	41.07	-	-	-	-	68.2	-27.13	0-360	102	V

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

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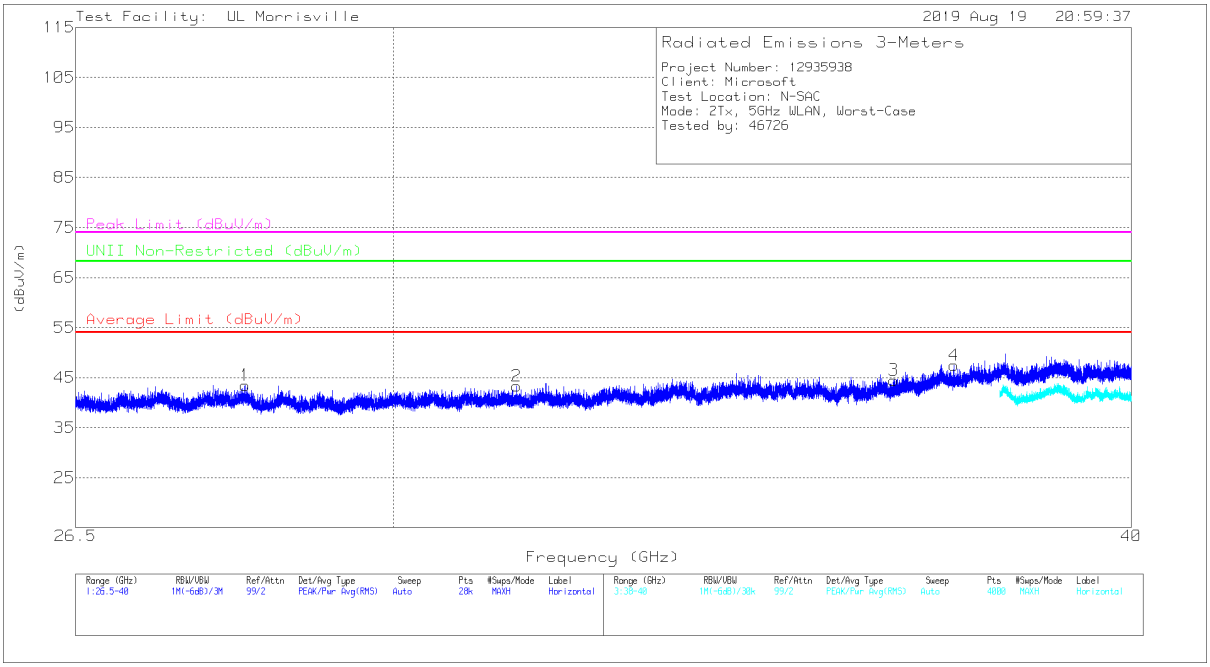
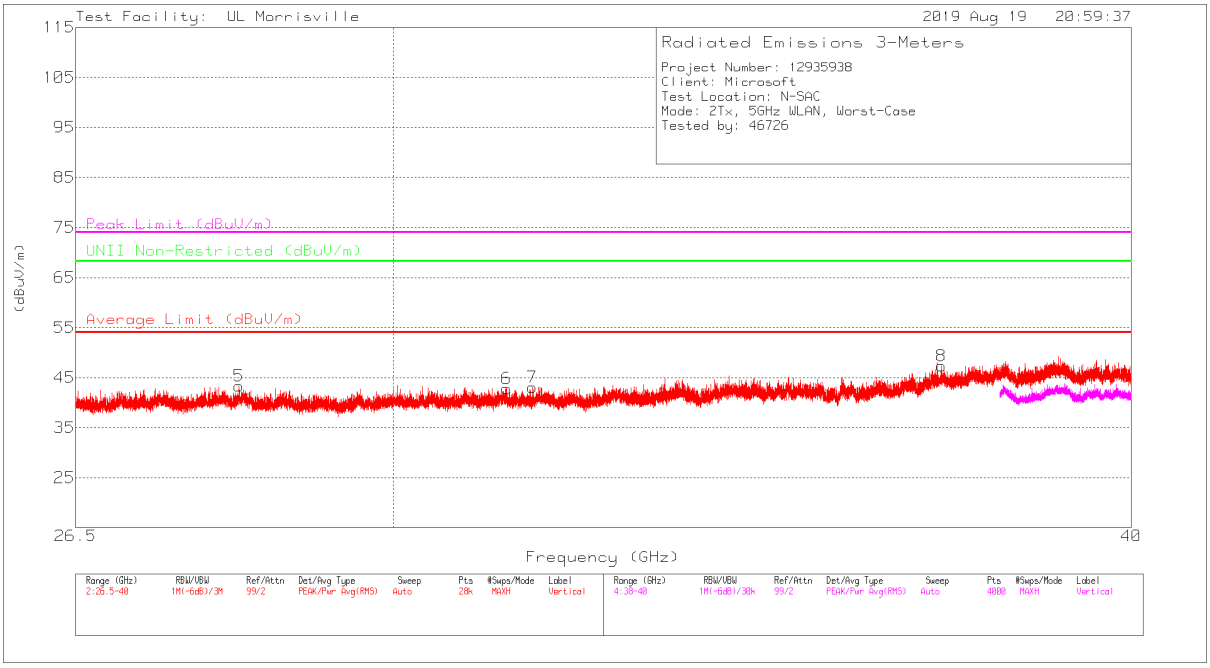
9.4. WORST CASE 26-40 GHZ



HORIZONTAL



VERTICAL

26-40GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0077 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 31.47589	42.73	Pk	36.8	-36.2	43.33	54	-10.67	74	-30.67	-	-	0-360	249	H
3	* ** 36.46191	41.6	Pk	37.7	-34.8	44.5	54	-9.5	74	-29.5	-	-	0-360	299	H
6	* ** 31.3486	42.39	Pk	36.7	-36.3	42.79	54	-11.21	74	-31.21	-	-	0-360	251	V
7	* ** 31.66731	42.29	Pk	36.7	-35.9	43.09	54	-10.91	74	-30.91	-	-	0-360	102	V
5	28.24494	43.85	Pk	36.2	-36.7	43.35	-	-	-	-	68.2	-24.85	0-360	152	V
1	28.30955	43.98	Pk	36.3	-36.8	43.48	-	-	-	-	68.2	-24.72	0-360	199	H
8	37.14609	43.53	Pk	37.9	-34.1	47.33	-	-	-	-	68.2	-20.87	0-360	102	V
4	37.3298	43.26	Pk	37.9	-33.7	47.46	-	-	-	-	68.2	-20.74	0-360	299	H

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

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10. AC LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

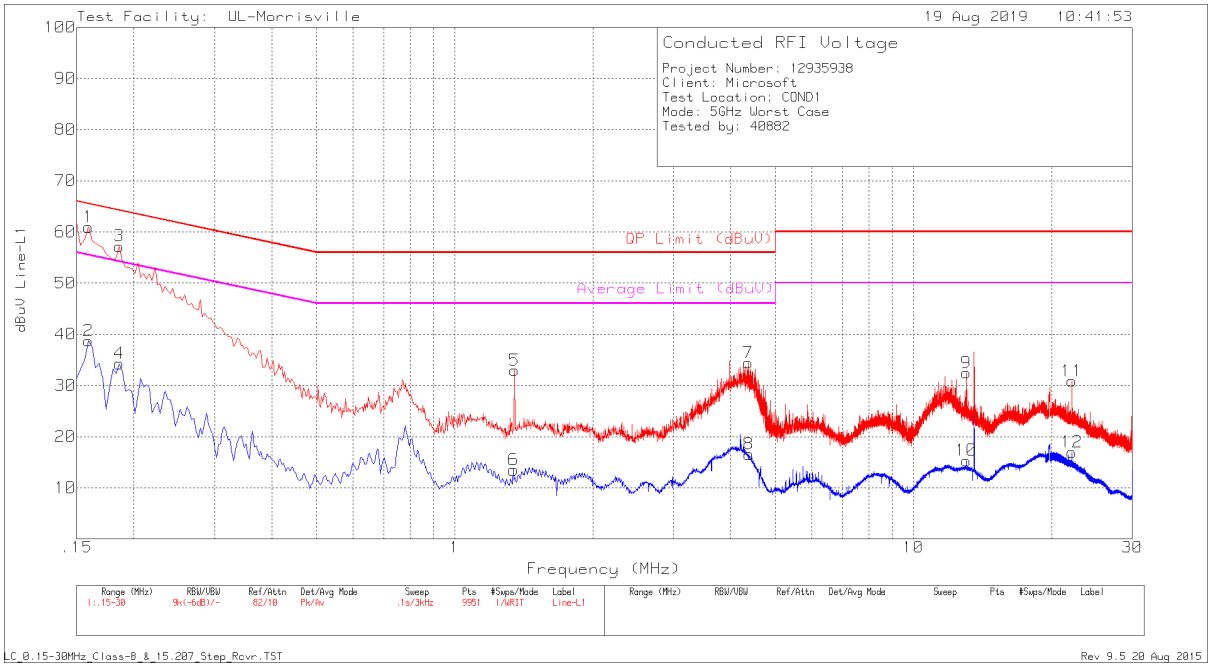
TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both Line 1 and Line 2.

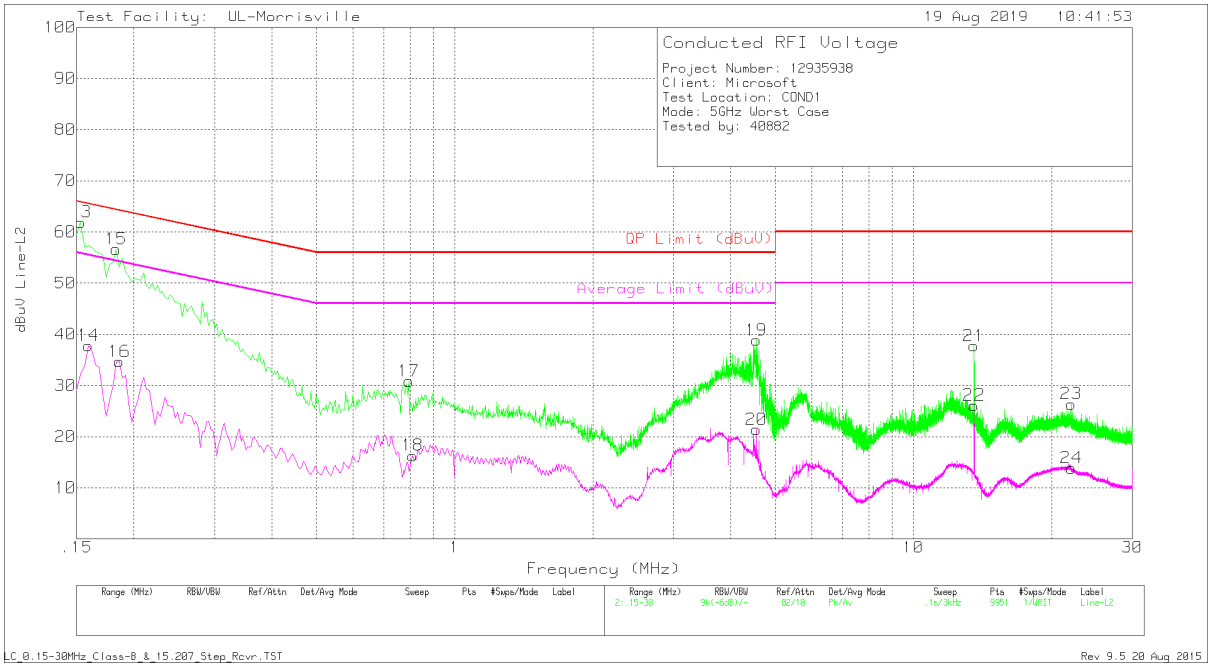
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.1635	40.35	Qp	.2	10	50.55	65.28	-14.73	-	-
2	.159	28.51	Av	.2	10	38.71	-	-	55.52	-16.81
3	.186	47.04	Pk	.2	10	57.24	64.21	-6.97	-	-
4	.186	24.06	Av	.2	10	34.26	-	-	54.21	-19.95
5	1.35	22.89	Pk	0	10.1	32.99	56	-23.01	-	-
6	1.344	3.4	Av	0	10.1	13.5	-	-	46	-32.5
7	4.371	24.21	Pk	0	10.2	34.41	56	-21.59	-	-
8	4.377	6.37	Av	0	10.2	16.57	-	-	46	-29.43
9	13.035	21.99	Pk	.1	10.4	32.49	60	-27.51	-	-
10	13.035	4.83	Av	.1	10.4	15.33	-	-	50	-34.67
11	22.152	20.07	Pk	.2	10.6	30.87	60	-29.13	-	-
12	22.161	6.13	Av	.2	10.6	16.93	-	-	50	-33.07

Pk - Peak detector
Av - Average detection
Qp - Quasi-Peak detector

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.1605	41.75	Qp	.2	10	51.95	65.44	-13.49	-	-
14	.159	27.61	Av	.2	10	37.81	-	-	55.52	-17.71
15	.183	46.43	Pk	.2	10	56.63	64.35	-7.72	-	-
16	.186	24.49	Av	.2	10	34.69	-	-	54.21	-19.52
17	.795	20.82	Pk	0	10	30.82	56	-25.18	-	-
18	.81	6.31	Av	0	10	16.31	-	-	46	-29.69
19	4.545	28.69	Pk	0	10.2	38.89	56	-17.11	-	-
20	4.545	11.24	Av	0	10.2	21.44	-	-	46	-24.56
21	13.56	27.25	Pk	.1	10.4	37.75	60	-22.25	-	-
22	13.56	15.62	Av	.1	10.4	26.12	-	-	50	-23.88
23	22.089	15.59	Pk	.2	10.6	26.39	60	-33.61	-	-
24	22.113	3.06	Av	.2	10.6	13.86	-	-	50	-36.14

Pk - Peak detector
Av - Average detection
Qp - Quasi-Peak detector

11. SETUP PHOTOS

Please refer to R12935938-EP1 for setup photos

END OF TEST REPORT

UL LLC
12 Laboratory Dr., RTP, NC 27709; USA TEL:(919) 549-1400