



TEST REPORT

Report Number: 13129294-E1V3

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

Model : 1930

FCC ID : C3K1930

IC : 3048A-1930

EUT Description : Phablet Device

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 2
ISED RSS-GEN ISSUE 5

Date Of Issue:

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Prepared by:

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NVLAP Lab code: 200065-0

NVLAP Lab code: 200246-0

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	5/4/2020	Initial Issue	---
V2	6/9/2020	Updated the EUT	Grace Rincand
V3	6/11/2020	Section 6.5 updated	Henry Lau

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: Phablet Device

MODEL: 1930

SERIAL NUMBER: 900086500465, 900039701165 (Radiated)
901245700365(Conducted)

DATE TESTED: January 16, 2020 – April 17, 2020

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

UL Verification Services Inc. 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.

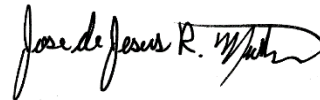
This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This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

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2. TEST RESULTS SUMMARY

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle*	Reporting purposes only	ANSI C63.10 Section 11.6.
-	RSS-GEN 6.7	99% OBW*	Reporting purposes only	ANSI C63.10 Section 6.9.3.
15.247 (a) (2)	RSS-247 5.2 (a)	6dB BW*	Complies	None.
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power*	Complies	None.
See Comment		Average power*	Reporting purposes only	Per ANSI C63.10, Section 11.9.2.3.2.
15.247 (e)	RSS-247 5.2 (b)	PSD*	Complies	None.
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions*	Complies	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions**	Complies	None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions**	Complies	None.

*Testing performed at 47173 Benicia Street Fremont, California, 94538 USA facility.

**Testing performed at 12 Laboratory Dr., Research Triangle Park, NC 27709 U.S.A. facility.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05r02, RSS-GEN Issue 5, and RSS-247 Issue 2.

4. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 & 47266 Benicia Street, 47658 Kato Road, Fremont, California, USA, 12 Laboratory Drive, Research Triangle Park and 2800 Perimeter Park Dr, Suite B, Morrisville, North Carolina, 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 Suite Perimeter Park Dr.
☐ Chamber A RTP	☐ North Chamber
☐ Chamber C RTP	☒ South Chamber

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0

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

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U _{Lab}
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.39 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.07 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.52 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	4.88 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.24 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.37 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.17 dB

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

5.4. 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)
 $36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$

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.
 $36.5 \text{ dBuV} + 0 \text{ dB} + 10.1 \text{ dB} + 0 \text{ dB} = 46.6 \text{ dBuV}$

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a Phablet Device with 802.11 a/b/g/n/ac 2x2 WLAN, Bluetooth, Bluetooth LE, GSM, WCDMA, and LTE radios.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	BLE	6.12	4.09

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna, with a maximum gain of 1.1 dBi.

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was Android version 10, Build Number b1 developer-generic 2020.311.4.

The test utility software used during testing was QRCT v4.0-00123.

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

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 was investigated in three orthogonal orientations X/Y/Z. Additionally, the EUT was investigated in four configurations with both screens: folded and closed/open 90 degrees/flat 180 degrees/folded and open. It was determined that the EUT in flat 180 degrees with X (Flatbed) orientation was worst-case orientation therefore all final radiated testing was performed with the EUT in 180 degrees flat at X(Flatbed).

Output Power for 125kbps, 500kbps, 1Mbps, and 2Mbps are the same therefore 500kbps & 1Mbps are covered by 125kbps & 2Mbps with 125kbps having worst case PSD and 2Mbps having worst case bandwidth.

Data rates provided by the client were:

BLE mode: 125kbps
BLE mode: 500kbps
BLE mode: 1Mbps
BLE mode: 2Mbps

6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC/DC Adapter	Lenovo	ADLX45NCC2A	8SSA10E75794C1SG8 5N14BE	DoC
Laptop	Lenovo	Yoga 11e	R9-0R7KPR	DoC

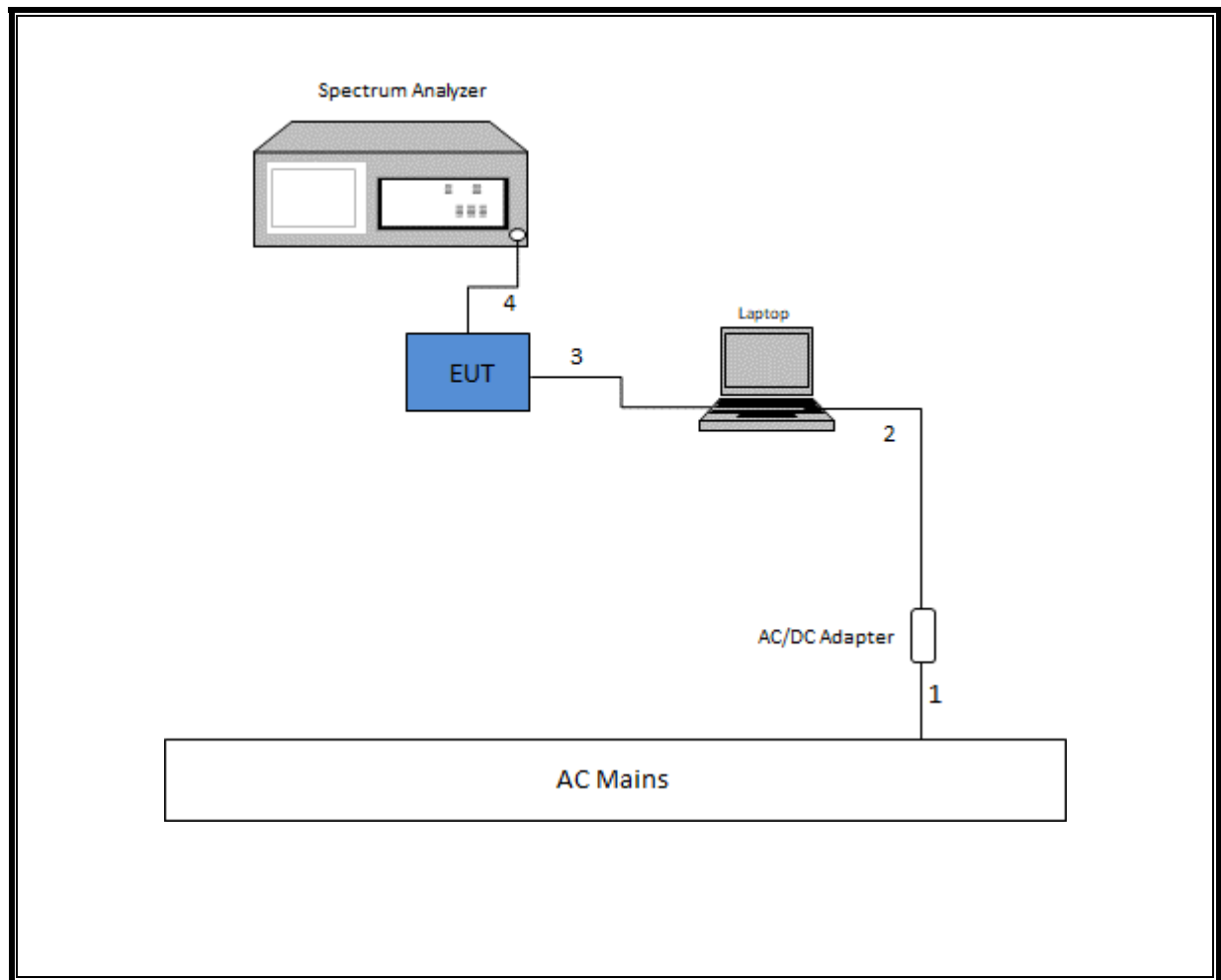
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Un-Shielded	1	to AC/DC Adapter
2	DC	1	DC	Shielded	1	to Laptop
3	USB	1	Type C	Shielded	0.1	to EUT
4	Antenna	1	SMA	Un-Shielded	0.2	to Analyzer

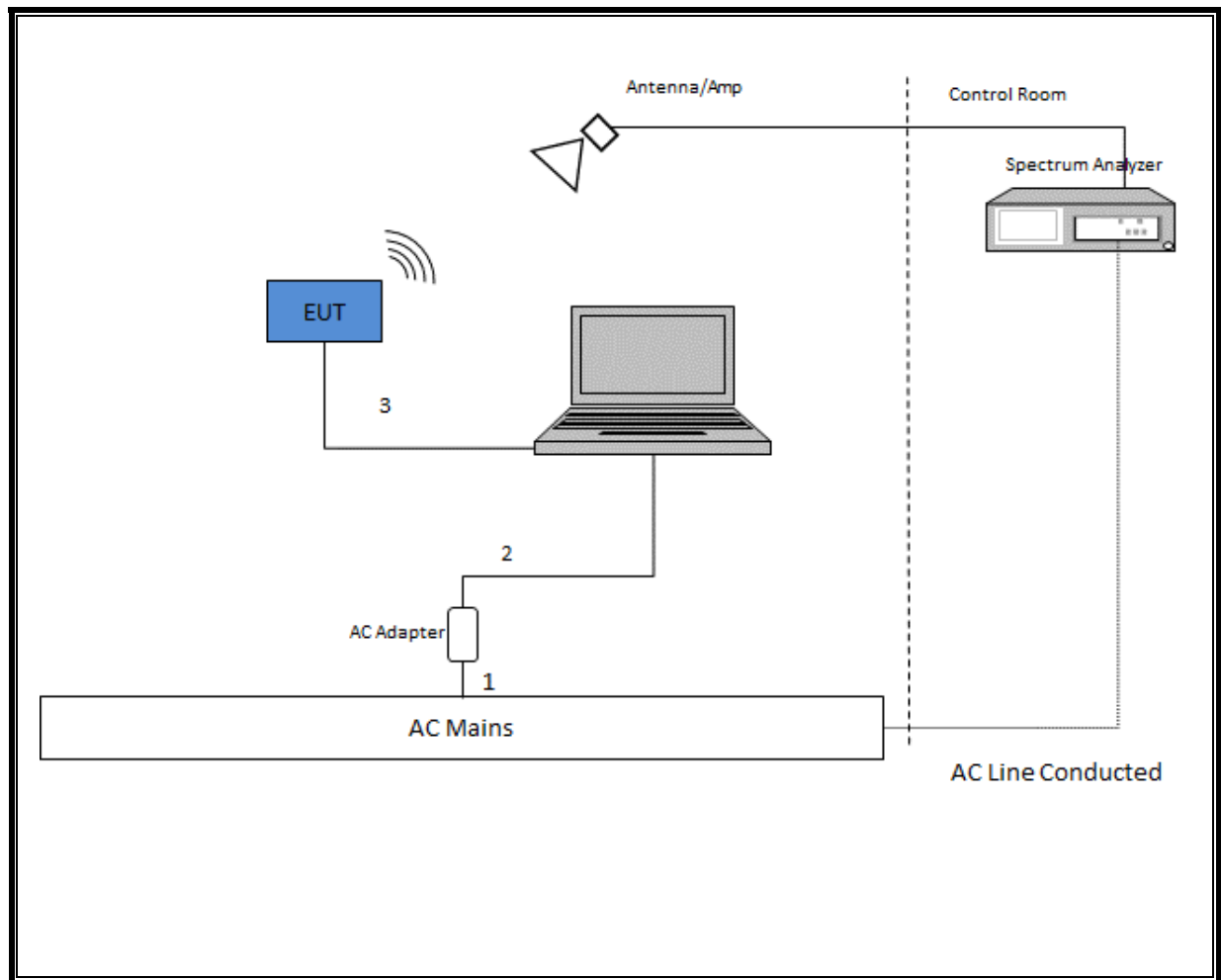
TEST SETUP

The EUT is connected to a test laptop during the tests. Test software exercised the radio card.

CONDUCTED TEST SETUP DIAGRAM



RADIATED AND AC LINE CONDUCTED TEST SETUP DIAGRAM



7. MEASUREMENT METHOD

On Time and Duty Cycle: ANSI C63.10 Section 11.6

Occupied BW (99%): ANSI C63.10-2013 Section 6.9.3

6 dB BW: ANSI C63.10 Subclause -11.8.1

Output Power: ANSI C63.10 Subclause -11.9.1.3 Method PKPM1 Peak-reading power meter

Output Power: ANSI C63.10 Subclause -11.9.2.3.2 Method AVGPM-G (Measurement using a gated RF average-reading power meter)

PSD: ANSI C63.10 Subclause -11.10.2 Method PKPSD (peak PSD)

Radiated emissions non-restricted frequency bands: ANSI C63.10 Subclause -11.11

Radiated emissions restricted frequency bands: ANSI C63.10 Subclause -11.12.1

Conducted emissions in restricted frequency bands: ANSI C63.10 Subclause -11.12.2

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

Radiated Spurious Emissions Below 30MHz: ANSI C63.10-2013 Section 6.4

8. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight Technologies Inc	E4446A	T146	01/29/2021
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	T1264	01/21/2021
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	T1223	02/25/2020*
UL AUTOMATION SOFTWARE				
Antenna Port Software	UL	UL RF	Ver 2020.1.8	

*Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

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

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	0.009-30MHz	(Loop Ant.)			
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2019-08-08	2020-08-08
	30-1000 MHz				
AT0074	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2019-07-16	2020-07-16
	1-18 GHz				
AT0072	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2019-04-22	2020-04-22
	18-26 GHz				
AT0076	Horn Antenna, 18-26.5GHz	ARA	MWH-1826/B	2019-11-07	2020-11-07
	Gain-Loss Chains				
S-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2019-05-02	2020-05-02
S-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2019-05-02	2020-05-02
S-SAC03	Gain-loss string: 1-18GHz	Various	Various	2020-03-17	2021-03-17
S-SAC04	Gain-loss string: 18-40GHz	Various	Various	2020-03-23	2021-03-23
	Receiver & Software				
SA0027	Spectrum Analyzer	Agilent	N9030A	2019-05-15	2020-05-15
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

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description-Common Equipment Conducted Room 2	Manufacturer	Model Number	Last Cal.	Next Cal.
T177 (PRE0079253)	Spectrum Analyzer	Agilent Technologies	E4446A	2019-04-22	2020-04-22
PWM002 (PRE0137344)	RF Power Meter	Keysight Technologies	N1911A	2019-08-23	2020-08-23
PWS003 (PRE0126443)	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2019-08-23	2020-08-23
76023 (EC0225)	Temp/Humid Chamber	Cincinnati Sub-Zero	ZPH-8-3.5-SCT/AC	2019-06-14	2020-06-14
SN 181474341	Environmental Meter	Fisher Scientific	15-077-963	2018-07-27	2020-07-27
76021	DC Regulated Power Supply	CircuitSpecialists.Com	CSI3005X5	N/A	N/A
SOFTEMI	EMC Software	UL	Version 10.3 (2019-09-24)	NA	NA

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	2020-03-26	2021-03-26
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	2019-08-19	2020-08-19
75141 (PRE0101521)	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2019-08-20	2020-08-20
ATA222	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2020-03-26	2021-03-26
PS214	AC Power Source	Elgar	CW2501M (s/n 1523A02396)	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
	Miscellaneous (if needed)				
CDECABLE001	ANSI C63.4 1m extension cable.	UL	Per Annex B of ANSI C63.4	2019-07-10	2020-07-10

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

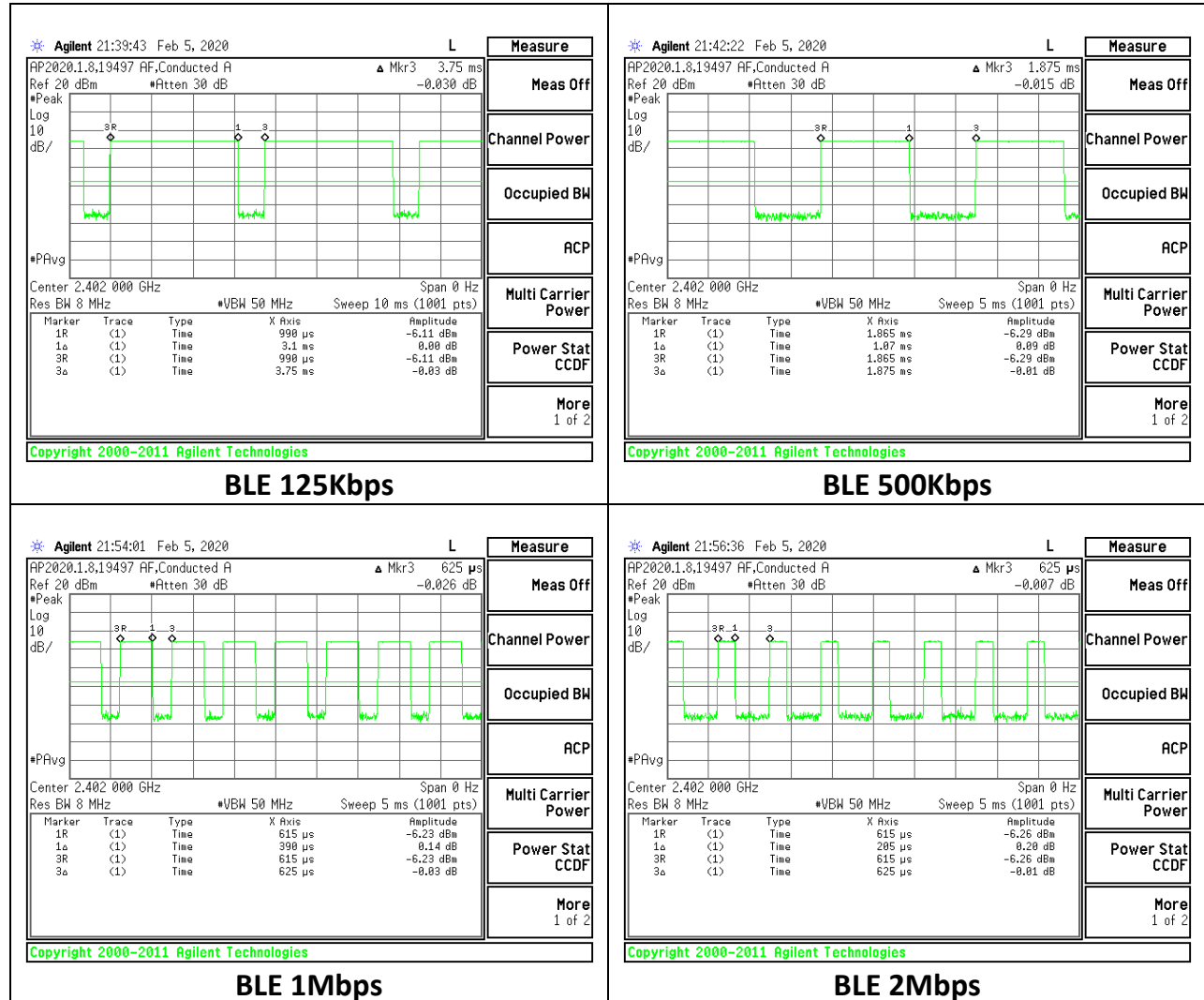
PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor	1/B Minimum VBW (kHz)
2.4GHz Band						
BLE 125Kbps	3.100	3.750	0.827	82.67%	1.65	0.323
BLE 500Kbps	1.070	1.875	0.571	57.07%	4.87	0.935
BLE 1Mbps	0.390	0.625	0.624	62.40%	4.10	2.564
BLE 2Mbps	0.205	0.625	0.328	32.80%	9.68	4.878

DUTY CYCLE PLOTS



9.2. 99% BANDWIDTH

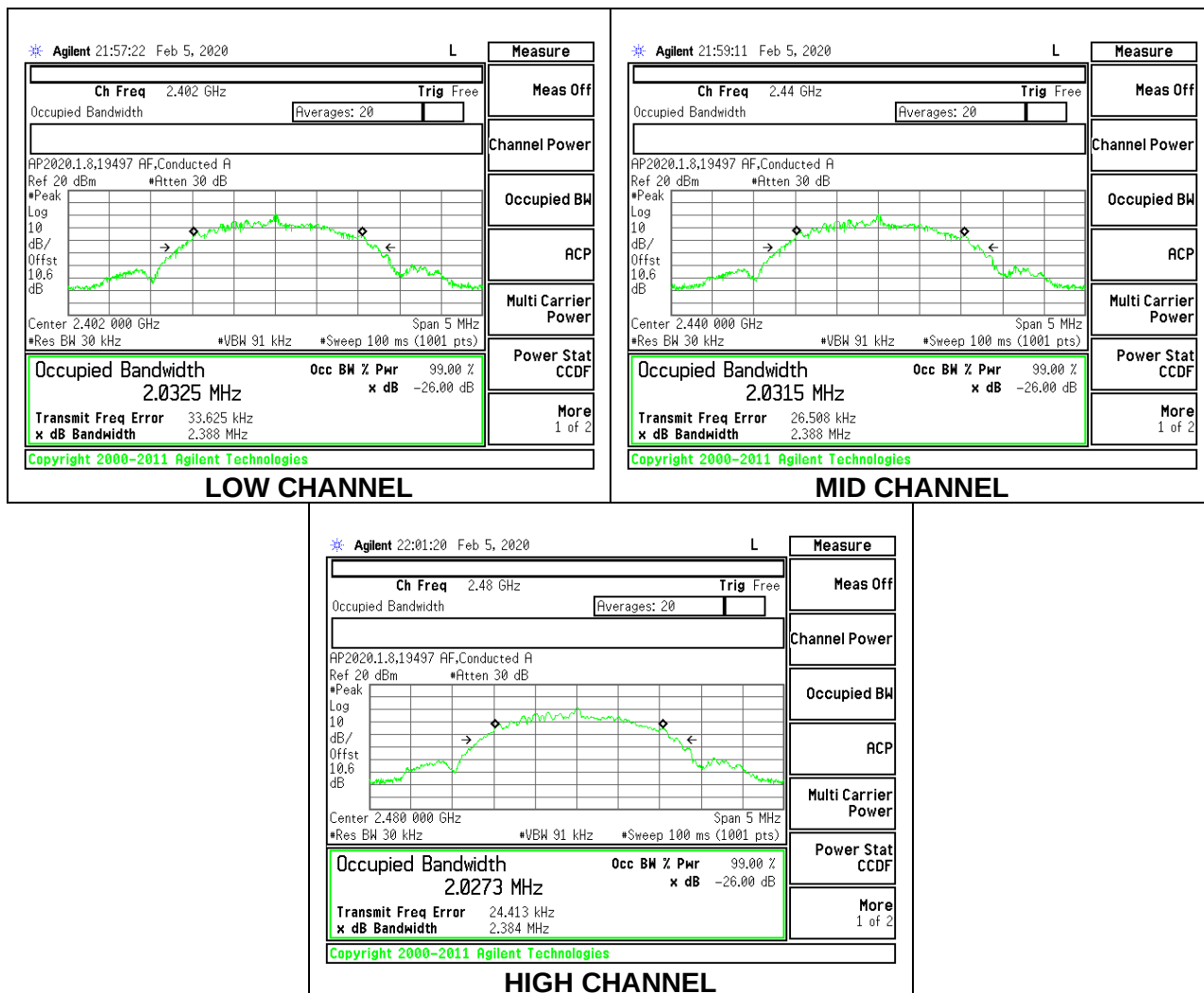
LIMITS

None; for reporting purposes only.

RESULTS

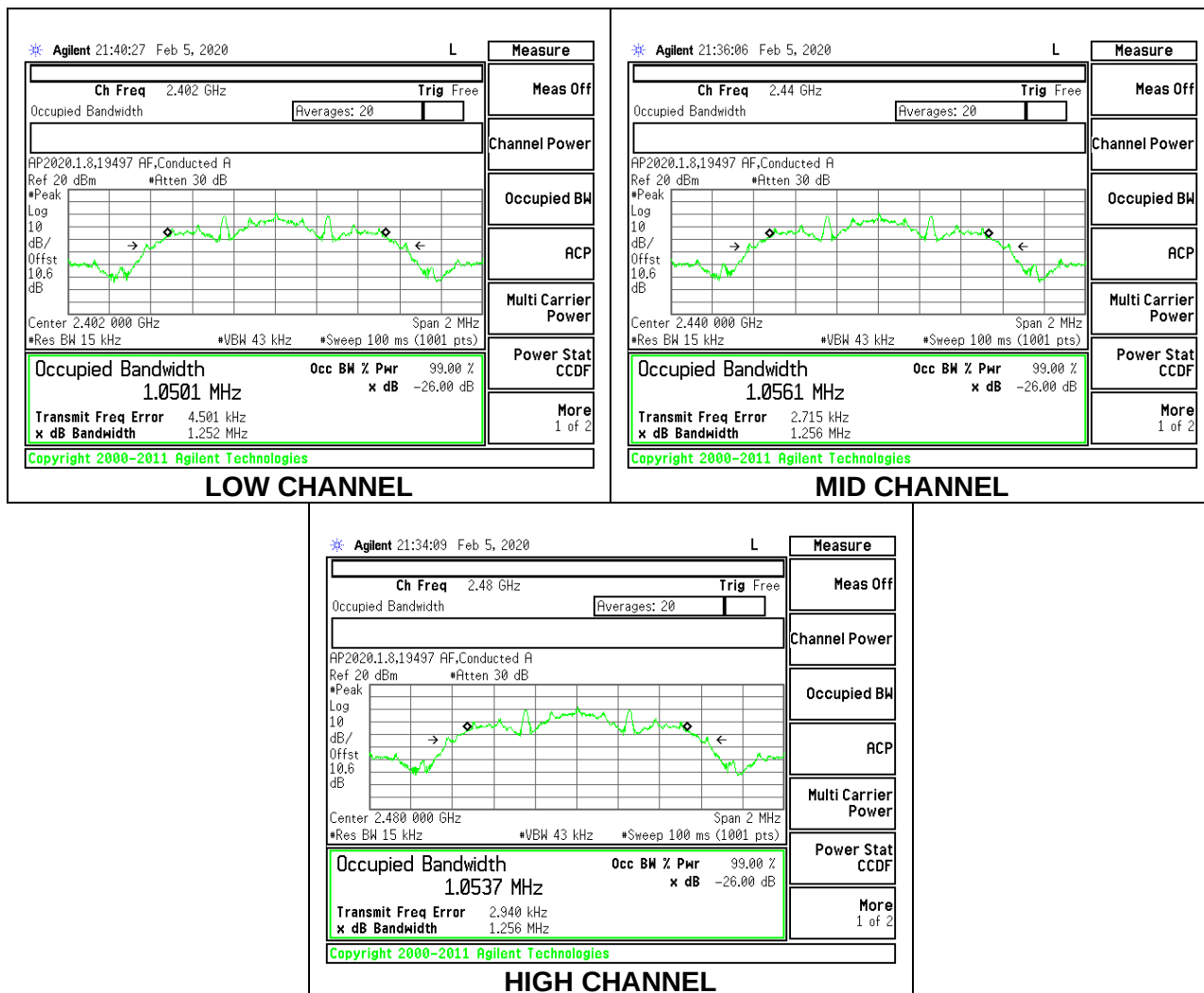
9.2.1. BLE (2Mbps)

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	2.0325
Middle	2440	2.0315
High	2480	2.0273



9.2.2. BLE (125Kbps)

Frequency (MHz)	99% Bandwidth (MHz)
2402	1.0501
2440	1.0561
2480	1.0537



9.3. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

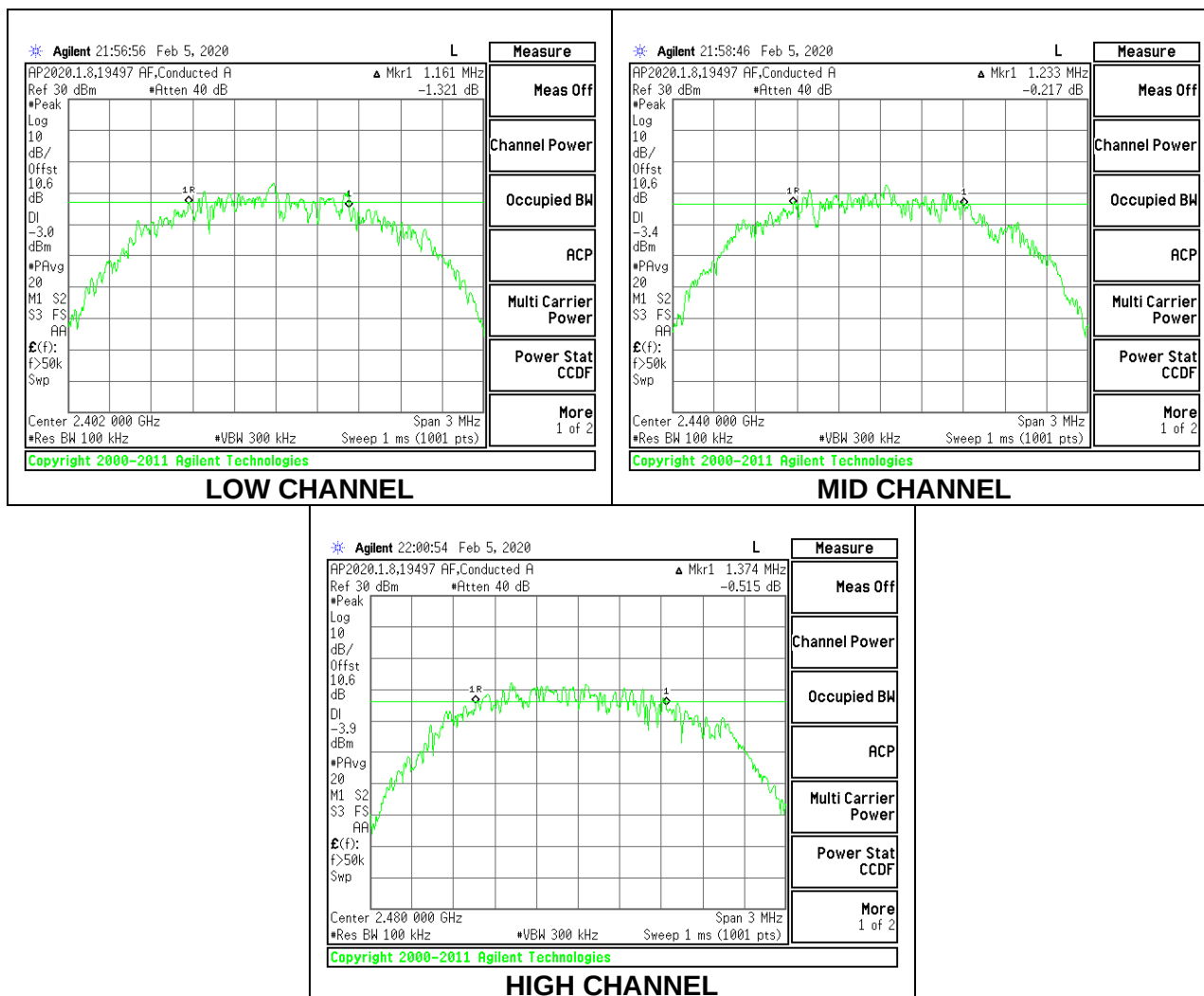
RSS-247 5.2 (a)

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

RESULTS

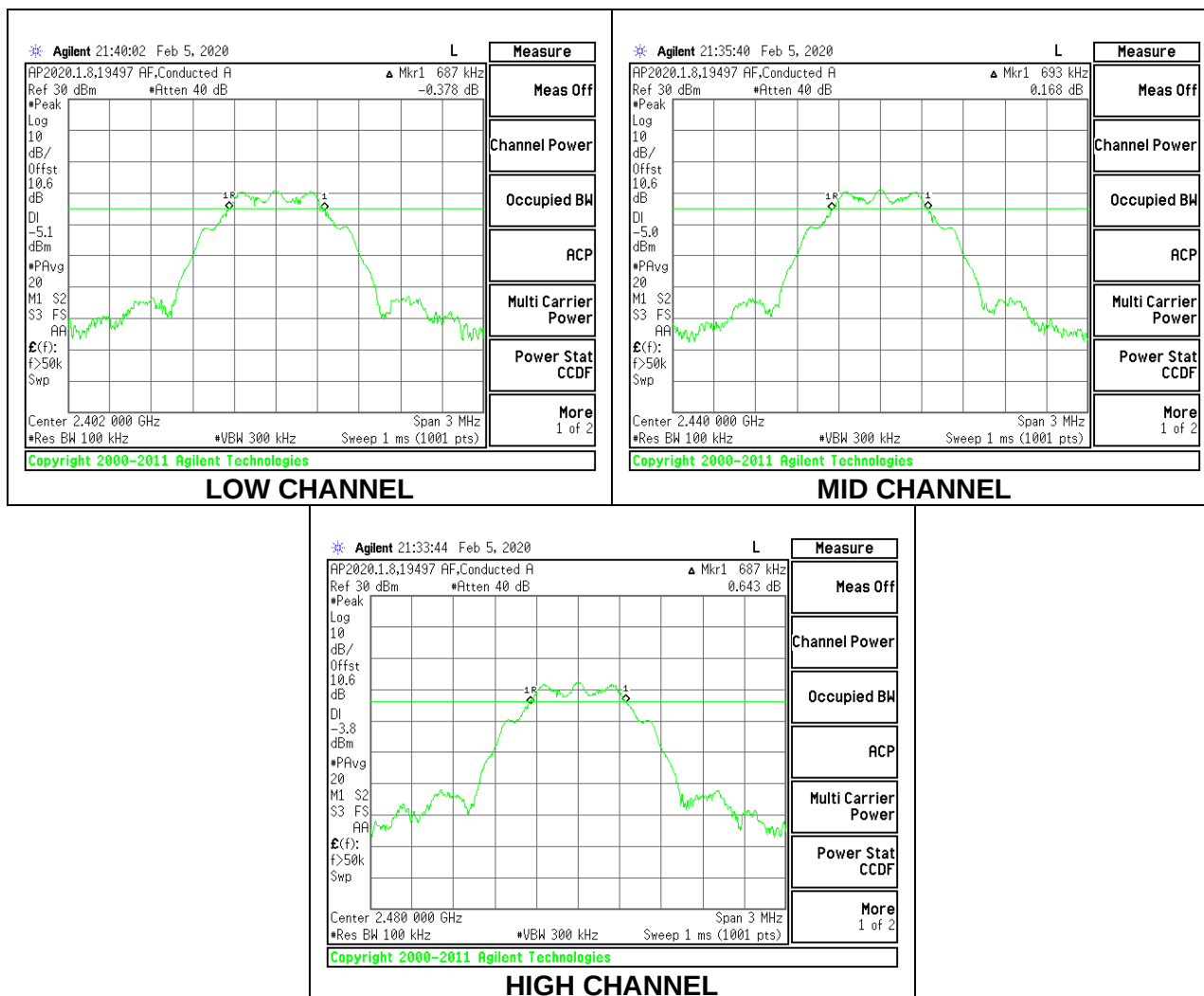
9.3.1. BLE (2Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	1.161	0.5
Middle	2440	1.233	0.5
High	2480	1.374	0.5



9.3.2. BLE (125Kbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.687	0.5
Middle	2440	0.693	0.5
High	2480	0.687	0.5



9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss was entered as an offset in the power meter to allow for a gated peak reading of power.

RESULTS

9.4.1. BLE (2Mbps)

Tested By:	16080 ZS
Date:	1/16/2020

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	5.03	30	-24.970
Middle	2440	4.94	30	-25.060
High	2480	6.12	30	-23.880

9.4.2. BLE (1Mbps)

Tested By:	16080 ZS
Date:	1/16/2020

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	4.96	30	-25.040
Middle	2440	4.92	30	-25.080
High	2480	6.06	30	-23.940

9.4.3. BLE (500Kbps)

Tested By:	16080 ZS
Date:	1/16/2020

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	5.01	30	-24.990
Middle	2440	4.92	30	-25.080
High	2480	6.07	30	-23.930

9.4.4. BLE (125Kbps)

Tested By:	16080 ZS
Date:	1/16/2020

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	4.96	30	-25.040
Middle	2440	4.89	30	-25.110
High	2480	6.03	30	-23.970

9.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss was entered as an offset in the power meter to allow for a gated average reading of power.

RESULTS

9.5.1. BLE (2Mbps)

Tested By:	16080 ZS
Date:	1/16/2020

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	4.92
Middle	2440	4.84
High	2480	6.01

9.5.2. BLE (1Mbps)

Tested By:	16080 ZS
Date:	1/16/2020

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	4.86
Middle	2440	4.81
High	2480	5.97

9.5.3. BLE (500Kbps)

Tested By:	16080 ZS
Date:	1/16/2020

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	4.88
Middle	2440	4.83
High	2480	6

9.5.4. BLE (125Kbps)

Tested By:	16080 ZS
Date:	1/16/2020

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	4.87
Middle	2440	4.78
High	2480	5.96

9.6. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

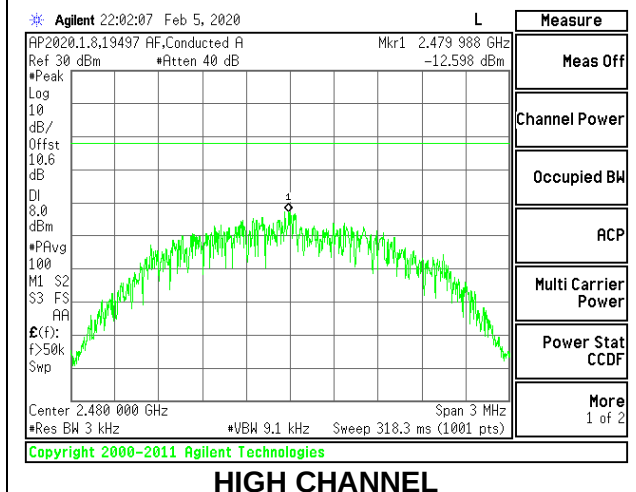
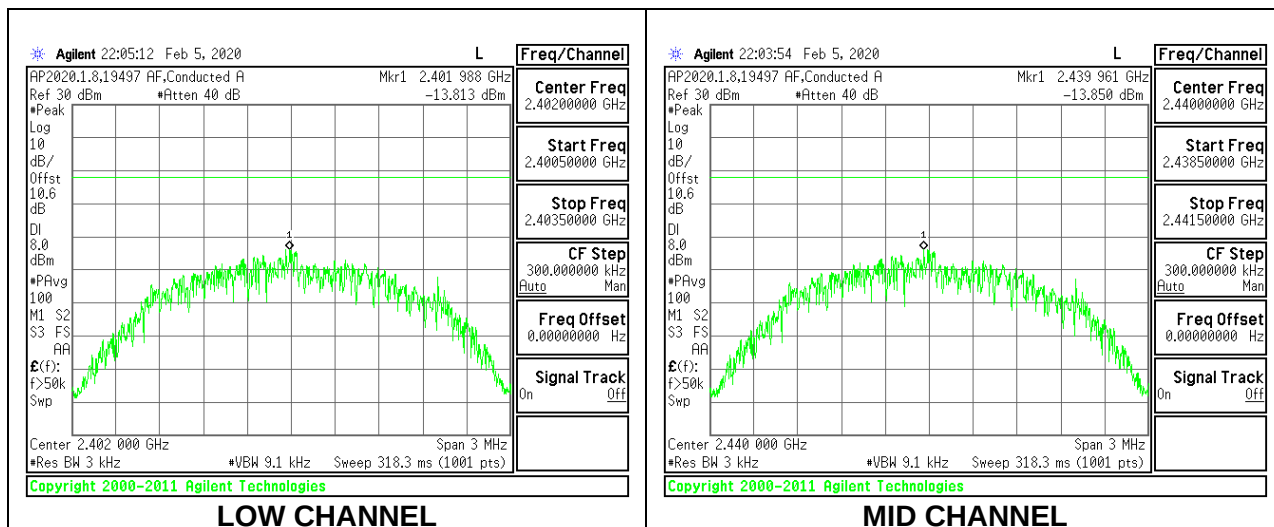
RSS-247 (5.2) (b)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

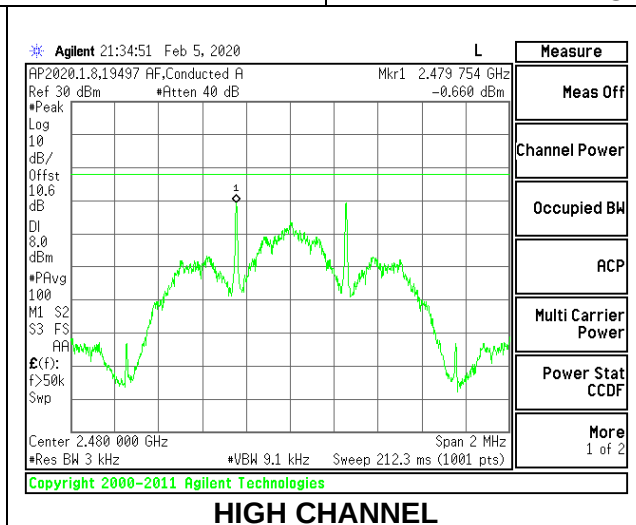
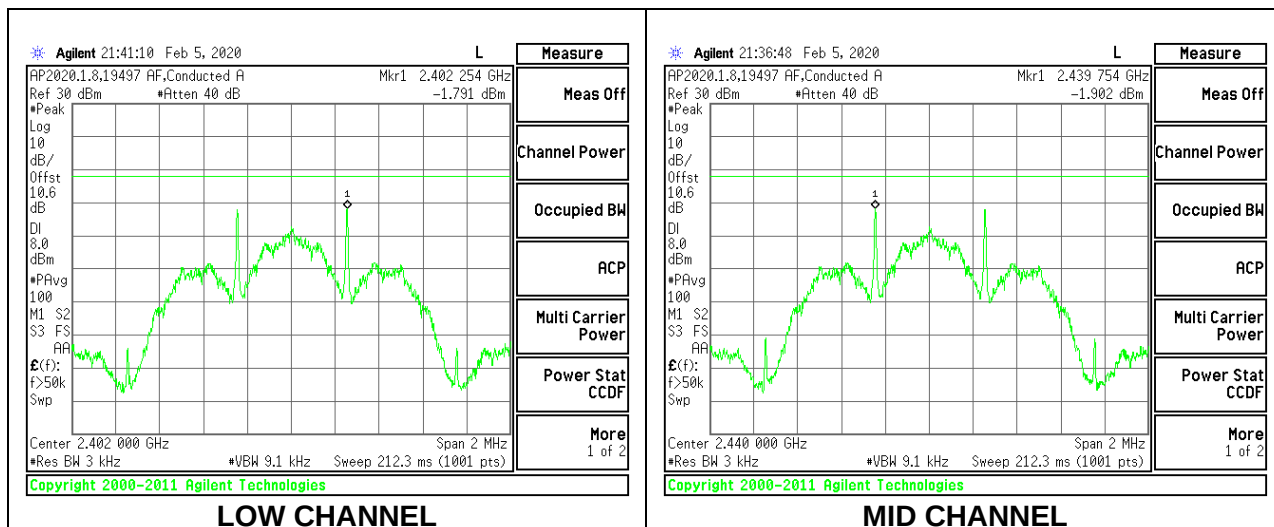
9.6.1. BLE (2Mbps)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-13.813	8	-21.81
Middle	2440	-13.850	8	-21.85
High	2480	-12.598	8	-20.60



9.6.2. BLE (125Kbps)

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-1.791	8	-9.79
Middle	2440	-1.902	8	-9.90
High	2480	-0.660	8	-8.66



9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

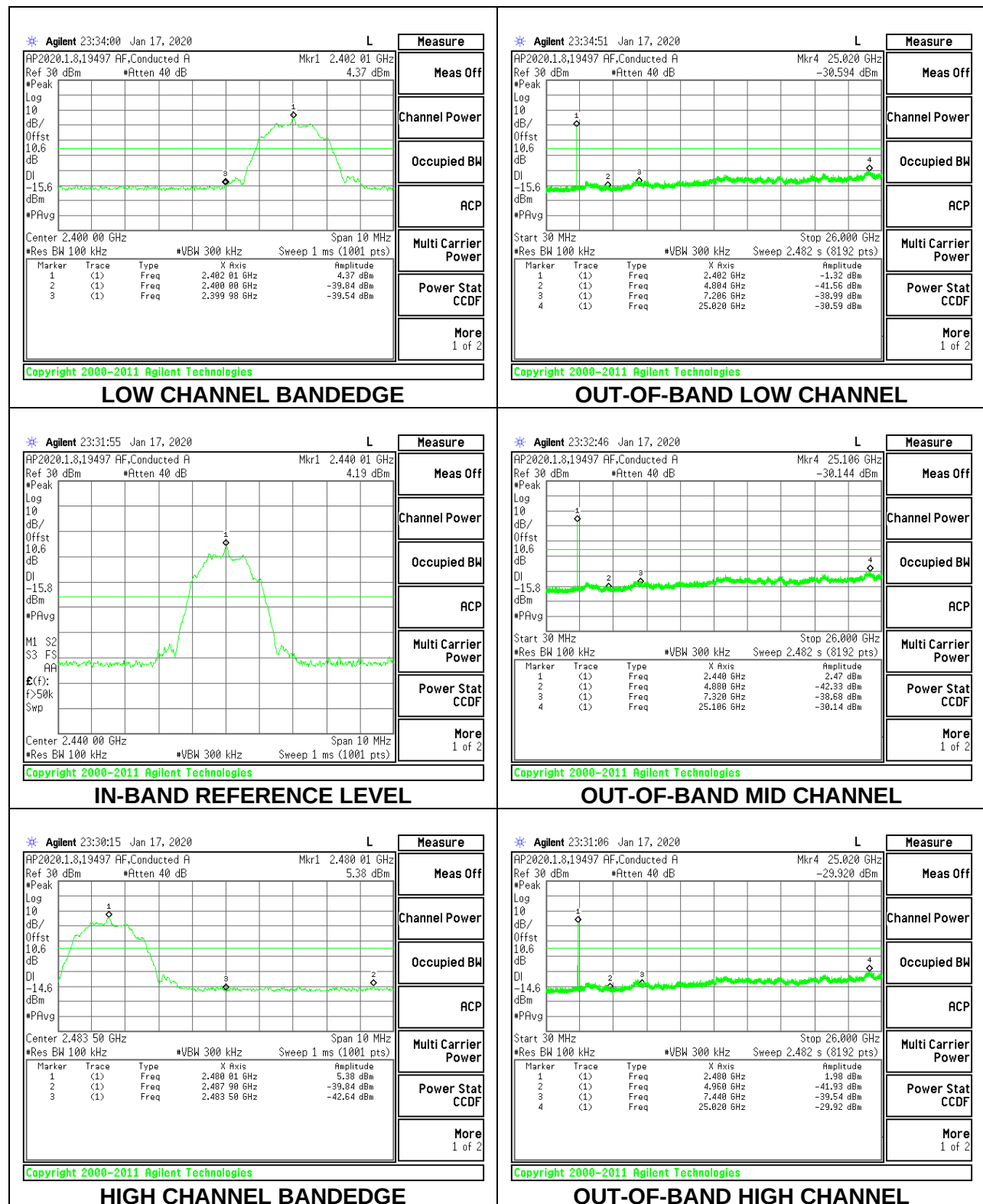
FCC §15.247 (d)

RSS-247 5.5

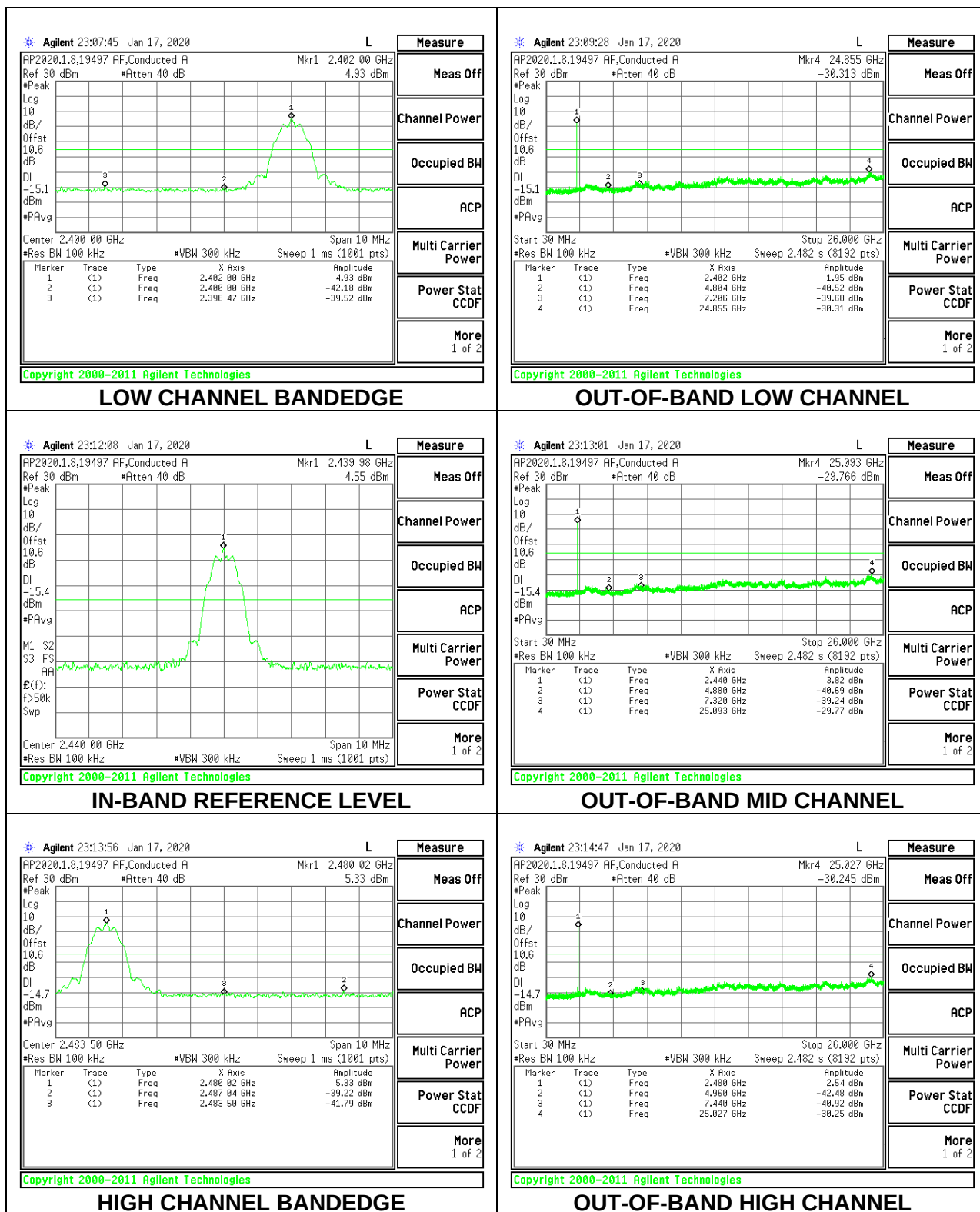
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

RESULTS

9.7.1. BLE (2Mbps)



9.7.2. BLE (125Kbps)



10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

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

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 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 measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. 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.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 30MHz, Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

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.

2D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.

The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table), using the free space impedance of 377 Ohms. For example the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to $Y - 51.5 = Z$ dBuA/m, which has the same margin, W dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

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.

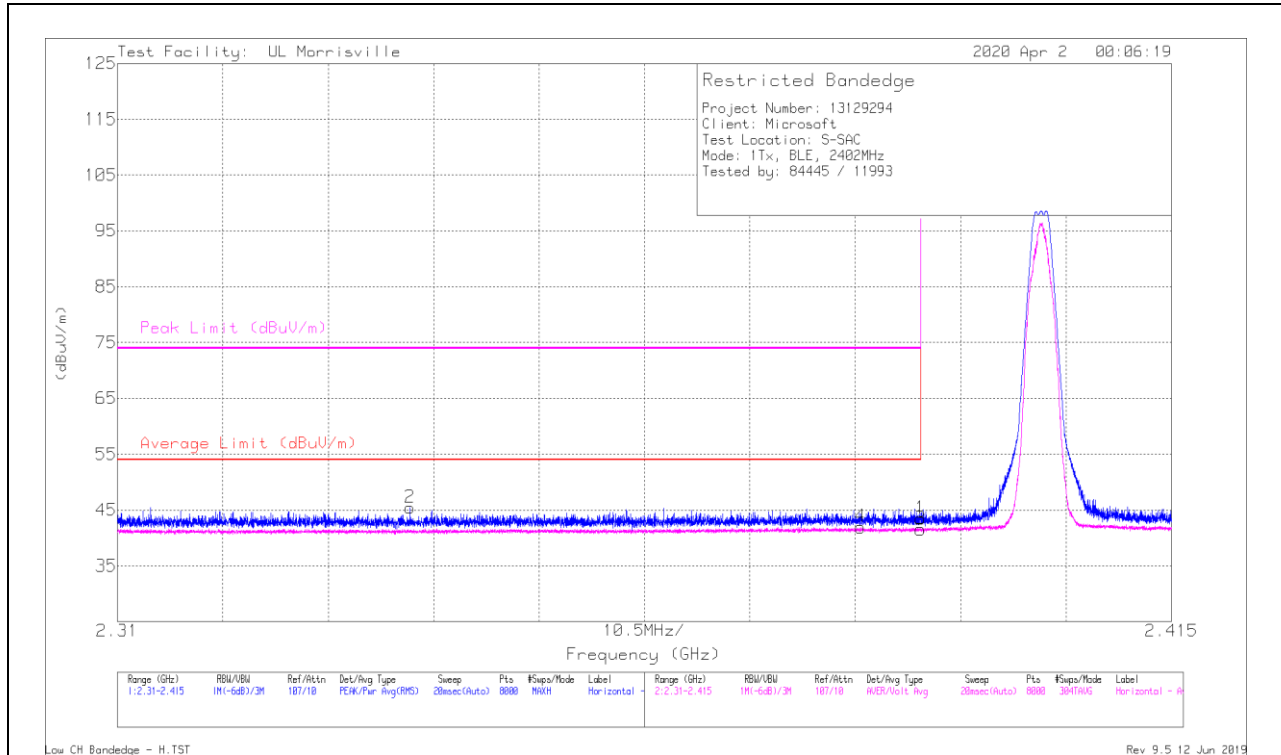
10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. BLE (2Mbps)

Antenna 1

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



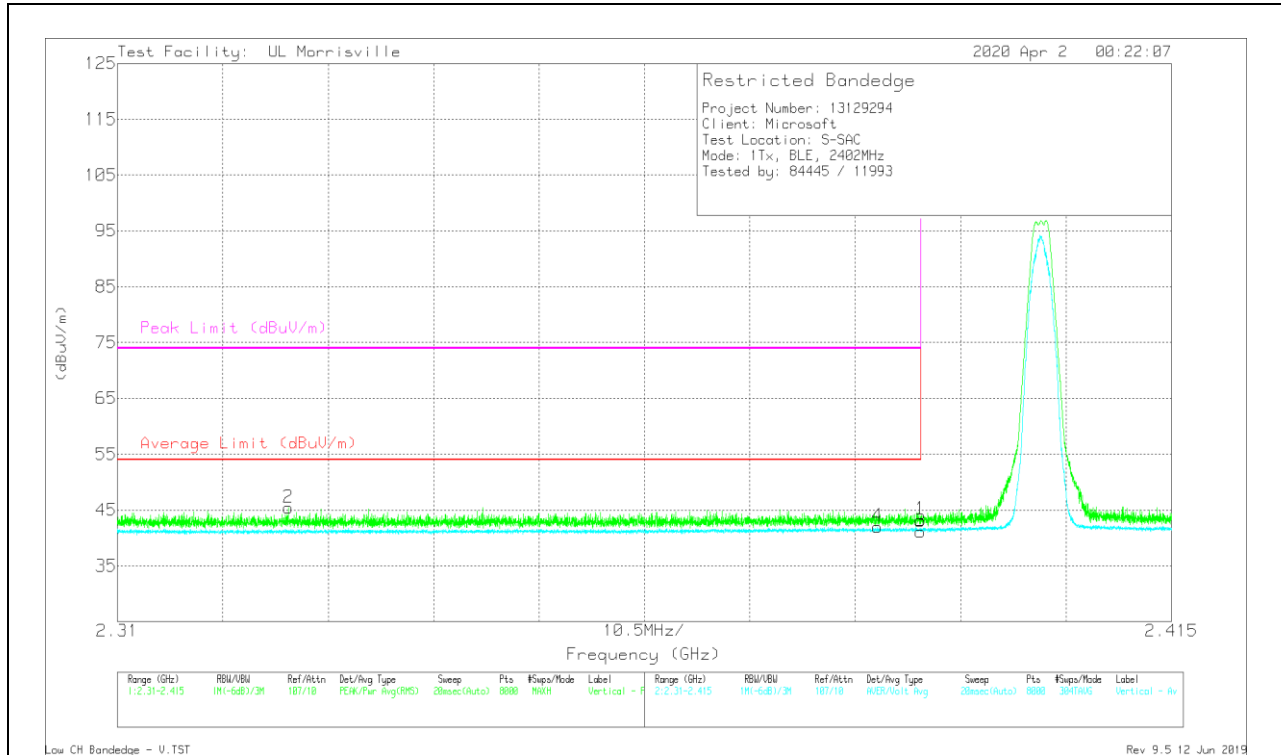
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	Amp/CbI/Filt/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	35.15	Pk	31.9	-23.6	0	43.45	-	-	74	-30.55	10	238	H
2	* 2.33914	37.25	Pk	31.6	-23.4	0	45.45	-	-	74	-28.55	10	238	H
3	* 2.39	23.58	ADV	31.9	-23.6	9.68	41.56	54	-12.44	-	-	10	238	H
4	* 2.38404	23.95	ADV	31.9	-23.6	9.68	41.93	54	-12.07	-	-	10	238	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

ADV - U-NII AD primary method, Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	AmpChlFtr/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Acimuth (Degs)	Height (cm)	Polarity
1	* 2.39	34.98	Pk	31.9	-23.6	0	43.28	-	-	74	-30.72	155	325	V
2	* 2.32704	37.14	Pk	31.7	-23.4	0	45.44	-	-	74	-28.56	155	325	V
3	* 2.39	23.12	ADV	31.9	-23.6	9.68	41.1	54	-12.9	-	-	155	325	V
4	* 2.38574	24.05	ADV	31.9	-23.6	9.68	42.03	54	-11.97	-	-	155	325	V

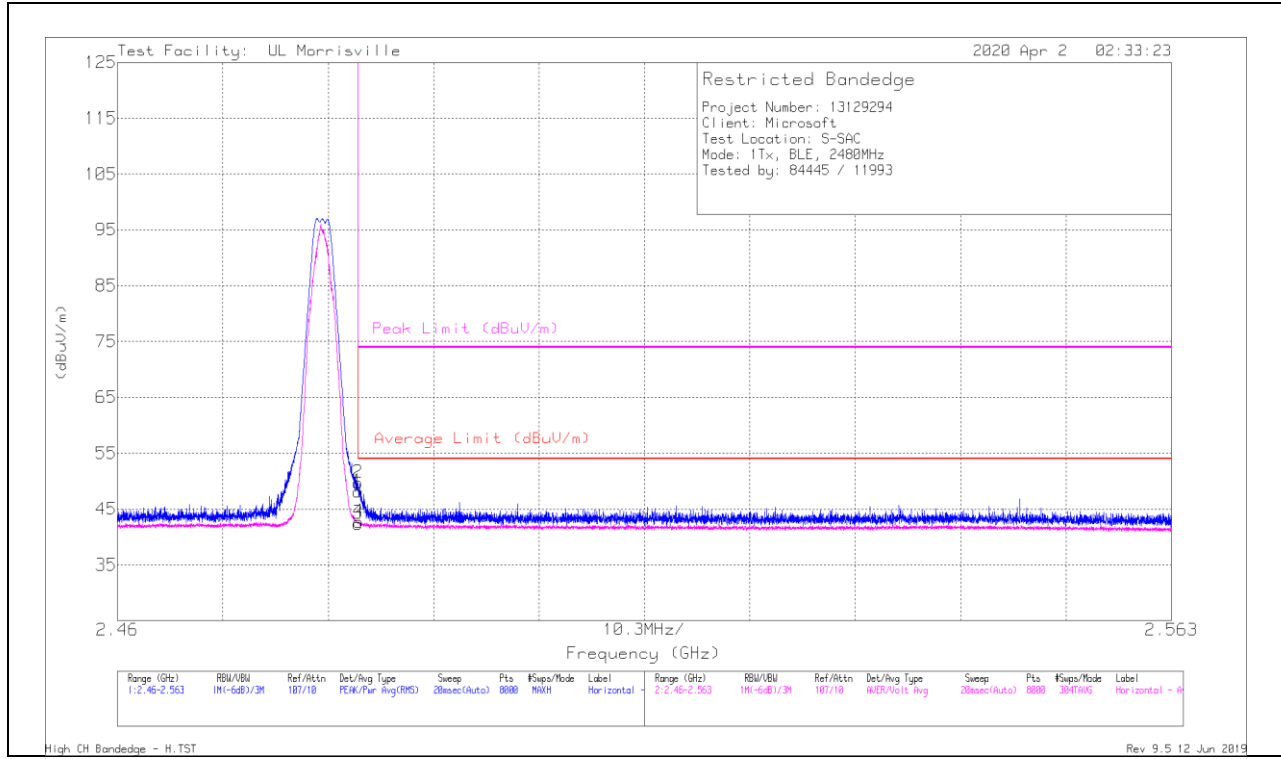
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

ADV - U-NII AD primary method, Linear Voltage Average

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



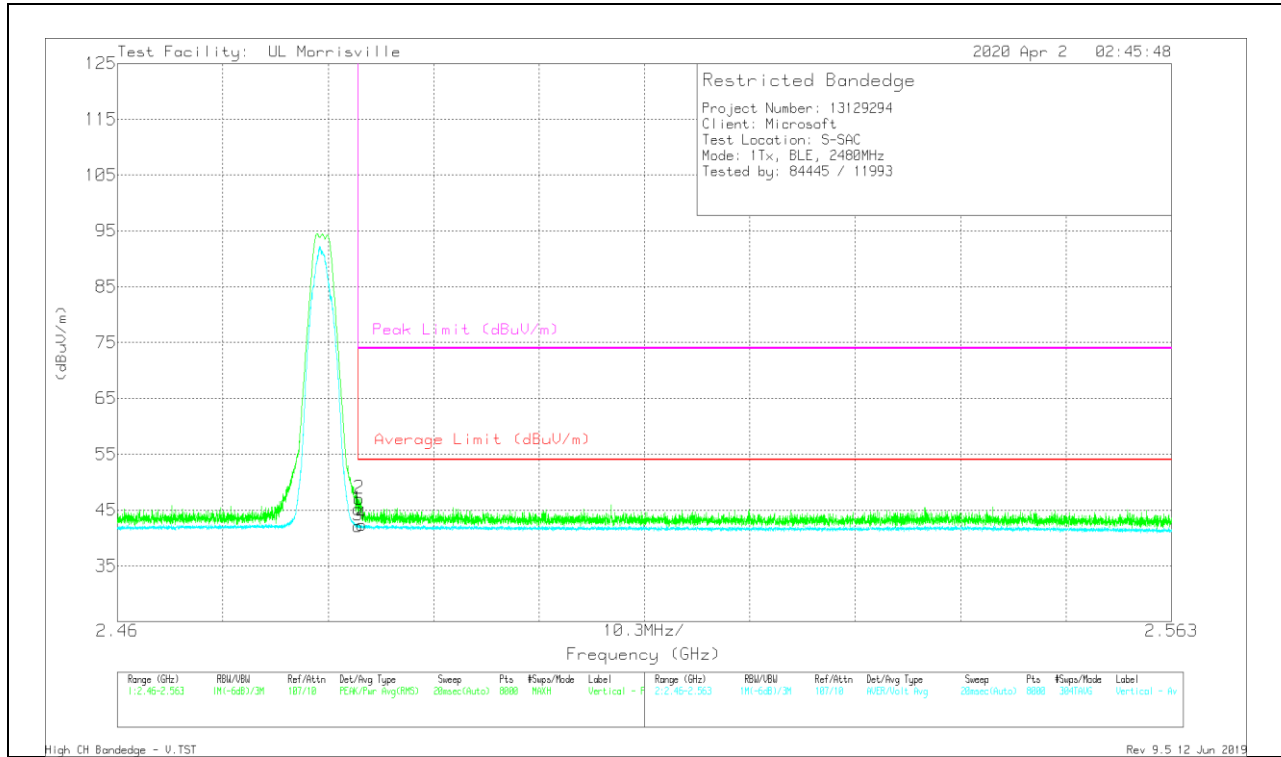
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	Ampl/Cbll/Ftr/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	39.92	Pk	32.3	-24.1	0	48.12	-	-	74	-25.88	46	124	H
2	* 2.48351	41.51	Pk	32.3	-24.1	0	49.71	-	-	74	-24.29	46	124	H
3	* 2.4835	24.53	ADV	32.3	-24.1	9.68	42.41	54	-11.59	-	-	46	124	H
4	* 2.48355	24.84	ADV	32.3	-24.1	9.68	42.72	54	-11.28	-	-	46	124	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

ADV - U-NII AD primary method, Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	AmpCalcFtrP ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Acimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	36.98	Pk	32.3	-24.1	0	45.18	-	-	74	-28.82	45	360	V
2	* 2.4836	38.86	Pk	32.3	-24.1	0	47.06	-	-	74	-26.94	45	360	V
3	* 2.4835	24.29	ADV	32.3	-24.1	9.68	42.17	54	-11.83	-	-	45	360	V
4	* 2.48389	24.49	ADV	32.3	-24.1	9.68	42.37	54	-11.63	-	-	45	360	V

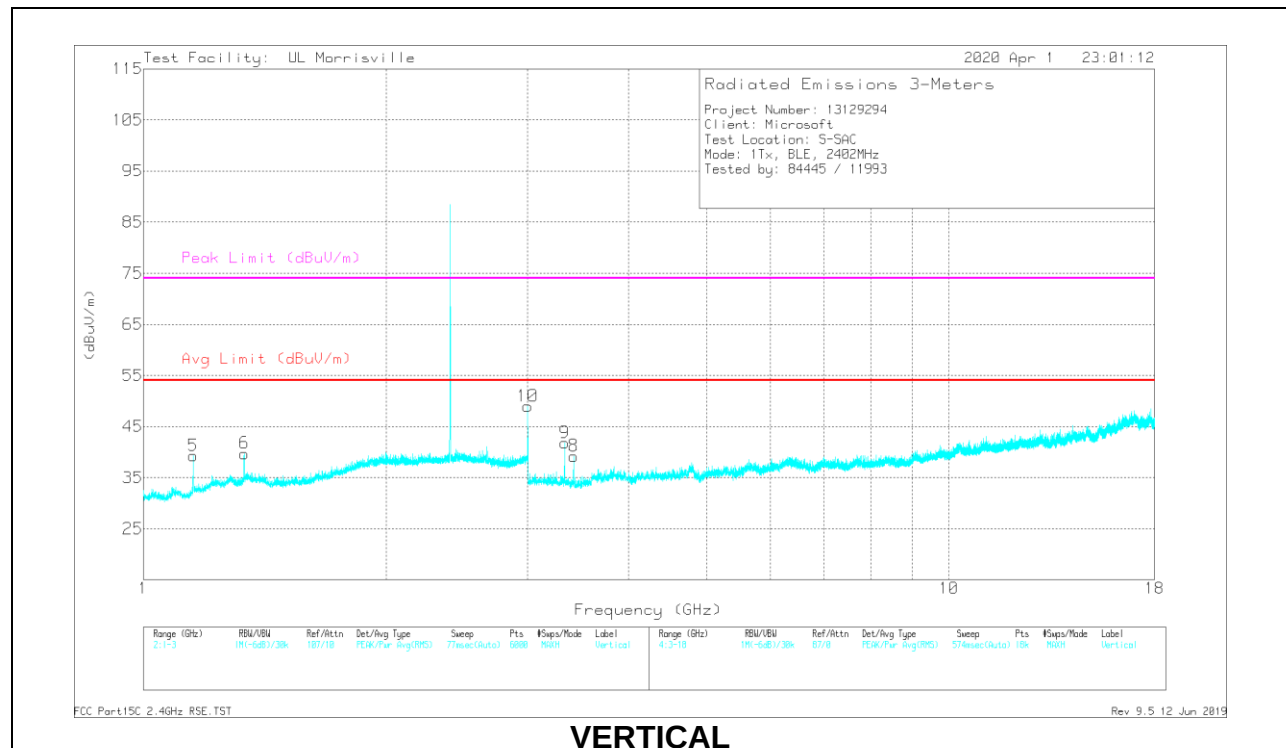
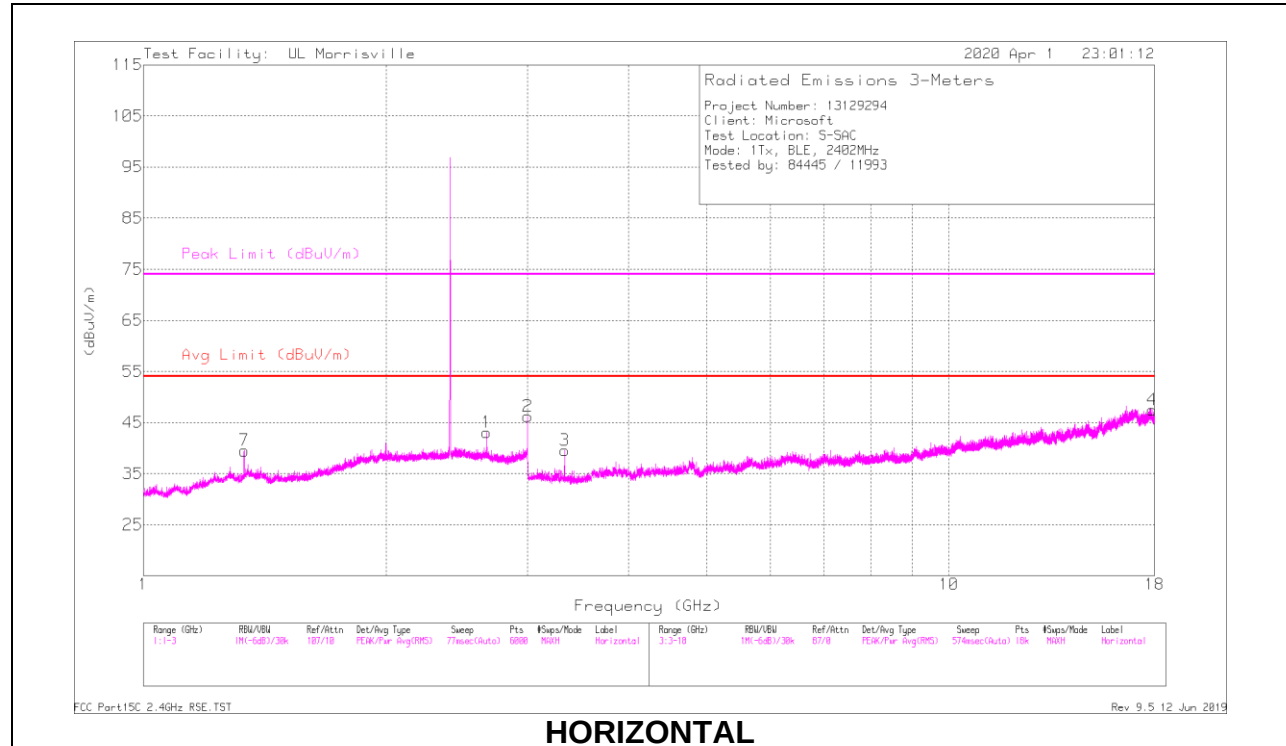
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

ADV - U-NII AD primary method, Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/FI tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.66673	45.79	PK2	32.4	-25.2	0	52.99	-	-	74	-21.01	237	196	H
	* 2.66656	25.78	ADV	32.4	-25.2	9.68	42.66	54	-11.34	-	-	237	196	H
7	* 1.3332	42.34	PK2	29	-22.7	0	48.64	-	-	74	-25.36	58	201	H
	* 1.33332	24.96	ADV	29	-22.7	9.68	40.94	54	-13.06	-	-	58	201	H
5	* 1.15265	41.38	PK2	27.8	-23.7	0	45.48	-	-	74	-28.52	215	202	V
	* 1.15264	31.34	ADV	27.8	-23.7	9.68	45.12	54	-8.88	-	-	215	202	V
6	* 1.33321	43.33	PK2	29	-22.7	0	49.63	-	-	74	-24.37	0	192	V
	* 1.3333	29.52	ADV	29	-22.7	9.68	45.5	54	-8.5	-	-	0	192	V
3	* 3.33316	44.37	PK2	32.9	-32.2	0	45.07	-	-	74	-28.93	89	200	H
	* 3.33321	36.98	ADV	32.9	-32.2	9.68	47.36	54	-6.64	-	-	89	200	H
4	* 17.87159	33.26	PK2	41.2	-20.2	0	54.26	-	-	74	-19.74	223	369	H
	* 17.87108	19.79	ADV	41.2	-20.2	9.68	50.47	54	-3.53	-	-	223	369	H
9	* 3.33329	46.54	PK2	32.9	-32.2	0	47.24	-	-	74	-26.76	177	217	V
	* 3.33318	40.62	ADV	32.9	-32.2	9.68	51	54	-3	-	-	177	217	V
2	3	38.71	Pk	33	-25.5	0	46.21	-	-	-	-	0-360	199	H
10	3	48.17	Pk	33	-32.2	0	48.97	-	-	-	-	0-360	199	V
8	3.42002	38.72	Pk	32.8	-32.3	0	39.22	-	-	-	-	0-360	101	V

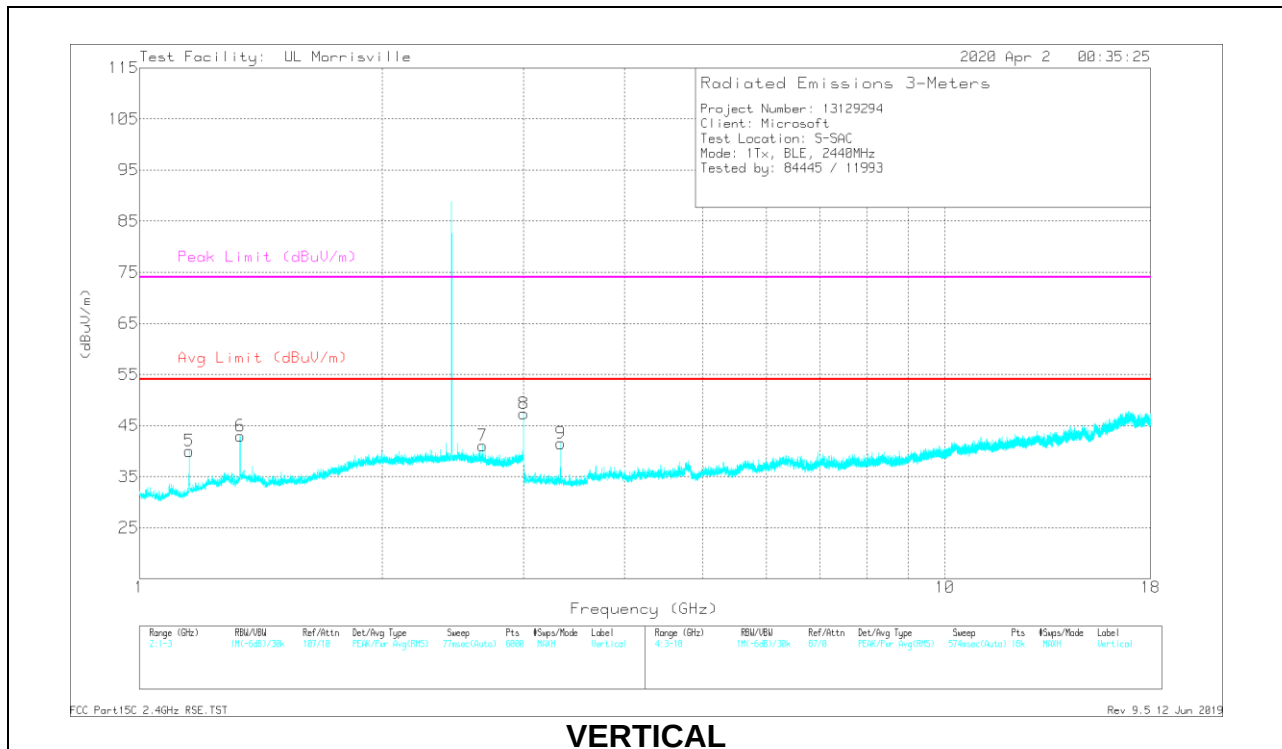
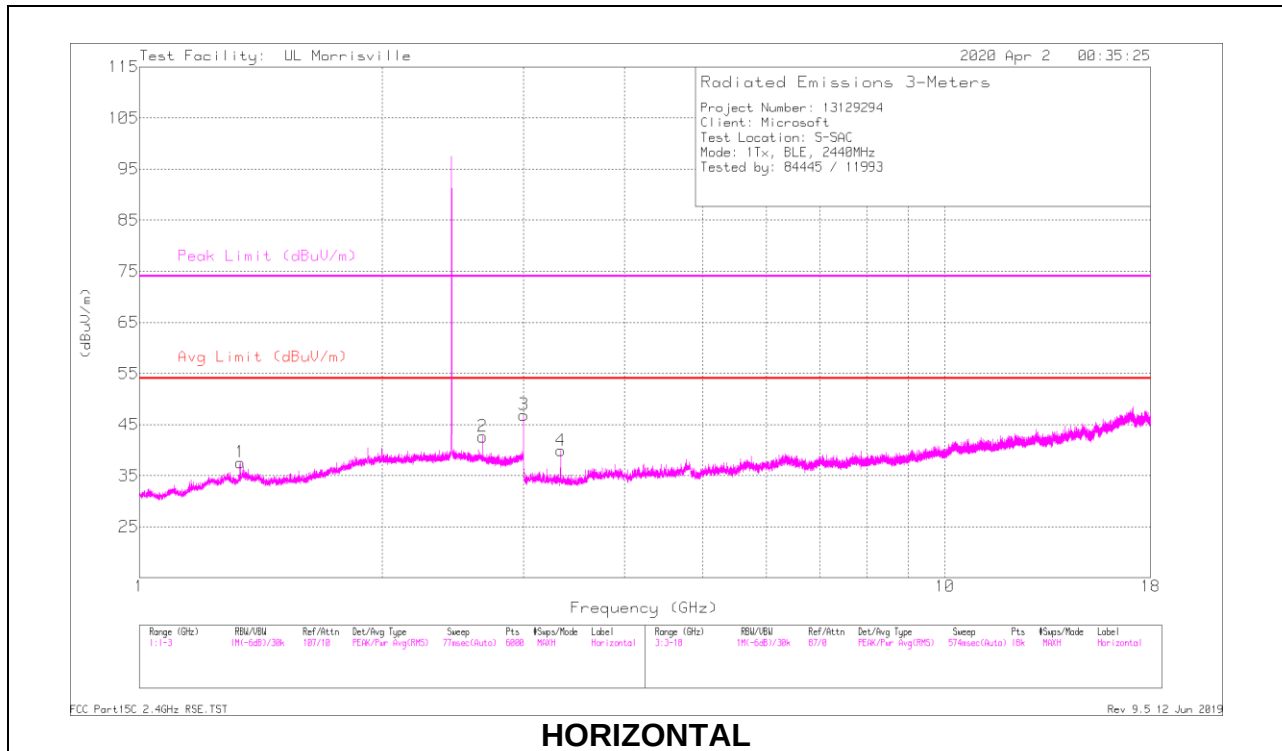
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

ADV - U-NII AD primary method, Linear Voltage Average

Pk - Peak detector

MID CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/FI tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.33318	43.34	PK2	29	-22.7	0	49.64	-	-	74	-24.36	181	286	H
	* 1.33332	25.13	ADV	29	-22.7	9.68	41.11	54	-12.89	-	-	181	286	H
2	* 2.66665	43.22	PK2	32.4	-25.2	0	50.42	-	-	74	-23.58	105	229	H
	* 2.66662	26.99	ADV	32.4	-25.2	9.68	43.87	54	-10.13	-	-	105	229	H
5	* 1.15271	41.5	PK2	27.8	-23.7	0	45.6	-	-	74	-28.4	205	211	V
	* 1.15264	31.03	ADV	27.8	-23.7	9.68	44.81	54	-9.19	-	-	205	211	V
6	* 1.33333	44.56	PK2	29	-22.7	0	50.86	-	-	74	-23.14	354	247	V
	* 1.33326	32.29	ADV	29	-22.7	9.68	48.27	54	-5.73	-	-	354	247	V
7	* 2.6665	48.39	PK2	32.4	-25.2	0	55.59	-	-	74	-18.41	198	148	V
	* 2.66656	29.88	ADV	32.4	-25.2	9.68	46.76	54	-7.24	-	-	198	148	V
4	* 3.33322	44.65	PK2	32.9	-32.2	0	45.35	-	-	74	-28.65	106	203	H
	* 3.3332	37.26	ADV	32.9	-32.2	9.68	47.64	54	-6.36	-	-	106	203	H
9	* 3.33325	46.63	PK2	32.9	-32.2	0	47.33	-	-	74	-26.67	229	226	V
	* 3.33318	39.84	ADV	32.9	-32.2	9.68	50.22	54	-3.78	-	-	229	226	V
3	3	39.4	Pk	33	-25.5	0	46.9	-	-	-	-	0-360	199	H
8	3	39.82	Pk	33	-25.5	0	47.32	-	-	-	-	0-360	199	V

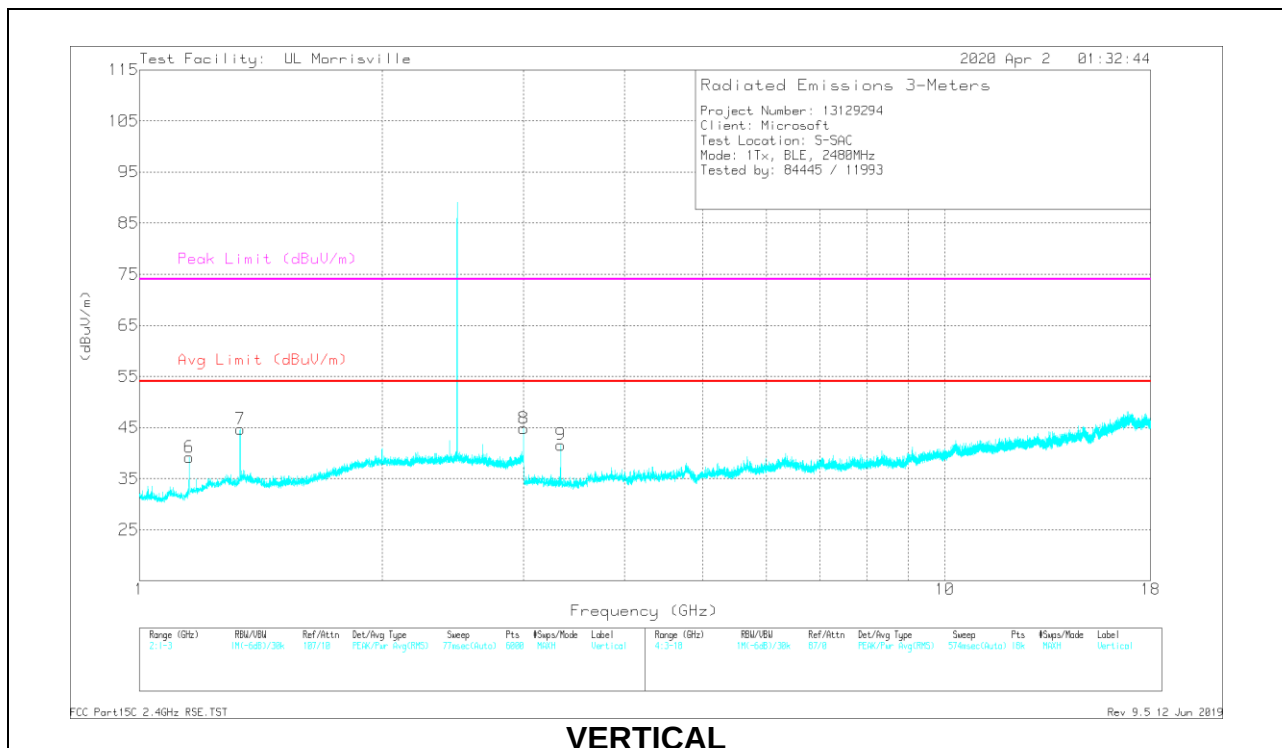
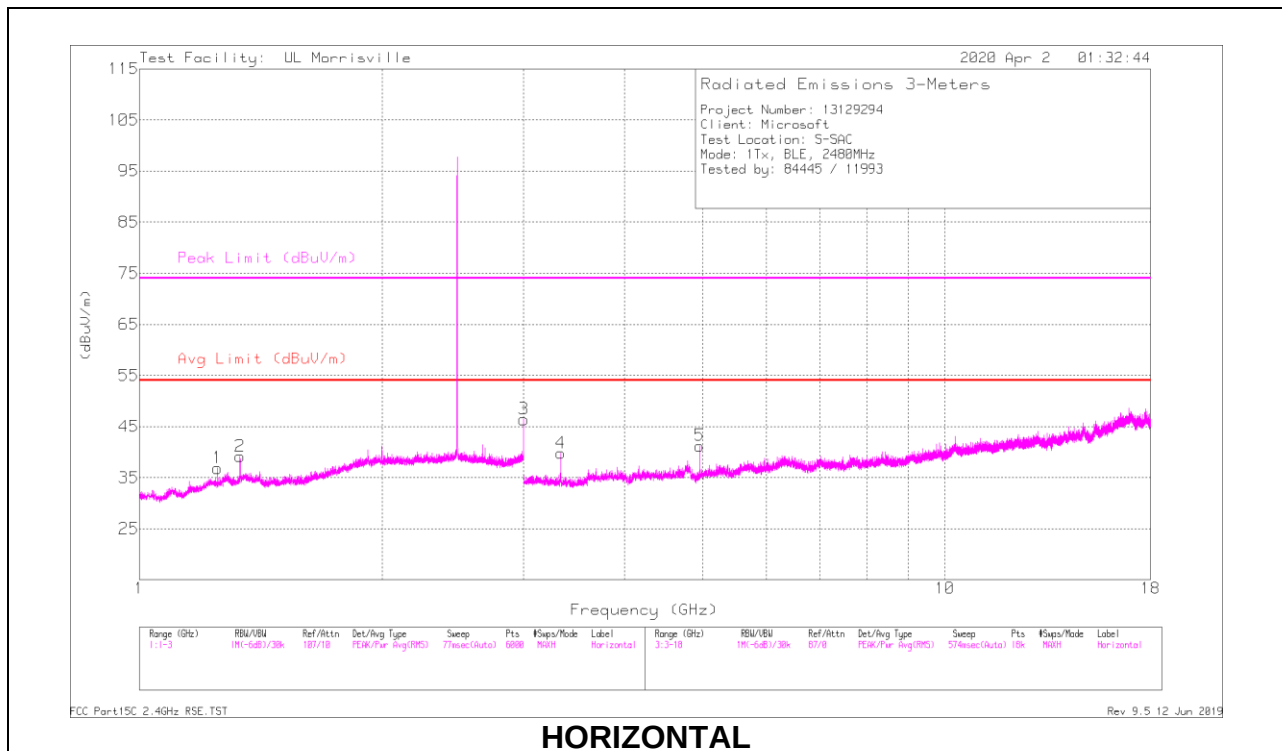
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

ADV - U-NII AD primary method, Linear Voltage Average

Pk - Peak detector

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Markers	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dB/m)	Amp/Cbl/FI tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.24969	35.77	PK2	28.9	-23.1	0	41.57	-	-	74	-32.43	229	232	H
	* 1.24983	22.04	ADV	28.9	-23.1	9.68	37.52	54	-16.48	-	-	229	232	H
2	* 1.33331	42.1	PK2	29	-22.7	0	48.4	-	-	74	-25.6	61	206	H
	* 1.33327	24.76	ADV	29	-22.7	9.68	40.74	54	-13.26	-	-	61	206	H
6	* 1.15297	41.46	PK2	27.8	-23.7	0	45.56	-	-	74	-28.44	217	198	V
	* 1.1527	31.46	ADV	27.8	-23.7	9.68	45.24	54	-8.76	-	-	217	198	V
7	* 1.33337	45.3	PK2	29	-22.7	0	51.6	-	-	74	-22.4	358	244	V
	* 1.33329	32.48	ADV	29	-22.7	9.68	48.46	54	-5.54	-	-	358	244	V
4	* 3.33322	44.62	PK2	32.9	-32.2	0	45.32	-	-	74	-28.68	84	276	H
	* 3.33324	36.9	ADV	32.9	-32.2	9.68	47.28	54	-6.72	-	-	84	276	H
5	* 4.95898	43.19	PK2	34.1	-30.6	0	46.69	-	-	74	-27.31	6	117	H
	* 4.95911	28.47	ADV	34.1	-30.6	9.68	41.65	54	-12.35	-	-	6	117	H
9	* 3.33339	45.87	PK2	32.9	-32.2	0	46.57	-	-	74	-27.43	234	235	V
	* 3.33323	39.25	ADV	32.9	-32.2	9.68	49.63	54	-4.37	-	-	234	235	V
3	3	38.91	Pk	33	-25.5	0	46.41	-	-	-	-	0-360	199	H
8	3	37.35	Pk	33	-25.5	0	44.85	-	-	-	-	0-360	199	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

ADV - U-NII AD primary method, Linear Voltage Average

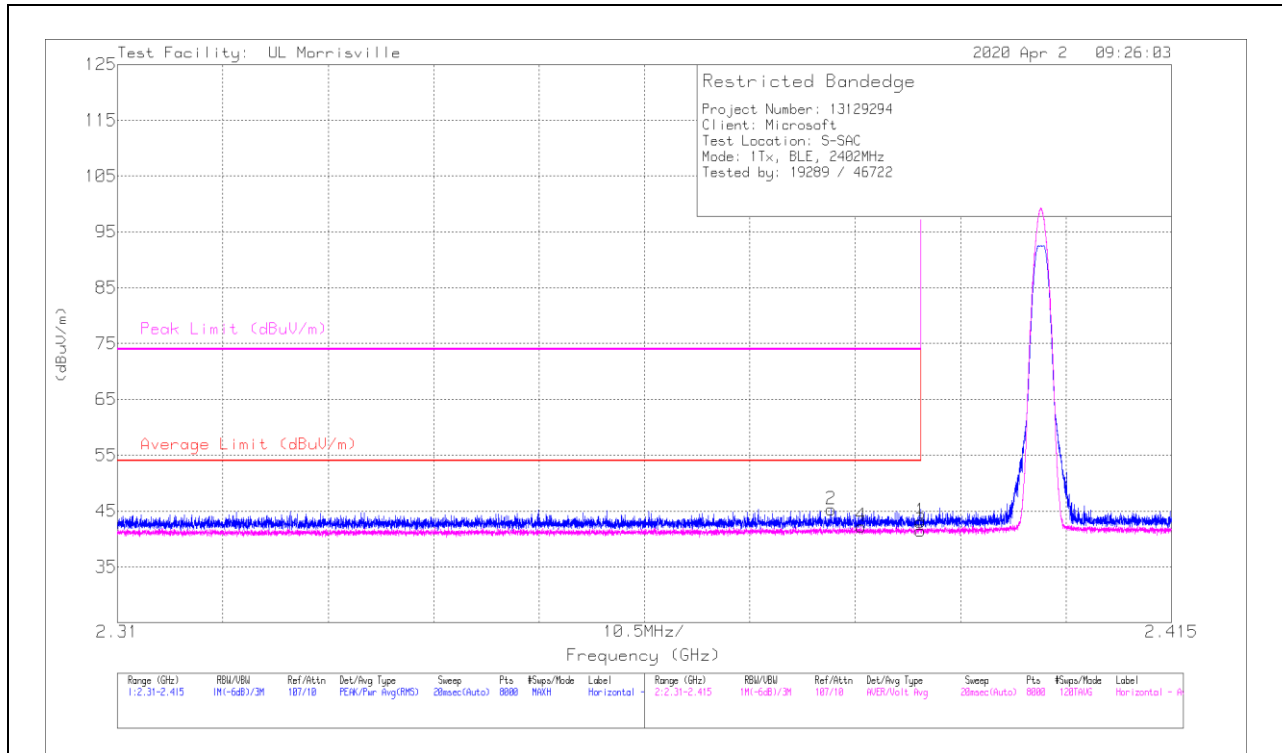
Pk - Peak detector

10.2.2. BLE (125Kbps)

Antenna 1

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



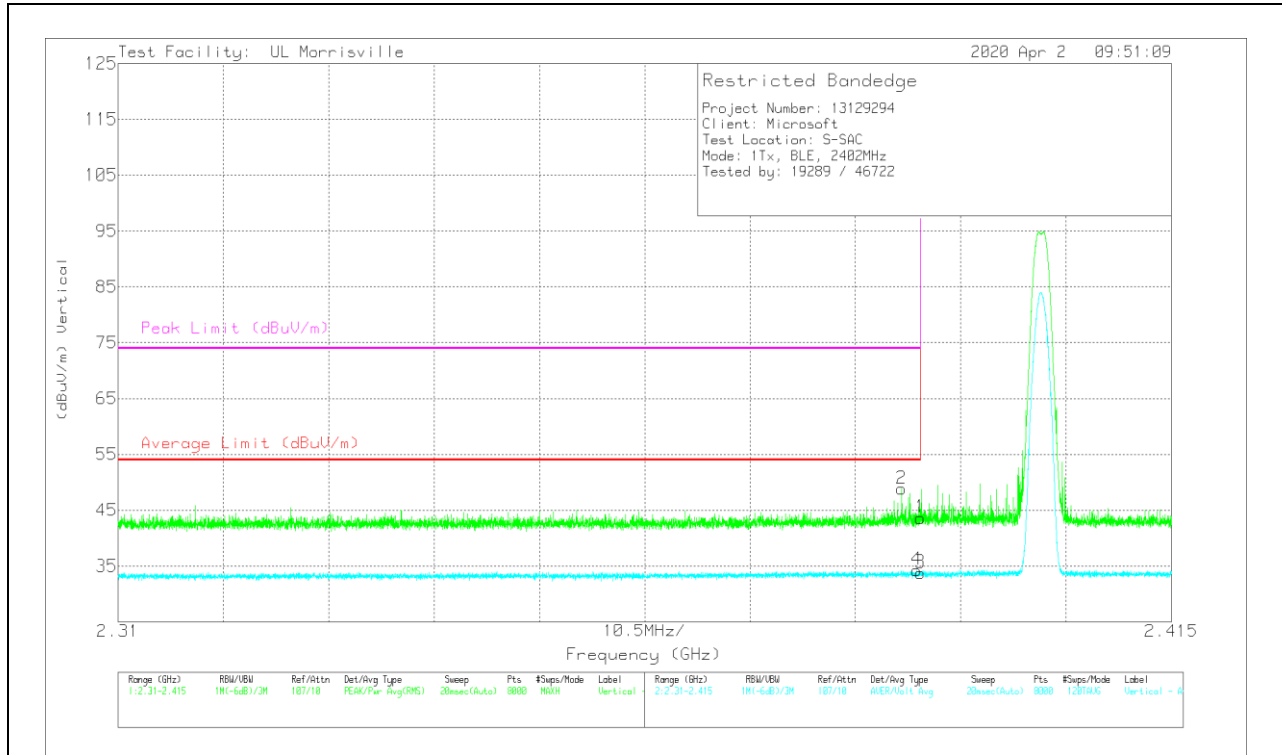
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	Ampl/Chl/Filt/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	34.83	Pk	31.9	-23.6	0	43.13	-	-	74	-30.87	163	181	H
2	* 2.38111	37	Pk	31.9	-23.6	0	45.3	-	-	74	-28.7	163	181	H
3	* 2.39	31.53	ADV	31.9	-23.6	1.65	41.48	54	-12.52	-	-	163	181	H
4	* 2.3841	32.32	ADV	31.9	-23.6	1.65	42.27	54	-11.73	-	-	163	181	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

ADV - U-NII AD primary method, Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	AmpCaliFtr/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Acimuth (Degs)	Height (cm)	Polarity
1	* 2.39	35.37	Pk	31.9	-23.6	0	43.67	-	-	74	-30.33	263	163	V
2	* 2.38812	40.56	Pk	31.9	-23.6	0	48.86	-	-	74	-25.14	263	163	V
3	* 2.39	23.84	ADV	31.9	-23.6	1.65	33.79	54	-20.21	-	-	263	163	V
4	* 2.38962	24.33	ADV	31.9	-23.6	1.65	34.28	54	-19.72	-	-	263	163	V

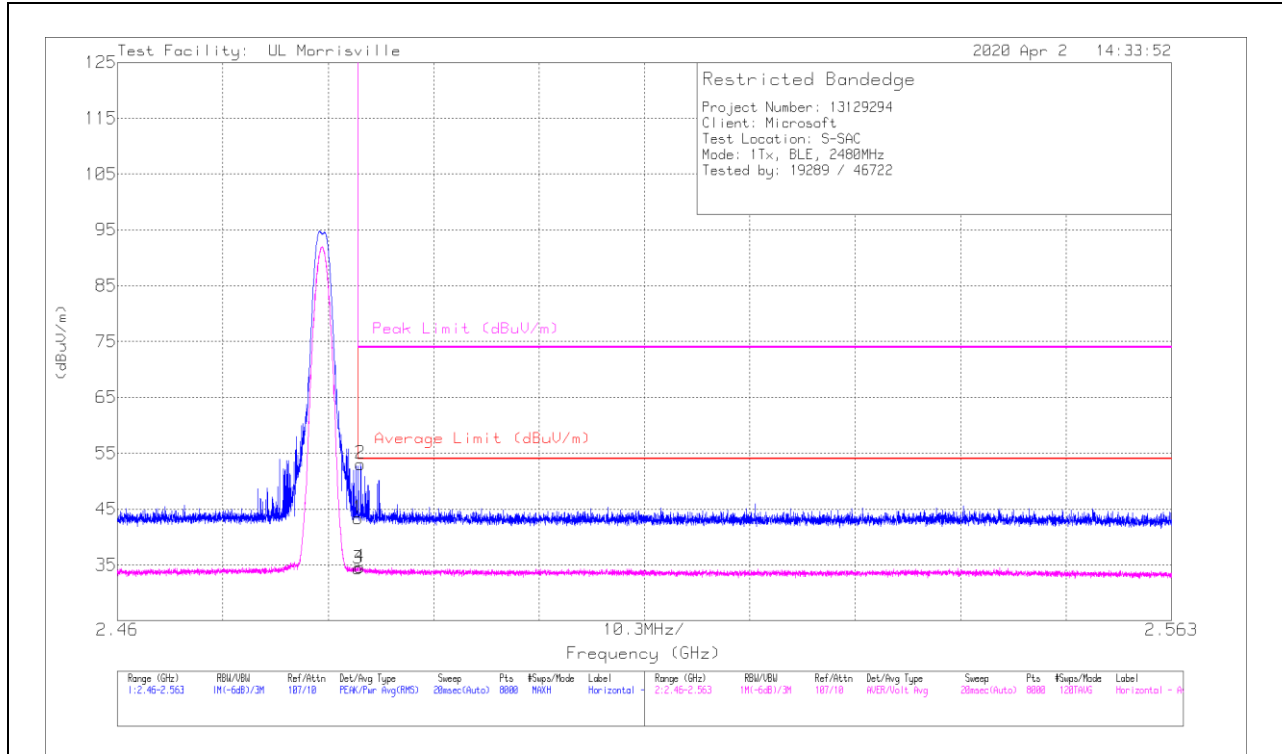
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

ADV - U-NII AD primary method, Linear Voltage Average

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



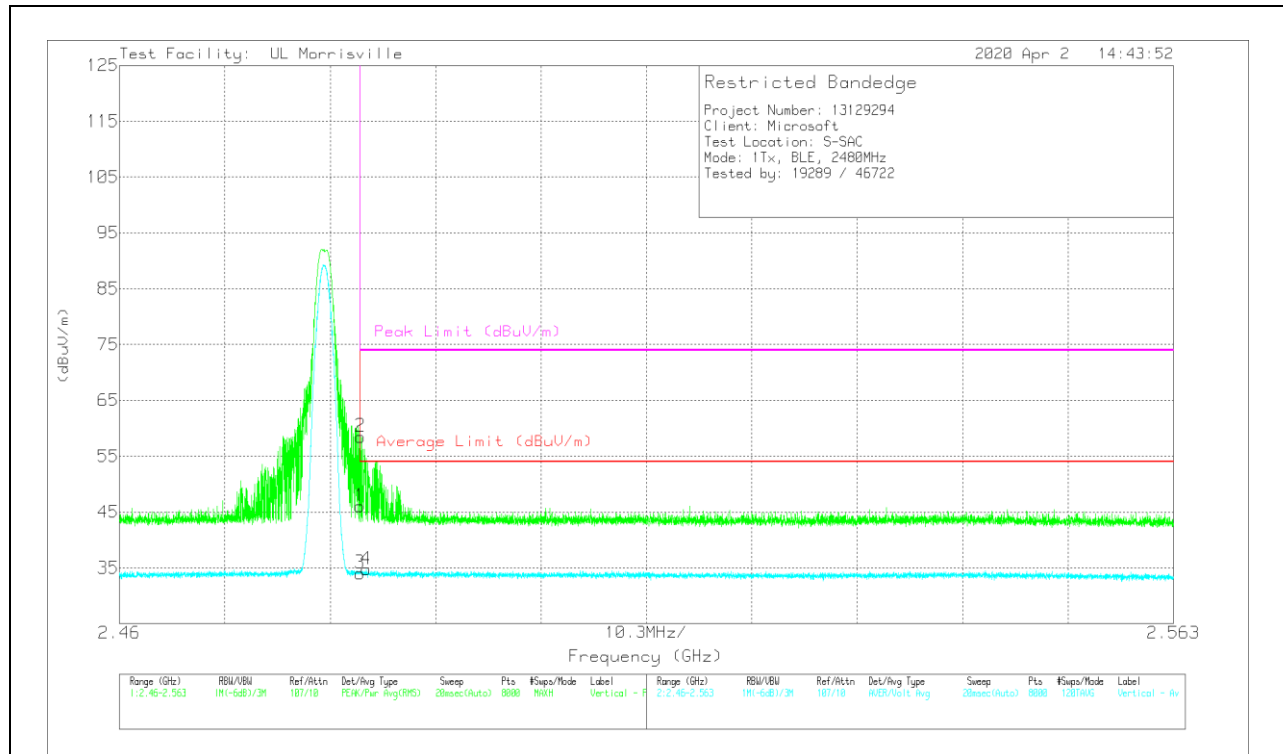
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	Ampl/Cbll/Ftr/P ad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	35.1	Pk	32.3	-24.1	0	43.3	-	-	74	-30.7	34	246	H
2	* 2.48373	44.91	Pk	32.3	-24.1	0	53.11	-	-	74	-20.89	34	246	H
3	* 2.4835	24.51	ADV	32.3	-24.1	1.65	34.36	54	-19.64	-	-	34	246	H
4	* 2.48369	24.71	ADV	32.3	-24.1	1.65	34.56	54	-19.44	-	-	34	246	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

ADV - U-NII AD primary method, Linear Voltage Average

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	AmpChl/Filt/Psd (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Acimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	37.83	Pk	32.3	-24.1	0	46.03	-	-	74	-27.97	43	294	V
2	* 2.48358	50.31	Pk	32.3	-24.1	0	58.51	-	-	74	-15.49	43	294	V
3	* 2.4835	24.17	ADV	32.3	-24.1	1.65	34.02	54	-19.98	-	-	43	294	V
4	* 2.48411	24.88	ADV	32.3	-24.1	1.65	34.73	54	-19.27	-	-	43	294	V

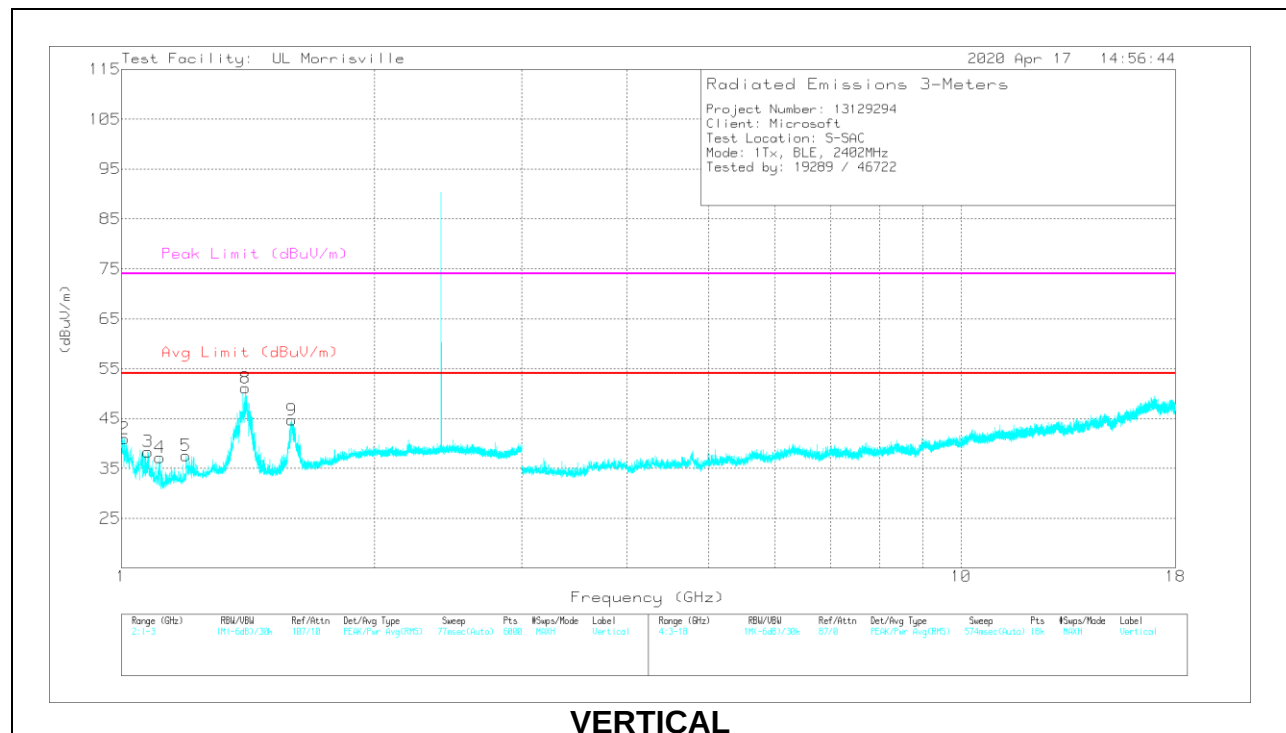
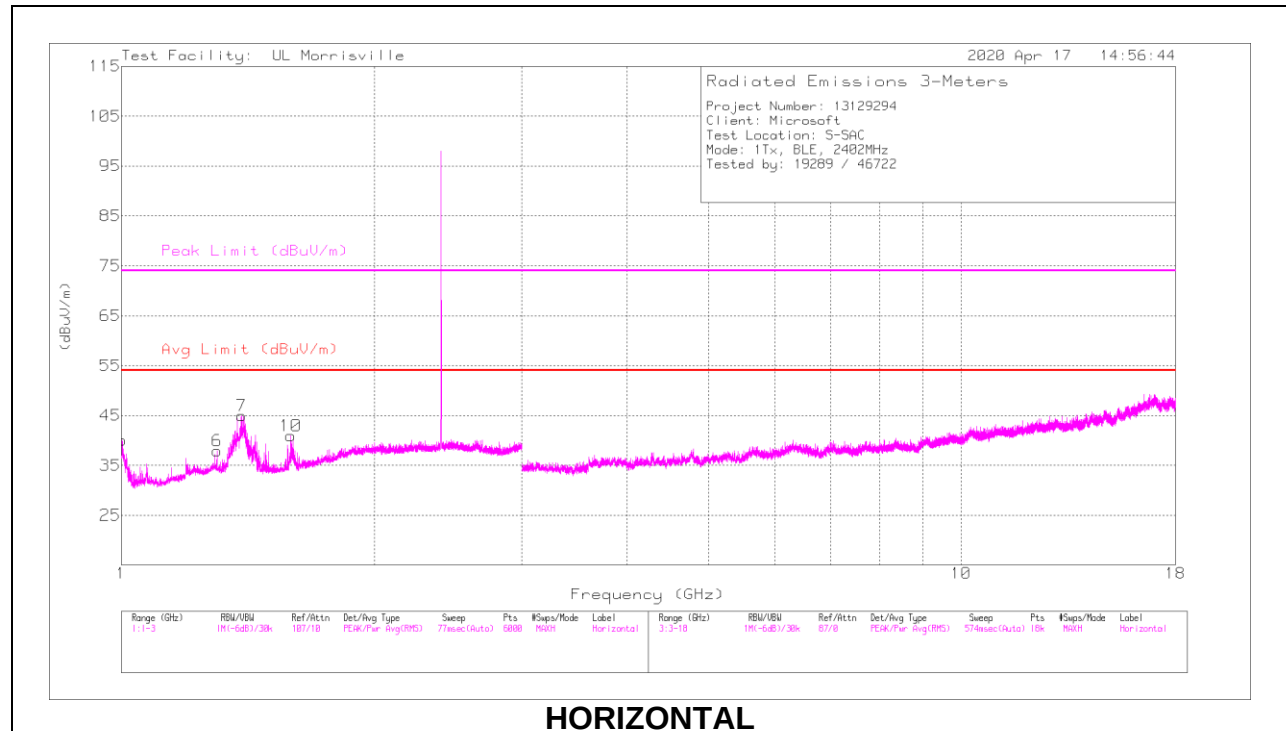
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

ADV - U-NII AD primary method, Linear Voltage Average

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



RADIATED EMISSIONS

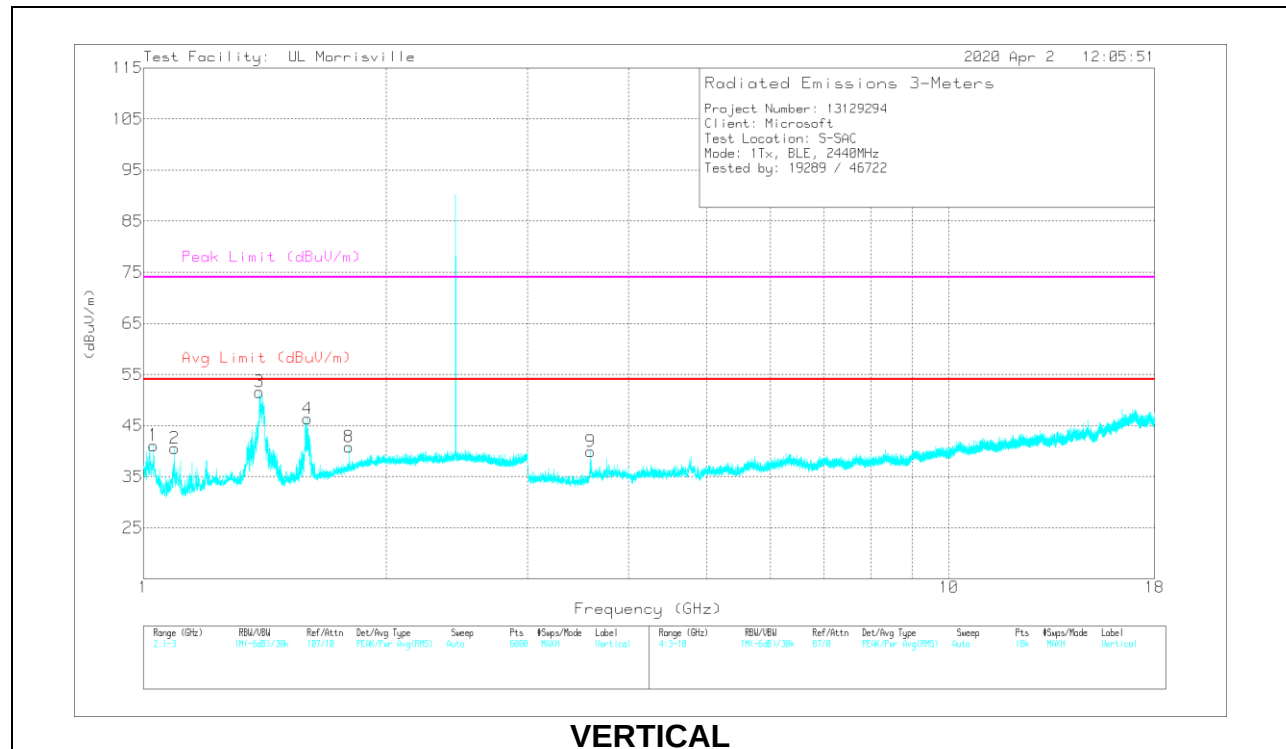
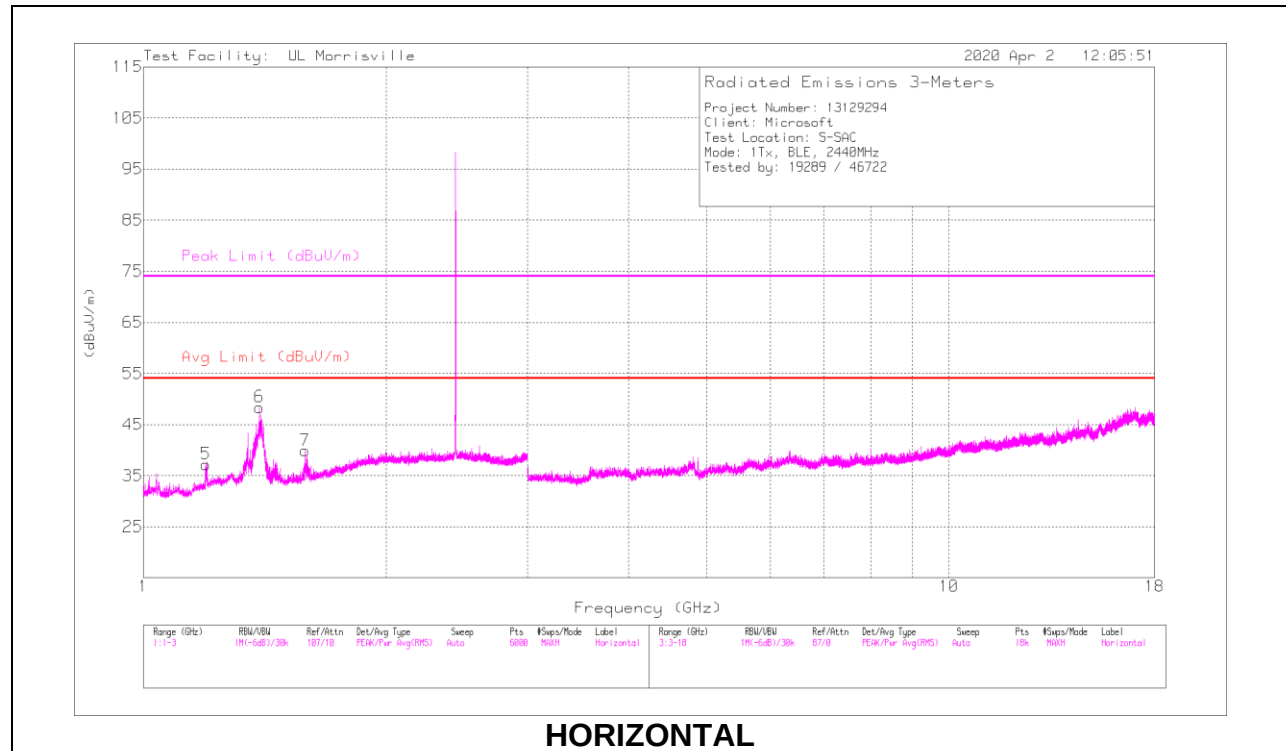
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	Amp/Cbl/FI tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.00221	44.72	PK2	27.9	-24.6	0	48.02	-	-	74	-25.98	74	372	H
	* 1.00291	23.56	ADV	27.9	-24.6	1.65	28.51	54	-25.49	-	-	74	372	H
7	* 1.39224	50.37	PK2	28.8	-22.5	0	56.67	-	-	74	-17.33	350	248	H
	* 1.38886	24.48	ADV	28.9	-22.5	1.65	32.53	54	-21.47	-	-	350	248	H
10	* 1.59137	42.9	PK2	27.8	-21.9	0	48.8	-	-	74	-25.2	59	203	H
	* 1.59042	23.4	ADV	27.8	-21.9	1.65	30.95	54	-23.05	-	-	59	203	H
6	* 1.29857	37.31	PK2	28.9	-22.9	0	43.31	-	-	74	-30.69	354	242	H
	* 1.29824	22.55	ADV	28.9	-22.9	1.65	30.2	54	-23.8	-	-	354	242	H
2	* 1.00785	48.59	PK2	27.8	-24.6	0	51.79	-	-	74	-22.21	193	236	V
	* 1.00758	24.84	ADV	27.8	-24.6	1.65	29.69	54	-24.31	-	-	193	236	V
3	* 1.07363	46.85	PK2	27.3	-24.2	0	49.95	-	-	74	-24.05	229	179	V
	* 1.07585	24.04	ADV	27.3	-24.2	1.65	28.79	54	-25.21	-	-	229	179	V
4	* 1.1124	40.59	PK2	27.6	-24	0	44.19	-	-	74	-29.81	229	194	V
	* 1.11446	22.47	ADV	27.6	-24	1.65	27.72	54	-26.28	-	-	229	194	V
5	* 1.19474	43.67	PK2	28.5	-23.5	0	48.67	-	-	74	-25.33	164	238	V
	* 1.19314	22.17	ADV	28.5	-23.5	1.65	28.82	54	-25.18	-	-	164	238	V
8	* 1.40406	52.75	PK2	28.6	-22.4	0	58.95	-	-	74	-15.05	233	206	V
	* 1.4034	24.77	ADV	28.6	-22.4	1.65	32.62	54	-21.38	-	-	233	206	V
9	* 1.5952	50.77	PK2	27.8	-21.9	0	56.67	-	-	74	-17.33	204	168	V
	* 1.59565	24.42	ADV	27.8	-21.9	1.65	31.97	54	-22.03	-	-	204	168	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

ADV - U-NII AD primary method, Linear Voltage Average

MID CHANNEL RESULTS

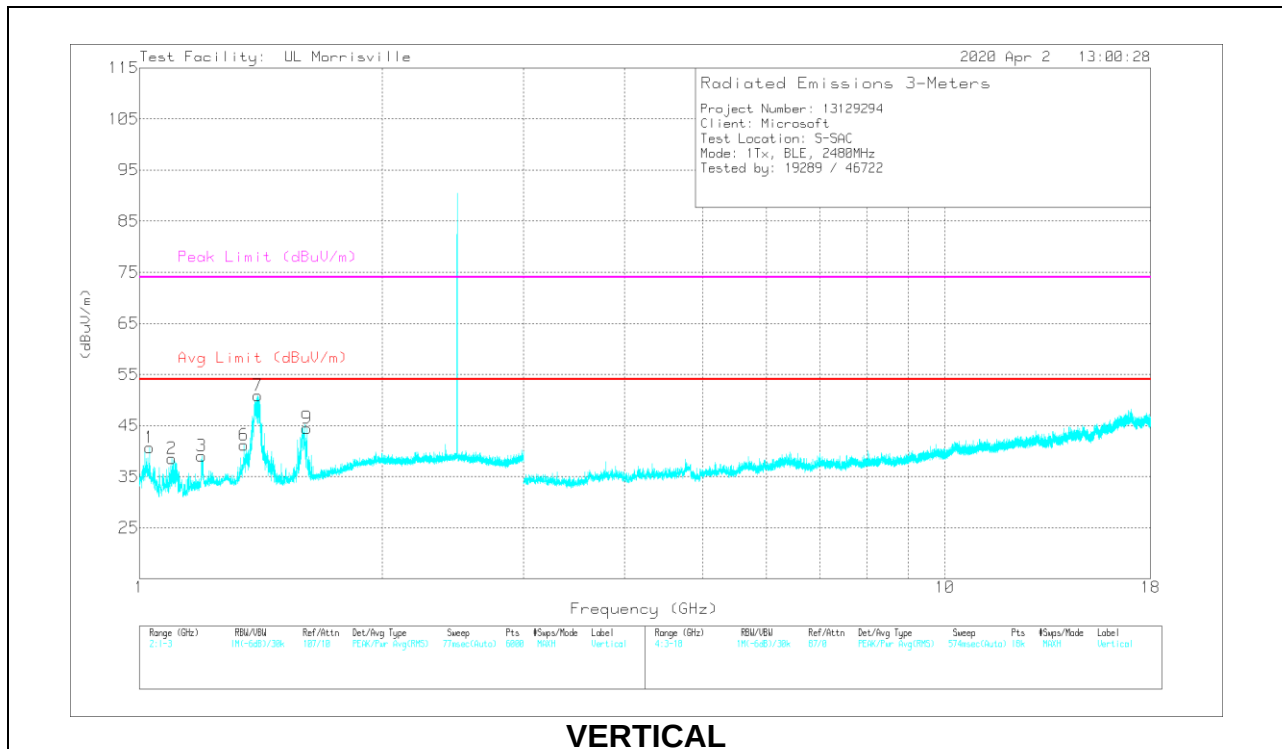
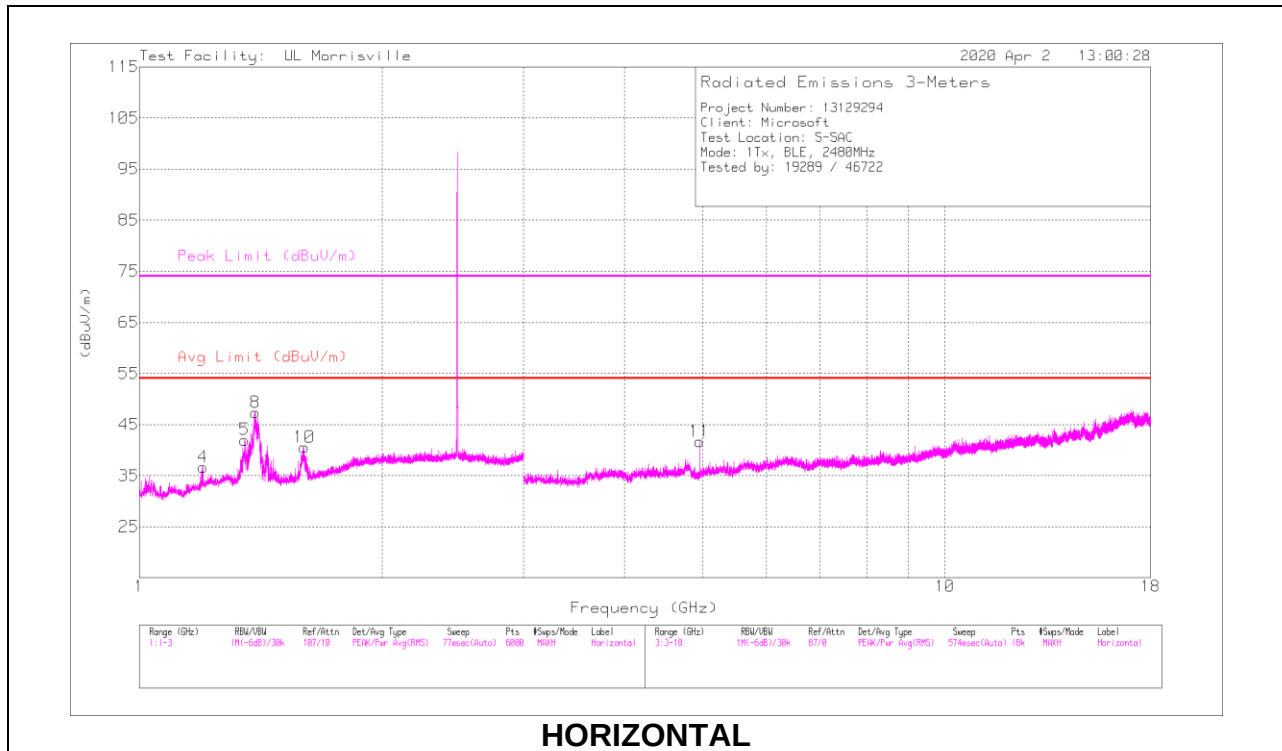


RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	Amp/Cbl/FI tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 1.19499	39.96	PK2	28.5	-23.5	0	44.96	-	-	74	-29.04	92	224	H
	* 1.1952	21.98	ADV	28.5	-23.5	1.65	28.63	54	-25.37	-	-	92	224	H
6	* 1.39348	51.9	PK2	28.8	-22.5	0	58.2	-	-	74	-15.8	282	289	H
	* 1.39436	24.7	ADV	28.8	-22.5	1.65	32.65	54	-21.35	-	-	282	289	H
7	* 1.59104	44.39	PK2	27.8	-21.9	0	50.29	-	-	74	-23.71	141	379	H
	* 1.58966	23.28	ADV	27.9	-21.9	1.65	30.93	54	-23.07	-	-	141	379	H
1	* 1.03443	47.64	PK2	27.1	-24.4	0	50.34	-	-	74	-23.66	185	239	V
	* 1.03432	24.68	ADV	27.1	-24.4	1.65	29.03	54	-24.97	-	-	185	239	V
2	* 1.09355	45.98	PK2	27.6	-24.1	0	49.48	-	-	74	-24.52	225	197	V
	* 1.09556	23.76	ADV	27.6	-24	1.65	29.01	54	-24.99	-	-	225	197	V
3	* 1.39222	57.49	PK2	28.8	-22.5	0	63.79	-	-	74	-10.21	223	230	V
	* 1.39183	27.43	ADV	28.9	-22.5	1.65	35.48	54	-18.52	-	-	223	230	V
4	* 1.59477	51.82	PK2	27.8	-21.9	0	57.72	-	-	74	-16.28	213	192	V
	* 1.59497	25.52	ADV	27.8	-21.9	1.65	33.07	54	-20.93	-	-	213	192	V
9	* 3.58901	46.26	PK2	32.9	-31.4	0	47.76	-	-	74	-26.24	185	155	V
	* 3.58956	27.52	ADV	32.9	-31.4	1.65	30.67	54	-23.33	-	-	185	155	V
8	1.79947	32.67	Pk	30.1	-22	0	40.77	-	-	-	-	0-360	199	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
ADV - U-NII AD primary method, Linear Voltage Average

HIGH CHANNEL RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0072 (dBm)	Amp/Cbl/FI tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 1.19811	37.57	PK2	28.6	-23.4	0	42.77	-	-	74	-31.23	208	234	H
	* 1.20076	22	ADV	28.6	-23.4	1.65	28.85	54	-25.15	-	-	208	234	H
5	* 1.34864	43.58	PK2	29.2	-22.7	0	50.08	-	-	74	-23.92	168	246	H
	* 1.34976	23.55	ADV	29.2	-22.7	1.65	31.7	54	-22.3	-	-	168	246	H
8	* 1.39385	51.99	PK2	28.8	-22.5	0	58.29	-	-	74	-15.71	285	232	H
	* 1.39327	25.51	ADV	28.8	-22.5	1.65	33.46	54	-20.54	-	-	285	232	H
10	* 1.60043	42.14	PK2	27.8	-21.9	0	48.04	-	-	74	-25.96	68	264	H
	* 1.60033	22.91	ADV	27.8	-21.9	1.65	30.46	54	-23.54	-	-	68	264	H
1	* 1.02969	44.4	PK2	27.1	-24.4	0	47.1	-	-	74	-26.9	209	147	V
	* 1.03005	23.99	ADV	27.1	-24.4	1.65	28.34	54	-25.66	-	-	209	147	V
2	* 1.09879	46.37	PK2	27.6	-24	0	49.97	-	-	74	-24.03	225	184	V
	* 1.09725	24.38	ADV	27.6	-24	1.65	29.63	54	-24.37	-	-	225	184	V
3	* 1.19536	44.35	PK2	28.5	-23.5	0	49.35	-	-	74	-24.65	161	171	V
	* 1.19444	22.85	ADV	28.5	-23.5	1.65	29.5	54	-24.5	-	-	161	171	V
6	* 1.3451	45.65	PK2	29.2	-22.7	0	52.15	-	-	74	-21.85	231	317	V
	* 1.34616	23.92	ADV	29.2	-22.7	1.65	32.07	54	-21.93	-	-	231	317	V
7	* 1.40607	54.4	PK2	28.6	-22.4	0	60.6	-	-	74	-13.4	254	302	V
	* 1.40318	26.72	ADV	28.7	-22.4	1.65	34.67	54	-19.33	-	-	254	302	V
9	* 1.61128	43.47	PK2	27.9	-21.9	0	49.47	-	-	74	-24.53	40	245	V
	* 1.61394	23.31	ADV	27.9	-21.9	1.65	30.96	54	-23.04	-	-	40	245	V
11	* 4.96049	43.69	PK2	34.1	-30.6	0	47.19	-	-	74	-26.81	1	113	H
	* 4.96015	33.64	ADV	34.1	-30.6	1.65	38.79	54	-15.21	-	-	1	113	H

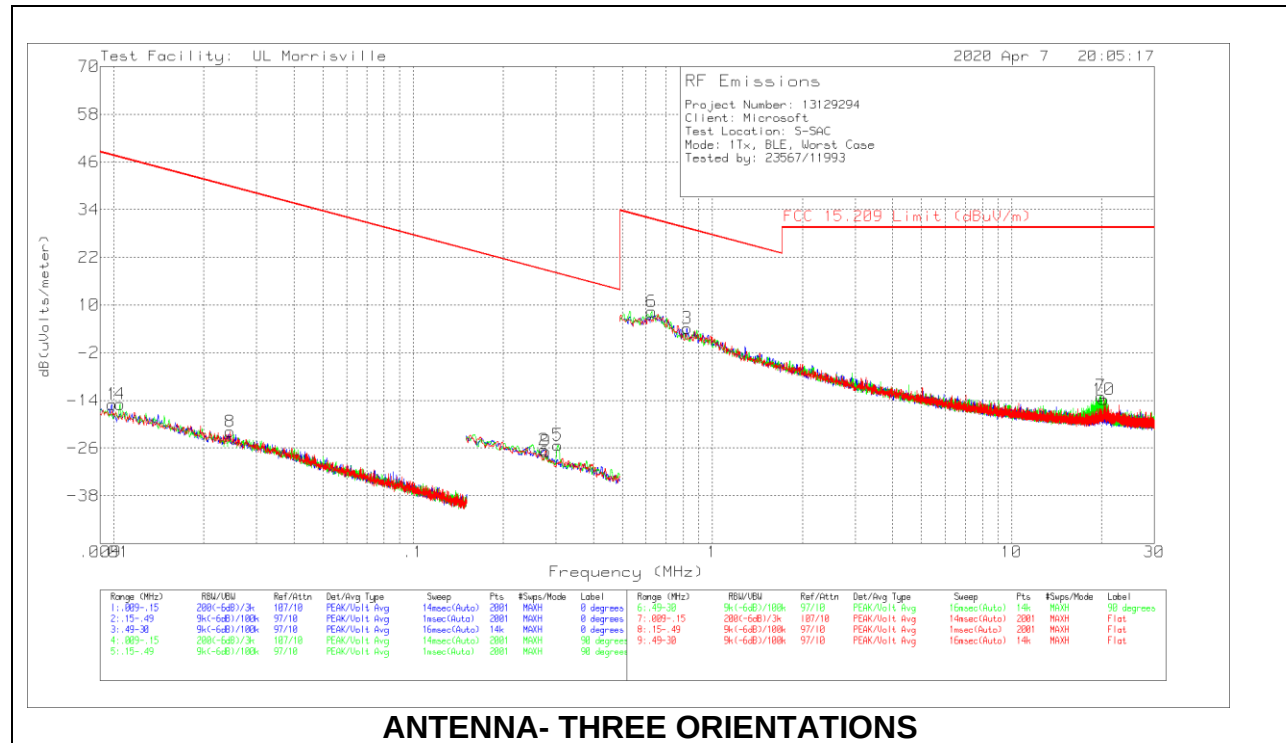
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

ADV - U-NII AD primary method, Linear Voltage Average

10.3. WORST CASE BELOW 30MHZ

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



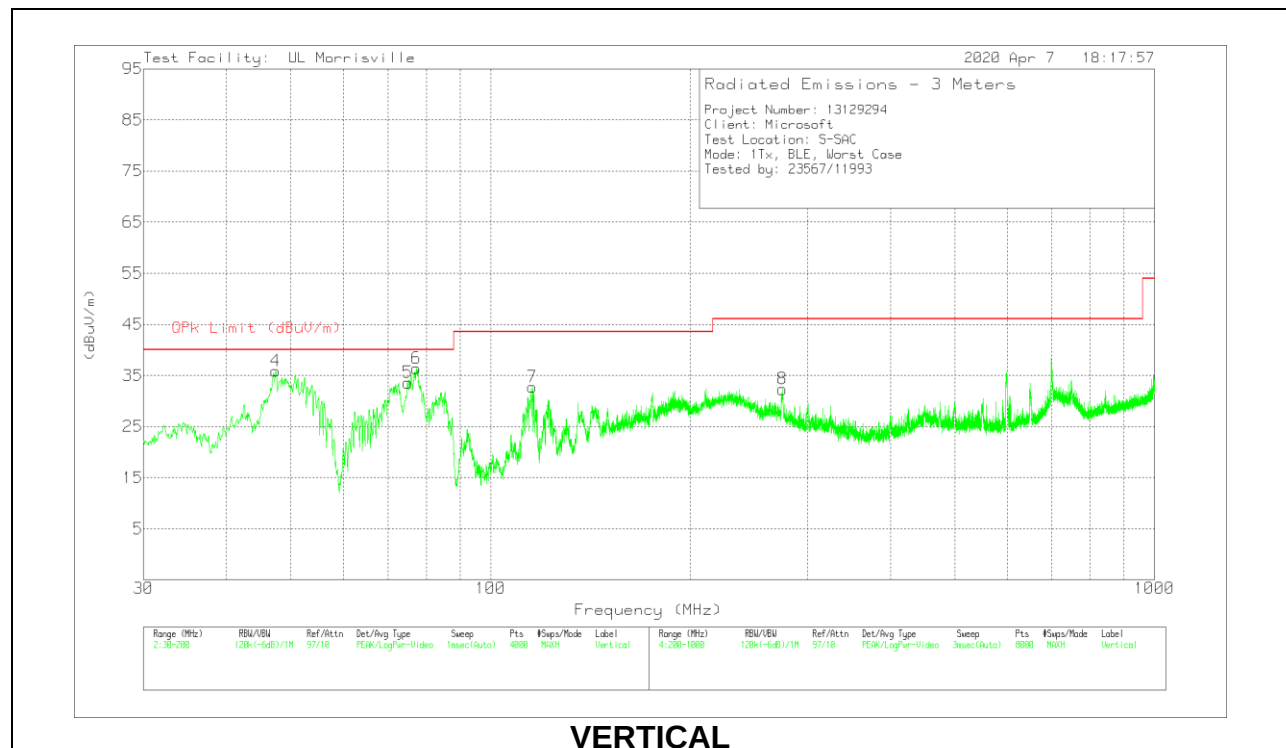
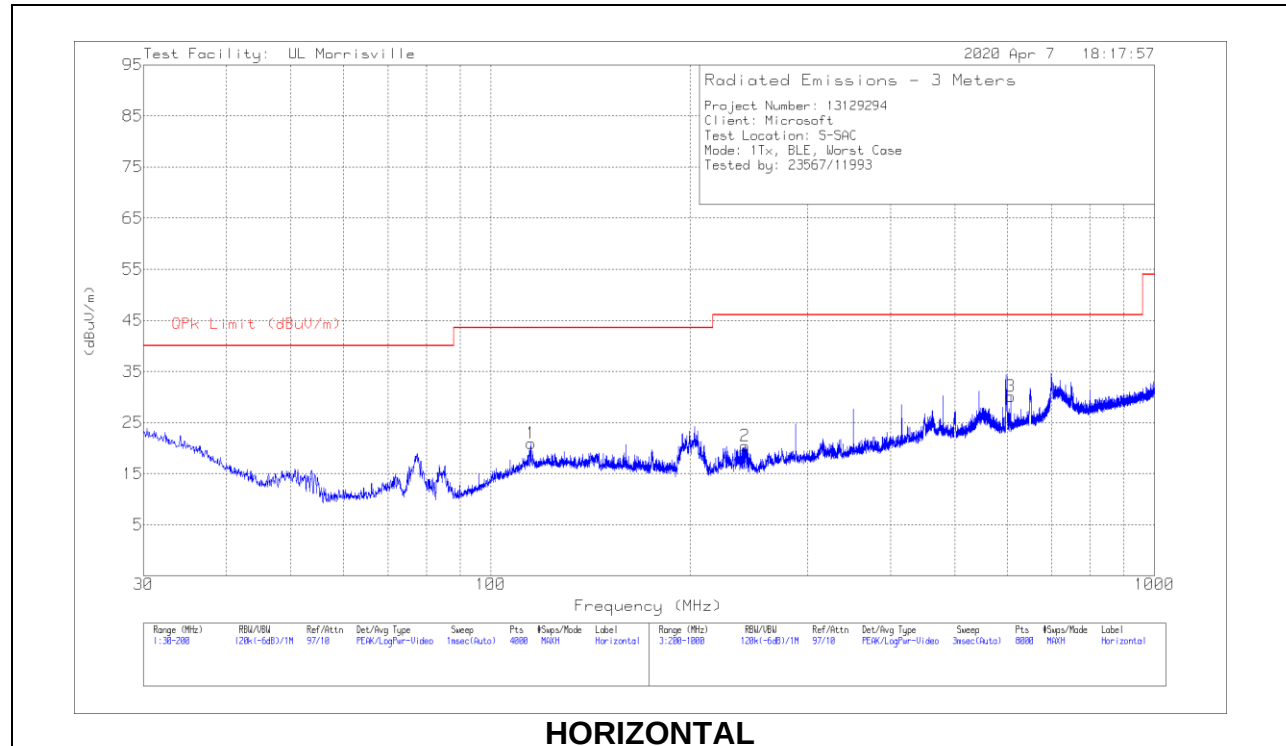
Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 AF (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.209 Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.00985	46.59	Pk	18.3	.1	-80	-15.01	47.73	-62.74	0-360
4	.01049	47	Pk	18	.1	-80	-14.9	47.19	-62.09	0-360
8	.02448	44.44	Pk	13.6	.1	-80	-21.86	39.83	-61.69	0-360
2	.27419	42.47	Pk	11	.1	-80	-26.43	18.84	-45.27	0-360
9	.2775	42.13	Pk	11	.1	-80	-26.77	18.74	-45.51	0-360
5	.30479	43.66	Pk	11	.1	-80	-25.24	17.92	-43.16	0-360
6	.62702	37.26	Pk	11	.1	-40	8.36	31.66	-23.3	0-360
3	.82306	33.06	Pk	11	.1	-40	4.16	29.3	-25.14	0-360
7	19.85198	16.92	Pk	9.4	.8	-40	-12.88	29.54	-42.42	0-360
10	20.3305	16.13	Pk	9.3	.8	-40	-13.77	29.54	-43.31	0-360

Pk - Peak detector

10.4. WORST CASE BELOW 1 GHZ

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)



Below 1GHz Data

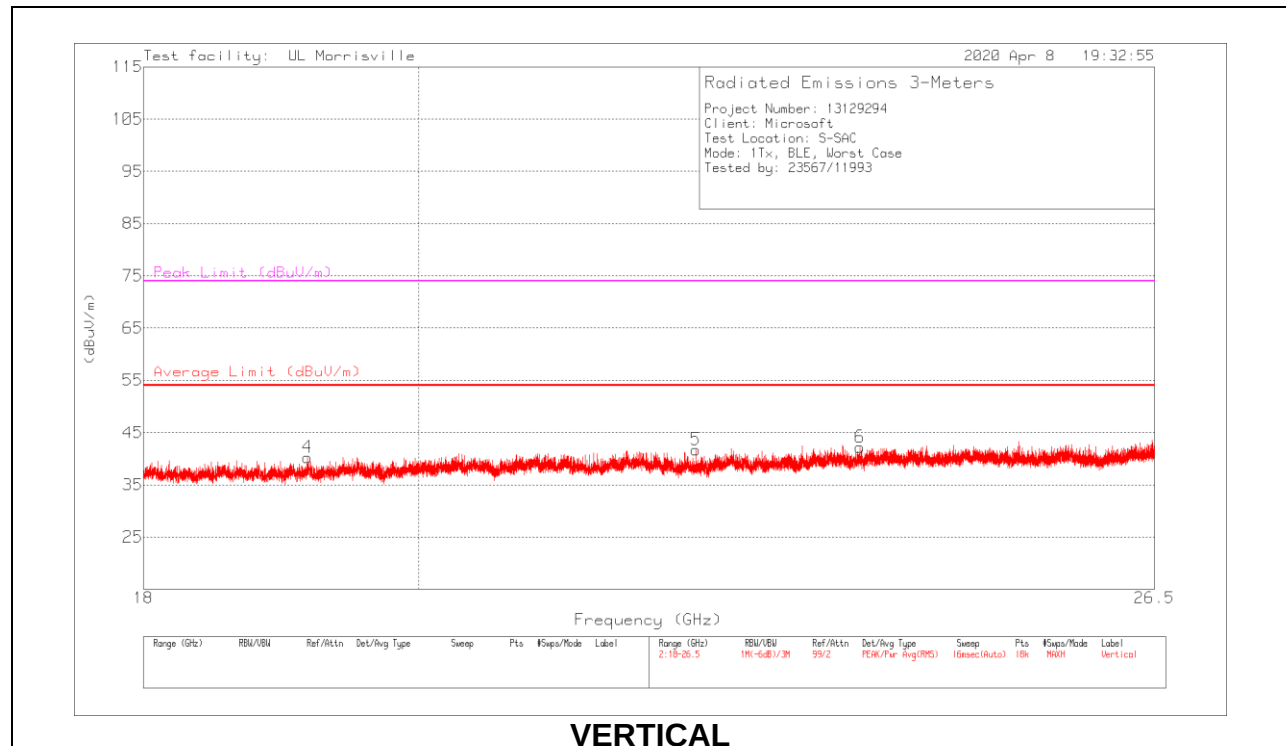
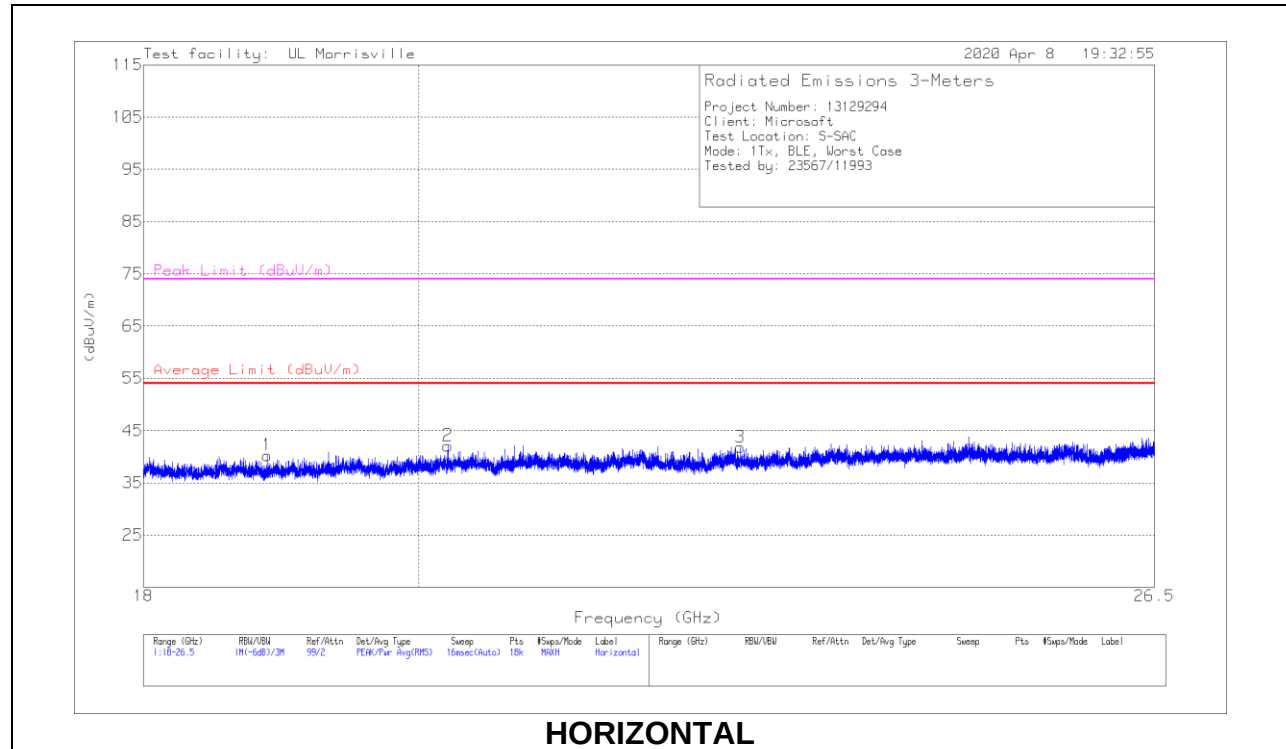
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0074 AF (dB/m)	Cbl/Amp	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 114.9795	32.24	Pk	19.5	-30.8	20.94	43.52	-22.58	0-360	298	H
5	* 75.0191	50.78	Pk	14	-31.2	33.58	40	-6.42	0-360	101	V
7	* 115.6172	43.91	Pk	19.6	-30.8	32.71	43.52	-10.81	0-360	101	V
2	* 241.9054	32.6	Pk	17.7	-29.9	20.4	46.02	-25.62	0-360	101	H
3	* 608.053	34.2	Pk	24.7	-28.8	30.1	46.02	-15.92	0-360	298	H
8	* 275.1098	42.62	Pk	19.4	-29.7	32.32	46.02	-13.7	0-360	102	V
4	47.472	52.36	Pk	15	-31.5	35.86	-	-	0-360	101	V
6	77.3147	53.88	Pk	13.8	-31.3	36.38	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

10.5. WORST CASE 18-26 GHZ

SPURIOUS EMISSIONS 18-26 GHz (WORST-CASE CONFIGURATION)



18 – 26GHz DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Ampl/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degr)	Height (cm)	Polarity
1	* 18.87271	45.78	Pk	32.6	-38.1	40.28	54	-13.72	74	-33.72	0-360	148	H
2	* 20.22287	46.72	Pk	32.9	-37.5	42.12	54	-11.88	74	-31.88	0-360	248	H
3	* 22.61481	45.23	Pk	33.4	-36.8	41.83	54	-12.17	74	-32.17	0-360	298	H
4	* 19.16598	45.47	Pk	32.7	-37.9	40.27	54	-13.73	74	-33.73	0-360	202	V
5	* 22.2337	45.24	Pk	33.5	-37	41.74	54	-12.26	74	-32.26	0-360	202	V
6	* 23.67642	44.62	Pk	34	-36.4	42.22	54	-11.78	74	-31.78	0-360	202	V

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

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

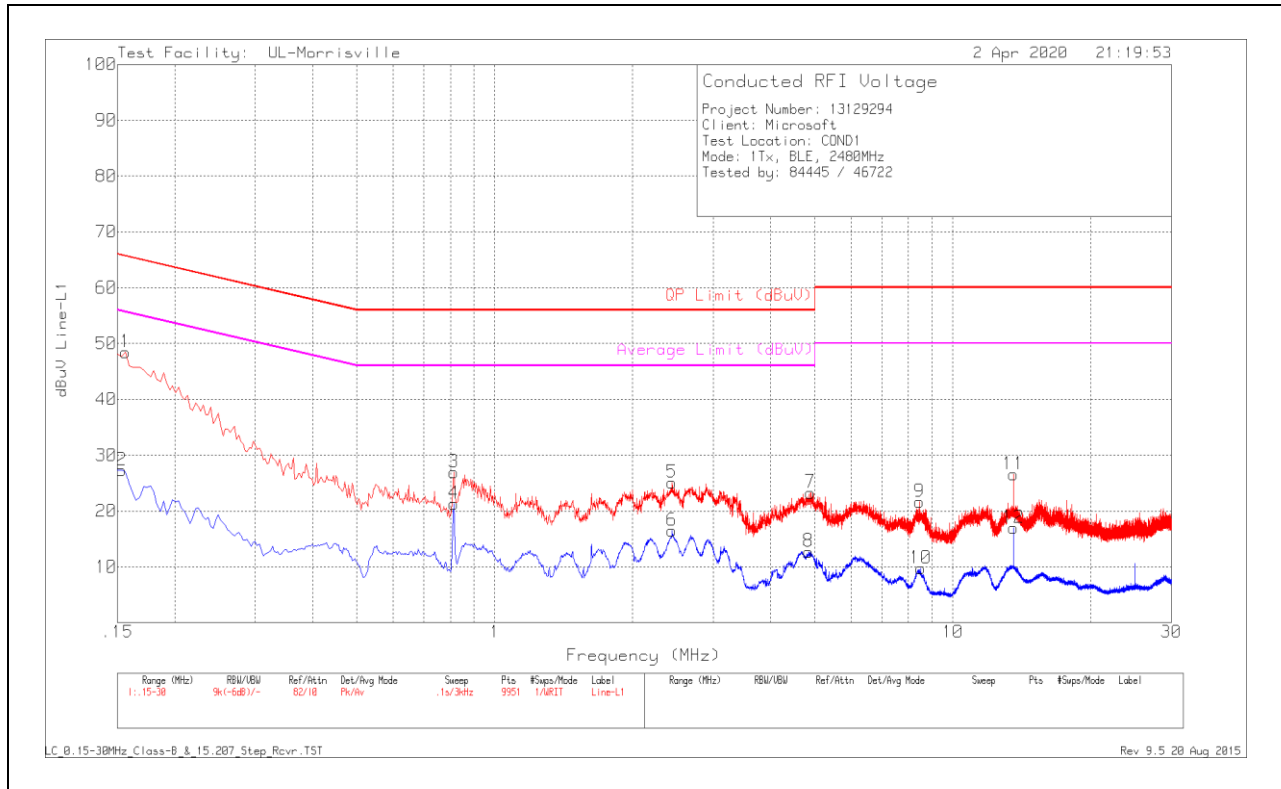
Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

RESULTS

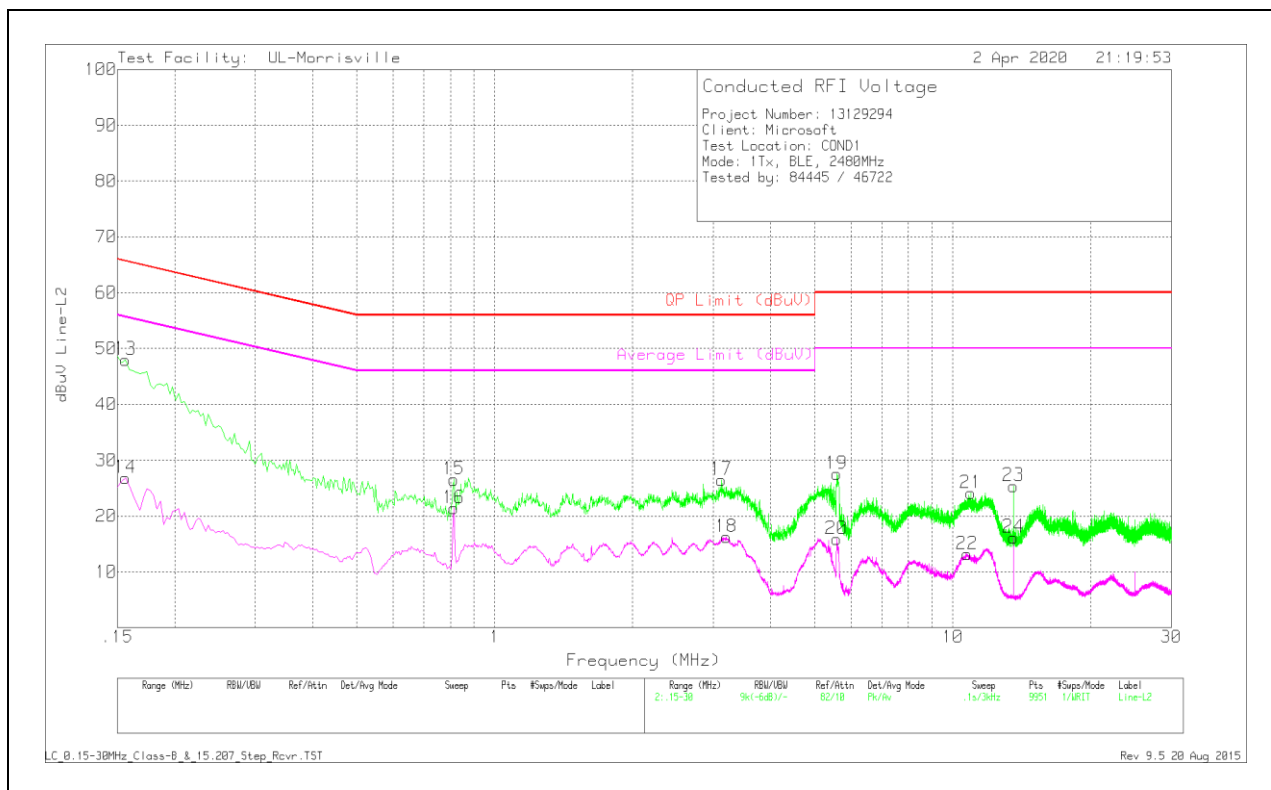
11.1.1. AC Power Line Norm

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	.156	38.53	Pk	.2	9.7	48.43	65.67	-17.24	-	-
2	.153	17.39	Av	.2	9.7	27.29	-	-	55.84	-28.55
3	.813	17.11	Pk	0	9.8	26.91	56	-29.09	-	-
4	.813	11.5	Av	0	9.8	21.3	-	-	46	-24.7
5	2.439	15.3	Pk	0	9.8	25.1	56	-30.9	-	-
6	2.439	6.66	Av	0	9.8	16.46	-	-	46	-29.54
7	4.89	13.29	Pk	.1	9.9	23.29	56	-32.71	-	-
8	4.845	2.72	Av	.1	9.9	12.72	-	-	46	-33.28
9	8.451	11.56	Pk	.1	10	21.66	60	-38.34	-	-
10	8.499	-37	Av	.1	10	9.73	-	-	50	-40.27
11	13.563	16.46	Pk	.1	10	26.56	60	-33.44	-	-
12	13.56	6.85	Av	.1	10	16.95	-	-	50	-33.05

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	.156	38.11	Pk	.2	9.7	48.01	65.67	-17.66	-	-
14	.156	16.88	Av	.2	9.7	26.78	-	-	55.67	-28.89
15	.813	16.73	Pk	0	9.8	26.53	56	-29.47	-	-
16	.813	11.61	Av	0	9.8	21.41	-	-	46	-24.59
17	3.123	16.7	Pk	0	9.8	26.5	56	-29.5	-	-
18	3.201	6.43	Av	0	9.8	16.23	-	-	46	-29.77
19	5.58	17.57	Pk	.1	9.9	27.57	60	-32.43	-	-
20	5.571	5.9	Av	.1	9.9	15.9	-	-	50	-34.1
21	10.956	14.01	Pk	.1	10	24.11	60	-35.89	-	-
22	10.746	3.07	Av	.1	10	13.17	-	-	50	-36.83
23	13.56	15.29	Pk	.1	10	25.39	60	-34.61	-	-
24	13.563	6.06	Av	.1	10	16.16	-	-	50	-33.84