TEST REPORT

Report Number. : R13179001-E3

Applicant	:	iRobot Corporation 8 Crosby Drive Bedford, MA 01730, USA
Model	:	AXG-Y1
FCC ID	:	UFE-AXGY1
IC	:	6652A-AXGY1
EUT Description	:	Dual Band Radio Module This report covers the 2.4GHz WLAN testing.
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C ISED RSS-247 ISSUE 2 ISED RSS-GEN ISSUE 5

Date Of Issue:
2020-10-23

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

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
1	2020-06-30	Initial Issue	Cristian Melara
2	2020-07-24	Revised PCB antenna gain	Cristian Melara
3	2020-09-09	Revised external antenna gain	Cristian Melara
4	2020-09-25	Added note to 2447MHz bandedge testing for 802.11n HT40.	Cristian Melara
5	2020-09-28	Revised duty cycle information.	Jeff Moser
6	2020-10-23	Added Ran tests at mid-channel power note to conducted spurious section	Brian T. Kiewra

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: iRobot Corporation
8 Crosby Drive
Bedford, MA 01730, USA

EUT DESCRIPTION: Dual Band Radio Module

MODEL: AXG-Y1

SERIAL NUMBER: SS0040BWW, SS0040BHN, SS040B86, SS0040B59, SS0040BXP, SS0040BHN

DATE TESTED: 2020-05-08 to 2020-06-29

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 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.

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Approved & Released
For UL LLC By:

Brian Kiewra
Project Engineer
Consumer Technology Division
UL LLC

Prepared By:

Cristian Melara
Engineer
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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	Compliant	None.
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power	Compliant	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	Compliant	None.
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions	Compliant	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Compliant	None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	Compliant	None.

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 v05, 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 12 Laboratory Drive, Research Triangle Park, NC 27709, USA and 2800 Perimeter Park Dr., Suite B, Morrisville, NC 27560, 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

The above test sites and facilities are covered under FCC Test Firm Registration # 703469. Chambers above are covered under Industry Canada company address and respective code.

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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	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
Unwanted Emissions, conducted	1.94 dB
All emissions, radiated	4.88 dB
Conducted Emissions (0.150-30MHz) - LISN	3.07 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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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 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

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6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a Dual band Radio module supporting 2.4WLAN and 5WLAN as well as BT and BLE. This report covers the 2.4GHz WLAN testing.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

2.4GHz BAND

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
External Antenna			
2412 - 2462	802.11b	16.29	42.56
2412 - 2462	802.11g	21.61	144.88
2412 - 2462	802.11n HT20	22.22	166.72
2422 - 2452	802.11n HT40	21.88	154.17
PCB Antenna			
2412 - 2462	802.11b	17.29	53.58
2412 - 2462	802.11g	23.02	200.45
2412 - 2462	802.11n HT20	23.11	204.64
2422 - 2452	802.11n HT40	24.00	251.19

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PCB and a flexible external antennas for diversity, with a maximum gain of 2.91 dBi (PCB) and 3.5 dBi (external).

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was v sapphire+0.0.0+qcs405-som1+0000
The test utility software used during testing was QRCT version: 4.0.00127.0.

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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 fundamental of the EUT was investigated with each antenna, external and PCB, in three orthogonal orientations X,Y,Z, it was determined that X orientation was worst-case orientation for both the external and PCB antennas; therefore, all final radiated testing was performed with both antennas in the X orientation.

Conducted testing was performed using PCB antenna port as worst-case, with the exception of power and duty cycle which were done on both ports.

Radiated and AC mains emissions testing were performed using both antennas.

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

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT40mode: MCS0

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6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	Lenovo	T450	PC-OA2UQS	PD97265NGU
Laptop Charger	Lenovo	ADLX65NCC2A	11S36200284ZZ1005380J8	NA

I/O CABLES

I/O Cable List						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	Mains	1	Terminal	Single conductor	<3m	Provides DC power to PCB
2	Antenna port	1	u.fl	Coaxial	<1m	Cable to external antenna

SETUP DIAGRAM

Please refer to R13179001-EP1 for setup diagrams

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7. MEASUREMENT METHOD

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

6 dB BW: ANSI C63.10 Subclause 11.8.1

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

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

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

Conducted Spurious Emissions: ANSI C63.10-2013 Section 7.8.8

Out-of-band emissions in non-restricted bands: ANSI C63.10-2013 Section 11.11 & 6.10.4

Out-of-band emissions in restricted bands: ANSI C63.10-2013 Section 11.12.1 & 6.10.5

General Radiated Emissions: ANSI C63.10:2013 Sections 6.3 – 6.6

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

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8. 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 - South Chamber)

Equipment 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					
AT0078	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2019-10-28	2020-10-28
18-40 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	2020-04-23	2021-04-23
S-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2020-04-23	2021-04-23
S-SAC03 (Out of service on 05/14/2020)	Gain-loss string: 1-18GHz	Various	Various	2020-04-12	2021-04-12
S-SAC03 (In service on 05/15/2020)	Gain-loss string: 1-18GHz	Various	Various	2020-05-15	2021-05-15
S-SAC04	Gain-loss string: 18-40GHz	Various	Various	2019-03-23	2021-03-23
Receiver & Software					
SA0027	Spectrum Analyzer	Agilent	N9030A	2019-05-15	2020-05-31
SOFTEMI	EMI Software	UL	Version 9.5 (2019-06-12)		
Additional Equipment used					
s/n 181474409	Environmental Meter	Fisher Scientific	15-077-963	2018-07-27	2020-07-27
76022	DC Regulated Power Supply	Circuit Specialists	CSI3005X5	N/A	N/A
76021	DC Regulated Power Supply	Circuit Specialists	CSI3005X5	N/A	N/A

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Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville - North 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	2020-04-27	2021-04-27
Gain-Loss Chains					
N-SAC03	Gain-loss string: 1-18GHz	Various	Various	2020-03-15	2021-03-15
Receiver & Software					
SA0025	Spectrum Analyzer	Agilent	N9030A	2020-03-17	2021-03-17
SOFTEMI	EMI Software	UL	Version 9.5 (2019-06-12)	NA	NA
Additional Equipment used					
s/n 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
76022	DC Regulated Power Supply	CircuitSpecialists.Com	CSI3005X5	N/A	N/A

Test Equipment Used - Conducted Disturbance Emissions Test Equipment (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 161024885	Environmental Meter	Fisher Scientific	15-0770-963	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
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 (2019-06-12)		
76021	DC Power Supply	Circuit Specialists	CSI3005X5	NA	NA

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Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
Conducted Room 1					
72822 (PRE0100902)	Spectrum Analyzer	Agilent Technologies	E4446A	2020-01-02	2021-01-02
PWM004 (PRE0137346)	RF Power Meter	Keysight Technologies	N1911A	2019-08-23	2020-08-23
PWS004 (PRE0126443)	Peak and Avg Power Sensor, 50MHz to 6GHz	Keysight Technologies	E9323A	2019-08-23	2020-08-23
HI0090	Environmental Meter	Fisher Scientific	15-077-963	2019-06-17	2020-06-17
SN 181562858	Environmental Meter	Fisher Scientific	14-650-118	2018-09-04	2020-09-04
76022	DC Regulated Power Supply	Circuit Specialists	CSI3005X5	N/A	N/A
SOFTEMI	EMC Software	UL	Version 2020.3.11	NA	NA
Conducted Room 2					
72822 (PRE0100902)	Spectrum Analyzer	Agilent Technologies	E4446A	2020-01-02	2021-01-02
PWM002 (PRE0137344)	RF Power Meter	Keysight Technologies	N1911A	2019-08-23	2020-08-23
PWS002 (PRE0137348)	Peak and Avg Power Sensor, 50MHz to 18GHz	Keysight Technologies	N1921A	2019-08-23	2020-08-23
10082	Wideband Power Sensor	Boonton	55006	2019-08-09	2020-08-09
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
30811	DC Regulated Power Supply	Tenma	72-6180A	N/A	N/A
SOFTEMI	EMC Software	UL	Version 2020.3.11	NA	NA

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9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

ANSI C63.10 Section 11.6.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Power Averaging Duty Cycle Correction Factor (dB)	Voltage Averaging Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band							
802.11b	8.620	8.860	0.973	97.29%	0.12	0.24	0.116
802.11g	1.431	1.467	0.975	97.55%	0.11	0.22	0.699
802.11n HT20	1.338	1.377	0.972	97.17%	0.12	0.25	0.747
802.11n HT40	0.664	0.716	0.927	92.71%	0.33	0.66	1.506

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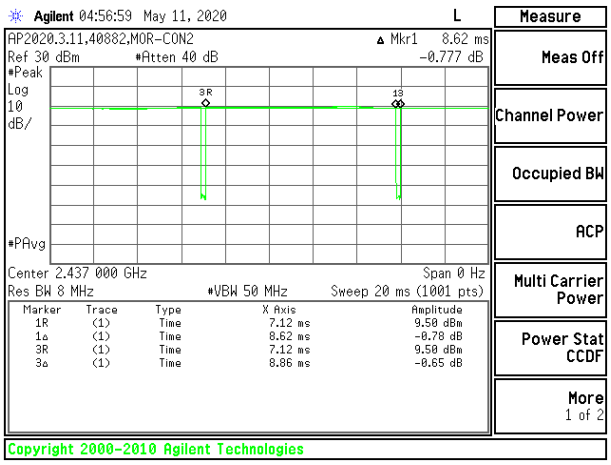
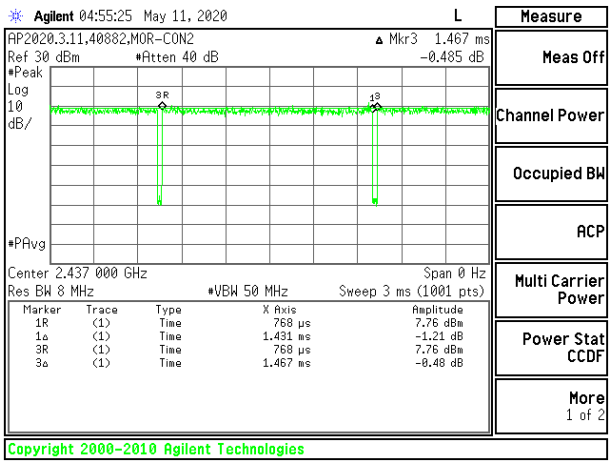
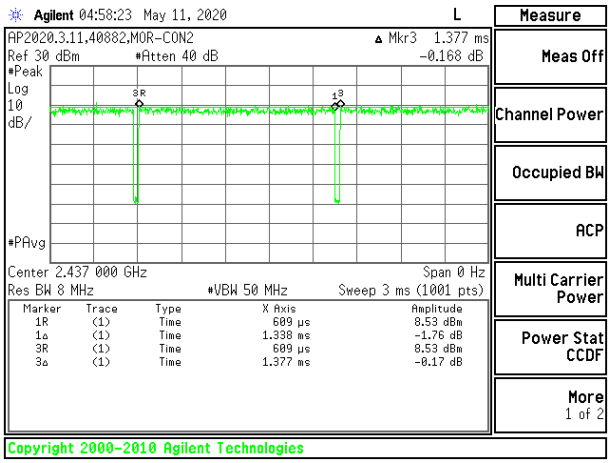
DUTY CYCLE PLOTS



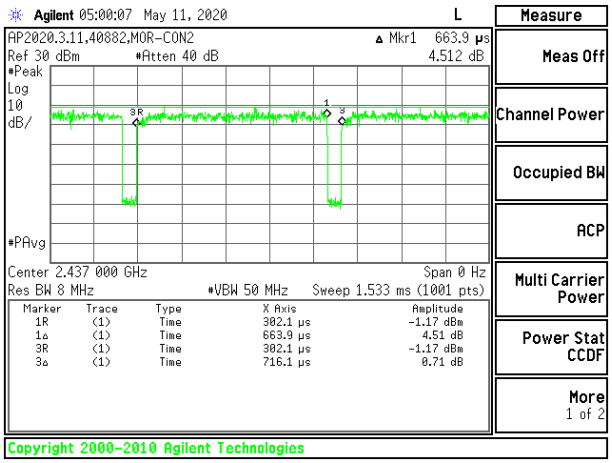
DUTY CYCLE 802.11b CDD MODE



DUTY CYCLE 802.11g CDD MODE



DUTY CYCLE 802.11n HT20 SDM MODE



DUTY CYCLE 802.11n HT40 SDM MODE

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9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

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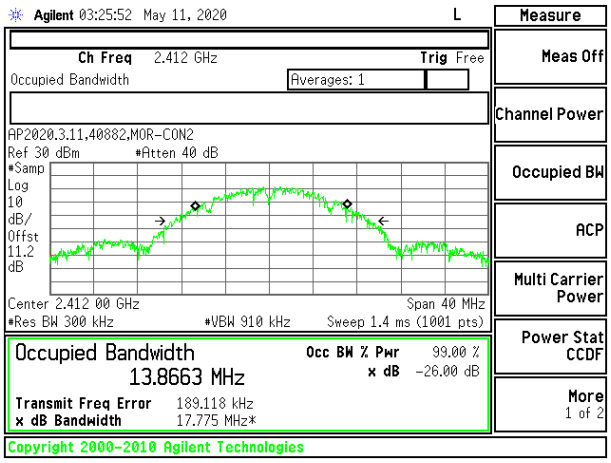
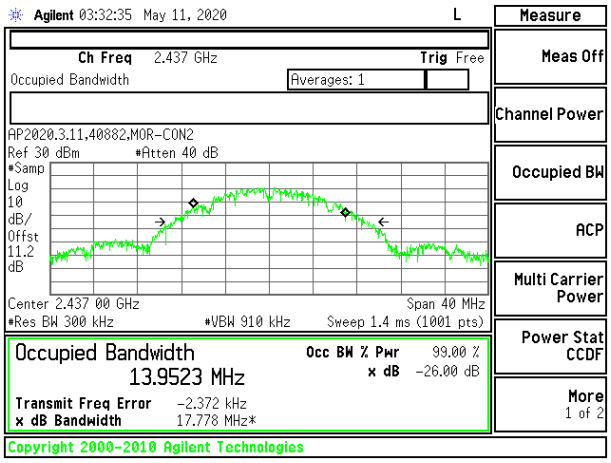
9.2.1. 802.11b MODE

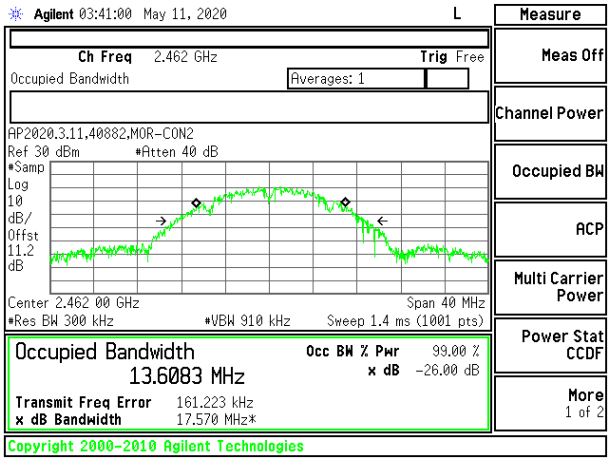
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	13.8663
Mid 6	2437	13.9523
High 11	2462	13.6083



LOW CHANNEL 1



MID CHANNEL 6



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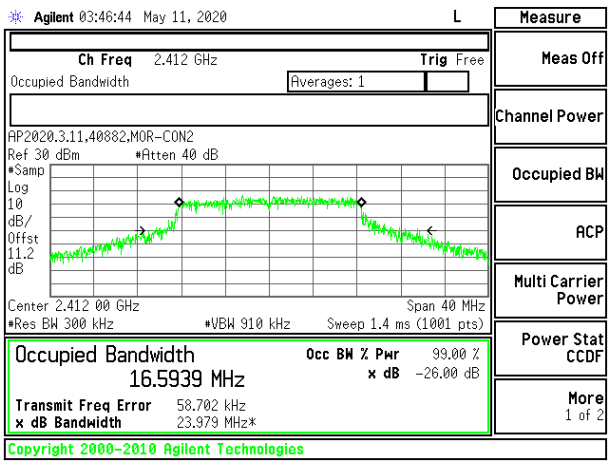
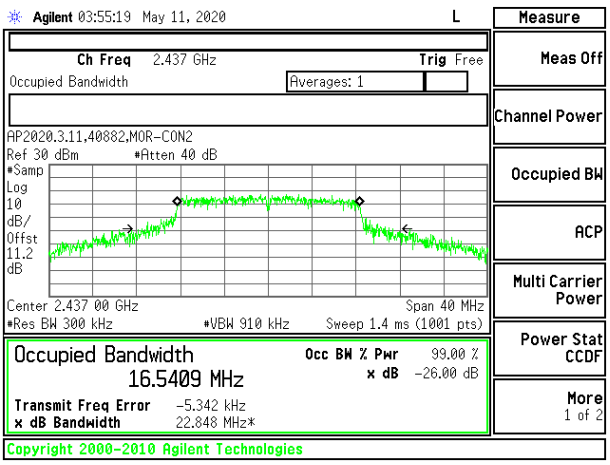
9.2.2. 802.11g MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	16.5939
Mid 6	2437	16.5409
High 11	2462	16.5291



LOW CHANNEL 1



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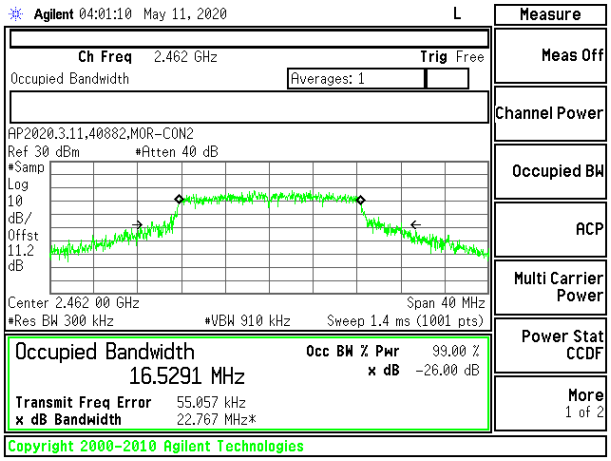

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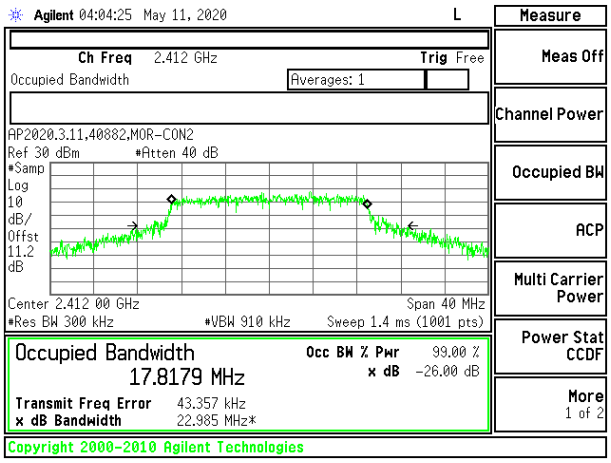
9.2.3. 802.11n HT20 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 1	2412	17.8179
Mid 6	2437	17.7507
High 11	2462	17.7334



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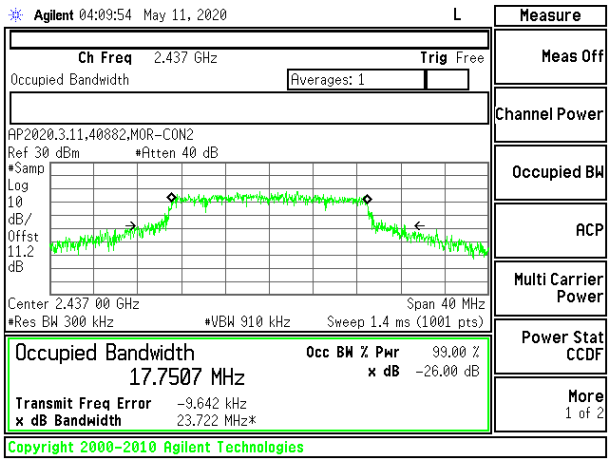

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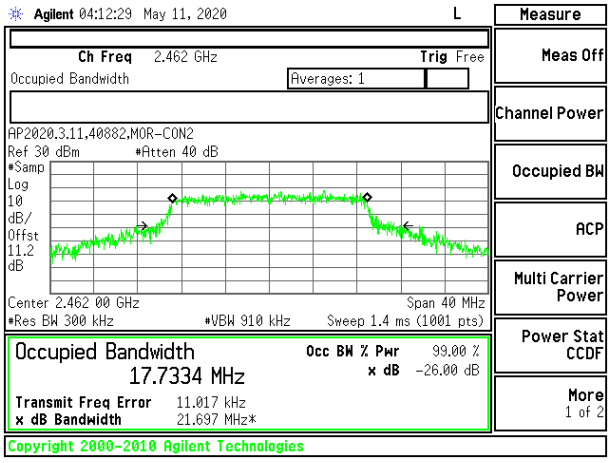

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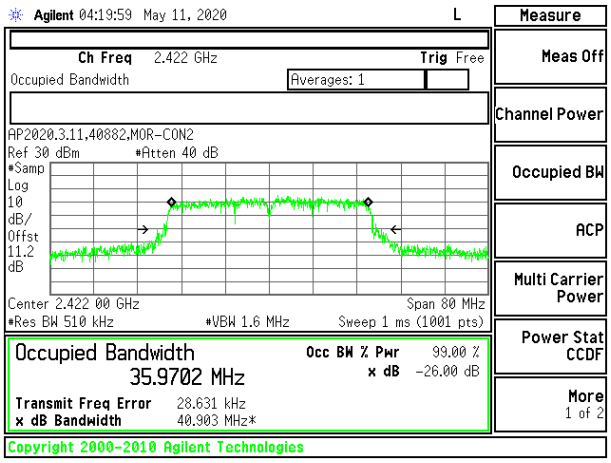
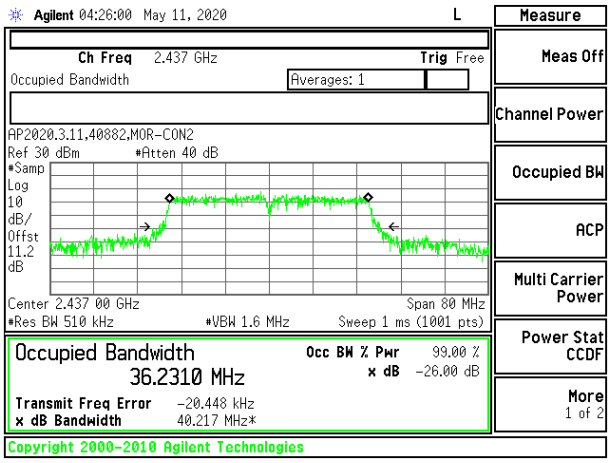
9.2.4. 802.11n HT40 MODE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low 3	2422	35.9702
Mid 6	2437	36.2310
High 9	2452	36.2765



LOW CHANNEL 3



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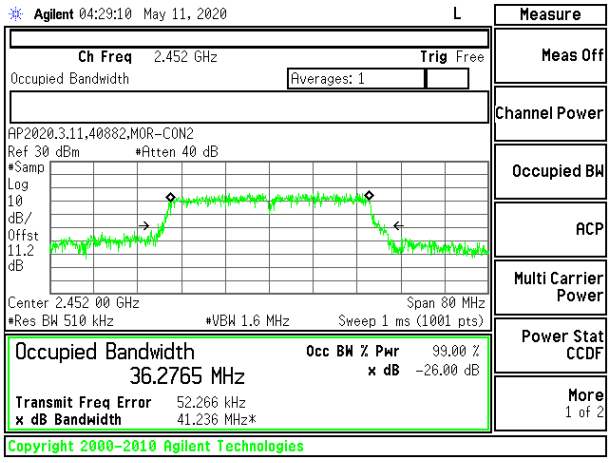

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9.3. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

RSS-247 5.2 (a)

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

RESULTS

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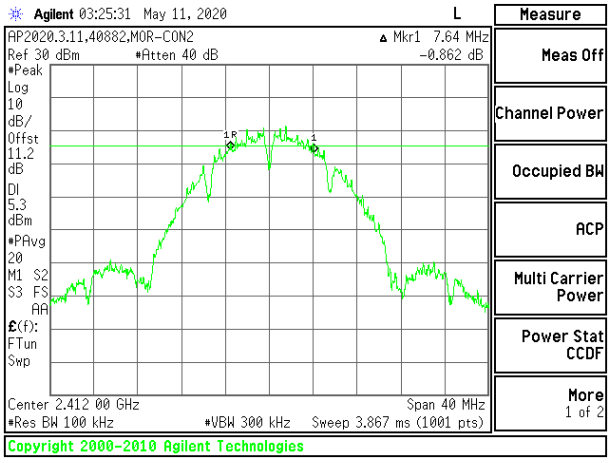
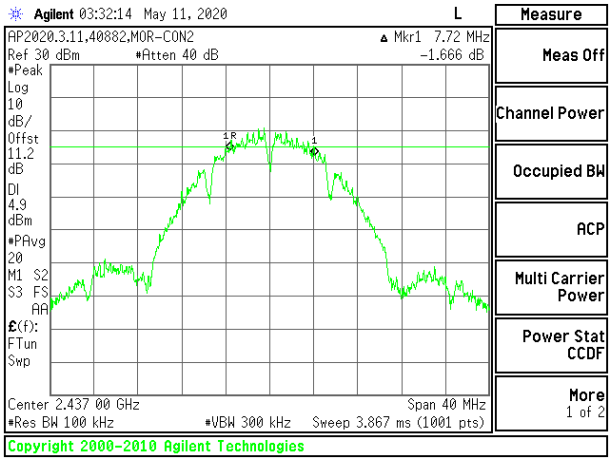
9.3.1. 802.11b MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	7.64	0.5
Mid 6	2437	7.72	0.5
High 11	2462	7.64	0.5



LOW CHANNEL 1



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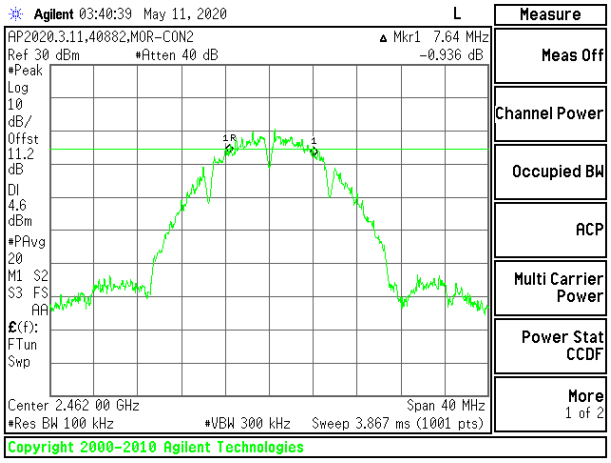

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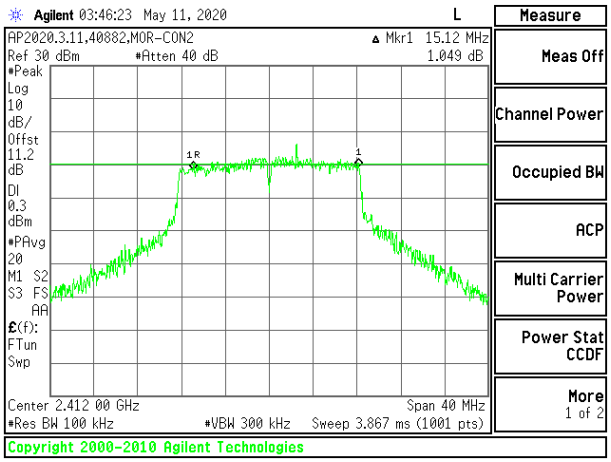
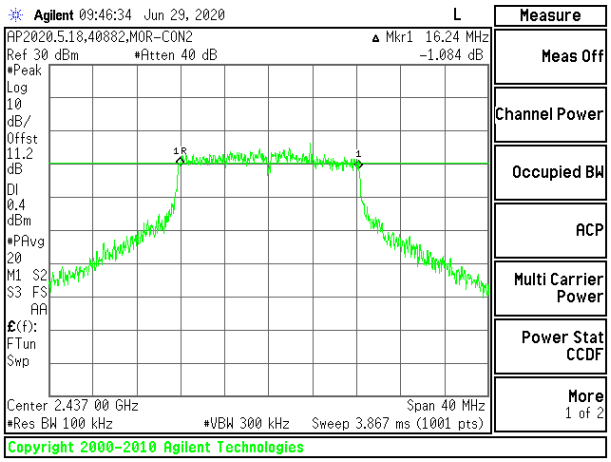
9.3.2. 802.11g MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	15.12	0.5
Mid 6	2437	16.24	0.5
High 11	2462	15.96	0.5



LOW CHANNEL 1



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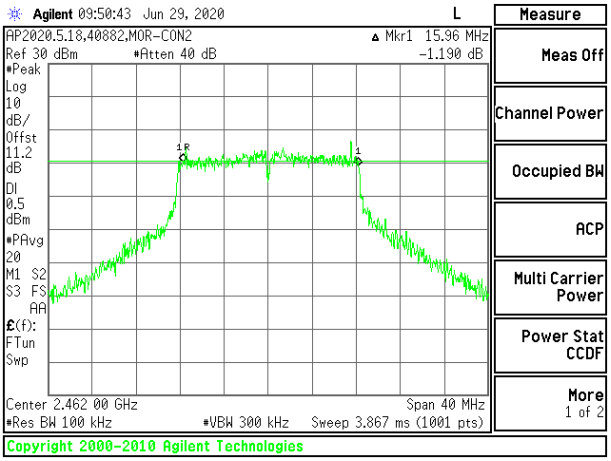

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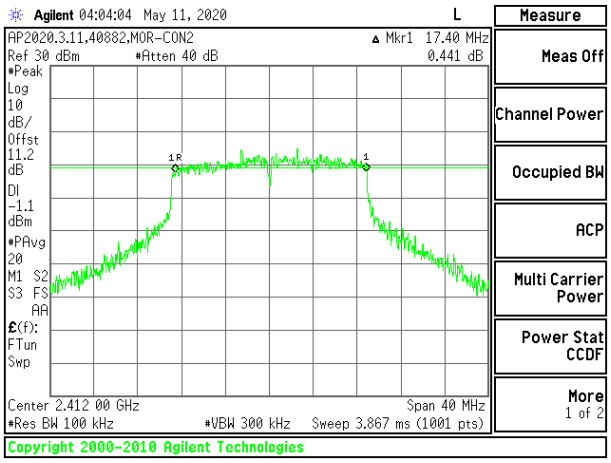
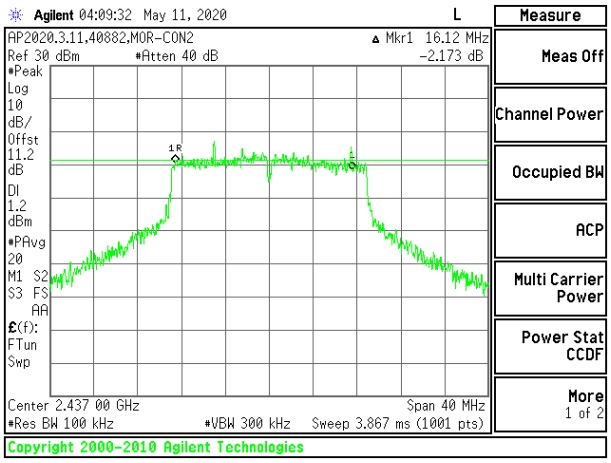
9.3.3. 802.11n HT20 MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 1	2412	17.40	0.5
Mid 6	2437	16.12	0.5
High 11	2462	16.76	0.5



LOW CHANNEL 1



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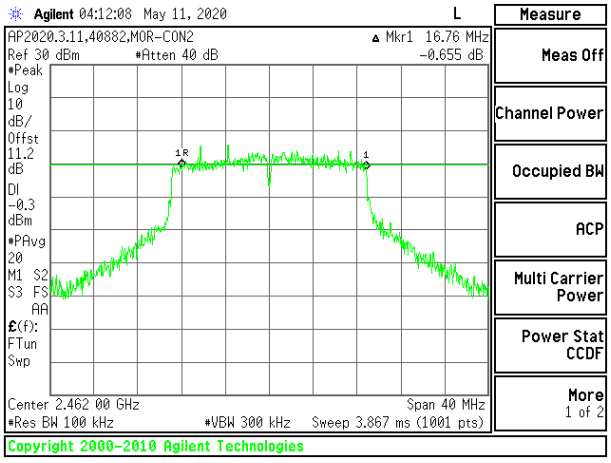

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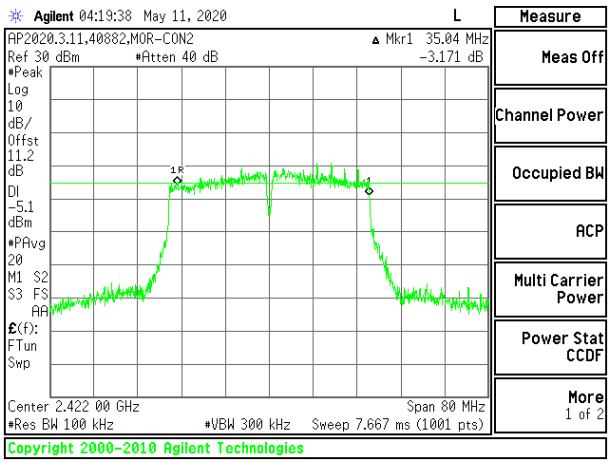
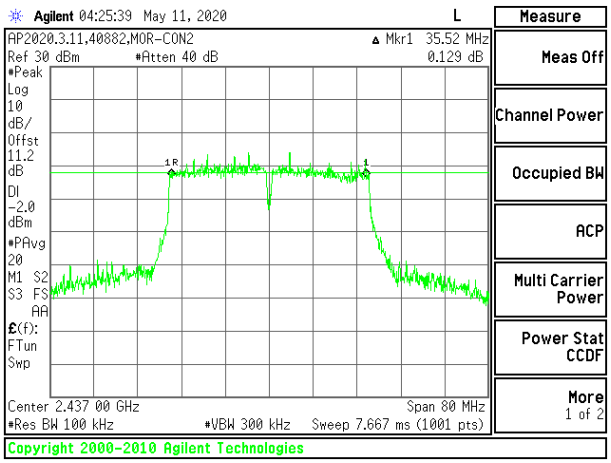
9.3.4. 802.11n HT40 MODE

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low 3	2422	35.04	0.5
Mid 6	2437	35.52	0.5
High 9	2452	35.36	0.5



LOW CHANNEL 3



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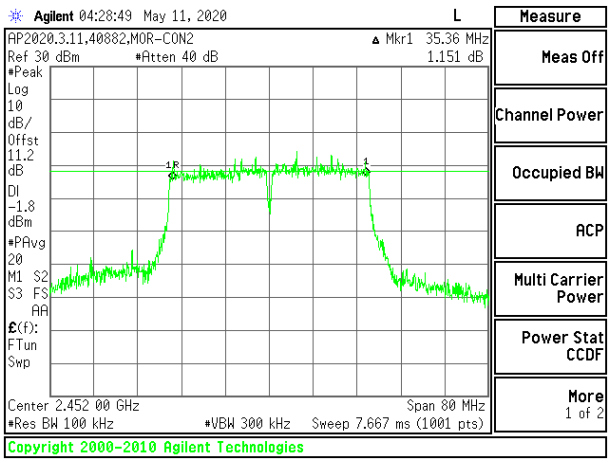

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9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The transmitter output is connected to a power meter.

For the External Antenna configuration, the cable assembly insertion loss of 11.18 dB (including 10.28 dB pad and 0.90 dB cable) was entered as an offset in the power meter to allow for a gated peak reading of power.

For the PCB Antenna configuration, the cable assembly insertion loss of 10.96 dB (including 10.28 dB pad and 0.68 dB cable) was entered as an offset in the power meter to allow for a gated peak reading of power.

DIRECTIONAL ANTENNA GAIN

For 1 TX:
There is only one transmitter output therefore the directional gain is equal to the antenna gain.

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9.4.1. External Antenna Results

802.11b MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	16.11	30	-13.89
Middle	2437	12.98	30	-17.02
High	2462	16.29	30	-13.71

802.11g MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	20.93	30	-9.07
Low	2417	20.51	30	-9.49
Middle	2437	18.59	30	-11.41
High	2462	21.61	30	-8.39

802.11n HT20 MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	20.78	30	-9.22
Low	2417	22.22	30	-7.78
Middle	2437	18.66	30	-11.34
High	2457	21.33	30	-8.67
High	2462	21.00	30	-9.00

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802.11n HT40 MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2422	17.72	30	-12.28
Low	2427	19.45	30	-10.55
Middle	2432	20.34	30	-9.66
Middle	2437	21.88	30	-8.12
Middle	2442	20.89	30	-9.11
High	2447	20.27	30	-9.73
High	2452	20.74	30	-9.26

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9.4.2. PCB Antenna Results

802.11b MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	17.29	30	-12.71
Middle	2437	16.76	30	-13.24
High	2462	16.50	30	-13.50

802.11g MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	21.21	30	-8.79
Low	2417	23.02	30	-6.98
Middle	2437	22.34	30	-7.66
High	2462	22.28	30	-7.72

802.11n HT20 MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	21.21	30	-8.79
Low	2417	23.11	30	-6.89
Middle	2437	22.21	30	-7.79
High	2457	22.15	30	-7.85
High	2462	21.55	30	-8.45

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802.11n HT40 MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2422	19.91	30	-10.09
Low	2427	21.06	30	-8.94
Middle	2432	22.39	30	-7.61
Middle	2437	24.00	30	-6.00
Middle	2442	23.33	30	-6.67
High	2447	22.04	30	-7.96
High	2452	21.88	30	-8.12

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9.5. AVERAGE POWER

LIMITS

None; for reporting purposes only

TEST PROCEDURE

The transmitter output is connected to a power meter.

For the External Antenna configuration, the cable assembly insertion loss of 11.18 dB (including 10.28 dB pad and 0.90 dB cable) was entered as an offset in the power meter to allow for a gated average reading of power.

For the PCB Antenna configuration, the cable assembly insertion loss of 10.96 dB (including 10.28 dB pad and 0.68 dB cable) was entered as an offset in the power meter to allow for a gated average reading of power.

9.5.1. External Antenna Results

802.11b MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Average Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	13.64	30	-16.36
Middle	2437	10.51	30	-19.49
High	2462	13.70	30	-16.30

802.11g MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Average Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	15.50	30	-14.50
Low	2417	17.57	30	-12.43
Middle	2437	13.94	30	-16.06
High	2462	16.44	30	-13.56

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802.11n HT20 MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Average power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	15.34	30	-14.66
Low	2417	17.26	30	-12.74
Middle	2437	13.82	30	-16.18
High	2457	15.70	30	-14.30
High	2462	15.28	30	-14.72

802.11n HT40 MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Average Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2422	11.31	30	-18.69
Low	2427	12.49	30	-17.51
Middle	2432	13.43	30	-16.57
Middle	2437	14.41	30	-15.59
Middle	2442	13.67	30	-16.33
High	2447	12.23	30	-17.77
High	2452	12.53	30	-17.47

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9.5.2. PCB Antenna Results

802.11b MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Average Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	14.80	30	-15.20
Middle	2437	14.17	30	-15.83
High	2462	13.93	30	-16.07

802.11g MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Average Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	16.35	30	-13.65
Low	2417	18.19	30	-11.81
Middle	2437	17.56	30	-12.44
High	2462	17.41	30	-12.59

802.11n HT20 MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Average Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2412	16.18	30	-13.82
Low	2417	18.05	30	-11.95
Middle	2437	17.35	30	-12.65
High	2457	17.10	30	-12.90
High	2462	16.23	30	-13.77

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802.11n HT40 MODE

Tested By:	40882
Date:	2020-06-05

Channel	Frequency (MHz)	Average Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2422	12.91	30	-17.09
Low	2427	14.26	30	-15.74
Middle	2432	15.55	30	-14.45
Middle	2437	17.37	30	-12.63
Middle	2442	16.15	30	-13.85
High	2447	14.75	30	-15.25
High	2452	14.77	30	-15.23

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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

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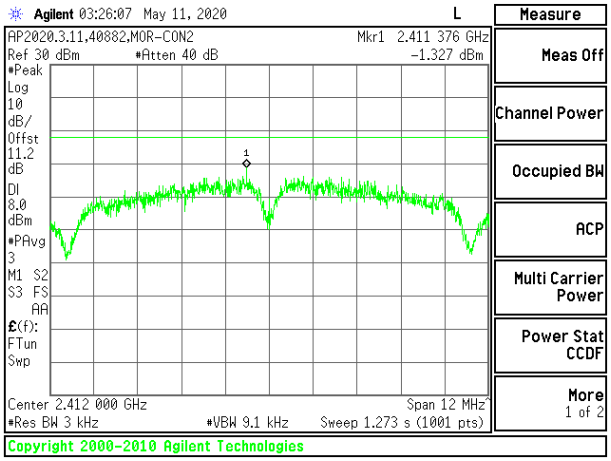
9.6.1. 802.11b MODE

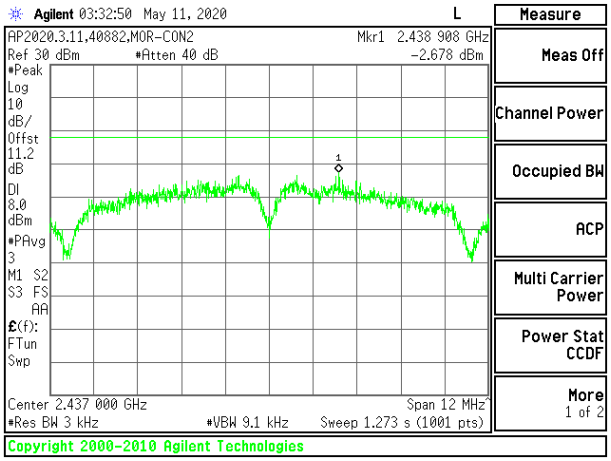
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

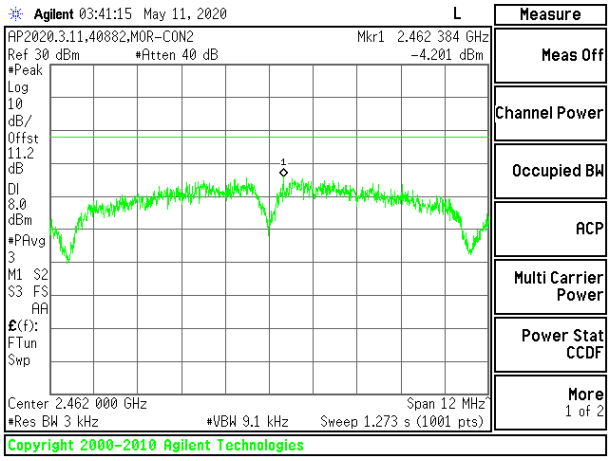
Channel	Frequency (MHz)	Chain 0 Meas (dBm/3kHz)	Total Corr'd PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low 1	2412	-1.33	-1.33	8.0	-9.3
Mid 6	2437	-2.68	-2.68	8.0	-10.7
High 11	2462	-4.20	-4.20	8.0	-12.2



LOW CHANNEL 1



MID CHANNEL 6



HIGH CHANNEL 11

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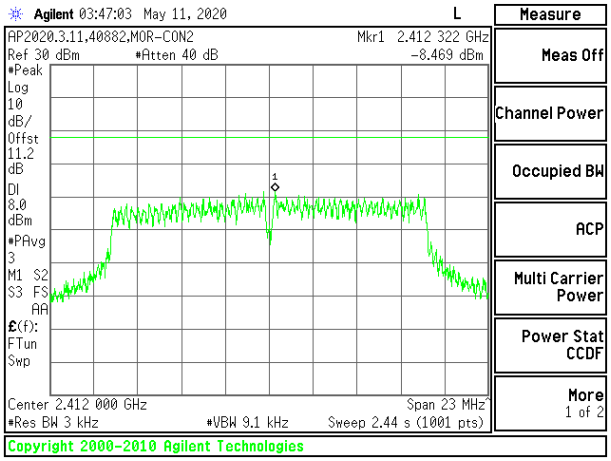
9.6.2. 802.11g MODE

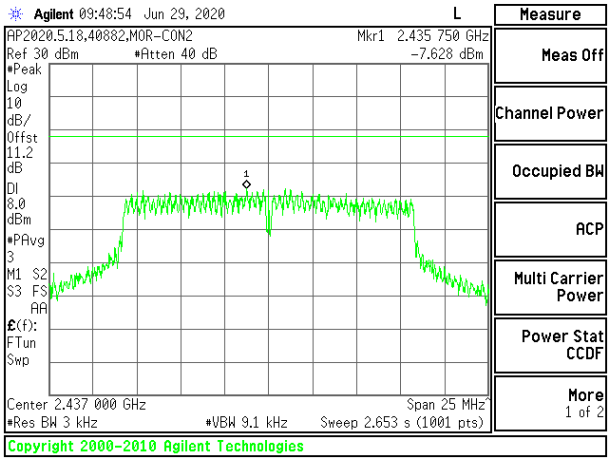
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low 1	2412	-8.47	-8.47	8.0	-16.5
Mid 6	2437	-7.63	-7.63	8.0	-15.6
High 11	2462	-7.81	-7.81	8.0	-15.8



LOW CHANNEL 1



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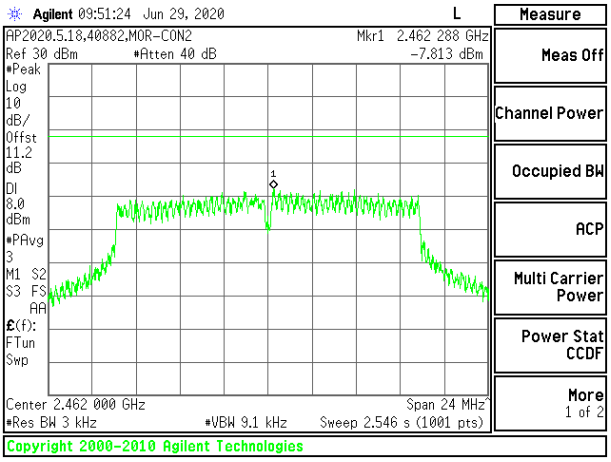

HIGH CHANNEL 11

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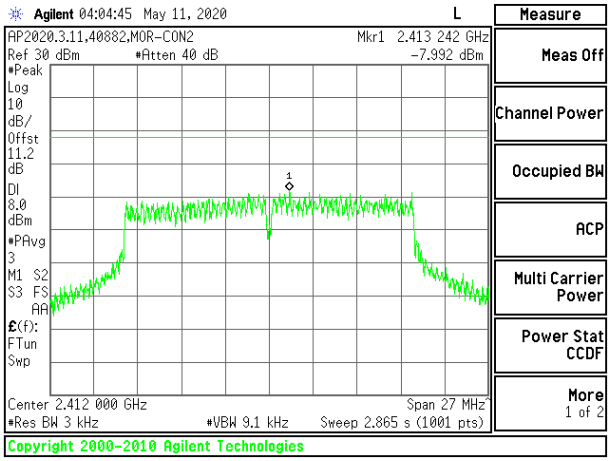
9.6.3. 802.11n HT20 MODE

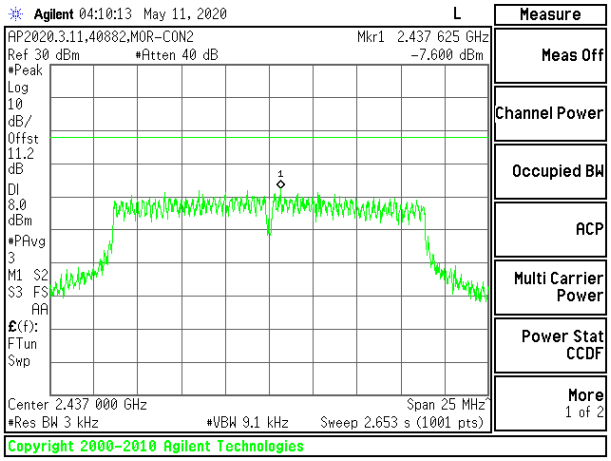
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low 1	2412	-7.99	-7.99	8.0	-16.0
Mid 6	2437	-7.60	-7.60	8.0	-15.6
High 11	2462	-8.09	-8.09	8.0	-16.1



LOW CHANNEL 1



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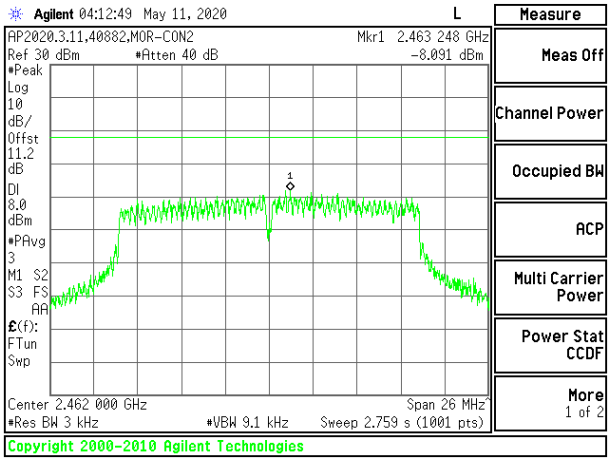

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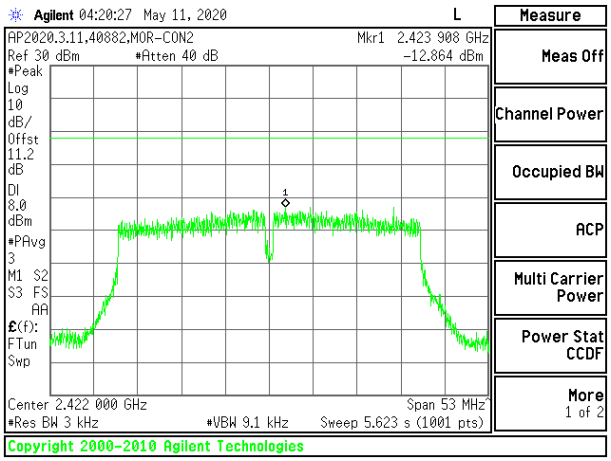
9.6.4. 802.11n HT40 MODE

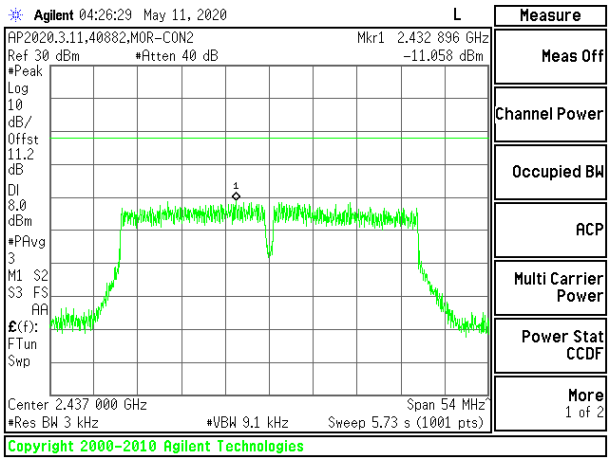
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD

PSD Results

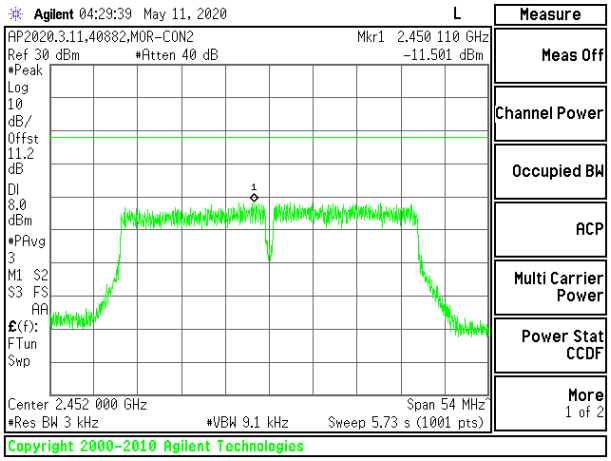
Channel	Frequency (MHz)	Chain 0 Meas (dBm/ 3kHz)	Total Corr'd PSD (dBm/ 3kHz)	Limit (dBm/ 3kHz)	Margin (dB)
Low 3	2422	-12.86	-12.86	8.0	-20.9
Mid 6	2437	-11.06	-11.06	8.0	-19.1
High 9	2452	-11.50	-11.50	8.0	-19.5



LOW CHANNEL 3



MID CHANNEL 6



HIGH CHANNEL 9

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9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

RSS-247 5.5

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

All tests run a mid-channel power settings.

RESULTS

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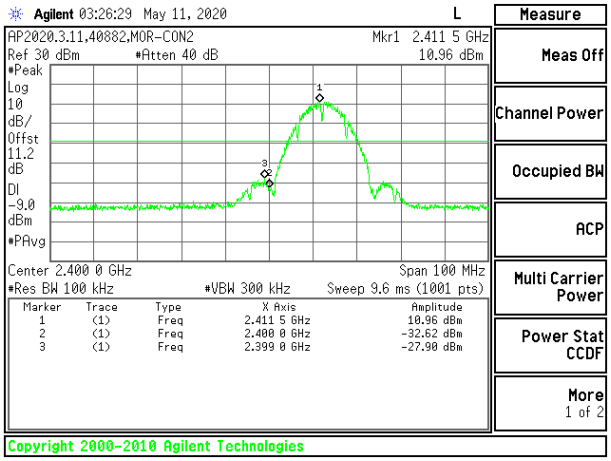
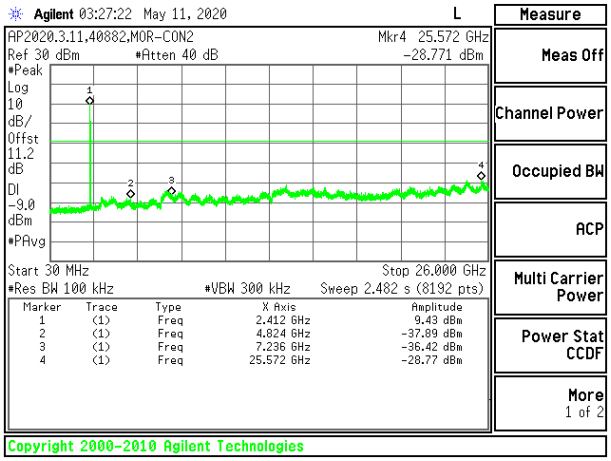
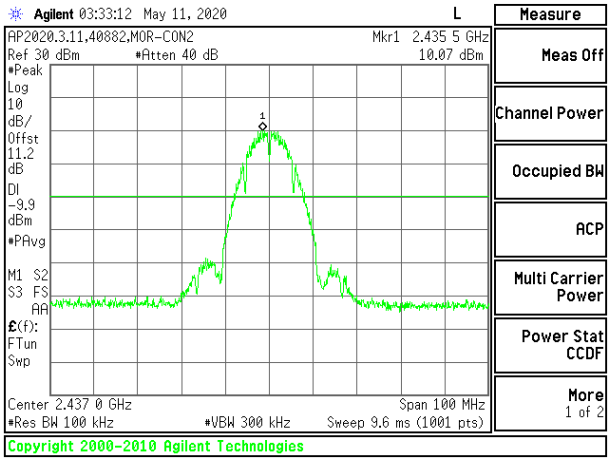
9.7.1. 802.11b MODE



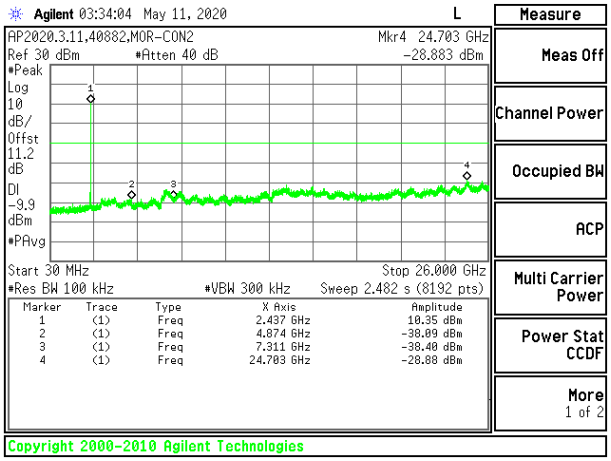
LOW CHANNEL 1 BANDEDGE



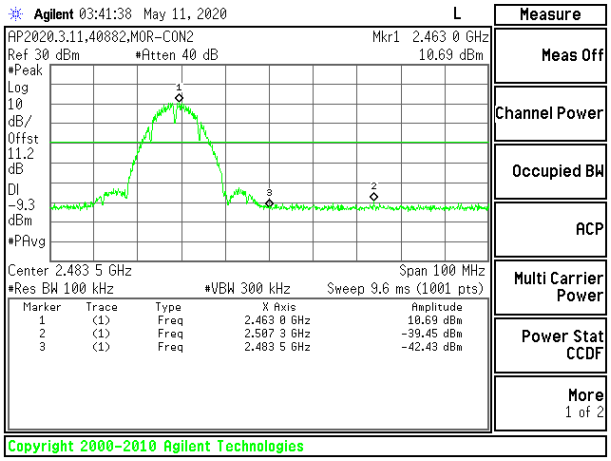
OUT-OF-BAND LOW CHANNEL 1



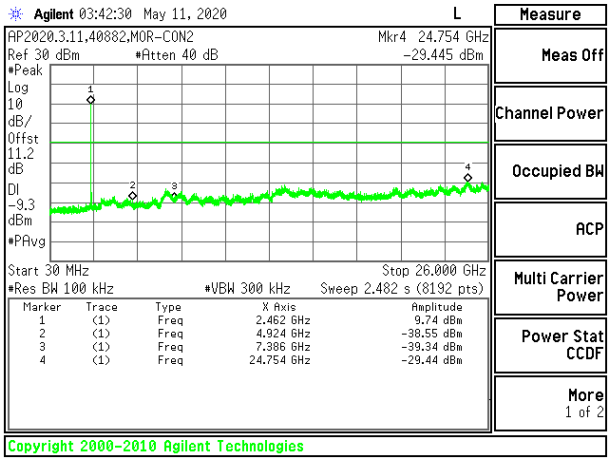
IN-BAND REFERNCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL 11 BANDEDGE



OUT-OF-BAND HIGH CHANNEL 11

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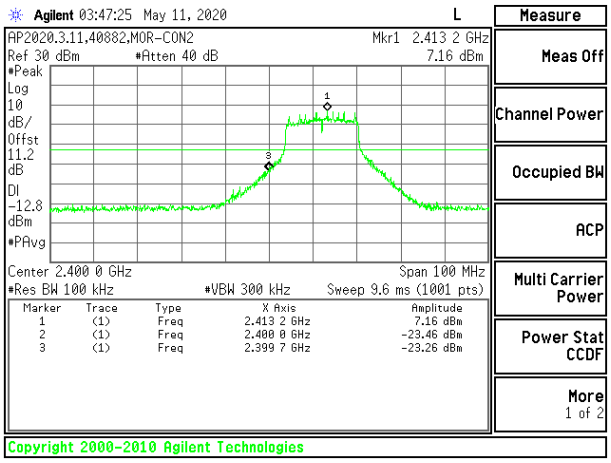
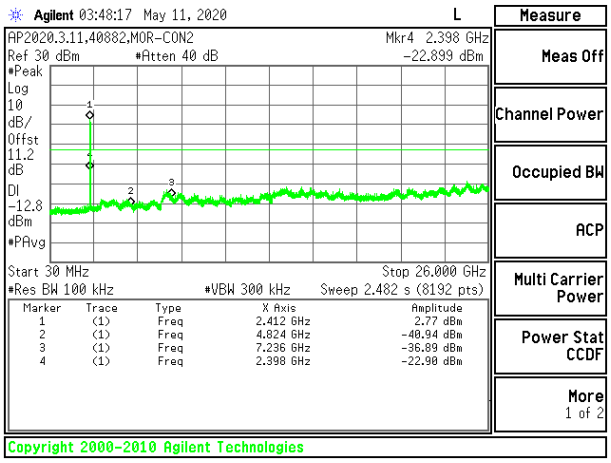
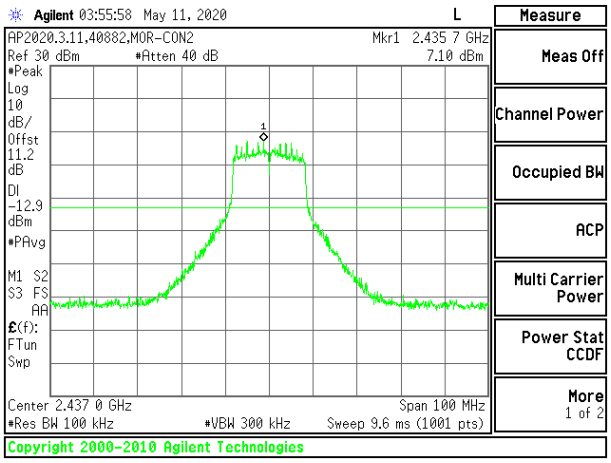
9.7.2. 802.11g MODE



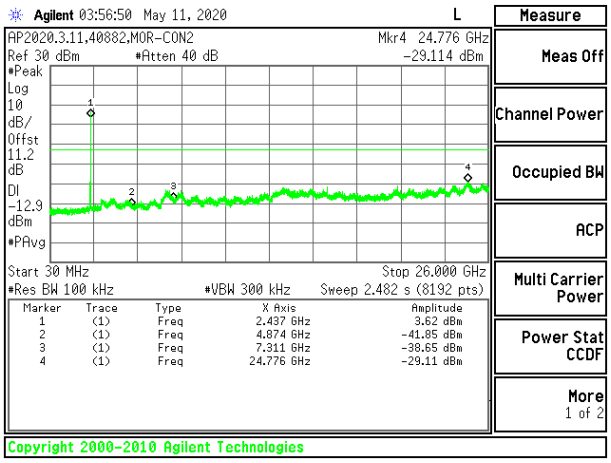
LOW CHANNEL 1 BANDEDGE



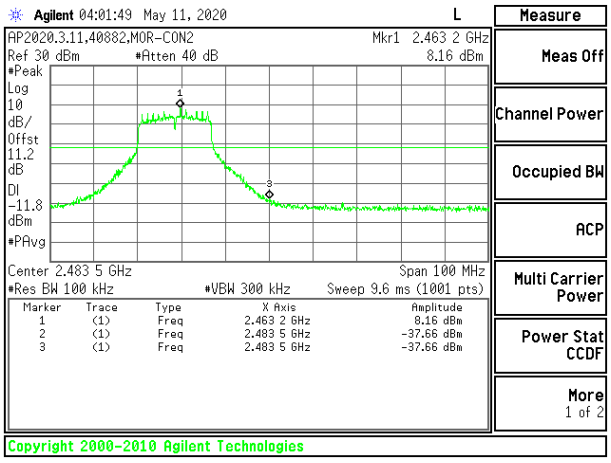
OUT-OF-BAND LOW CHANNEL 1



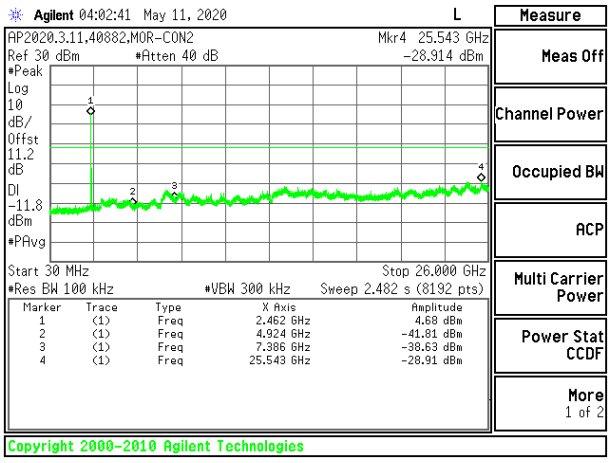
IN-BAND REFERNCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL 11 BANDEDGE



OUT-OF-BAND HIGH CHANNEL 11

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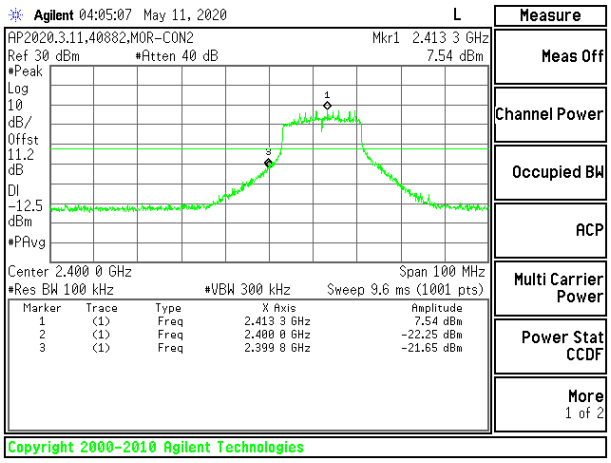
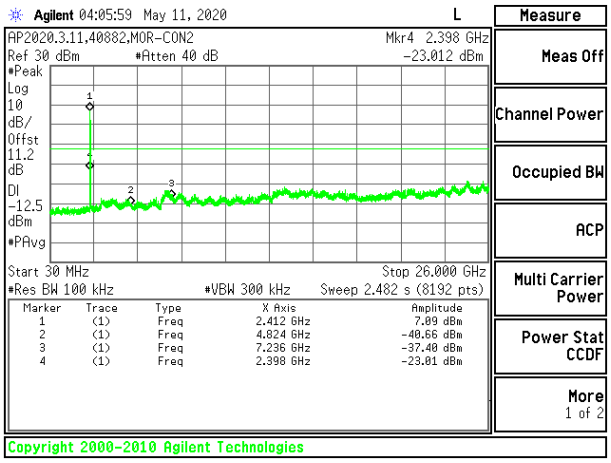
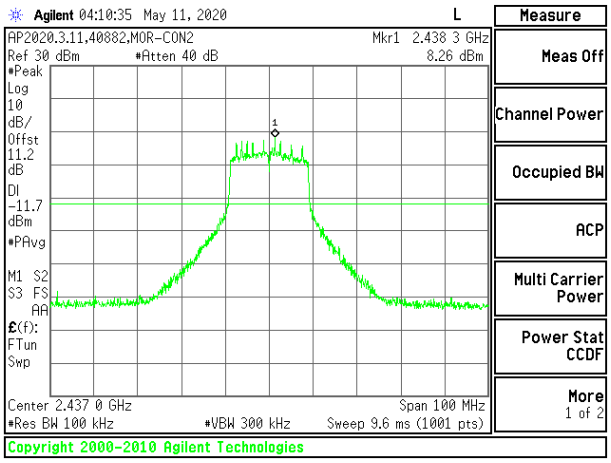
9.7.3. 802.11n HT20 MODE



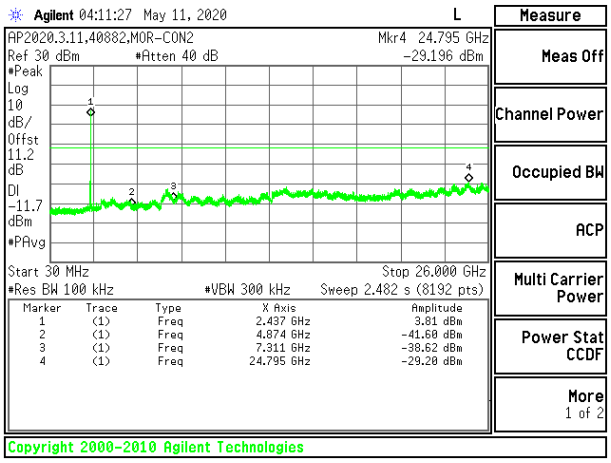
LOW CHANNEL 1 BANDEDGE



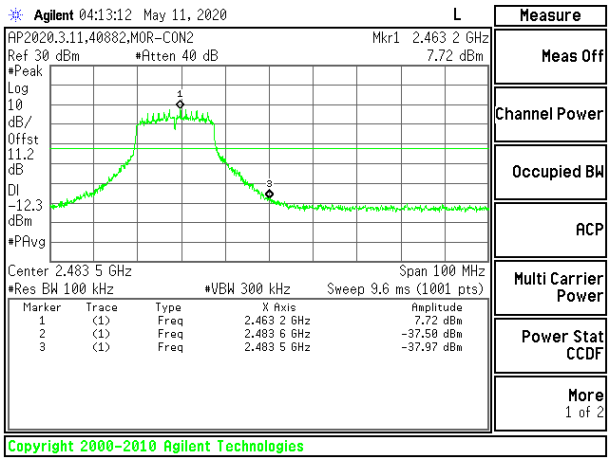
OUT-OF-BAND LOW CHANNEL 1



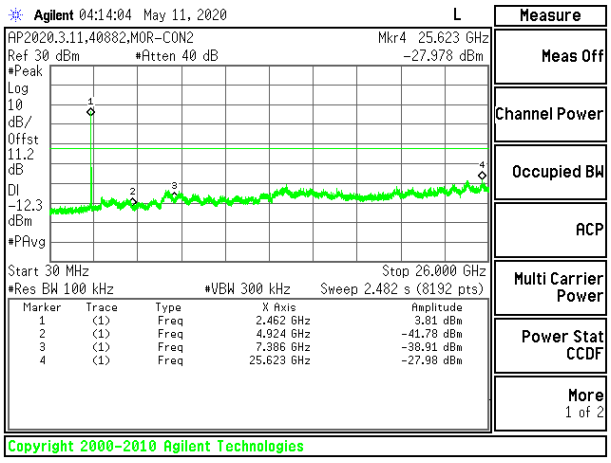
IN-BAND REFERNCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL 11 BANDEDGE



OUT-OF-BAND HIGH CHANNEL 11

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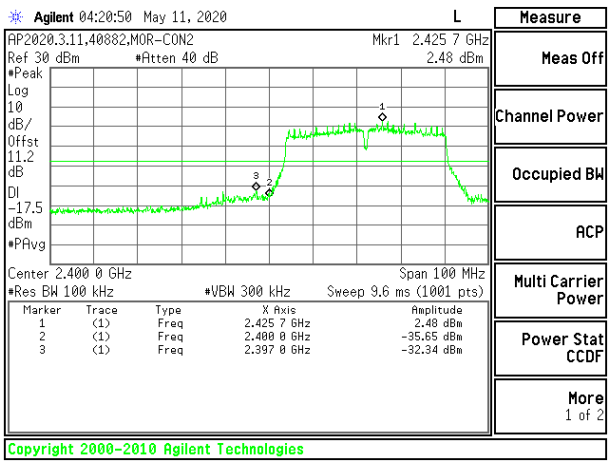
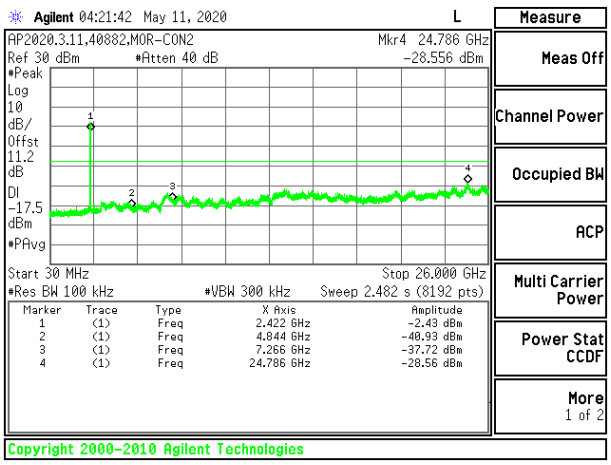
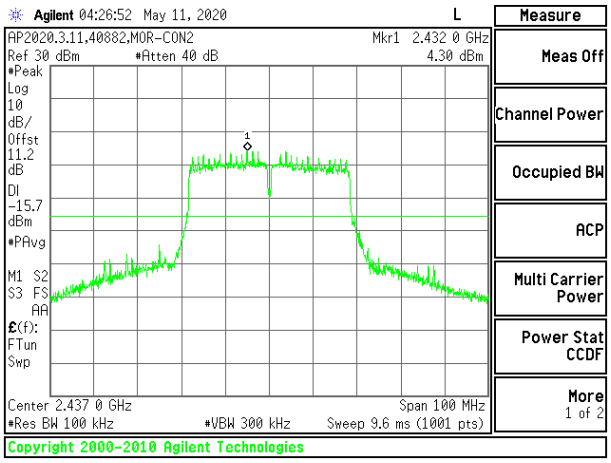
9.7.4. 802.11n HT40 MODE



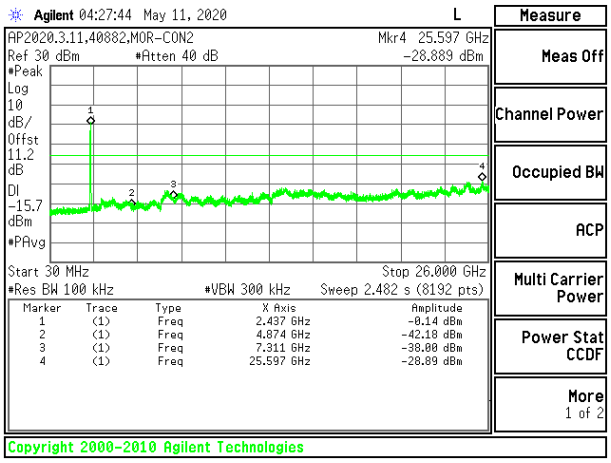
LOW CHANNEL 3 BANDEDGE



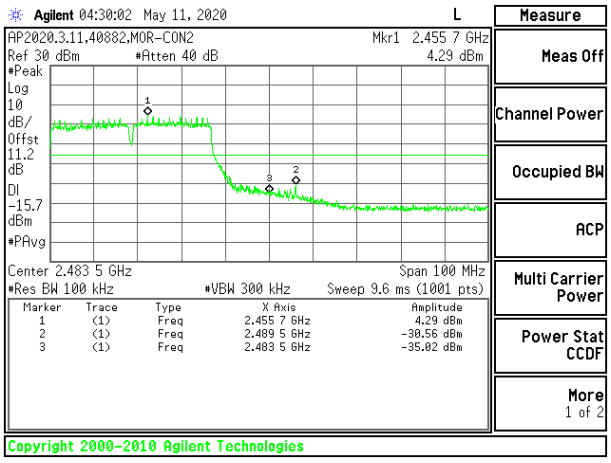
OUT-OF-BAND LOW CHANNEL 3



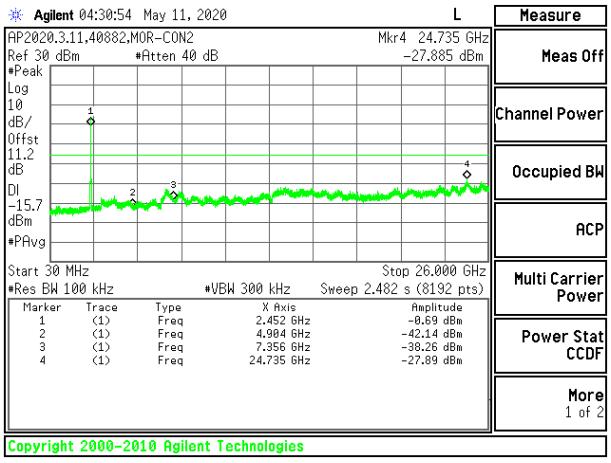
IN-BAND REFERNCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL 9 BANDEDGE



OUT-OF-BAND HIGH CHANNEL 9

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10. RADIATED TEST RESULTS

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 in the 30-1000MHz range, 9kHz for peak and/or quasi-peak detection measurements in the 0.15-30MHz range and 200Hz for peak and/or quasi-peak detection measurements in the 9 to 150kHz range. 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. For average measurements above 1GHz, the resolution bandwidth and video bandwidth are set as described in ANSI C63.10:2013 for the applicable measurement. The particular averaging method used for this test program was voltage averaging.

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 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.

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

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.

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

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

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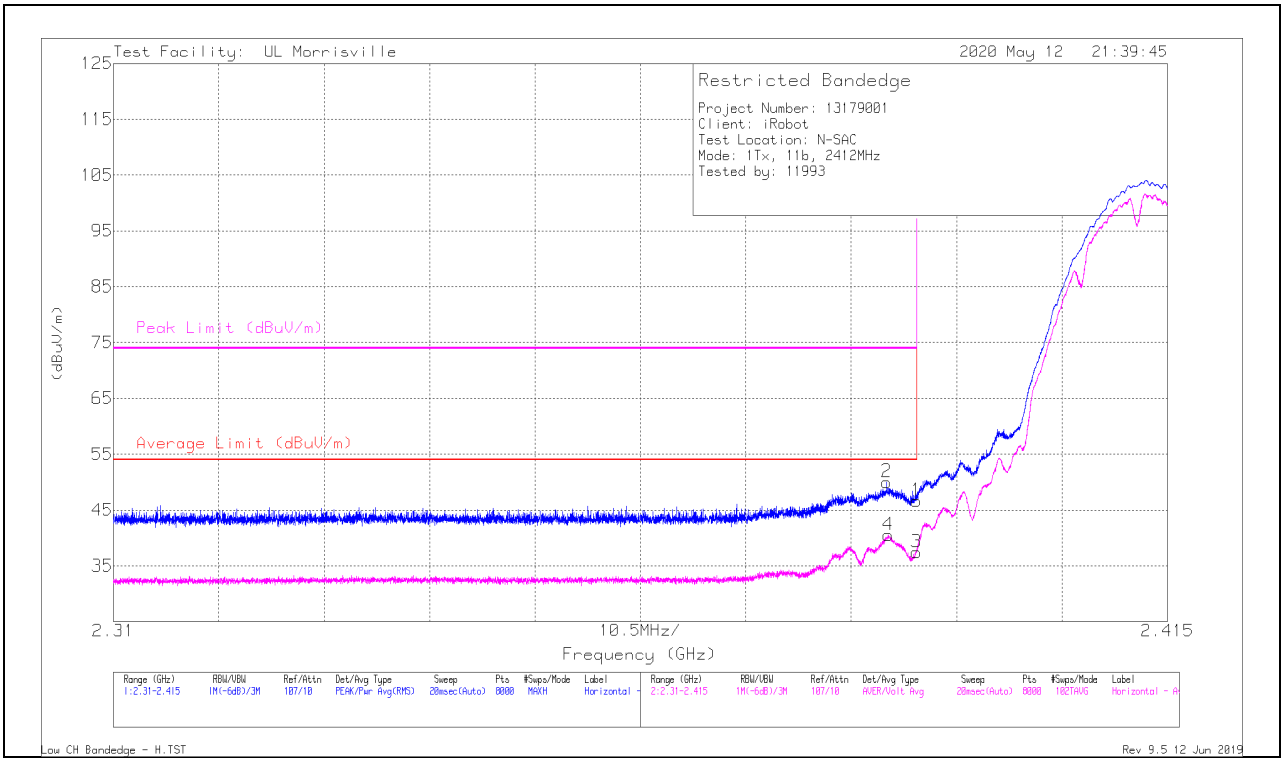
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

External Antenna

BANDEDGE (LOW CHANNEL, CH 1)

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	* ** 2.39	38.48	Pk	31.8	-23.6	0	46.68	-	-	74	-27.32	132	299	H
2	* ** 2.38706	41.81	Pk	31.8	-23.6	0	50.01	-	-	74	-23.99	132	299	H
3	* ** 2.39	28.99	ADV	31.8	-23.6	.24	37.43	54	-16.57	-	-	132	299	H
4	* ** 2.38719	32.07	ADV	31.8	-23.6	.24	40.51	54	-13.49	-	-	132	299	H

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

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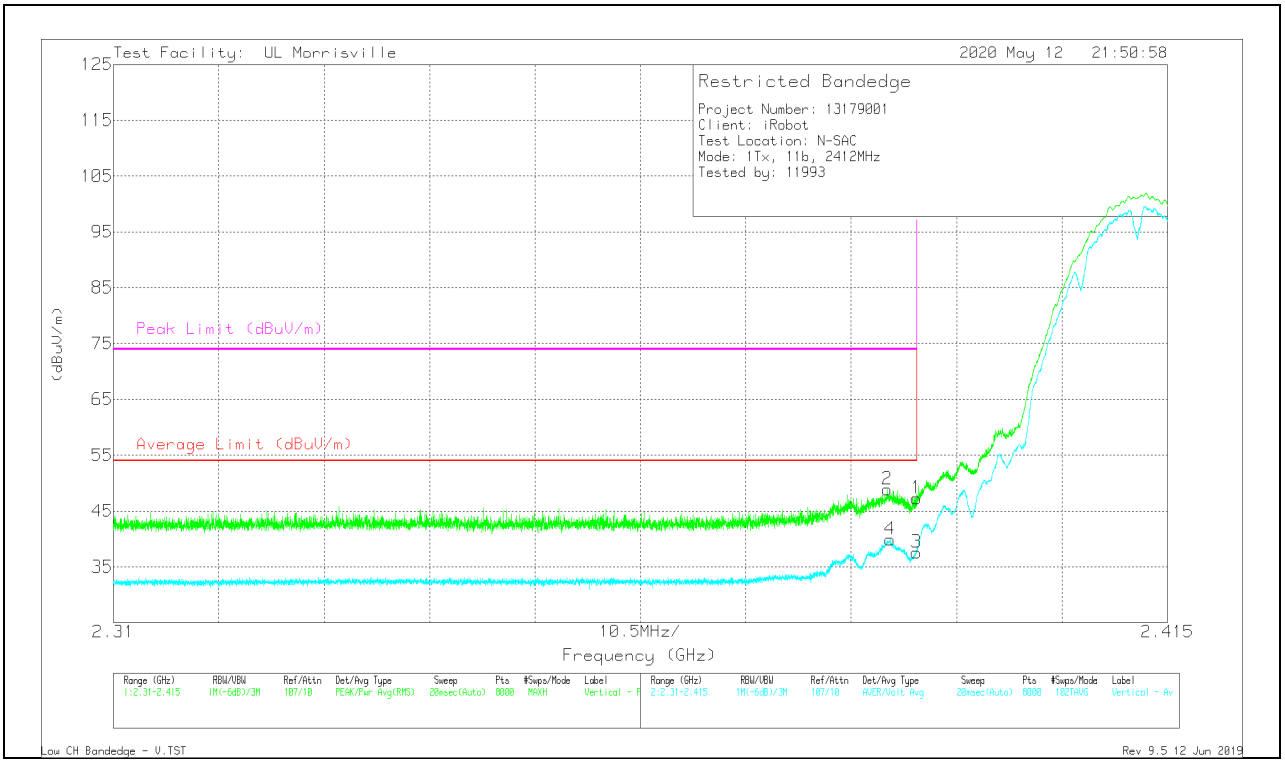
VERTICAL RESULT



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	* ** 2.39	39.07	Pk	31.8	-23.6	0	47.27	-	-	74	-26.73	76	353	V
2	* ** 2.3871	40.66	Pk	31.8	-23.6	0	48.86	-	-	74	-25.14	76	353	V
3	* ** 2.39	29.13	ADV	31.8	-23.6	.24	37.57	54	-16.43	-	-	76	353	V
4	* ** 2.38737	31.42	ADV	31.8	-23.6	.24	39.86	54	-14.14	-	-	76	353	V

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

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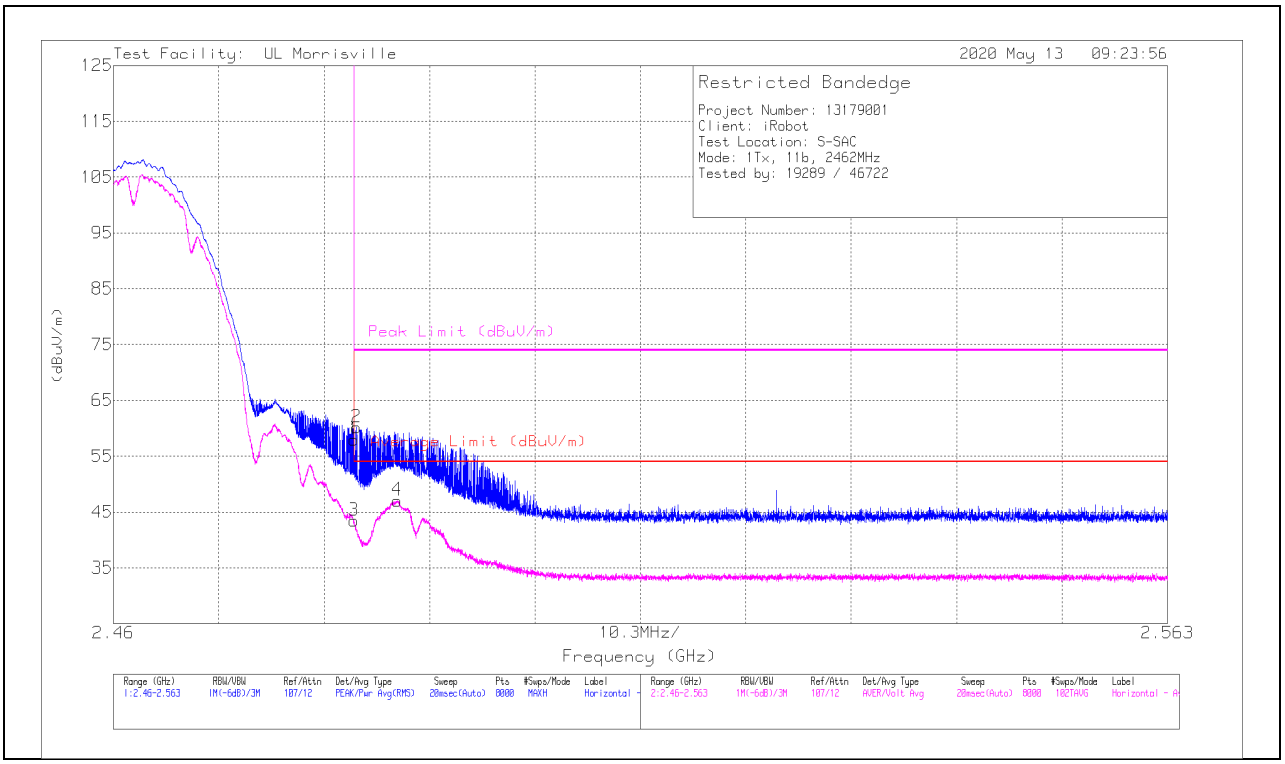
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	50.23	Pk	32.1	-24.4	0	57.93	-	-	74	-16.07	203	157	H
2	* ** 2.48375	52.46	Pk	32.1	-24.4	0	60.16	-	-	74	-13.84	203	157	H
3	* ** 2.4835	35.5	ADV	32.1	-24.4	.24	43.44	54	-10.56	-	-	203	157	H
4	* ** 2.48772	39.04	ADV	32.2	-24.4	.24	47.08	54	-6.92	-	-	203	157	H

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

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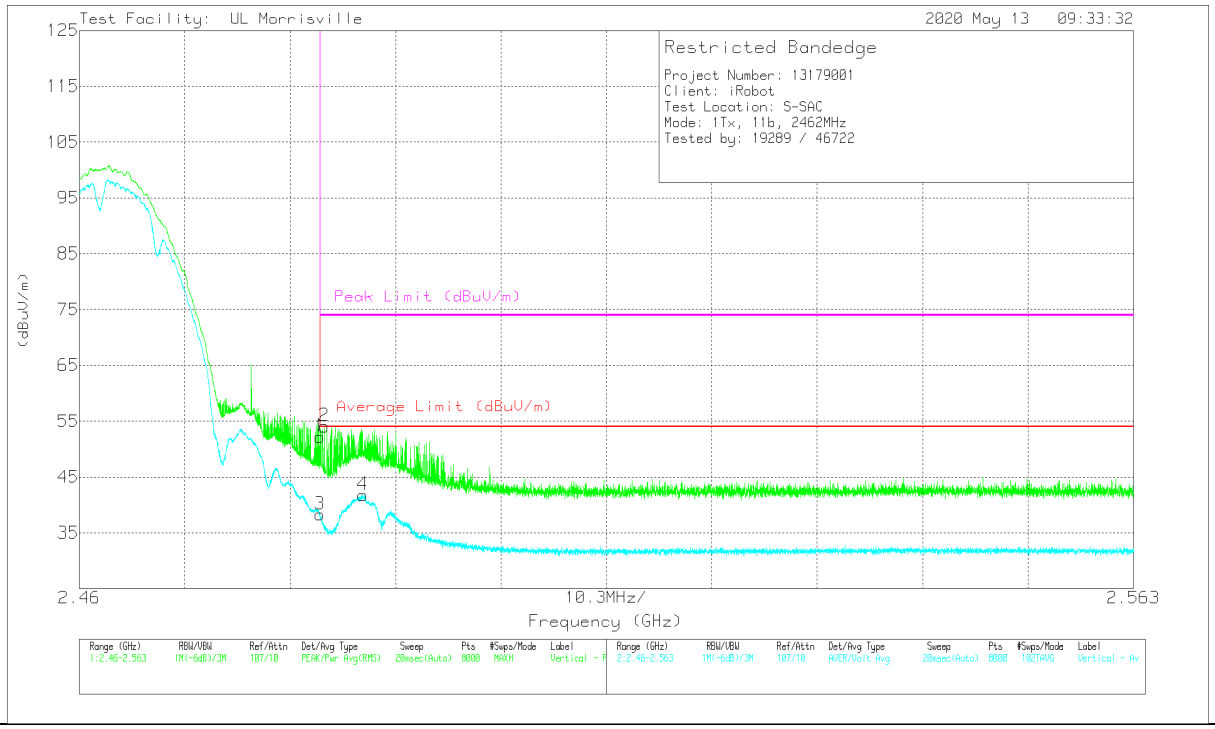
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	44.52	Pk	32.1	-24.4	0	52.22	-	-	74	-21.78	139	383	V
2	* ** 2.48393	46.41	Pk	32.1	-24.4	0	54.11	-	-	74	-19.89	139	383	V
3	* ** 2.4835	30.33	ADV	32.1	-24.4	.24	38.27	54	-15.73	-	-	139	383	V
4	* ** 2.4877	33.73	ADV	32.2	-24.4	.24	41.77	54	-12.23	-	-	139	383	V

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

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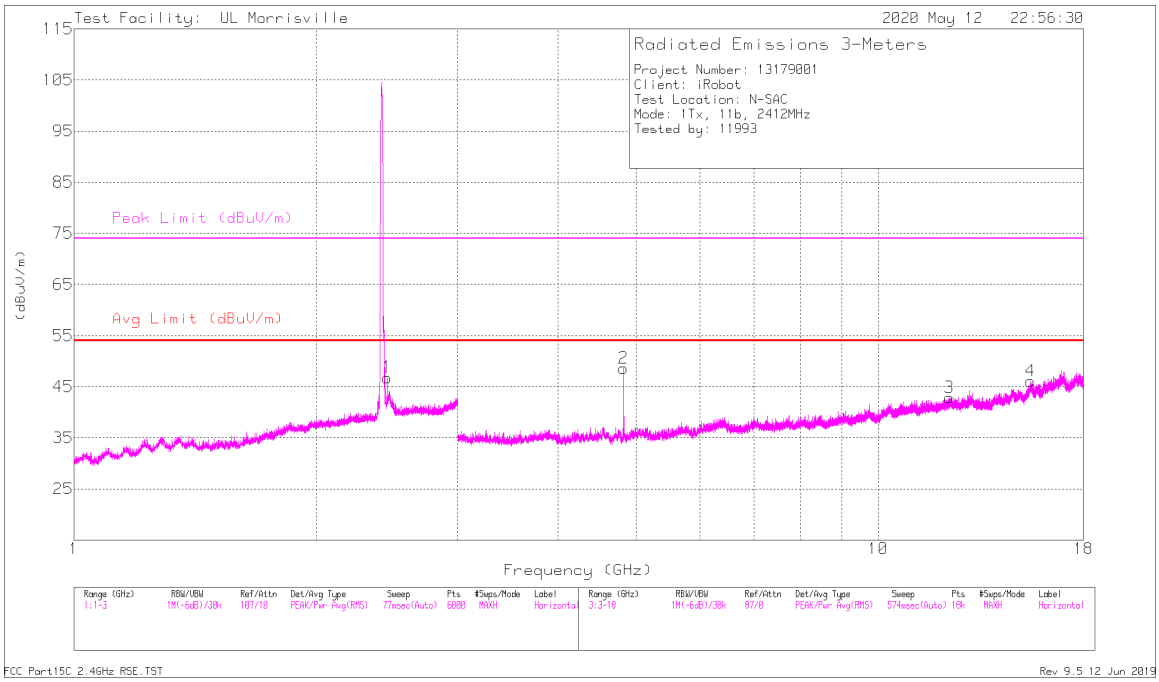
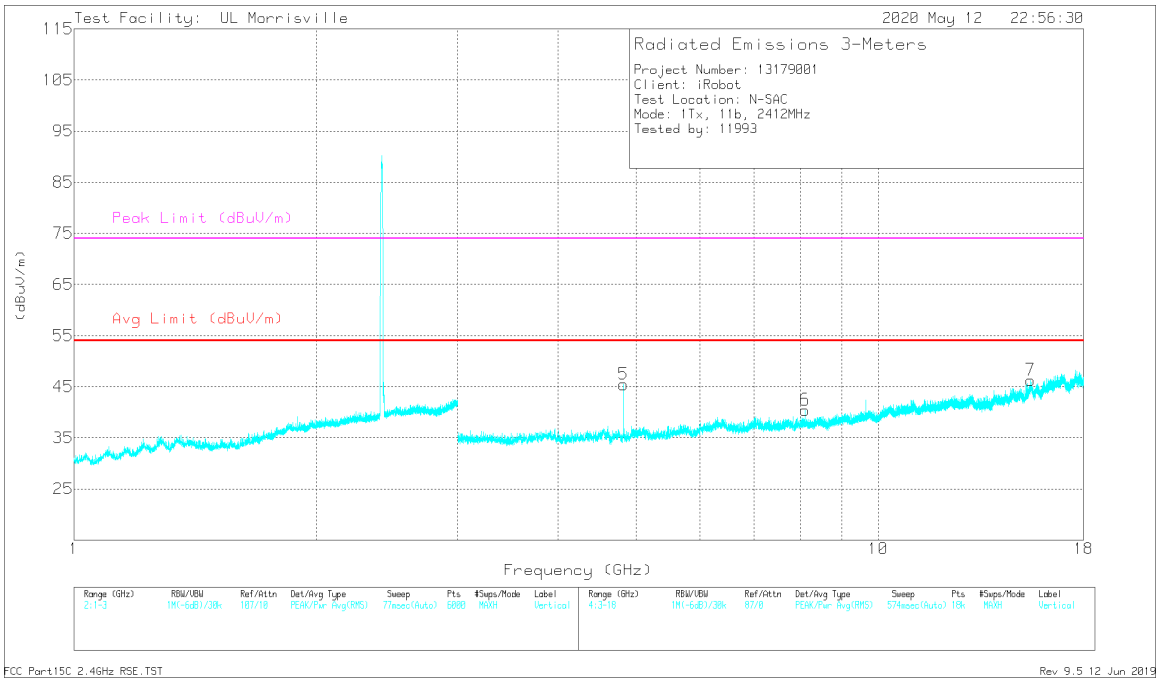
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



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)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 4.82388	46.53	PK2	34.2	-30.8	0	49.93	-	-	74	-24.07	350	117	H
	* ** 4.82387	42.77	ADV	34.2	-30.8	.24	46.41	54	-7.59	-	-	350	117	H
3	* ** 12.25106	35.82	PK2	38.9	-25.1	0	49.62	-	-	74	-24.38	154	376	H
	* ** 12.25106	22.59	ADV	38.9	-25.1	.24	36.63	54	-17.37	-	-	154	376	H
4	* ** 15.47326	35.12	PK2	40.2	-23.1	0	52.22	-	-	74	-21.78	90	194	H
	* ** 15.47277	22.62	ADV	40.3	-23.1	.24	40.06	54	-13.94	-	-	90	194	H
5	* ** 4.82387	47.69	PK2	34.2	-30.8	0	51.09	-	-	74	-22.91	69	241	V
	* ** 4.82398	43.72	ADV	34.2	-30.8	.24	47.36	54	-6.64	-	-	69	241	V
6	* ** 8.11099	37.94	PK2	35.9	-28	0	45.84	-	-	74	-28.16	138	270	V
	* ** 8.11124	24.48	ADV	35.9	-28	.24	32.62	54	-21.38	-	-	138	270	V
7	* ** 15.46366	35.4	PK2	40.2	-23.1	0	52.5	-	-	74	-21.5	262	342	V
	* ** 15.46376	22.4	ADV	40.2	-23.1	.24	39.74	54	-14.26	-	-	262	342	V
1	2.45291	38.29	Pk	32	-23.5	0	46.79	-	-	-	-	0-360	100	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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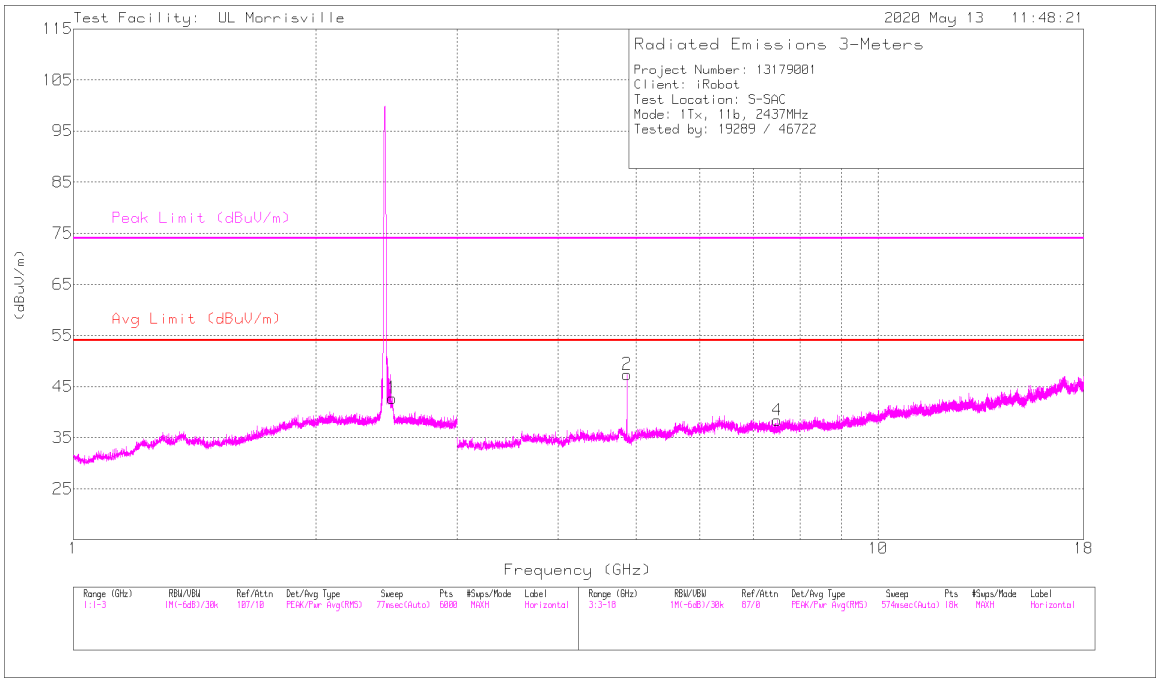
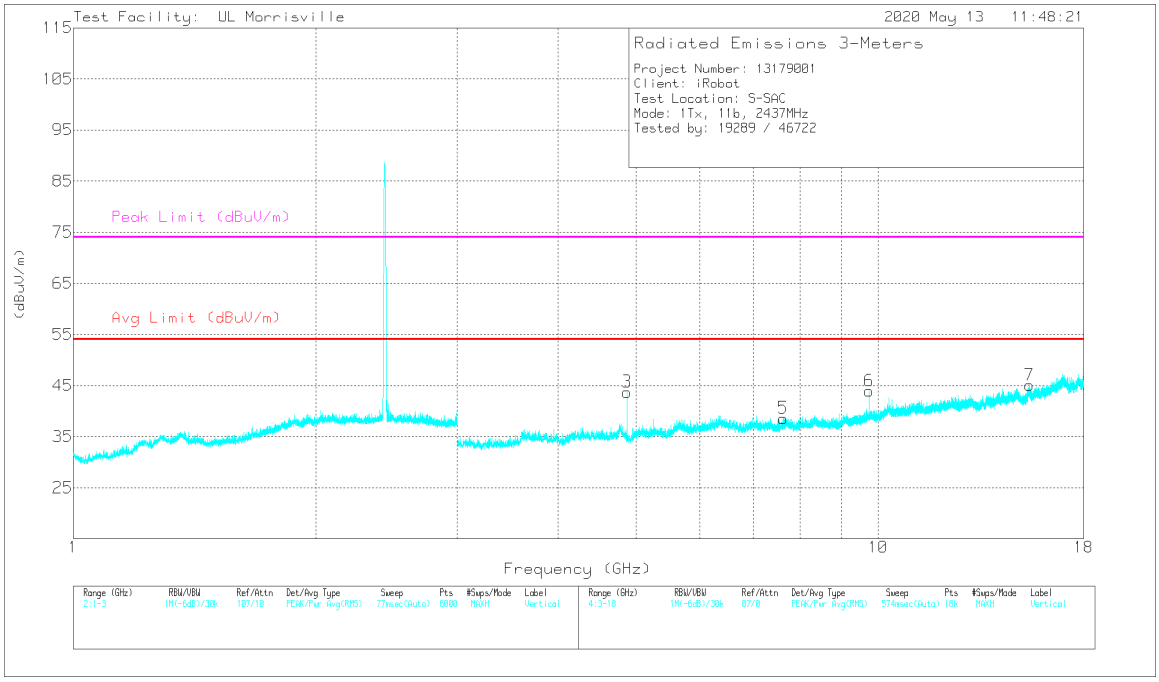
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48868	59.41	PK2	32.2	-24.4	0	67.21	-	-	74	-6.79	170	144	H
	* ** 2.49039	28.48	ADV	32.2	-24.4	.24	36.52	54	-17.48	-	-	170	144	H
2	* ** 4.87405	48.32	PK2	33.8	-31	0	51.12	-	-	74	-22.88	4	104	H
	* ** 4.87395	44.87	ADV	33.8	-31	.24	47.91	54	-6.09	-	-	4	104	H
4	* ** 7.49228	37.29	PK2	35.5	-28.1	0	44.69	-	-	74	-29.31	230	160	H
	* ** 7.49212	23.65	ADV	35.5	-28.1	.24	31.29	54	-22.71	-	-	230	160	H
3	* ** 4.8739	43.83	PK2	33.8	-31	0	46.63	-	-	74	-27.37	233	235	V
	* ** 4.87399	37.52	ADV	33.8	-31	.24	40.56	54	-13.44	-	-	233	235	V
5	* ** 7.62443	37.4	PK2	35.7	-27.6	0	45.5	-	-	74	-28.5	54	243	V
	* ** 7.62331	23.8	ADV	35.7	-27.6	.24	32.14	54	-21.86	-	-	54	243	V
7	* ** 15.41977	33.74	PK2	39.8	-21.9	0	51.64	-	-	74	-22.36	23	193	V
	* ** 15.41868	20.23	ADV	39.8	-21.8	.24	38.47	54	-15.53	-	-	23	193	V
6	9.74788	33.07	Pk	36.7	-25.8	0	43.97	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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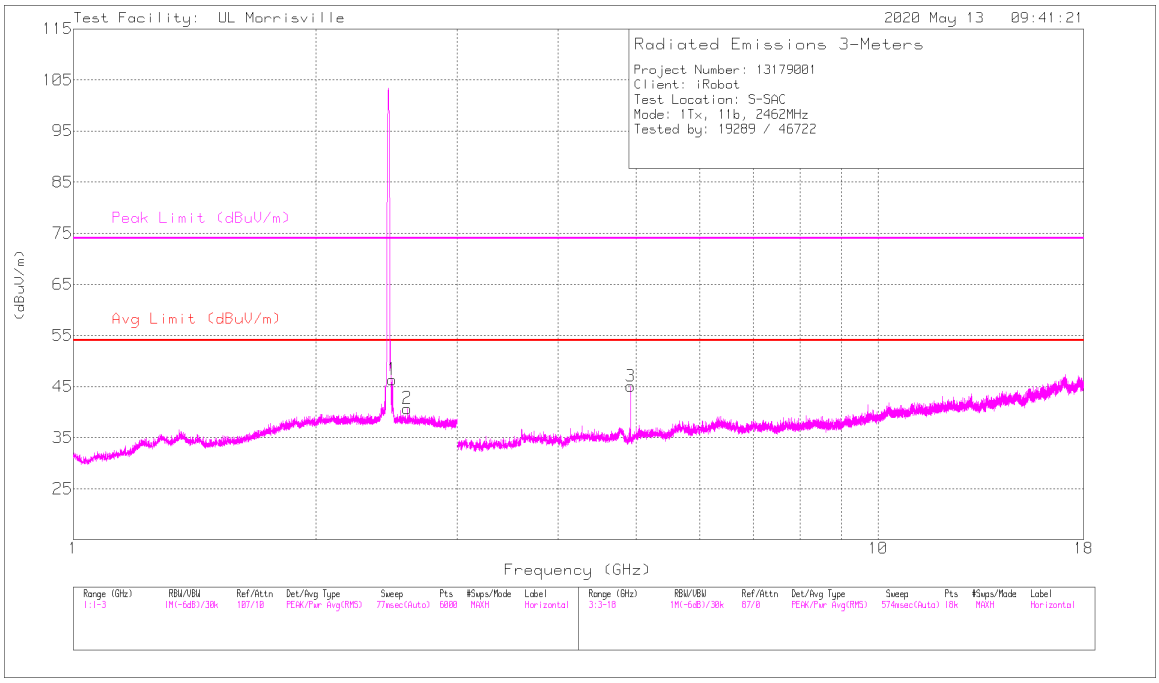
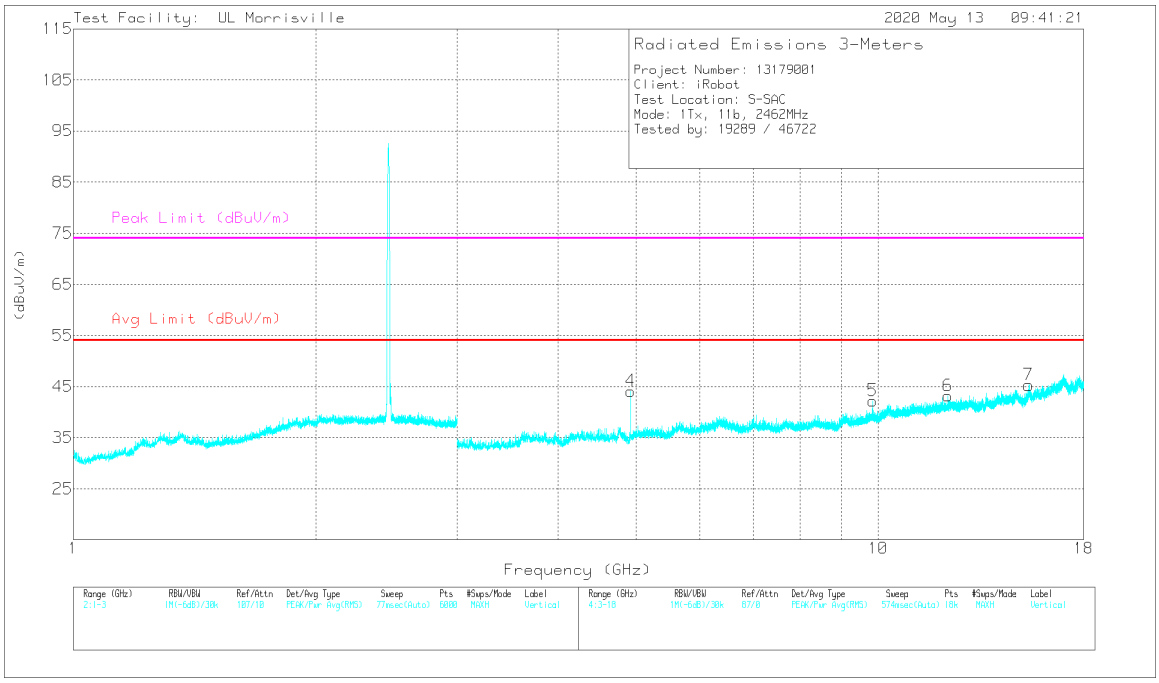
HIGH CHANNEL, CH 11 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48525	49.63	PK2	32.2	-24.4	0	57.43	-	-	74	-16.57	29	138	H
	* ** 2.48877	29.28	ADV	32.2	-24.4	.24	37.32	54	-16.68	-	-	29	138	H
2	** 2.60207	37.33	PK2	32.6	-25.2	0	44.73	-	-	-	-	183	335	H
	** 2.60168	24.23	ADV	32.6	-25.2	.24	31.87	-	-	-	-	183	335	H
3	* ** 4.92397	46.67	PK2	33.9	-31	0	49.57	-	-	74	-24.43	2	112	H
	* ** 4.92402	42.31	ADV	33.9	-31	.24	45.45	54	-8.55	-	-	2	112	H
4	* ** 4.92401	44.28	PK2	33.9	-31	0	47.18	-	-	74	-26.82	76	108	V
	* ** 4.92398	38.84	ADV	33.9	-31	.24	41.98	54	-12.02	-	-	76	108	V
6	* ** 12.21477	33.91	PK2	38.8	-24.3	0	48.41	-	-	74	-25.59	283	322	V
	* ** 12.21552	21.17	ADV	38.8	-24.3	.24	35.91	54	-18.09	-	-	283	322	V
7	* ** 15.38014	33.42	PK2	39.8	-22.3	0	50.92	-	-	74	-23.08	268	309	V
	* ** 15.37843	20.62	ADV	39.8	-22.4	.24	38.26	54	-15.74	-	-	268	309	V
5	9.84788	31.23	Pk	36.9	-25.9	0	42.23	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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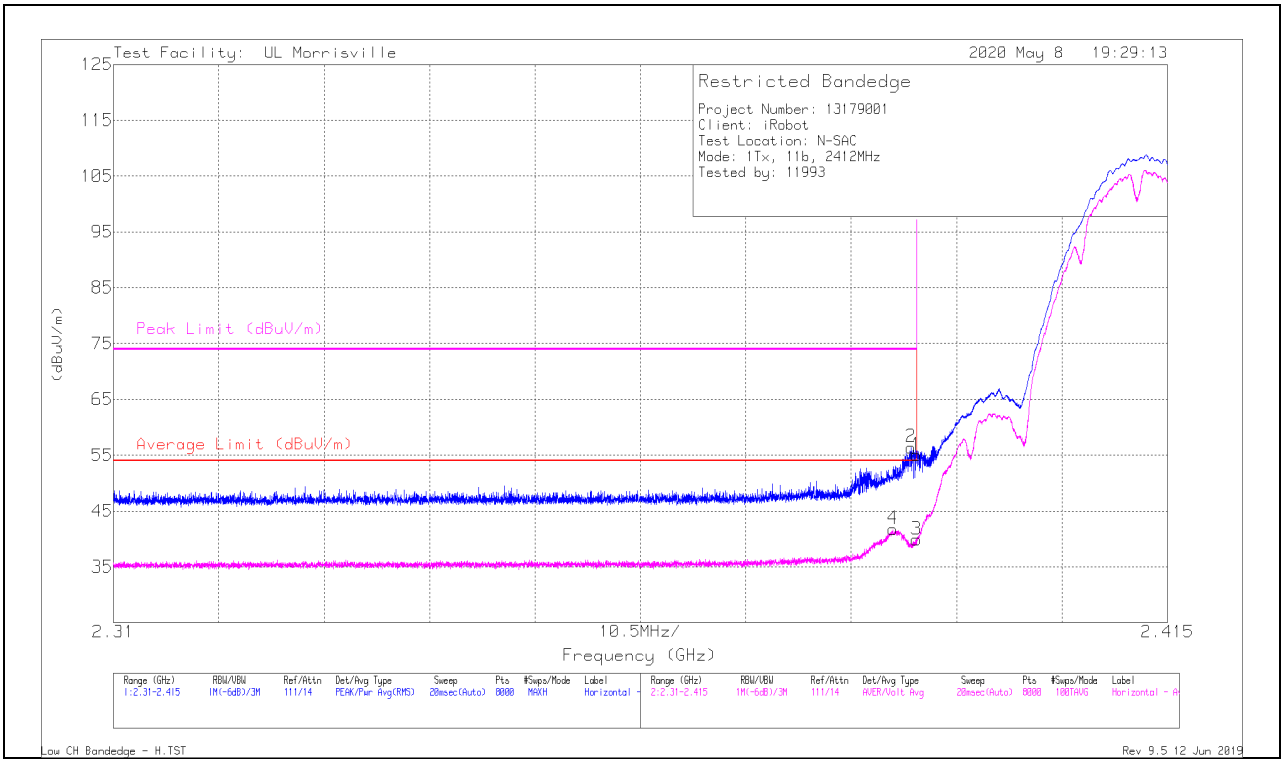
PCB Antenna

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 [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	* ** 2.39	46.73	Pk	31.9	-23.6	0	55.03	-	-	74	-18.97	206	304	H
2	* ** 2.38948	48.13	Pk	31.9	-23.6	0	56.43	-	-	74	-17.57	206	304	H
3	* ** 2.39	31.4	ADV	31.9	-23.6	.24	39.94	54	-14.06	-	-	206	304	H
4	* ** 2.38765	33.27	ADV	31.9	-23.6	.24	41.81	54	-12.19	-	-	206	304	H

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

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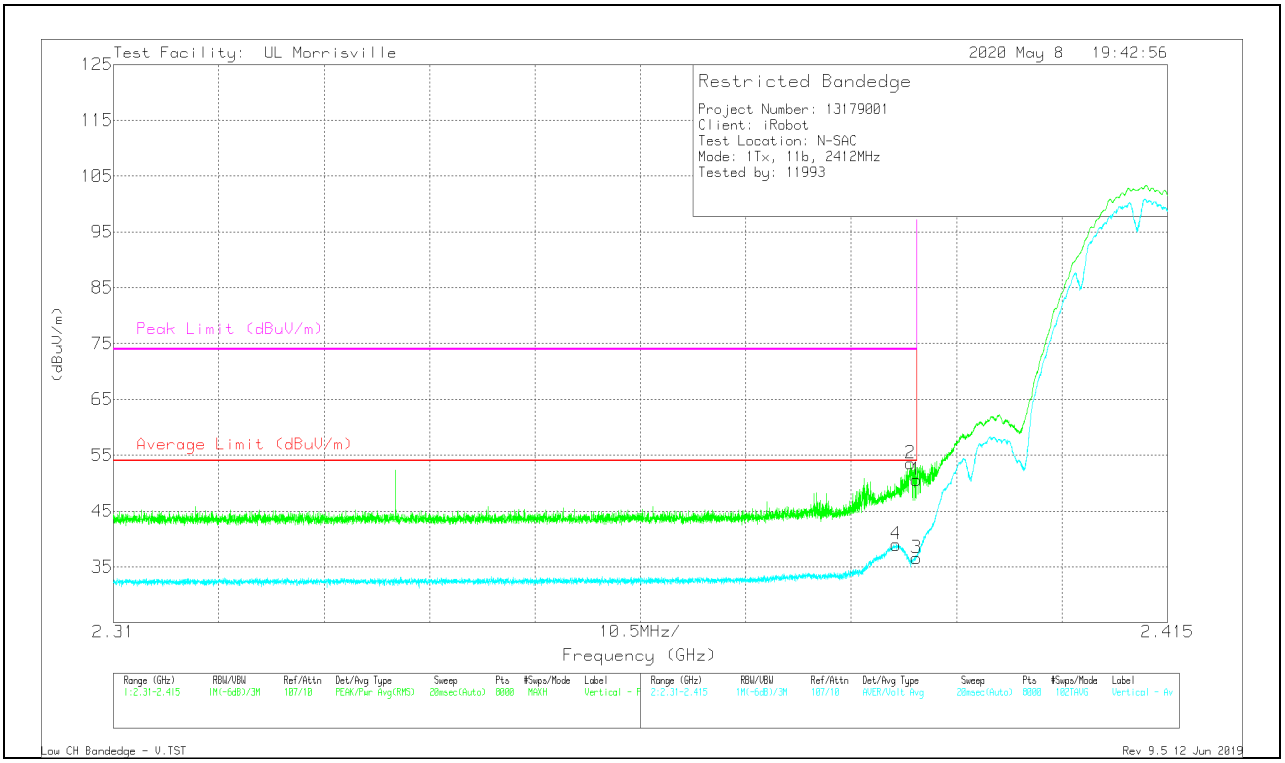
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 [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	* ** 2.39	42.27	Pk	31.9	-23.6	0	50.57	-	-	74	-23.43	78	315	V
2	* ** 2.38942	45.24	Pk	31.9	-23.6	0	53.54	-	-	74	-20.46	78	315	V
3	* ** 2.39	28.04	ADV	31.9	-23.6	.24	36.58	54	-17.42	-	-	78	315	V
4	* ** 2.38799	30.47	ADV	31.9	-23.6	.24	39.01	54	-14.99	-	-	78	315	V

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

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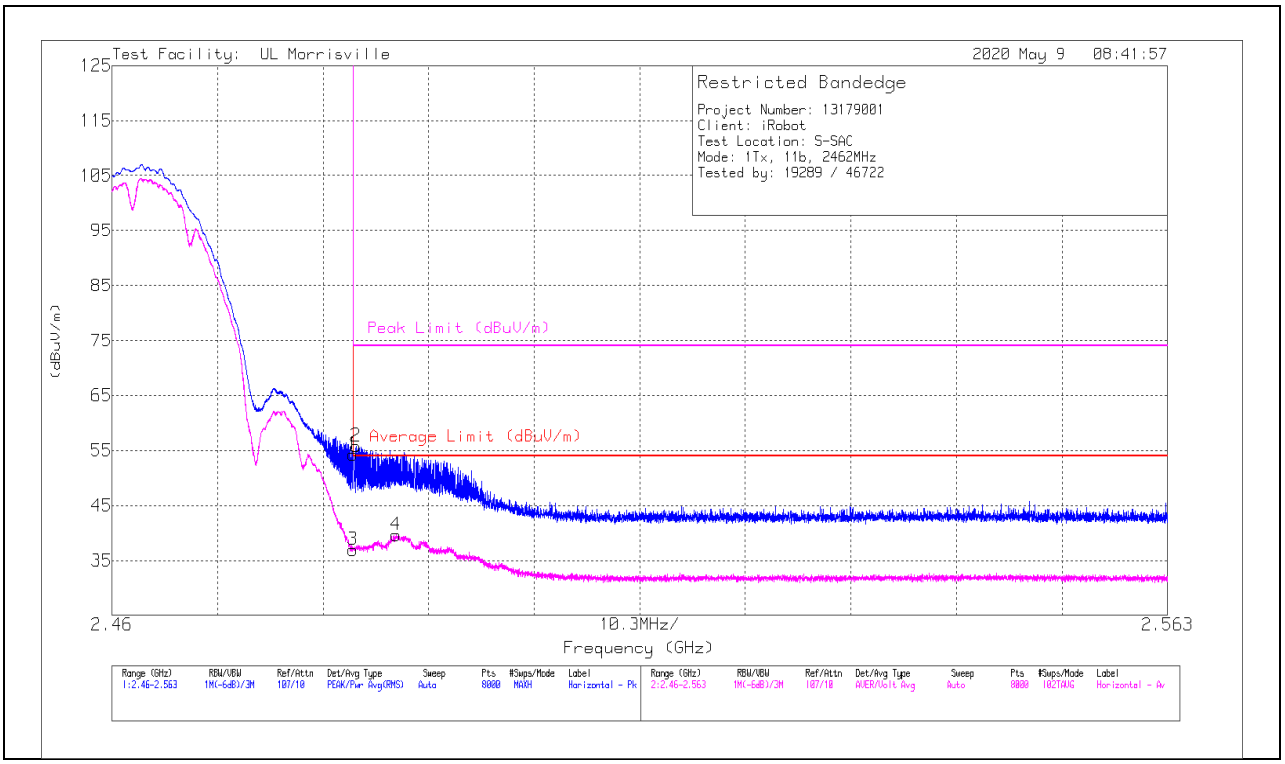
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	46.59	Pk	32.1	-24.4	0	54.29	-	-	74	-19.71	86	130	H
2	* ** 2.4838	48.06	Pk	32.1	-24.4	0	55.76	-	-	74	-18.24	86	130	H
3	* ** 2.4835	29.05	ADV	32.1	-24.4	.24	36.99	54	-17.01	-	-	86	130	H
4	* ** 2.4877	31.63	ADV	32.2	-24.4	.24	39.67	54	-14.33	-	-	86	130	H

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

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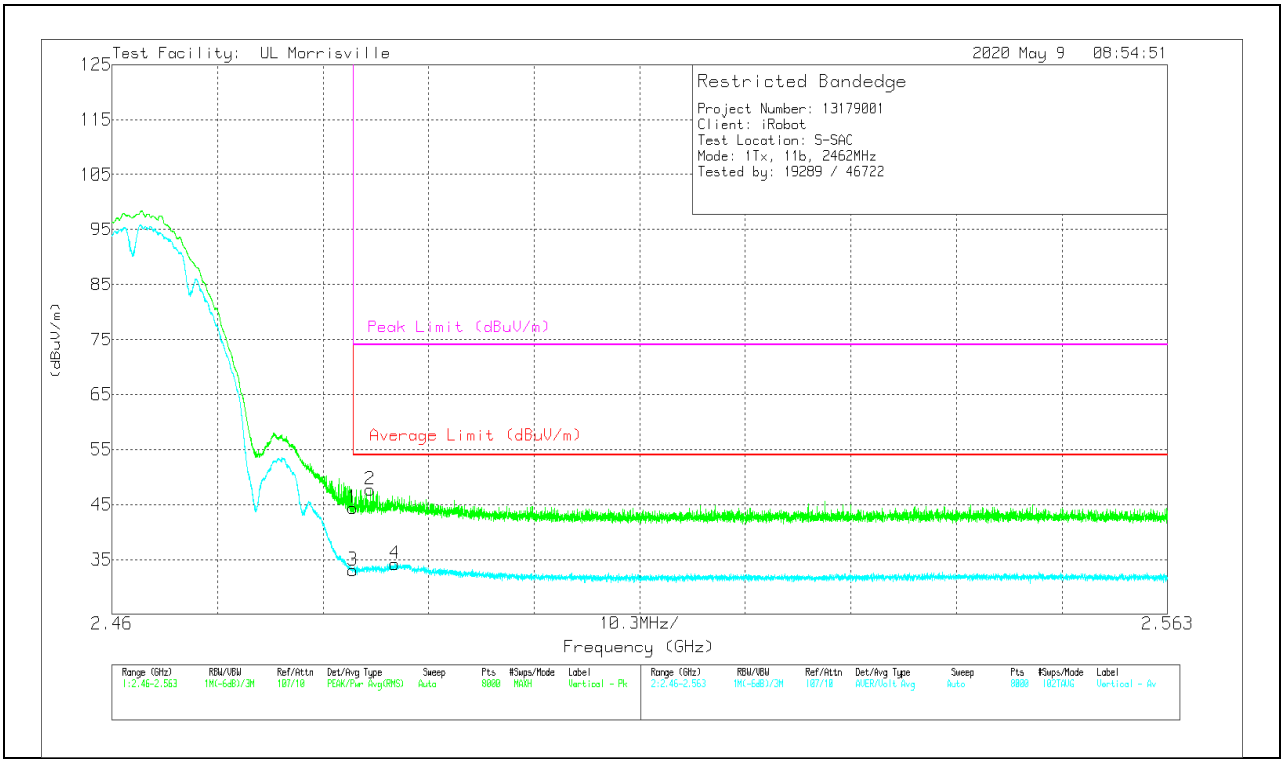
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	36.67	Pk	32.1	-24.4	0	44.37	-	-	74	-29.63	90	328	V
2	* ** 2.48518	39.91	Pk	32.2	-24.4	0	47.71	-	-	74	-26.29	90	328	V
3	* ** 2.4835	25.11	ADV	32.1	-24.4	.24	33.05	54	-20.95	-	-	90	328	V
4	* ** 2.48758	26.24	ADV	32.2	-24.4	.24	34.28	54	-19.72	-	-	90	328	V

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

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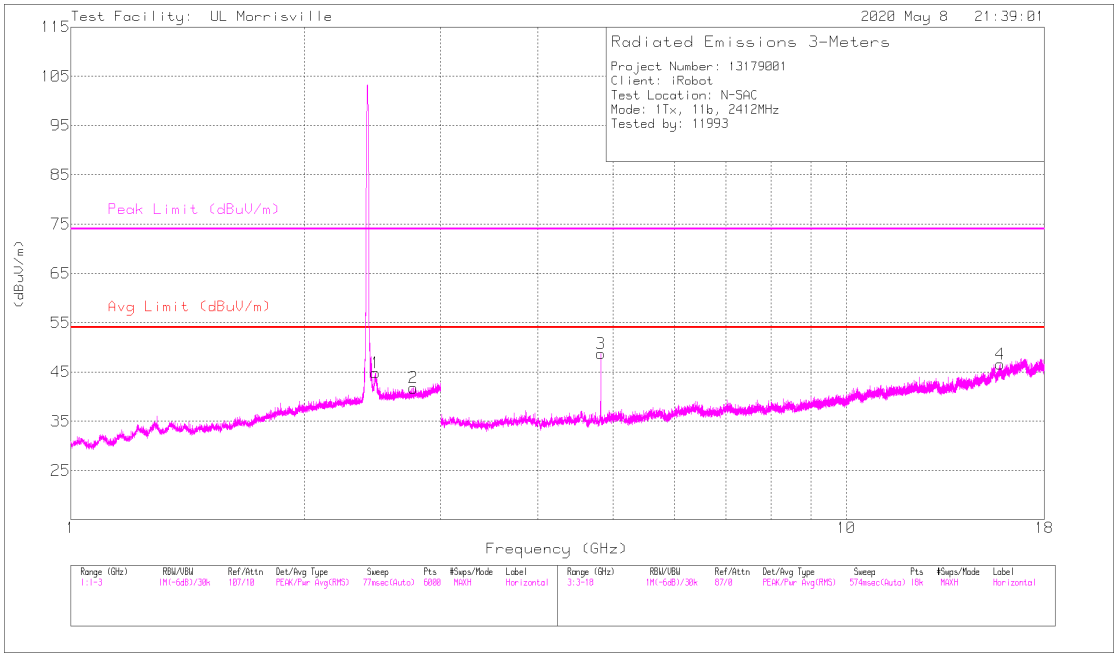
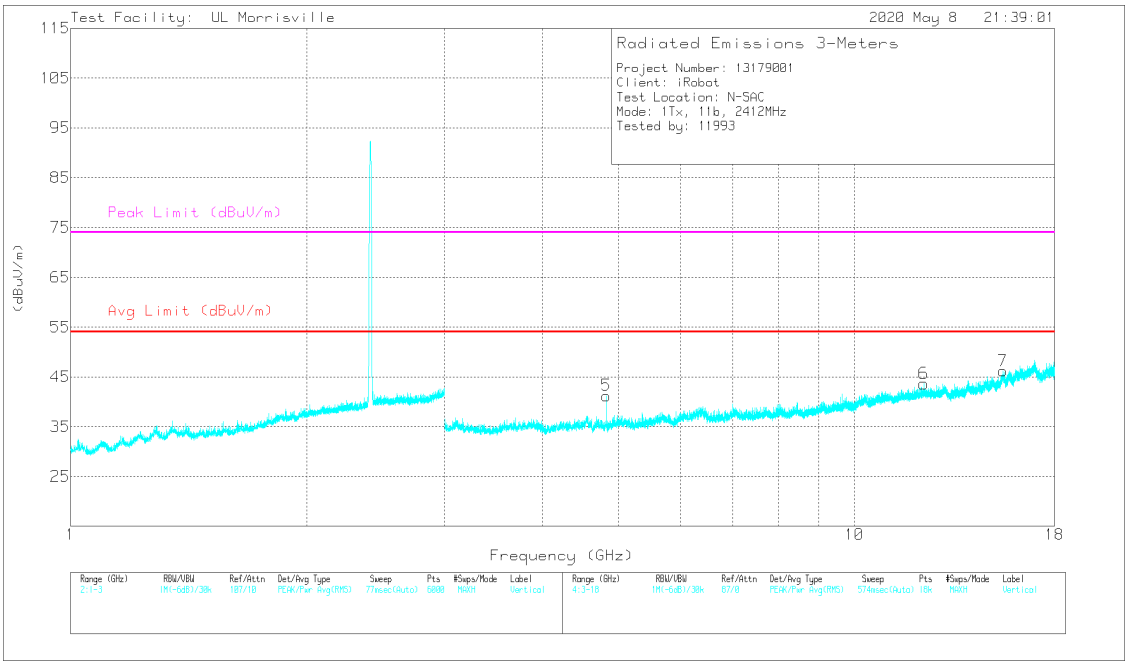
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 [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)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 2.76437	37.23	PK2	32.3	-23	0	46.53	-	-	74	-27.47	174	392	H
	* ** 2.76454	24.24	ADV	32.3	-23	.24	33.78	54	-20.22	-	-	174	392	H
3	* ** 4.82397	48.69	PK2	34.1	-30.8	0	51.99	-		74	-22.01	284	111	H
	* ** 4.824	45.25	ADV	34.1	-30.8	.24	48.79	54	-5.21	-	-	284	111	H
4	* ** 15.80249	36.09	PK2	40.5	-23.9	0	52.69	-		74	-21.31	21	175	H
	* ** 15.80184	23.11	ADV	40.5	-23.9	.24	39.95	54	-14.05	-	-	21	175	H
5	* ** 4.82397	42.37	PK2	34.1	-30.8	0	45.67	-		74	-28.33	360	343	V
	* ** 4.82404	35.45	ADV	34.1	-30.8	.24	38.99	54	-15.01	-	-	360	343	V
6	* ** 12.26047	35.31	PK2	38.9	-25.1	0	49.11	-		74	-24.89	136	285	V
	* ** 12.25998	22.75	ADV	38.9	-25.1	.24	36.79	54	-17.21	-	-	136	285	V
7	* ** 15.48496	35.48	PK2	40	-23.1	0	52.38	-		74	-21.62	279	391	V
	* ** 15.48487	22.82	ADV	40	-23.1	.24	39.96	54	-14.04	-	-	279	391	V
1	2.47091	35.94	Pk	32.4	-23.5	0	44.84	-	-	-	-	0-360	102	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average

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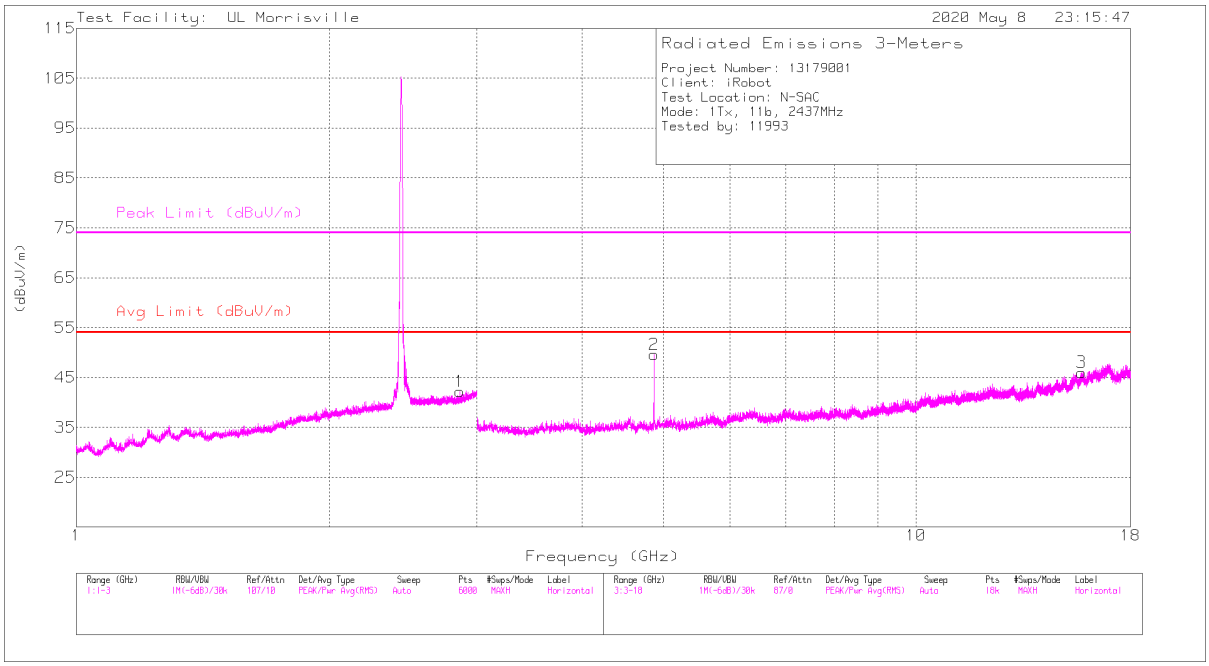
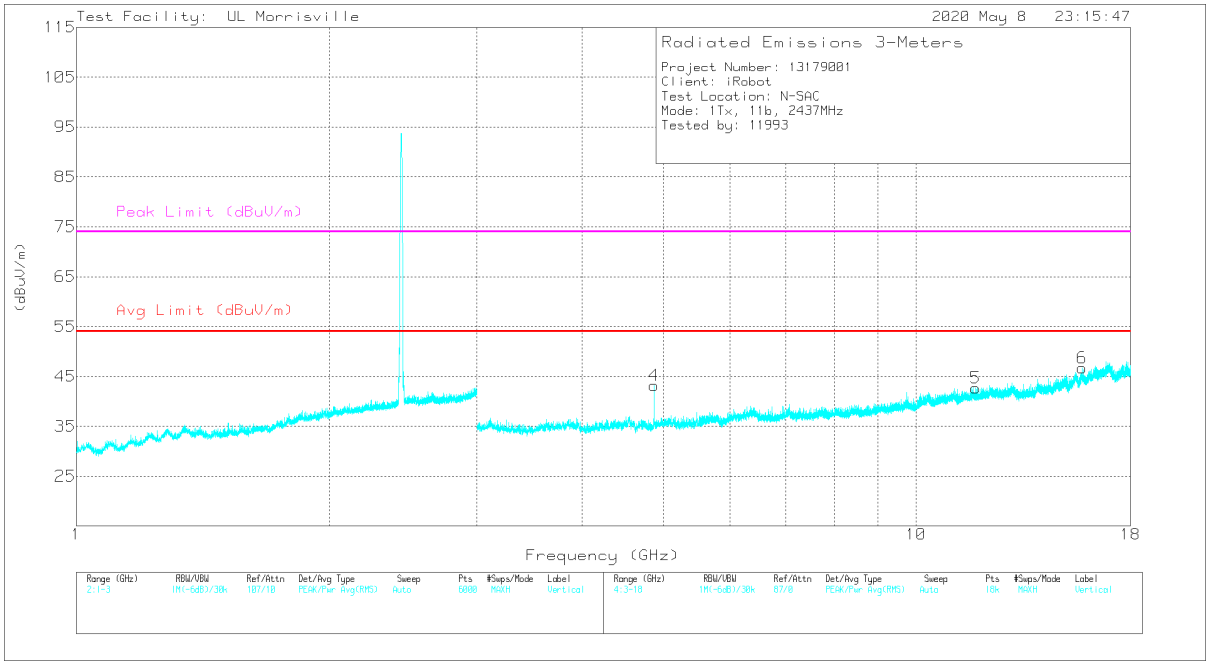
LOW CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0069 [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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.86179	37.5	PK2	32.4	-22.7	0	47.2	-	-	74	-26.8	203	352	H
	* ** 2.86141	24.25	ADV	32.4	-22.7	.24	34.19	54	-19.81	-	-	203	352	H
3	* ** 15.73785	34.77	PK2	40.4	-23.5	0	51.67	-		74	-22.33	201	305	H
	* ** 15.73853	22.31	ADV	40.4	-23.5	.24	39.45	54	-14.55	-	-	201	305	H
2	* ** 4.87398	48.06	PK2	34	-30.9	0	51.16	-		74	-22.84	263	114	H
	* ** 4.87398	44.61	ADV	34	-30.9	.24	47.95	54	-6.05	-	-	263	114	H
4	* ** 4.8739	44.98	PK2	34	-30.9	0	48.08	-		74	-25.92	88	306	V
	* ** 4.87399	39.81	ADV	34	-30.9	.24	43.15	54	-10.85	-	-	88	306	V
5	* ** 11.78145	36.02	PK2	38.5	-25.5	0	49.02	-		74	-24.98	244	387	V
	* ** 11.78023	22.45	ADV	38.5	-25.5	.24	35.69	54	-18.31	-	-	244	387	V
6	* ** 15.75567	35.08	PK2	40.4	-23.6	0	51.88	-		74	-22.12	103	178	V
	* ** 15.75856	22.48	ADV	40.4	-23.6	.24	39.52	54	-14.48	-	-	103	178	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Av - PK2 - Maximum Peak
ADV - Linear Voltage Average

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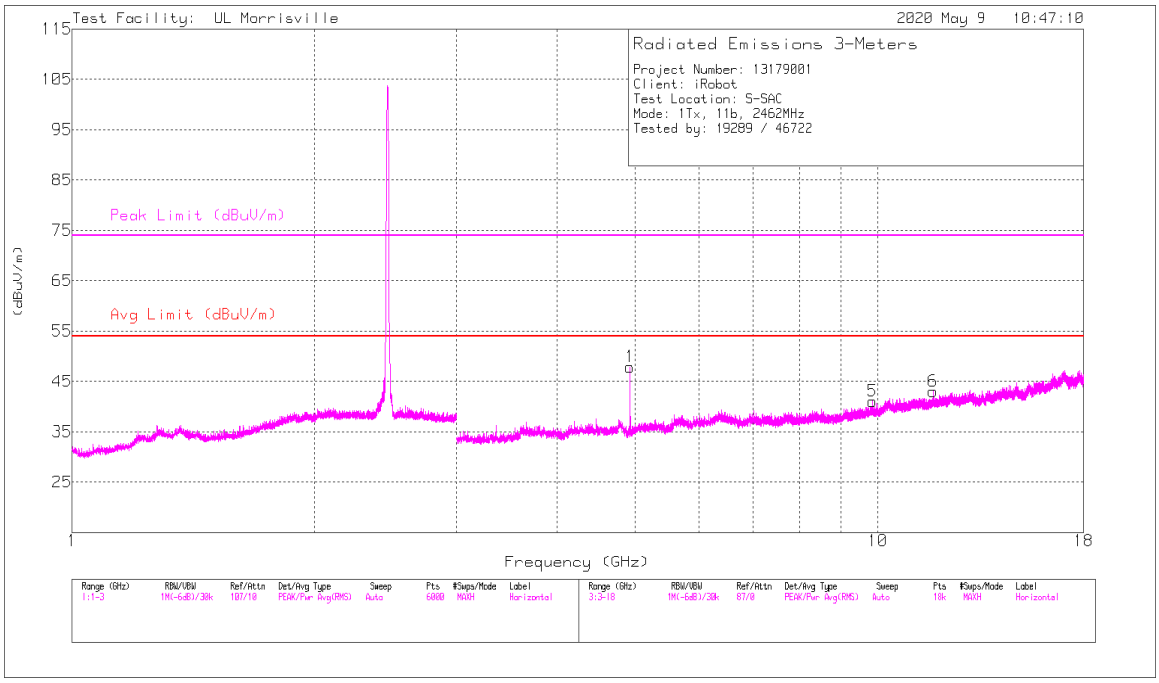
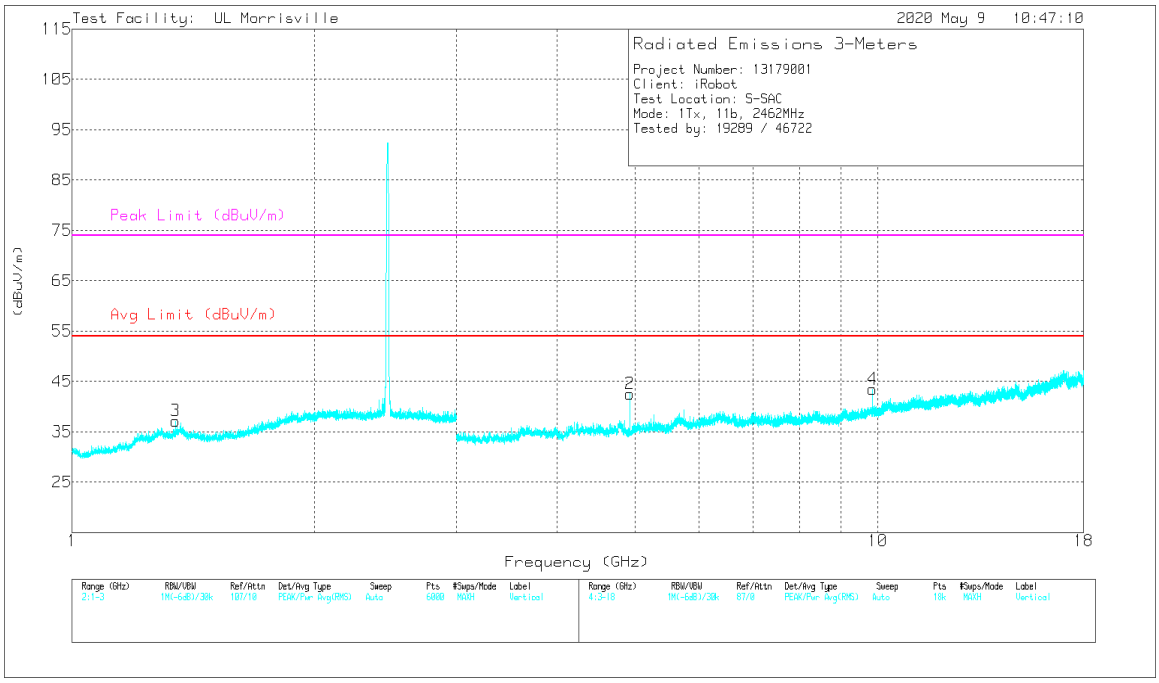
HIGH CHANNEL, CH 11 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
3	* ** 1.34443	40.05	PK2	29.5	-22.9	0	46.65	-	-	74	-27.35	185	248	V
	* ** 1.34424	22.1	ADV	29.5	-22.9	.24	28.94	54	-25.06	-	-	185	248	V
1	* ** 4.9241	48.4	PK2	33.9	-31	0	51.3	-		74	-22.7	356	113	H
	* ** 4.92402	44.97	ADV	33.9	-31	.24	48.11	54	-5.89	-	-	356	113	H
6	* ** 11.70976	34.46	PK2	38.3	-24.5	0	48.26	-		74	-25.74	229	338	H
	* ** 11.70889	21.31	ADV	38.3	-24.5	.24	35.35	54	-18.65	-	-	229	338	H
2	* ** 4.92404	45.09	PK2	33.9	-31	0	47.99	-		74	-26.01	219	206	V
	* ** 4.924	39.98	ADV	33.9	-31	.24	43.12	54	-10.88	-	-	219	206	V
5	9.84788	30.05	Pk	36.9	-25.9	0	41.05	-	-	-	-	0-360	101	H
4	9.84788	32.39	Pk	36.9	-25.9	0	43.39	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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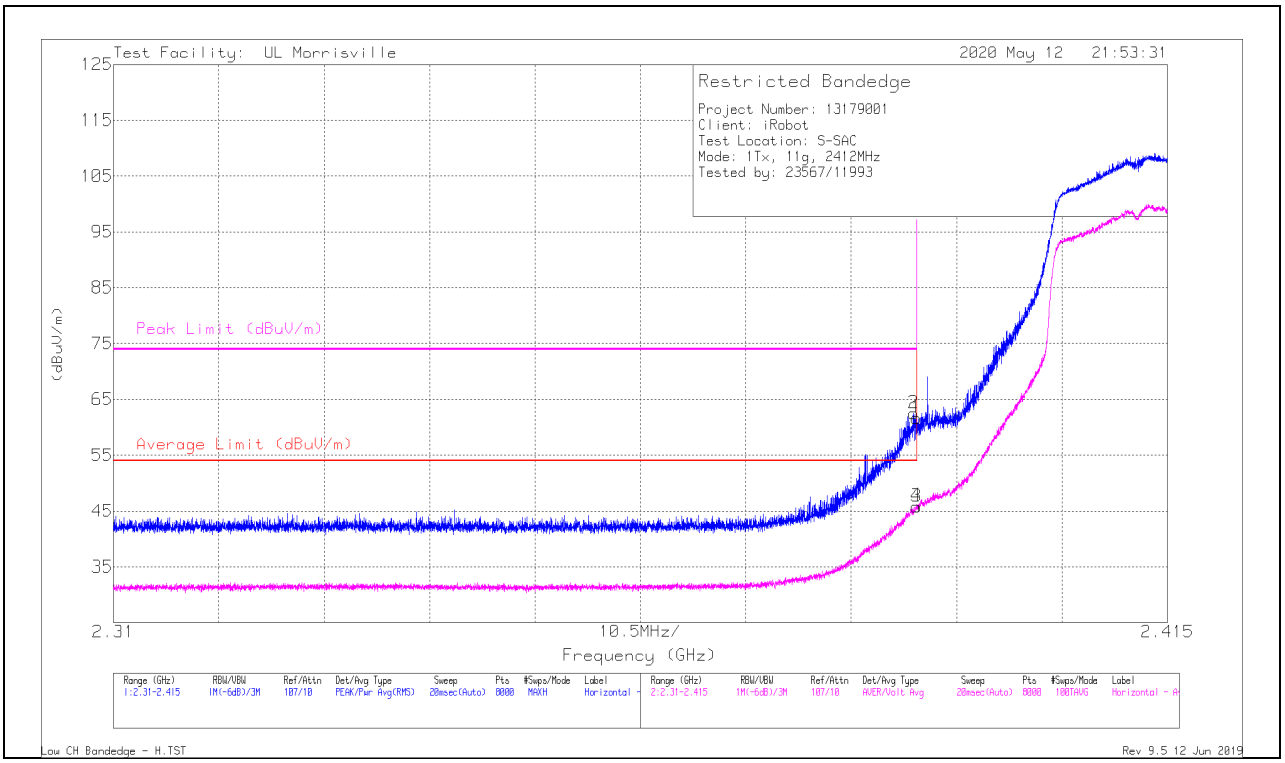
10.1.2. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

External Antenna

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	53.68	Pk	32	-24	0	61.68	-	-	74	-12.32	9	104	H
2	* ** 2.38972	54.5	Pk	32	-24	0	62.5	-	-	74	-11.5	9	104	H
3	* ** 2.39	37.55	ADV	32	-24	.22	45.77	54	-8.23	-	-	9	104	H
4	* ** 2.38997	37.61	ADV	32	-24	.22	45.83	54	-8.17	-	-	9	104	H

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

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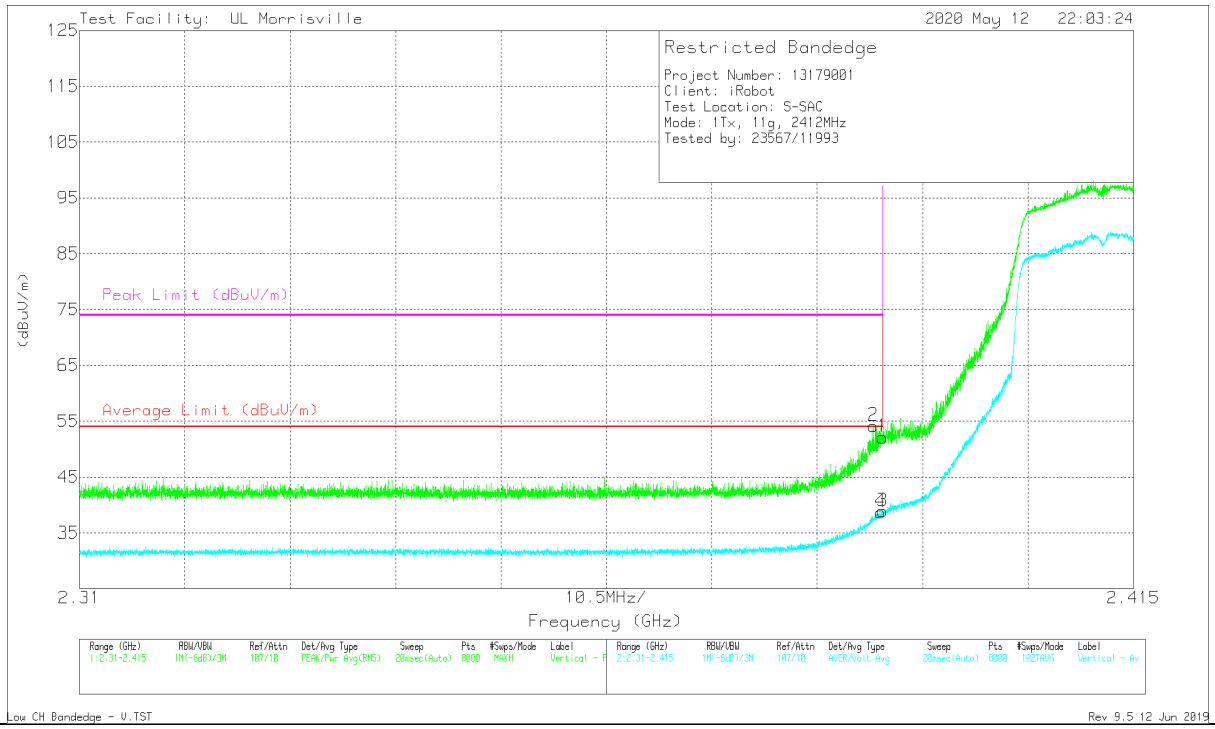
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	44.13	Pk	32	-24	0	52.13	-	-	74	-21.87	123	255	V
2	* ** 2.38906	46.19	Pk	32	-24	0	54.19	-	-	74	-19.81	123	255	V
3	* ** 2.39	30.67	ADV	32	-24	.22	38.89	54	-15.11	-	-	123	255	V
4	* ** 2.38981	30.5	ADV	32	-24	.22	38.72	54	-15.28	-	-	123	255	V

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

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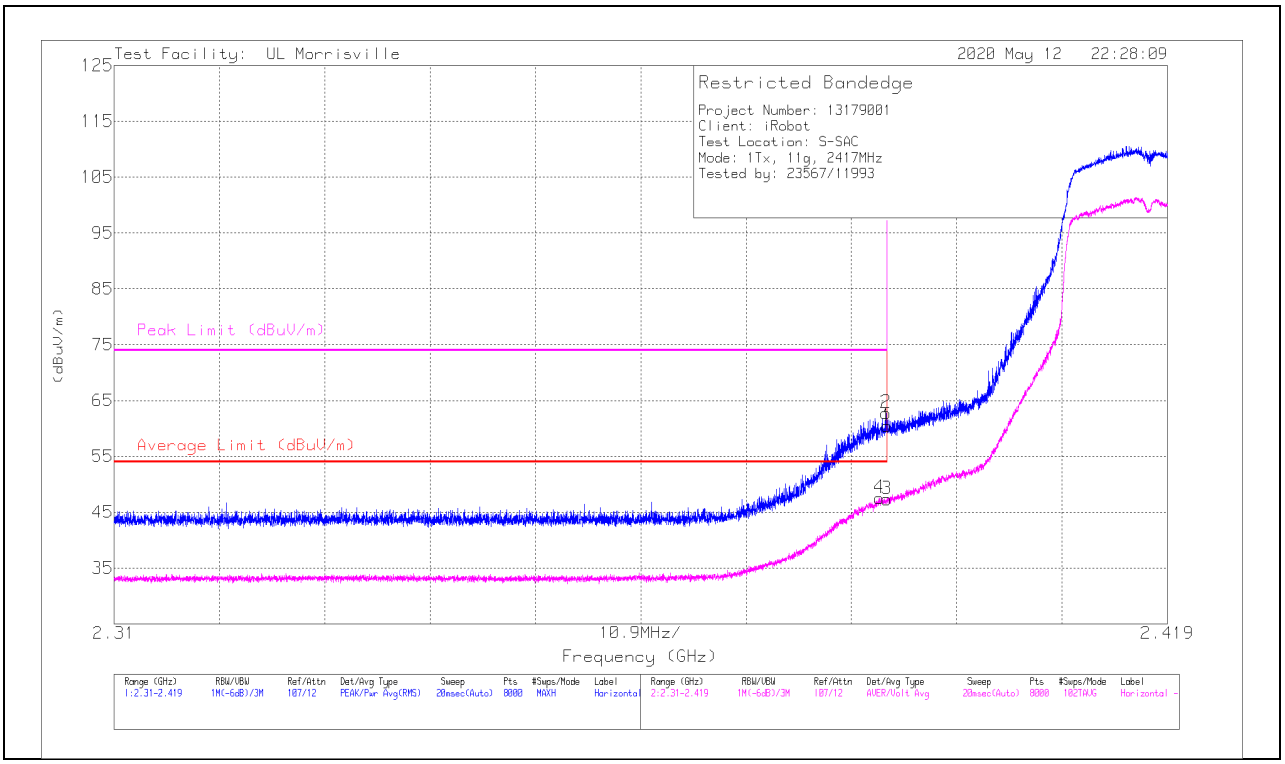
BANDEDGE (LOW CHANNEL, CH 2)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	52.44	Pk	32	-24	0	60.44	-	-	74	-13.56	14	147	H
2	* ** 2.38988	54.79	Pk	32	-24	0	62.79	-	-	74	-11.21	14	147	H
3	* ** 2.38999	39.13	ADV	32	-24	.22	47.35	54	-6.65	-	-	14	147	H
4	* ** 2.3892	39.33	ADV	32	-24	.22	47.55	54	-6.45	-	-	14	147	H

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

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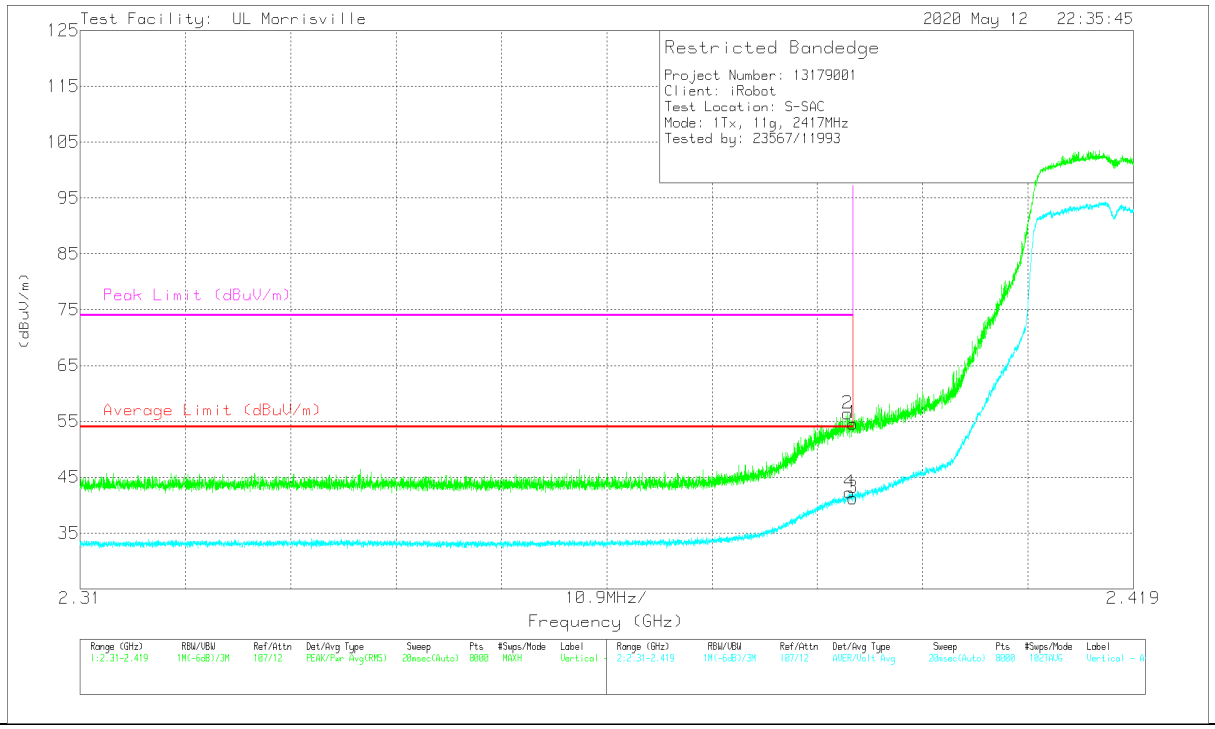
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	46.64	Pk	32	-24	0	54.64	-	-	74	-19.36	249	364	V
2	* ** 2.38942	48.4	Pk	32	-24	0	56.4	-	-	74	-17.6	249	364	V
3	* ** 2.38999	33.05	ADV	32	-24	.22	41.27	54	-12.73	-	-	249	364	V
4	* ** 2.38962	34.05	ADV	32	-24	.22	42.27	54	-11.73	-	-	249	364	V

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

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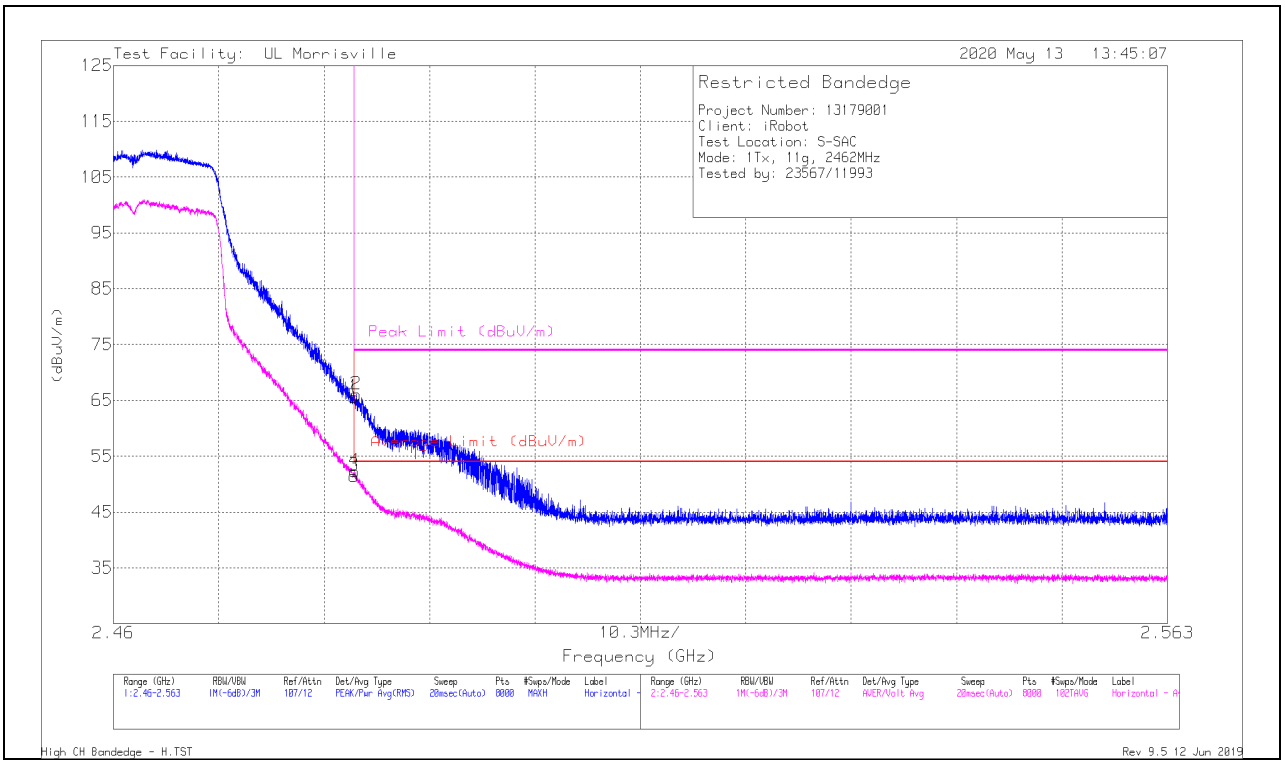
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	57.87	Pk	32.1	-24.4	0	65.57	-	-	74	-8.43	203	183	H
2	* ** 2.48372	58.34	Pk	32.1	-24.4	0	66.04	-	-	74	-7.96	203	183	H
3	* ** 2.4835	43.58	ADV	32.1	-24.4	.22	51.5	54	-2.5	-	-	203	183	H
4	* ** 2.48359	44.38	ADV	32.1	-24.4	.22	52.3	54	-1.7	-	-	203	183	H

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

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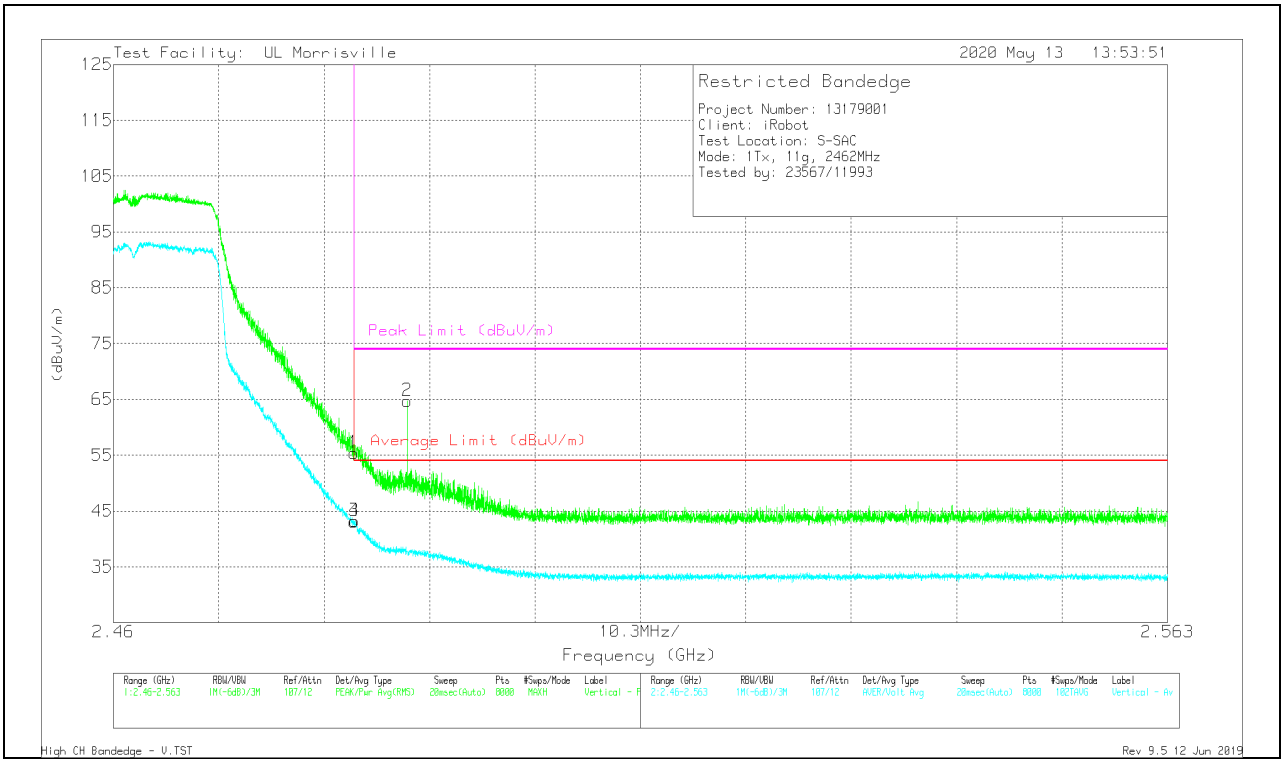
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	47.68	Pk	32.1	-24.4	0	55.38	-	-	74	-18.62	111	271	V
2	* ** 2.48872	56.91	Pk	32.2	-24.4	0	64.71	-	-	74	-9.29	111	271	V
3	* ** 2.4835	35.24	ADV	32.1	-24.4	.22	43.16	54	-10.84	-	-	111	271	V
4	* ** 2.48358	35.27	ADV	32.1	-24.4	.22	43.19	54	-10.81	-	-	111	271	V

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

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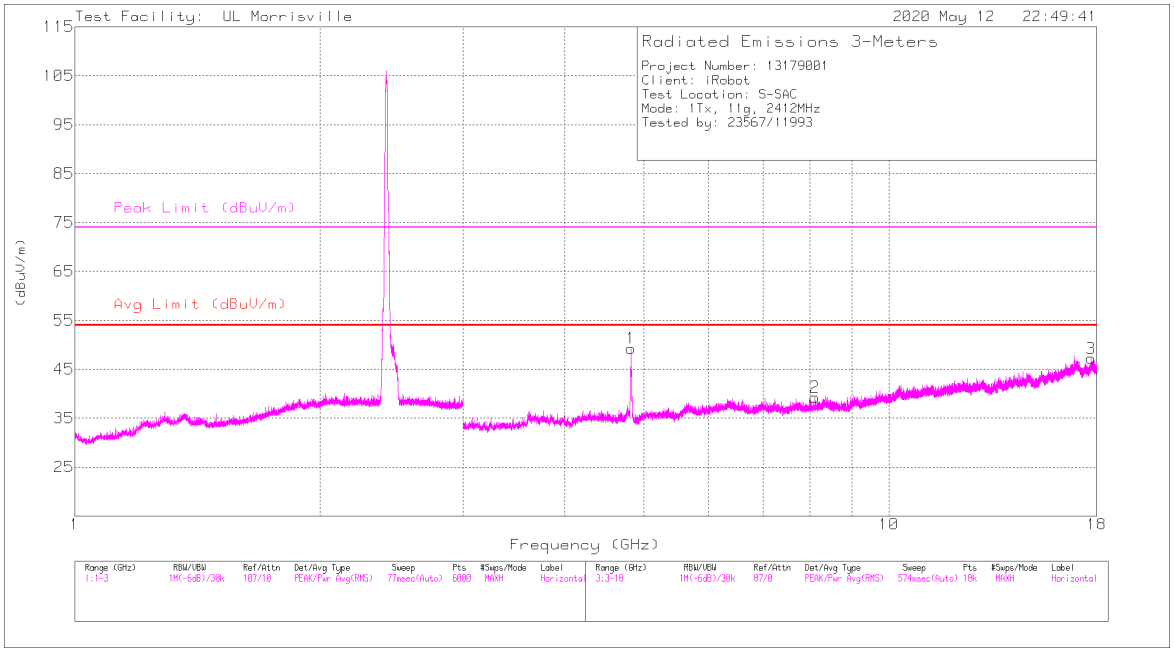
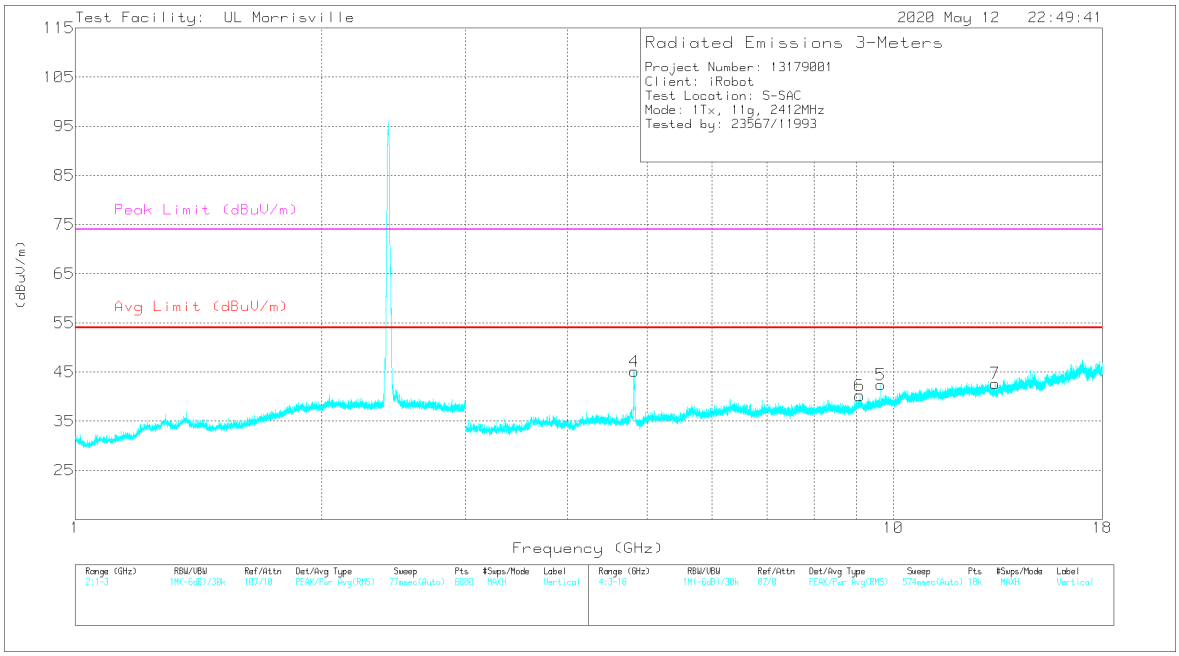
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.823	48.75	PK2	33.9	-30.9	0	51.75	-	-	74	-22.25	239	393	H
	* ** 4.82274	35.37	ADV	33.9	-30.9	.22	38.59	54	-15.41	-	-	239	393	H
2	* ** 8.10578	37.03	PK2	35.7	-27.2	0	45.53	-	-	74	-28.47	0	192	H
	* ** 8.10552	23.24	ADV	35.7	-27.2	.22	31.96	54	-22.04	-	-	0	192	H
3	* ** 17.72742	35.5	PK2	41	-22.4	0	54.1	-	-	74	-19.9	348	132	H
	* ** 17.7266	21.86	ADV	41	-22.4	.22	40.68	54	-13.32	-	-	348	132	H
4	* ** 4.82424	50.98	PK2	33.9	-30.9	0	53.98	-	-	74	-20.02	106	101	V
	* ** 4.82343	36.59	ADV	33.9	-30.9	.22	39.81	54	-14.19	-	-	106	101	V
6	* ** 9.09349	35.19	PK2	36.2	-26.1	0	45.29	-	-	74	-28.71	137	108	V
	* ** 9.09273	22.09	ADV	36.2	-26.1	.22	32.41	54	-21.59	-	-	137	108	V
7	* ** 13.31641	35.02	PK2	38.8	-25.2	0	48.62	-	-	74	-25.38	253	220	V
	* ** 13.31545	21.65	ADV	38.8	-25.2	.22	35.47	54	-18.53	-	-	253	220	V
5	9.64787	31.9	Pk	36.6	-26.1	0	42.4	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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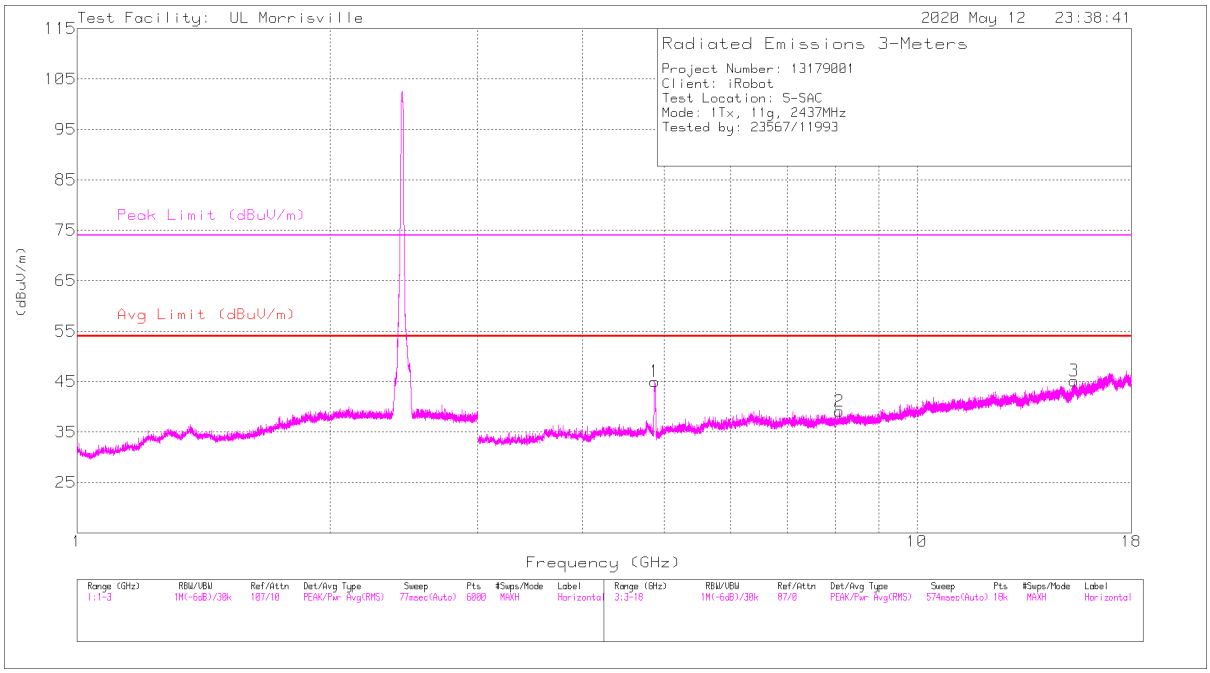
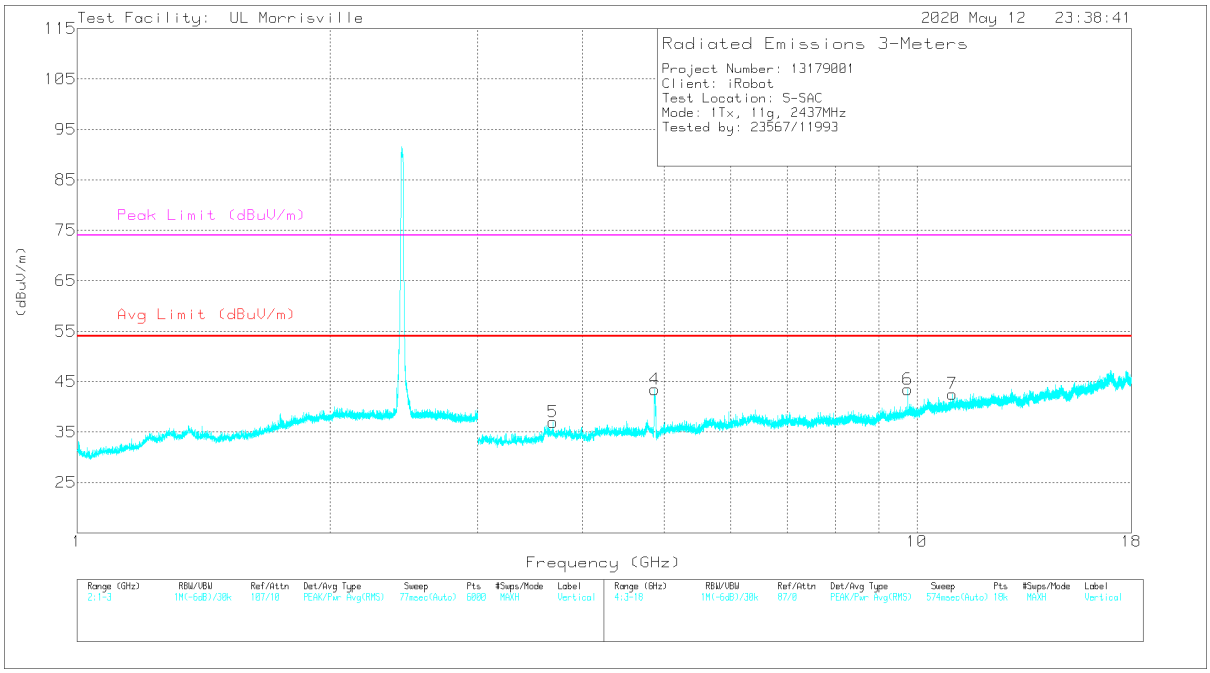
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.87442	52.83	PK2	33.8	-31	0	55.63	-	-	74	-18.37	245	194	H
	* ** 4.87382	37.64	ADV	33.8	-31	.22	40.66	54	-13.34	-	-	245	194	H
2	* ** 8.08792	36.03	PK2	35.7	-27.3	0	44.43	-	-	74	-29.57	60	278	H
	* ** 8.08678	23.14	ADV	35.7	-27.3	.22	31.76	54	-22.24	-	-	60	278	H
3	* ** 15.38336	33.28	PK2	39.8	-22.2	0	50.88	-	-	74	-23.12	302	265	H
	* ** 15.38204	20.53	ADV	39.8	-22.2	.22	38.35	54	-15.65	-	-	302	265	H
4	* ** 4.87426	51.15	PK2	33.8	-31	0	53.95	-	-	74	-20.05	108	101	V
	* ** 4.87353	35.17	ADV	33.8	-31	.22	38.19	54	-15.81	-	-	108	101	V
5	* ** 3.68337	41.47	PK2	33.1	-32.3	0	42.27	-	-	74	-31.73	58	384	V
	* ** 3.6836	28.33	ADV	33.1	-32.3	.22	29.35	54	-24.65	-	-	58	384	V
7	* ** 11.02391	34.94	PK2	37.8	-24.3	0	48.44	-	-	74	-25.56	331	233	V
	* ** 11.02429	21.38	ADV	37.8	-24.3	.22	35.1	54	-18.9	-	-	331	233	V
6	9.74788	32.57	Pk	36.7	-25.8	0	43.47	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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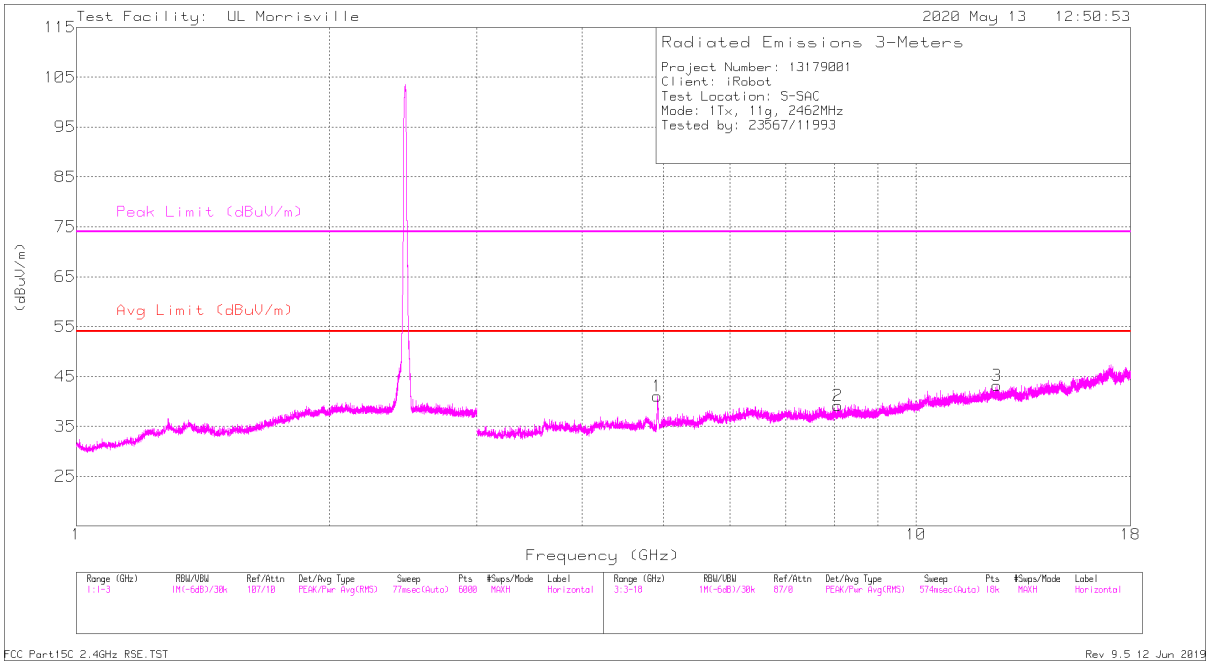
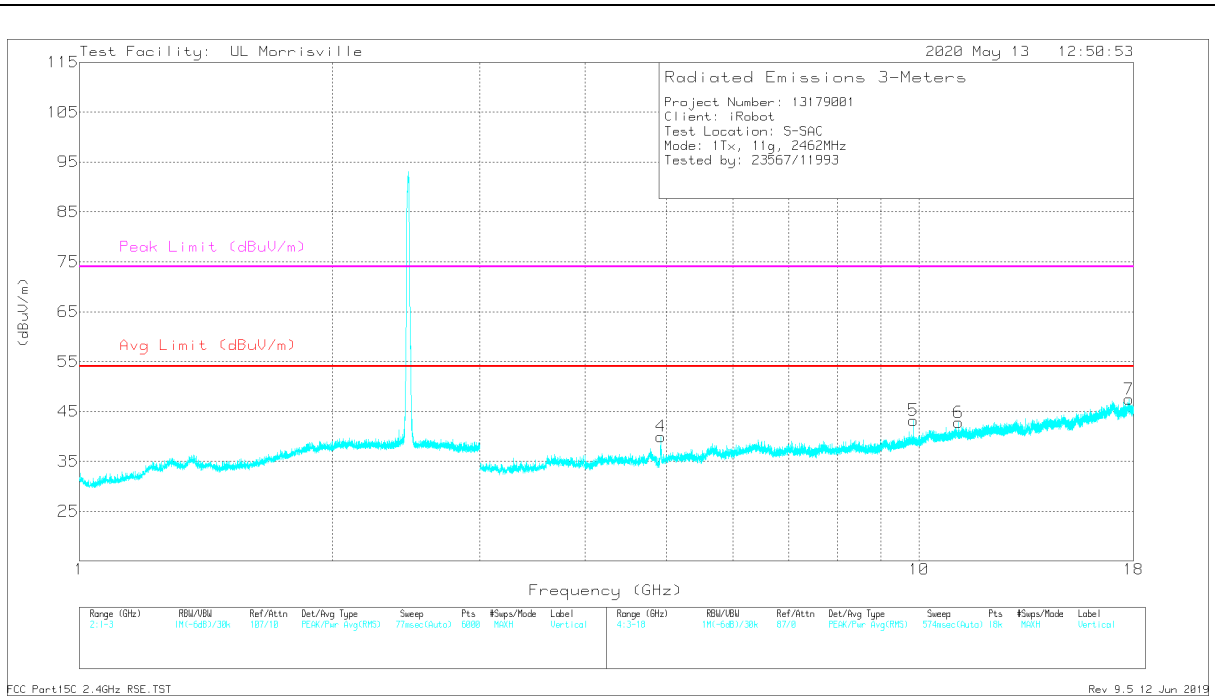
HIGH CHANNEL, CH 11 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.91891	45.96	PK2	33.9	-31	0	48.86	-	-	74	-25.14	2	120	H
	* ** 4.91758	31.45	ADV	33.9	-31	.22	34.57	54	-19.43	-	-	2	120	H
2	* ** 8.066	36.8	PK2	35.7	-27.2	0	45.3	-	-	74	-28.7	212	242	H
	* ** 8.0659	23.22	ADV	35.7	-27.2	.22	31.94	54	-22.06	-	-	212	242	H
3	* ** 12.47529	34.62	PK2	38.8	-24.6	0	48.82	-	-	74	-25.18	219	115	H
	* ** 12.47524	21.4	ADV	38.8	-24.6	.22	35.82	54	-18.18	-	-	219	115	H
4	* ** 4.923	43.48	PK2	33.9	-31	0	46.38	-	-	74	-27.62	105	103	V
	* ** 4.92362	29.65	ADV	33.9	-31	.22	32.77	54	-21.23	-	-	105	103	V
6	* ** 11.14087	34.43	PK2	37.9	-24.5	0	47.83	-	-	74	-26.17	31	359	V
	* ** 11.14023	21.53	ADV	37.9	-24.5	.22	35.15	54	-18.85	-	-	31	359	V
7	* ** 17.77621	34.61	PK2	41.1	-22.3	0	53.41	-	-	74	-20.59	355	316	V
	* ** 17.77508	21.21	ADV	41.1	-22.3	.22	40.23	54	-13.77	-	-	355	316	V
5	9.84788	32.23	Pk	36.9	-25.9	0	43.23	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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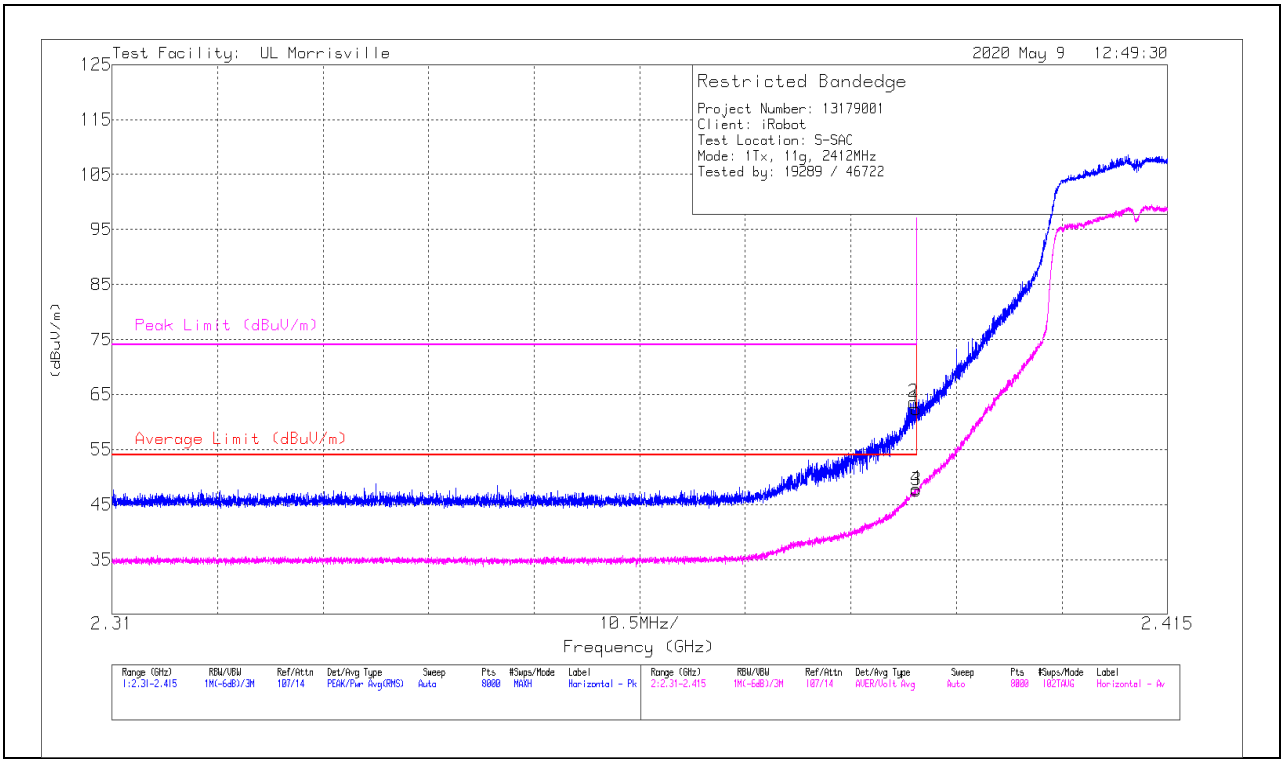
PCB Antenna

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	54.29	Pk	32	-24	0	62.29	-	-	74	-11.71	73	165	H
2	* ** 2.38972	55.6	Pk	32	-24	0	63.6	-	-	74	-10.4	73	165	H
3	* ** 2.39	39.41	ADV	32	-24	.22	47.63	54	-6.37	-	-	73	165	H
4	* ** 2.38998	39.59	ADV	32	-24	.22	47.81	54	-6.19	-	-	73	165	H

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

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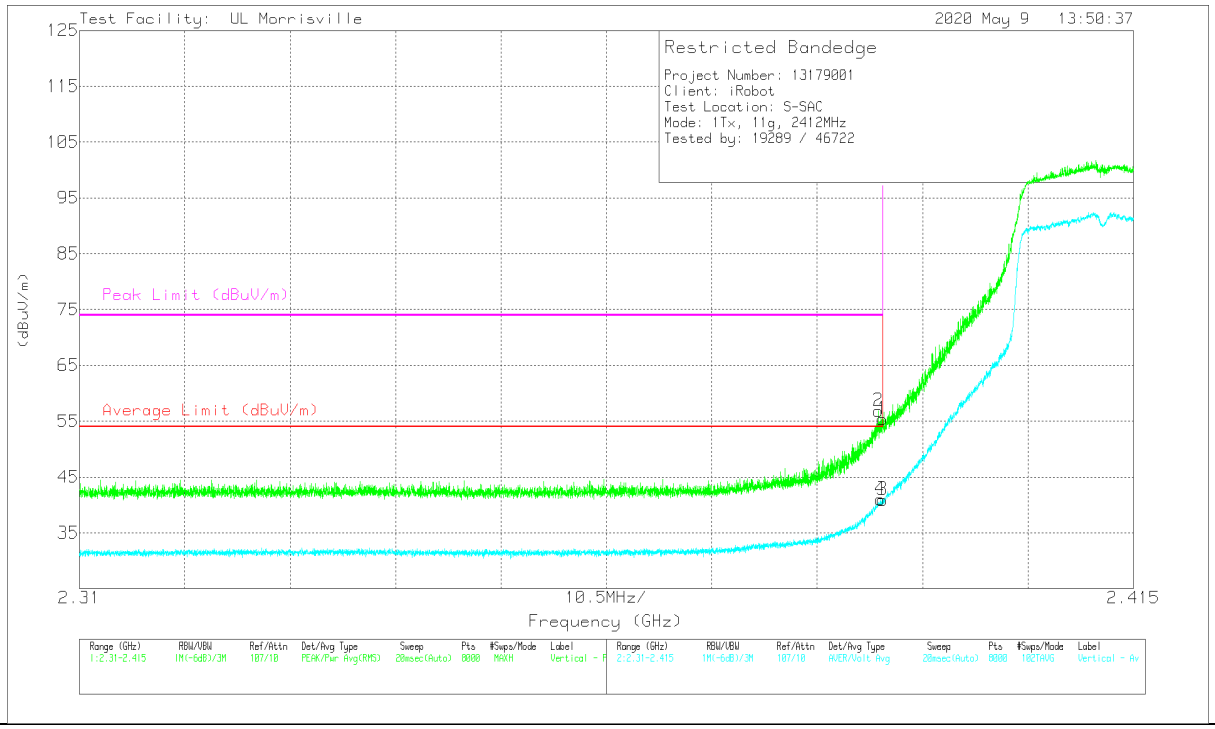
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	47.38	Pk	32	-24	0	55.38	-	-	74	-18.62	162	322	V
2	* ** 2.38962	48.88	Pk	32	-24	0	56.88	-	-	74	-17.12	162	322	V
3	* ** 2.39	32.7	ADV	32	-24	.22	40.92	54	-13.08	-	-	162	322	V
4	* ** 2.38979	32.77	ADV	32	-24	.22	40.99	54	-13.01	-	-	162	322	V

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

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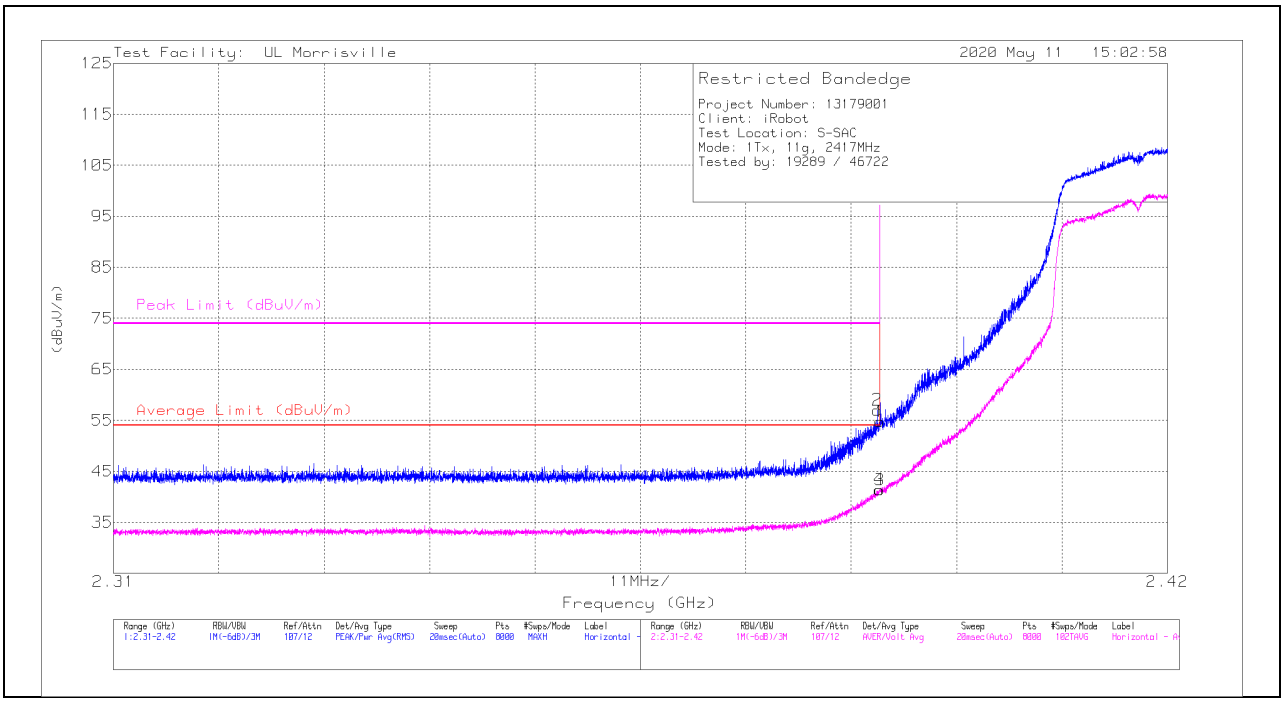
BANDEDGE (LOW CHANNEL, CH 2)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	46.78	Pk	32	-24	0	54.78	-	-	74	-19.22	269	341	H
2	* ** 2.38969	49.02	Pk	32	-24	0	57.02	-	-	74	-16.98	269	341	H
3	* ** 2.39	33.14	ADV	32	-24	.22	41.36	54	-12.64	-	-	269	341	H
4	* ** 2.38991	33.21	ADV	32	-24	.22	41.43	54	-12.57	-	-	269	341	H

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

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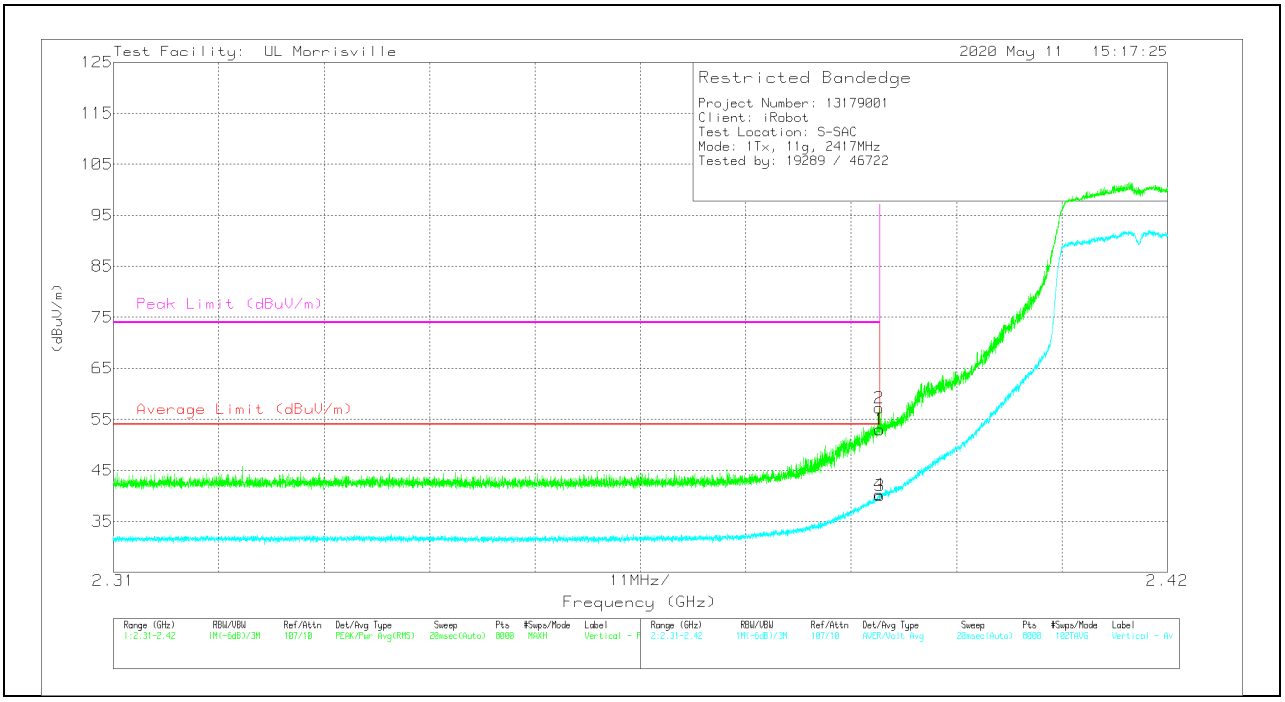
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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
2	* ** 2.38994	49.2	Pk	32	-24	0	57.2	-	-	74	-16.8	25	309	V
4	* ** 2.38994	32.07	ADV	32	-24	.22	40.29	54	-13.71	-	-	25	309	V
1	* ** 2.39	45	Pk	32	-24	0	53	-	-	74	-21	25	309	V
3	* ** 2.39	31.77	ADV	32	-24	.22	39.99	54	-14.01	-	-	25	309	V

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

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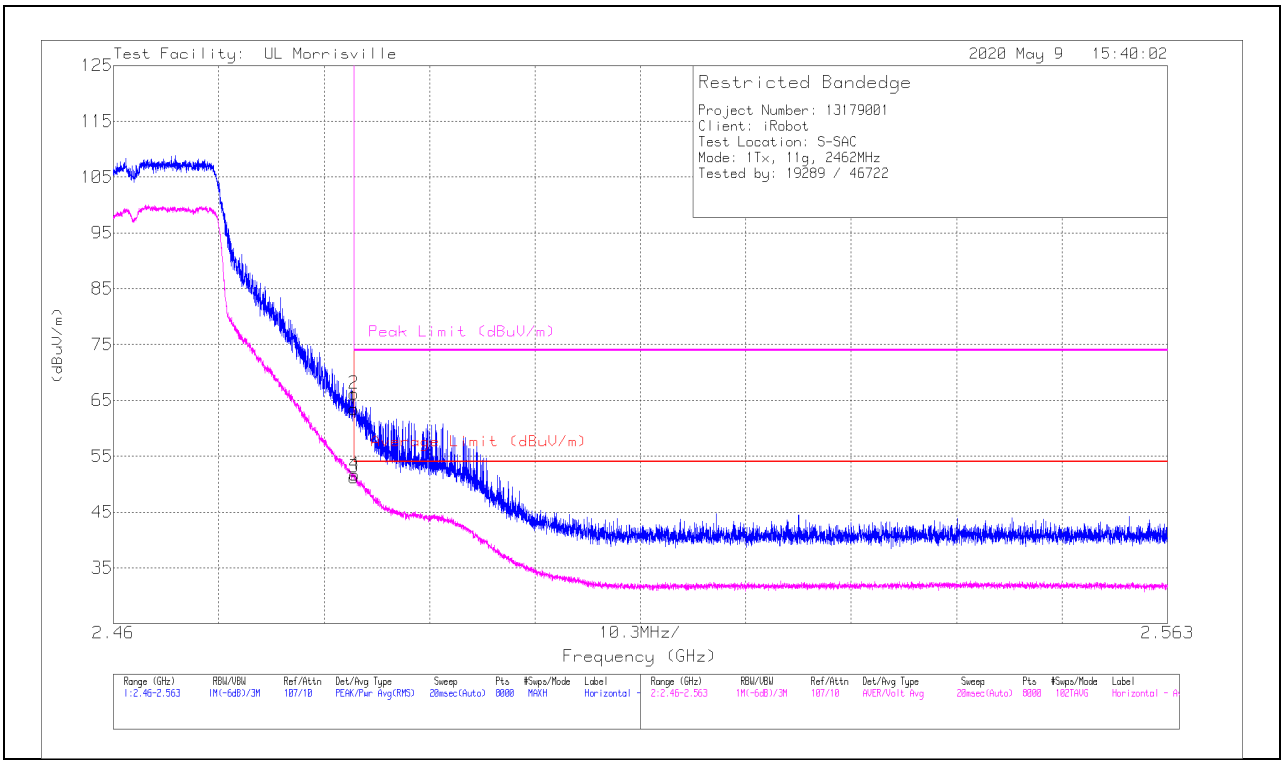
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	55.79	Pk	32.1	-24.4	0	63.49	-	-	74	-10.51	276	231	H
2	* ** 2.48351	58.47	Pk	32.1	-24.4	0	66.17	-	-	74	-7.83	276	231	H
3	* ** 2.4835	43.31	ADV	32.1	-24.4	.22	51.23	54	-2.77	-	-	276	231	H
4	* ** 2.48355	43.77	ADV	32.1	-24.4	.22	51.69	54	-2.31	-	-	276	231	H

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

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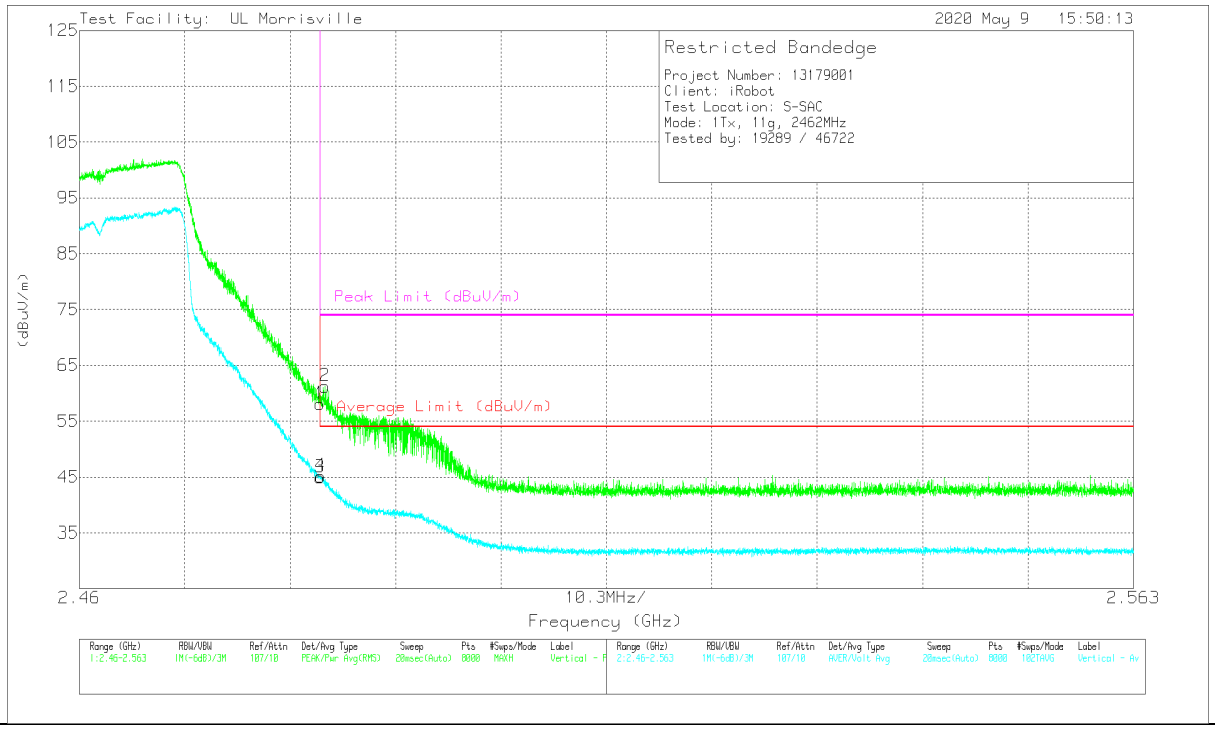
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	50.35	Pk	32.1	-24.4	0	58.05	-	-	74	-15.95	145	367	V
2	* ** 2.48402	53.53	Pk	32.1	-24.4	0	61.23	-	-	74	-12.77	145	367	V
3	* ** 2.4835	37	ADV	32.1	-24.4	.22	44.92	54	-9.08	-	-	145	367	V
4	* ** 2.48358	37.21	ADV	32.1	-24.4	.22	45.13	54	-8.87	-	-	145	367	V

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

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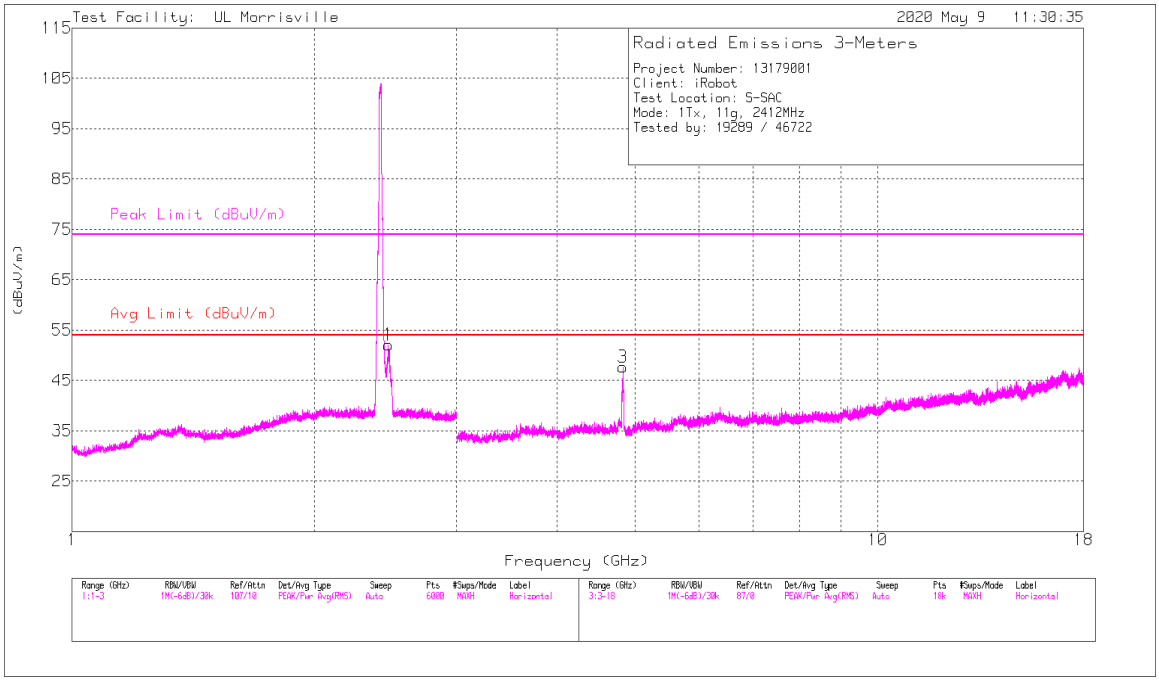
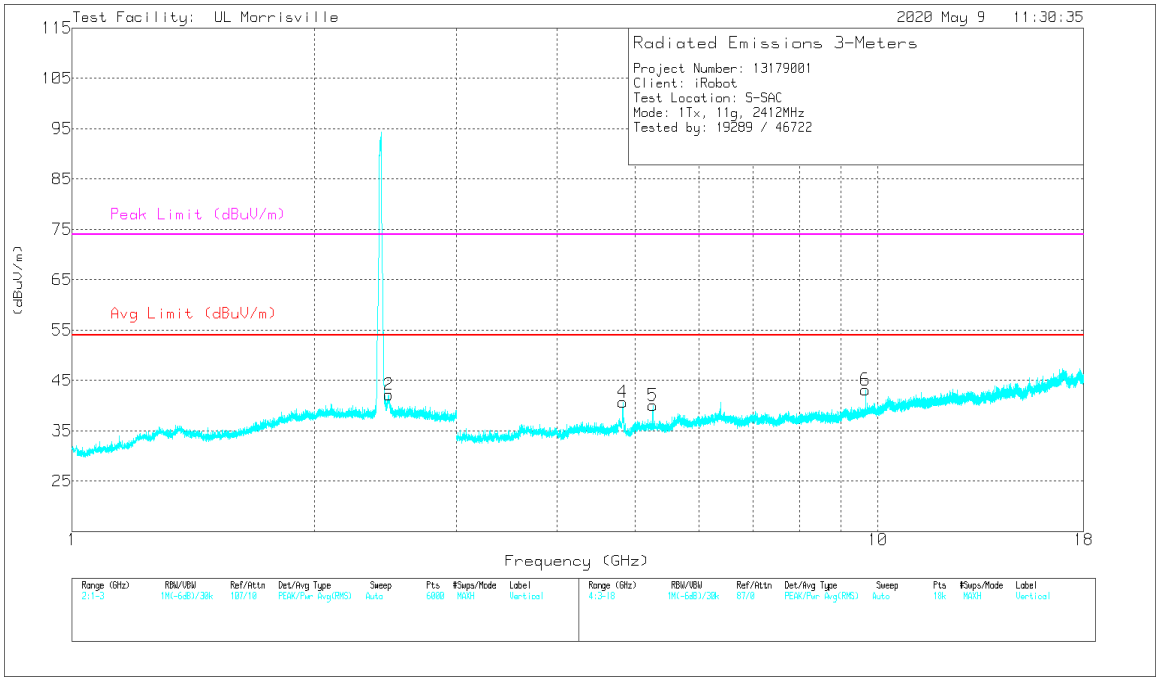
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
3	* ** 4.82421	50.85	PK2	33.9	-30.9	0	53.85	-	-	74	-20.15	0	105	H
	* ** 4.82382	36.74	ADV	33.9	-30.9	.22	39.96	54	-14.04	-	-	0	105	H
4	* ** 4.82436	47.26	PK2	33.9	-30.9	0	50.26	-	-	74	-23.74	219	272	V
	* ** 4.82495	32.73	ADV	33.9	-30.9	.22	35.95	54	-18.05	-	-	219	272	V
1	2.46825	44.32	Pk	32.1	-24.4	0	52.02	-	-	-	-	0-360	101	H
2	2.47225	34.54	Pk	32.1	-24.5	0	42.14	-	-	-	-	0-360	101	V
5	5.25846	35.68	Pk	34.3	-30	0	39.98	-	-	-	-	0-360	101	V
6	9.64787	32.55	Pk	36.6	-26.1	0	43.05	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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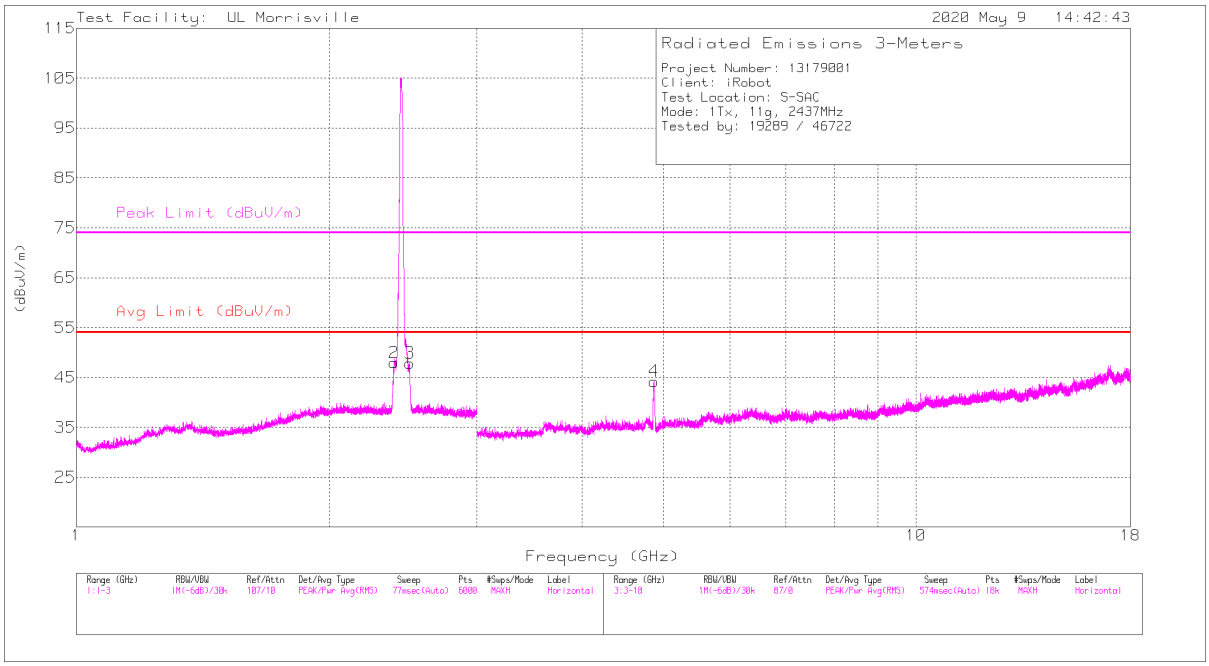
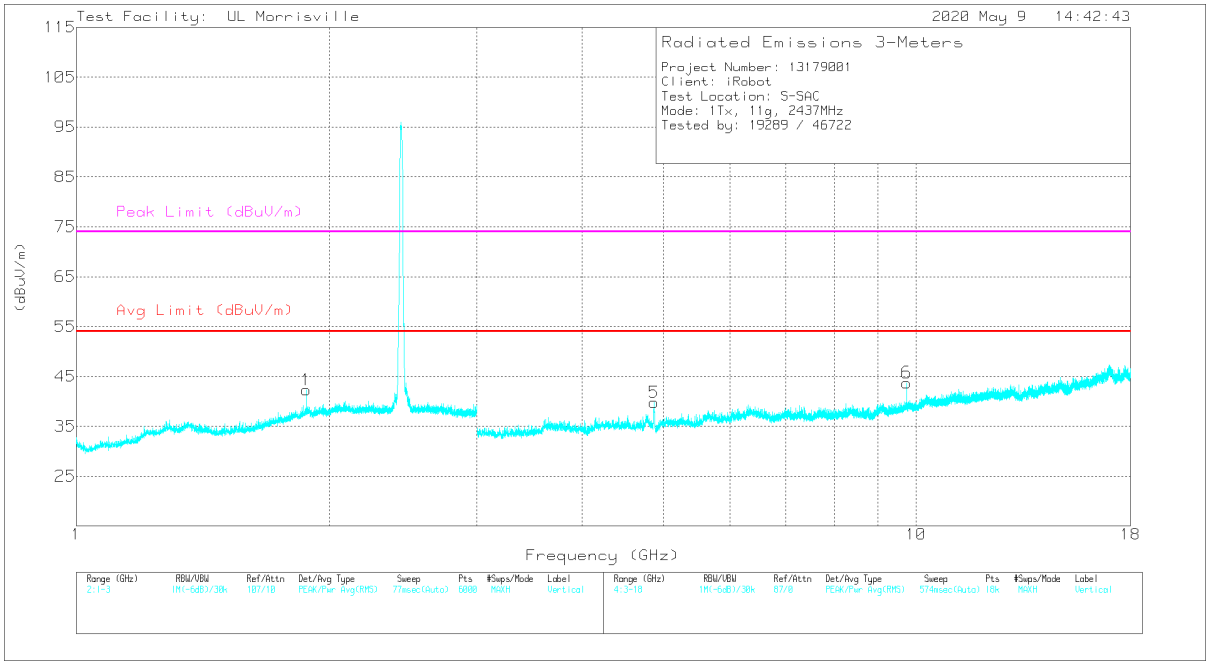
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Market	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 2.38847	42.23	PK2	32	-24	0	50.23	-	-	74	-23.77	253	227	H
	* ** 2.38891	29.68	ADV	32	-24	.22	37.9	54	-16.1	-	-	253	227	H
3	* ** 2.49287	44.92	PK2	32.2	-24.5	0	52.62	-	-	74	-21.38	253	102	H
	* ** 2.49285	31.47	ADV	32.2	-24.5	.22	39.39	54	-14.61	-	-	253	102	H
1	** 1.87845	35.53	PK2	31.3	-22.4	0	44.43	-	-	-	-	222	253	V
	** 1.87756	22.42	ADV	31.3	-22.4	.22	31.54	-	-	-	-	222	253	V
4	* ** 4.87297	49.18	PK2	33.8	-31	0	51.98	-	-	74	-22.02	356	103	H
	* ** 4.87293	35.6	ADV	33.8	-31	.22	38.62	54	-15.38	-	-	356	103	H
5	* ** 4.8776	45.13	PK2	33.8	-31	0	47.93	-	-	74	-26.07	220	301	V
	* ** 4.87759	31.18	ADV	33.8	-31	.22	34.2	54	-19.8	-	-	220	301	V
6	9.74788	32.85	Pk	36.7	-25.8	0	43.75	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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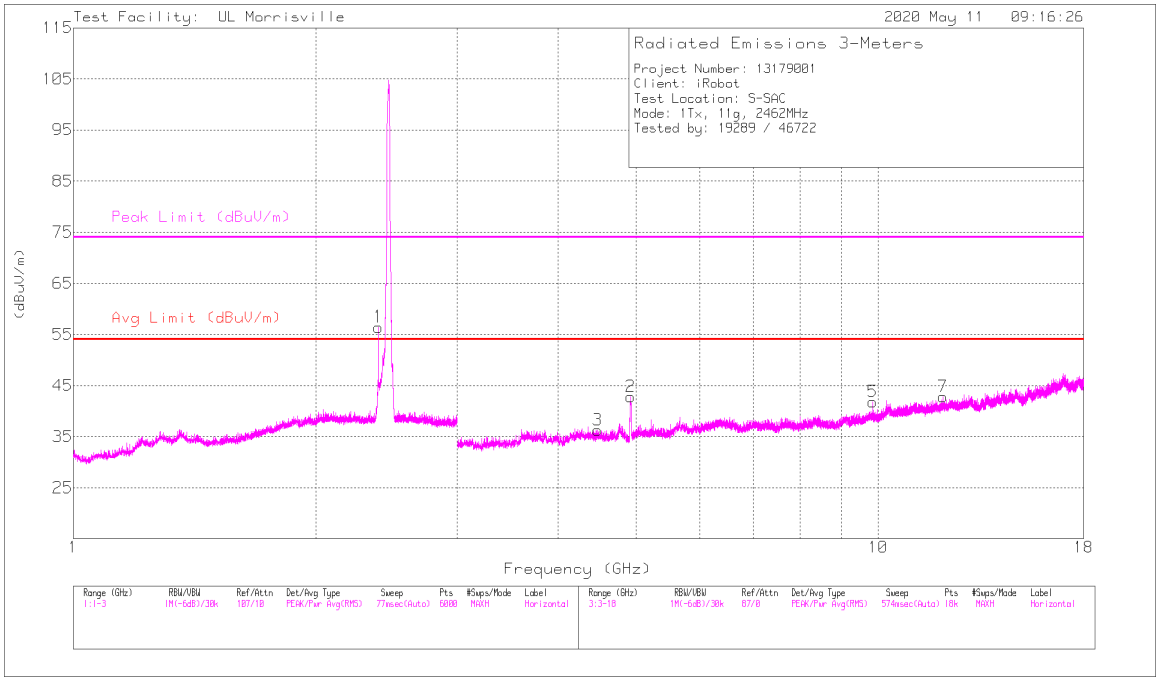
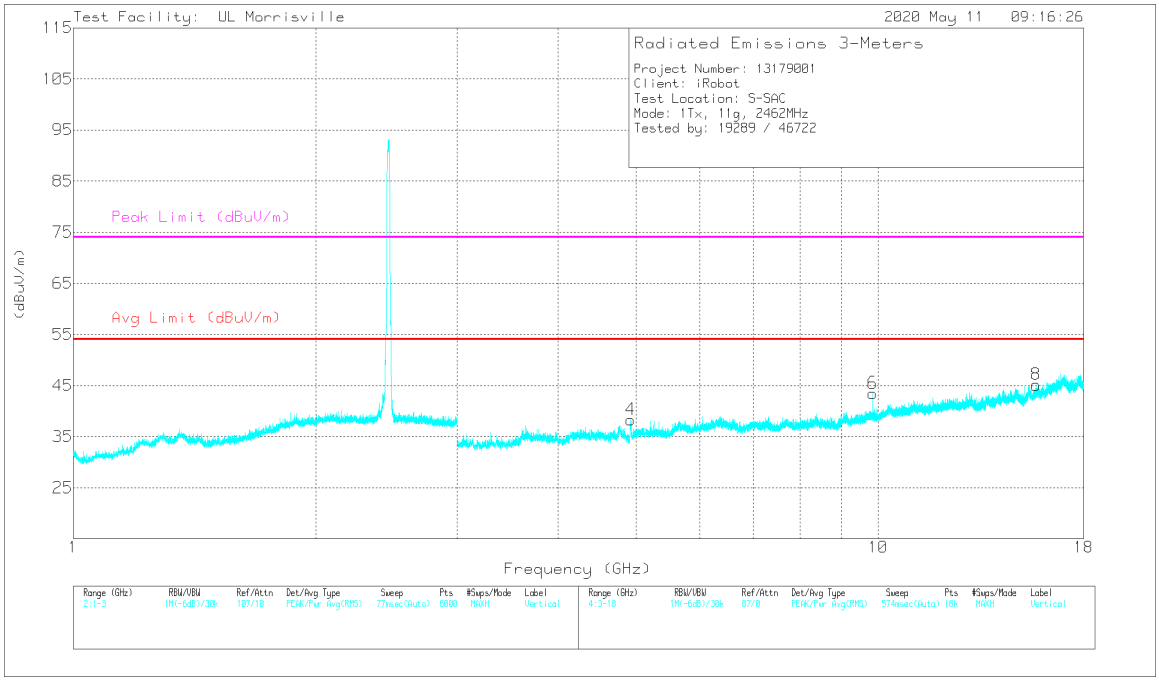
HIGH CHANNEL, CH 11 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 4.92421	48.9	PK2	33.9	-31	0	51.8	-	-	74	-22.2	3	126	H
	* ** 4.9252	33.91	ADV	33.9	-31	.22	37.03	54	-16.97	-	-	3	126	H
7	* ** 12.04055	33.72	PK2	38.6	-24.1	0	48.22	-	-	74	-25.78	82	125	H
	* ** 12.04147	20.94	ADV	38.6	-24.1	.22	35.66	54	-18.34	-	-	82	125	H
4	* ** 4.92422	46.05	PK2	33.9	-31	0	48.95	-	-	74	-25.05	222	185	V
	* ** 4.92405	30.23	ADV	33.9	-31	.22	33.35	54	-20.65	-	-	222	185	V
8	* ** 15.70629	33.85	PK2	40.1	-23.5	0	50.45	-	-	74	-23.55	197	304	V
	* ** 15.7078	21.44	ADV	40.1	-23.5	.22	38.26	54	-15.74	-	-	197	304	V
1	2.3939	48.44	Pk	32	-24	0	56.44	-	-	-	-	0-360	199	H
3	4.48175	34.21	Pk	33.8	-31.7	0	36.31	-	-	-	-	0-360	101	H
5	9.84788	30.81	Pk	36.9	-25.9	0	41.81	-	-	-	-	0-360	101	H
6	9.84788	32.48	Pk	36.9	-25.9	0	43.48	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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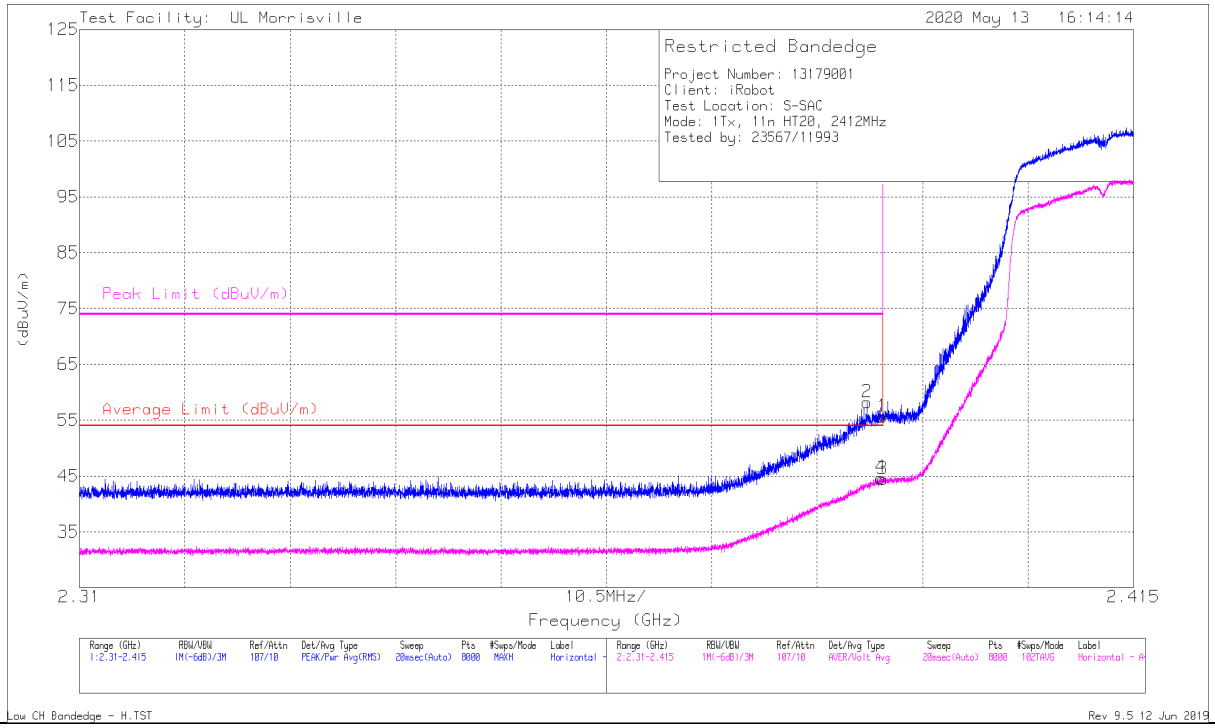
10.1.3. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

External Antenna

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	47.65	Pk	32	-24	0	55.65	-	-	74	-18.35	32	150	H
2	* ** 2.38845	50.21	Pk	32	-24	0	58.21	-	-	74	-15.79	32	150	H
3	* ** 2.39	36.2	ADV	32	-24	.25	44.45	54	-9.56	-	-	32	150	H
4	* ** 2.38987	36.43	ADV	32	-24	.25	44.68	54	-9.32	-	-	32	150	H

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

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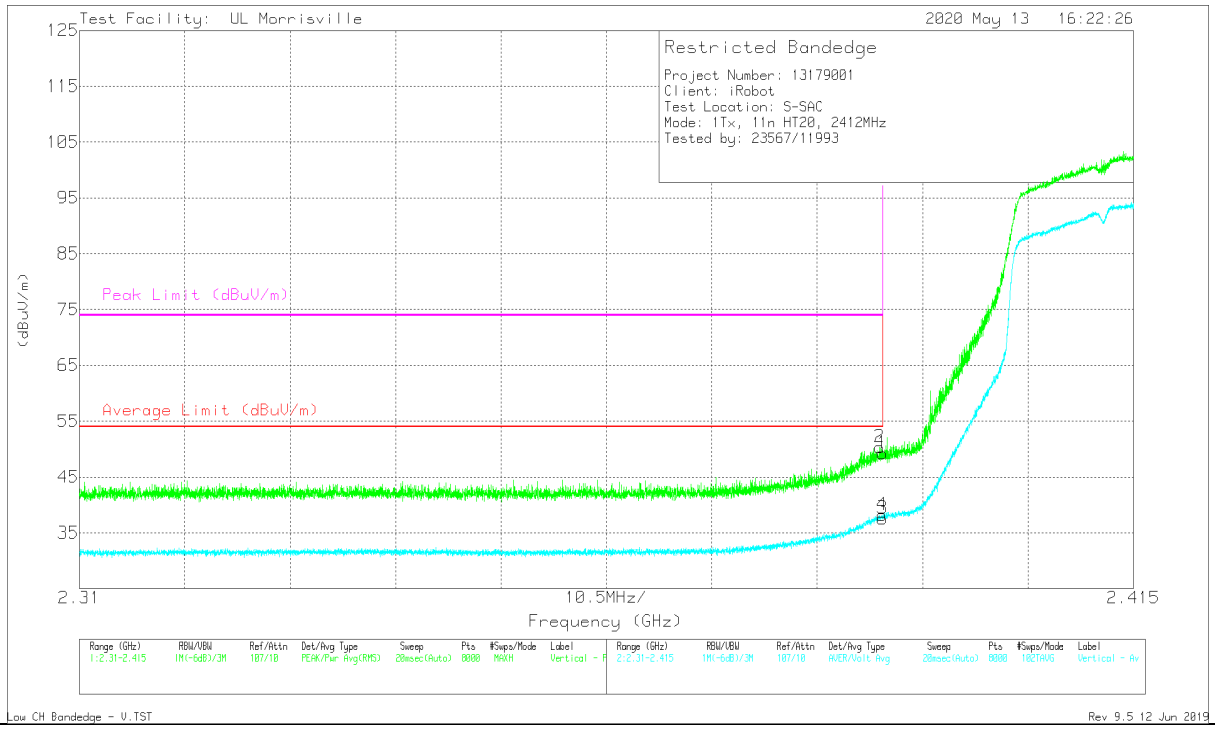
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	41.21	Pk	32	-24	0	49.21	-	-	74	-24.79	253	398	V
2	* ** 2.38969	42.32	Pk	32	-24	0	50.32	-	-	74	-23.68	253	398	V
3	* ** 2.39	29.3	ADV	32	-24	.25	37.55	54	-16.45	-	-	253	398	V
4	* ** 2.38997	29.9	ADV	32	-24	.25	38.15	54	-15.85	-	-	253	398	V

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

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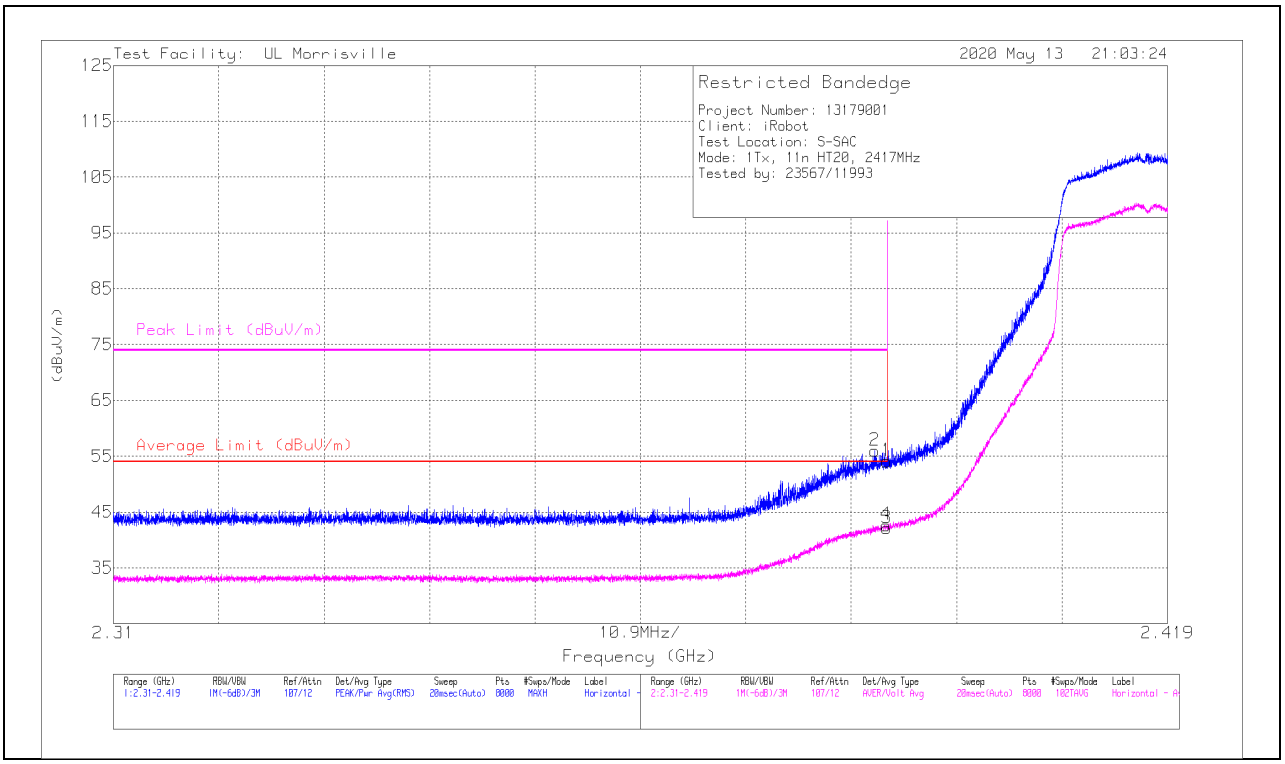
BANDEDGE (LOW CHANNEL, CH 2)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	46.1	Pk	32	-24	0	54.1	-	-	74	-19.9	357	120	H
2	* ** 2.38875	48	Pk	32	-24	0	56	-	-	74	-18	357	120	H
3	* ** 2.38999	33.87	ADV	32	-24	.25	42.12	54	-11.88	-	-	357	120	H
4	* ** 2.3899	34.42	ADV	32	-24	.25	42.67	54	-11.33	-	-	357	120	H

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

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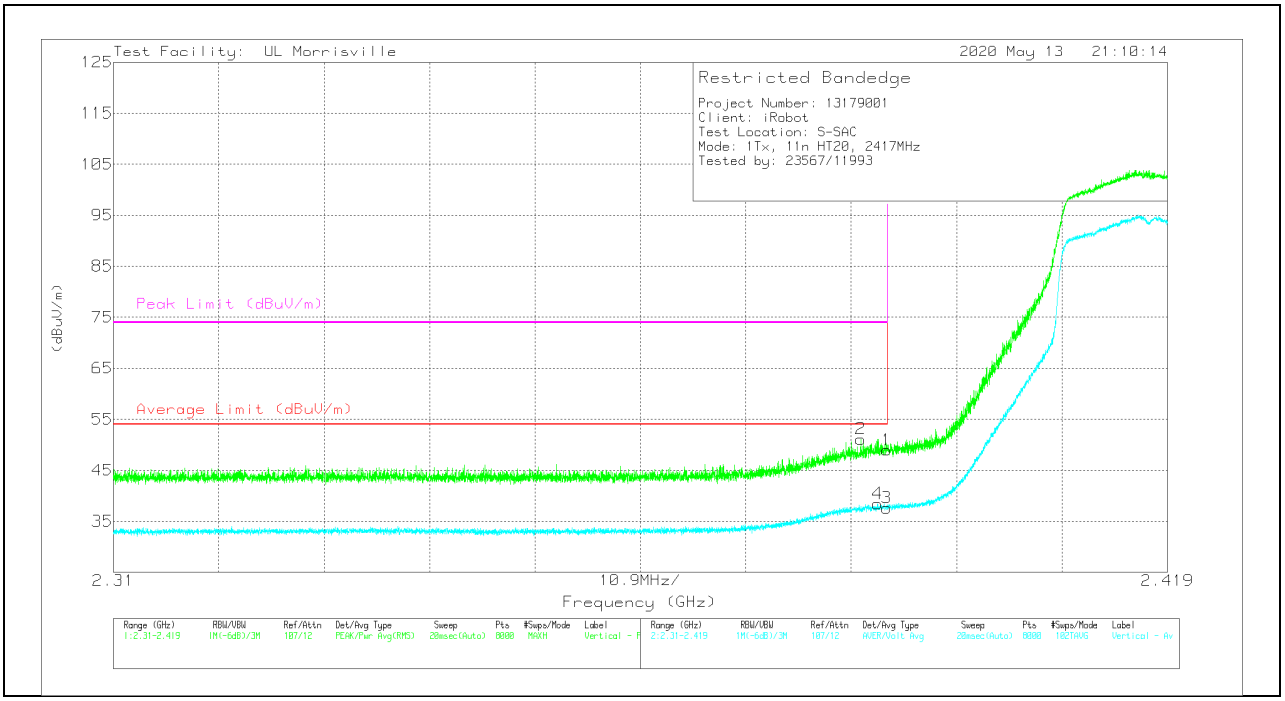
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	40.96	Pk	32	-24	0	48.96	-	-	74	-25.04	115	249	V
2	* ** 2.38728	43.14	Pk	32	-24	0	51.14	-	-	74	-22.86	115	249	V
3	* ** 2.38999	29.39	ADV	32	-24	.25	37.64	54	-16.36	-	-	115	249	V
4	* ** 2.38902	30.22	ADV	32	-24	.25	38.47	54	-15.53	-	-	115	249	V

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

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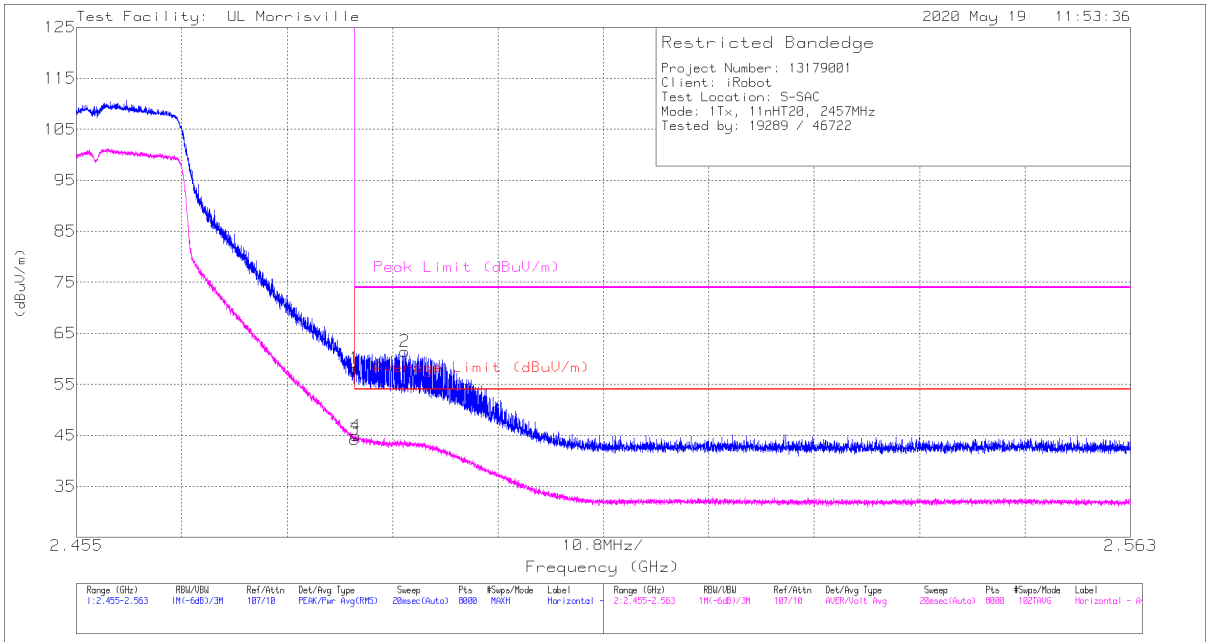
BANDEDGE (HIGH CHANNEL, CH 10)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	50.24	Pk	32.1	-24.2	0	58.14	-	-	74	-15.86	18	153	H
2	* ** 2.48865	53.44	Pk	32.2	-24.2	0	61.44	-	-	74	-12.56	18	153	H
3	* ** 2.4835	36.06	ADV	32.1	-24.2	.25	44.21	54	-9.79	-	-	18	153	H
4	* ** 2.48361	36.75	ADV	32.1	-24.2	.25	44.9	54	-9.1	-	-	18	153	H

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

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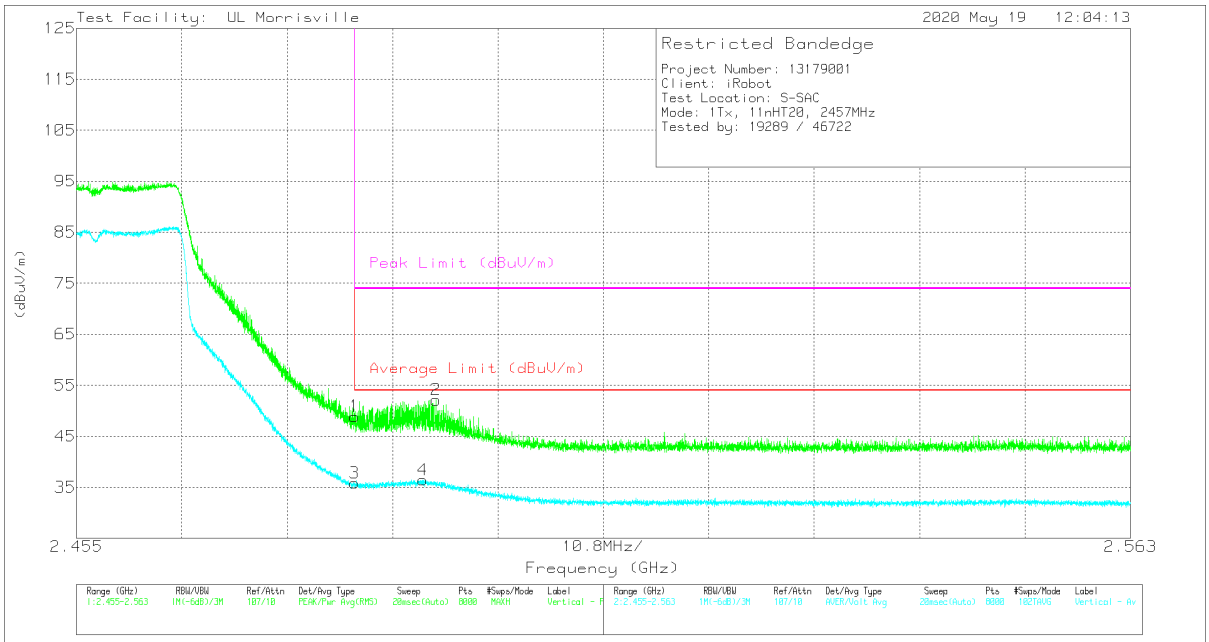
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	41.01	Pk	32.1	-24.2	0	48.91	-	-	74	-25.09	297	370	V
2	* ** 2.49186	44.14	Pk	32.2	-24.2	0	52.14	-	-	74	-21.86	297	370	V
3	* ** 2.4835	27.72	ADV	32.1	-24.2	.25	35.87	54	-18.13	-	-	297	370	V
4	* ** 2.4905	28.19	ADV	32.2	-24.2	.25	36.44	54	-17.56	-	-	297	370	V

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

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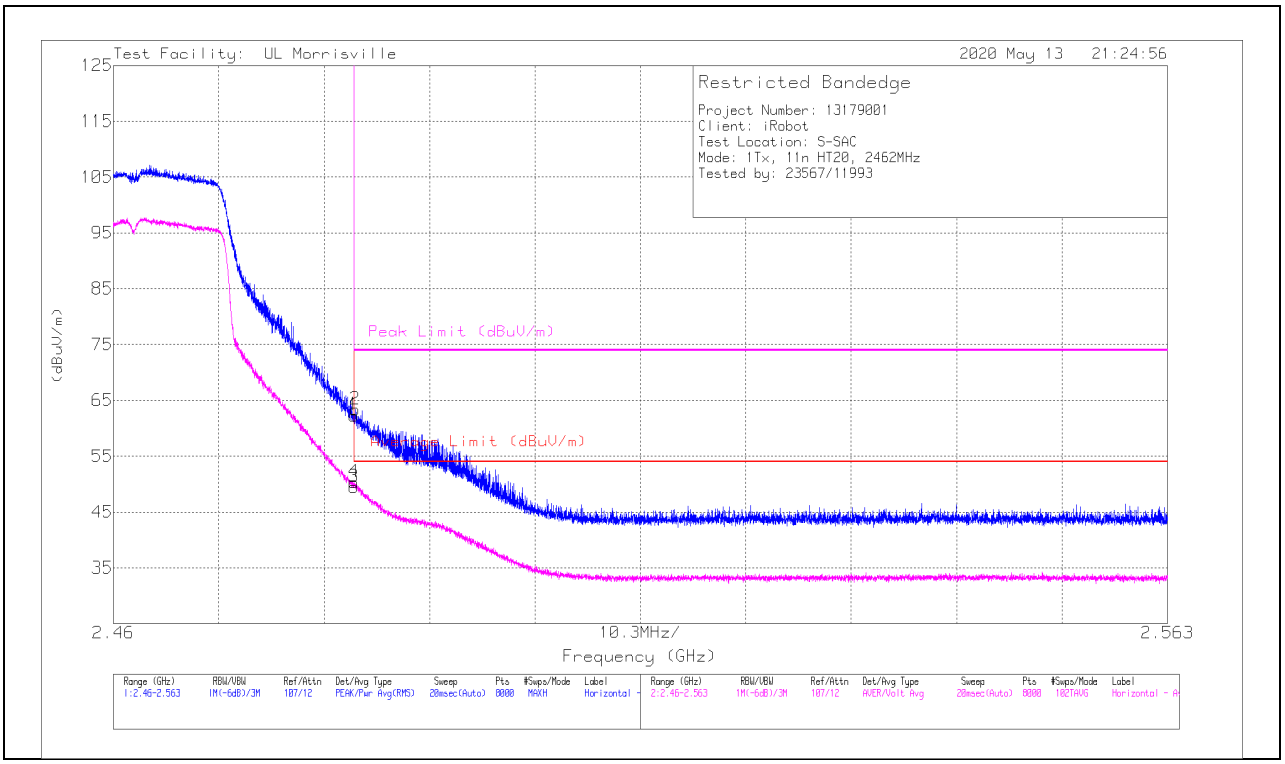
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	54.61	Pk	32.1	-24.4	0	62.31	-	-	74	-11.69	23	108	H
2	* ** 2.4836	55.67	Pk	32.1	-24.4	0	63.37	-	-	74	-10.63	23	108	H
3	* ** 2.4835	41.52	ADV	32.1	-24.4	.25	49.47	54	-4.53	-	-	23	108	H
4	* ** 2.48351	42.37	ADV	32.1	-24.4	.25	50.32	54	-3.68	-	-	23	108	H

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

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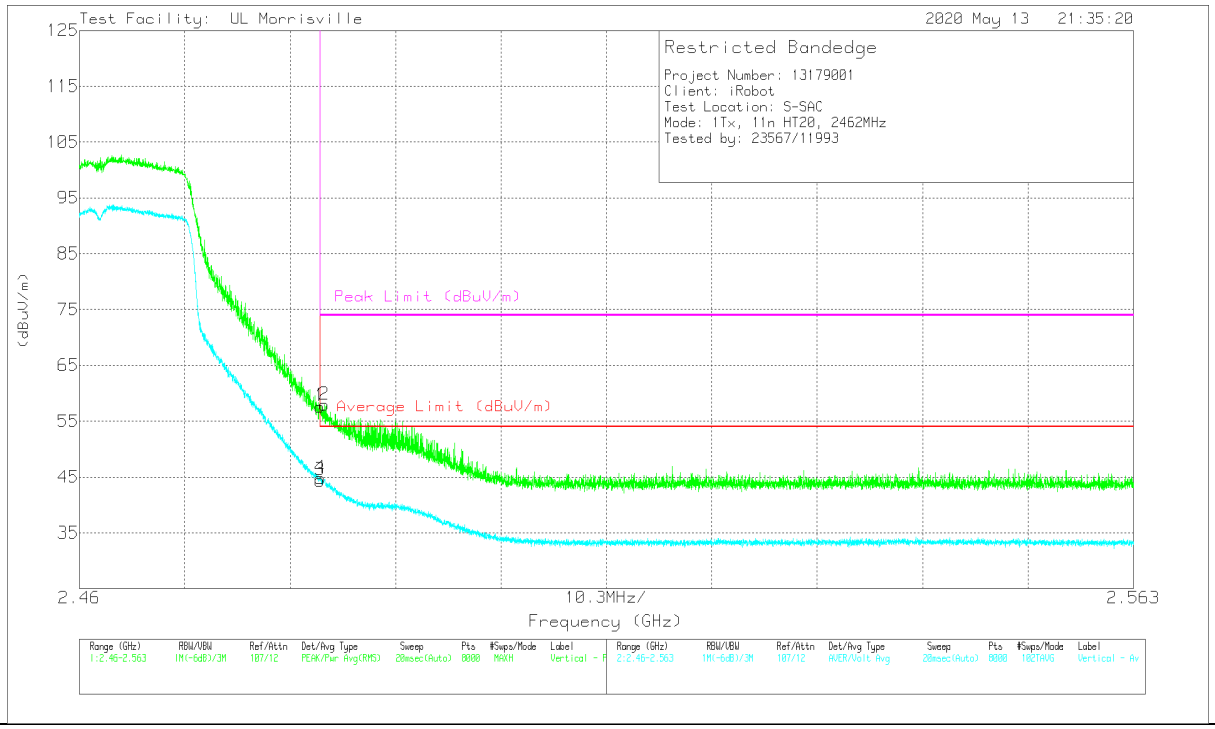
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	49.96	Pk	32.1	-24.4	0	57.66	-	-	74	-16.34	119	260	V
2	* ** 2.48393	50.28	Pk	32.1	-24.4	0	57.98	-	-	74	-16.02	119	260	V
3	* ** 2.4835	36.45	ADV	32.1	-24.4	.25	44.4	54	-9.6	-	-	119	260	V
4	* ** 2.48354	36.84	ADV	32.1	-24.4	.25	44.79	54	-9.21	-	-	119	260	V

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

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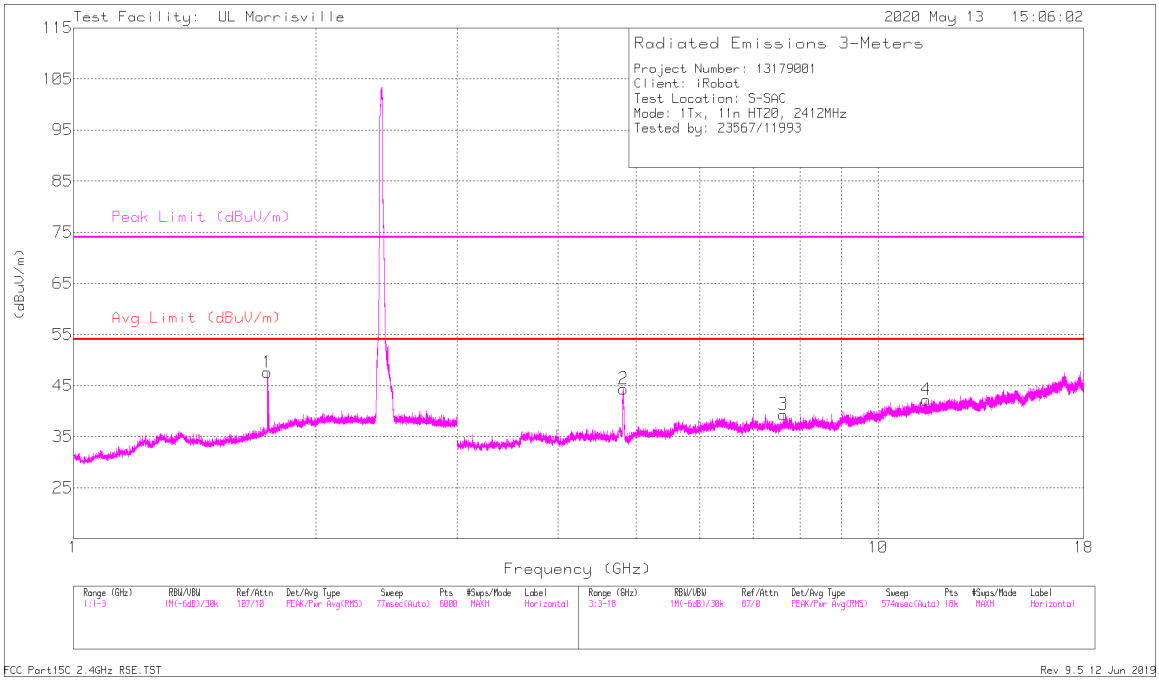
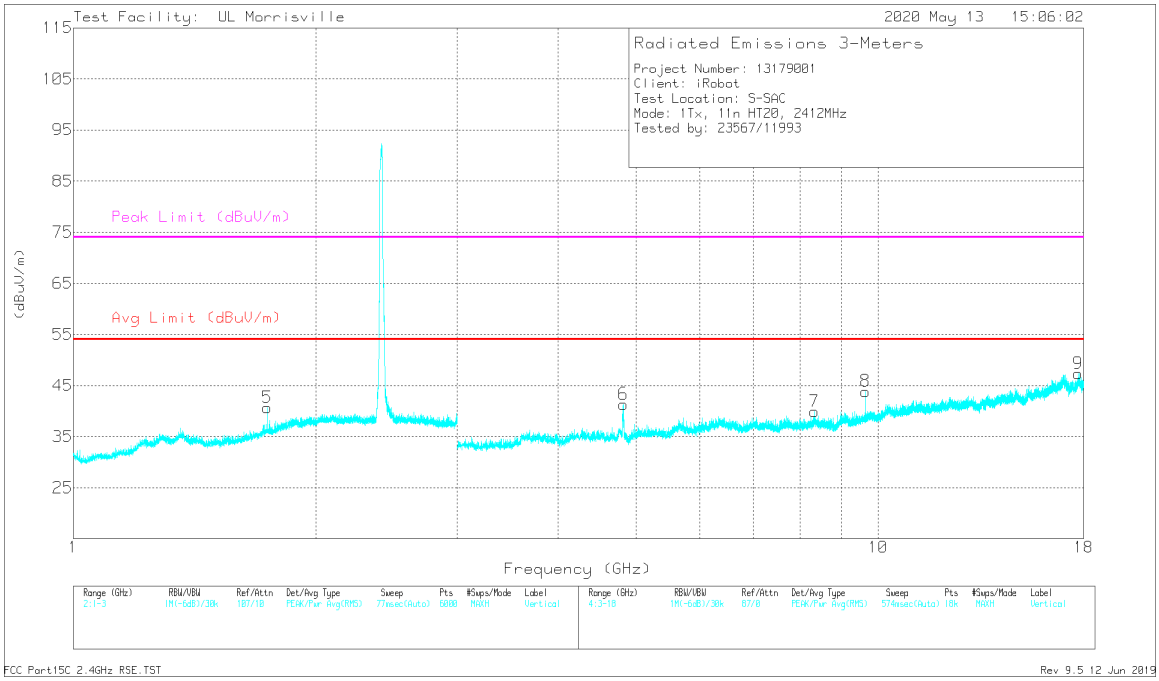
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	** 1.7437	35.61	PK2	29.8	-22.2	0	43.21	-	-	74	-30.79	50	380	H
	** 1.7459	22.65	ADV	29.8	-22.2	.25	30.5	54	-23.5	-	-	50	380	H
5	** 1.741	35.75	PK2	29.8	-22.2	0	43.35	-	-	74	-30.65	8	254	V
	** 1.74234	22.6	ADV	29.8	-22.2	.25	30.45	54	-23.55	-	-	8	254	V
2	* ** 4.82178	49.2	PK2	33.9	-30.9	0	52.2	-	-	74	-21.8	6	108	H
	* ** 4.82369	35.79	ADV	33.9	-30.9	.25	39.04	54	-14.96	-	-	6	108	H
3	* ** 7.62151	36.65	PK2	35.7	-27.6	0	44.75	-	-	74	-29.25	225	202	H
	* ** 7.6213	23.69	ADV	35.7	-27.6	.25	32.04	54	-21.96	-	-	225	202	H
4	* ** 11.47485	34.44	PK2	38.2	-24.6	0	48.04	-	-	74	-25.96	164	104	H
	* ** 11.47446	21.19	ADV	38.2	-24.6	.25	35.04	54	-18.96	-	-	164	104	H
6	* ** 4.82177	46.7	PK2	33.9	-30.9	0	49.7	-	-	74	-24.3	125	261	V
	* ** 4.82273	32.84	ADV	33.9	-30.9	.25	36.09	54	-17.91	-	-	125	261	V
7	* ** 8.33673	36.74	PK2	35.7	-27.4	0	45.04	-	-	74	-28.96	61	336	V
	* ** 8.33621	23.88	ADV	35.7	-27.4	.25	32.43	54	-21.57	-	-	61	336	V
9	* ** 17.72774	34.85	PK2	41	-22.4	0	53.45	-	-	74	-20.55	242	120	V
	* ** 17.72812	21.78	ADV	41	-22.4	.25	40.63	54	-13.37	-	-	242	120	V
8	9.64787	33.37	Pk	36.6	-26.1	0	43.87	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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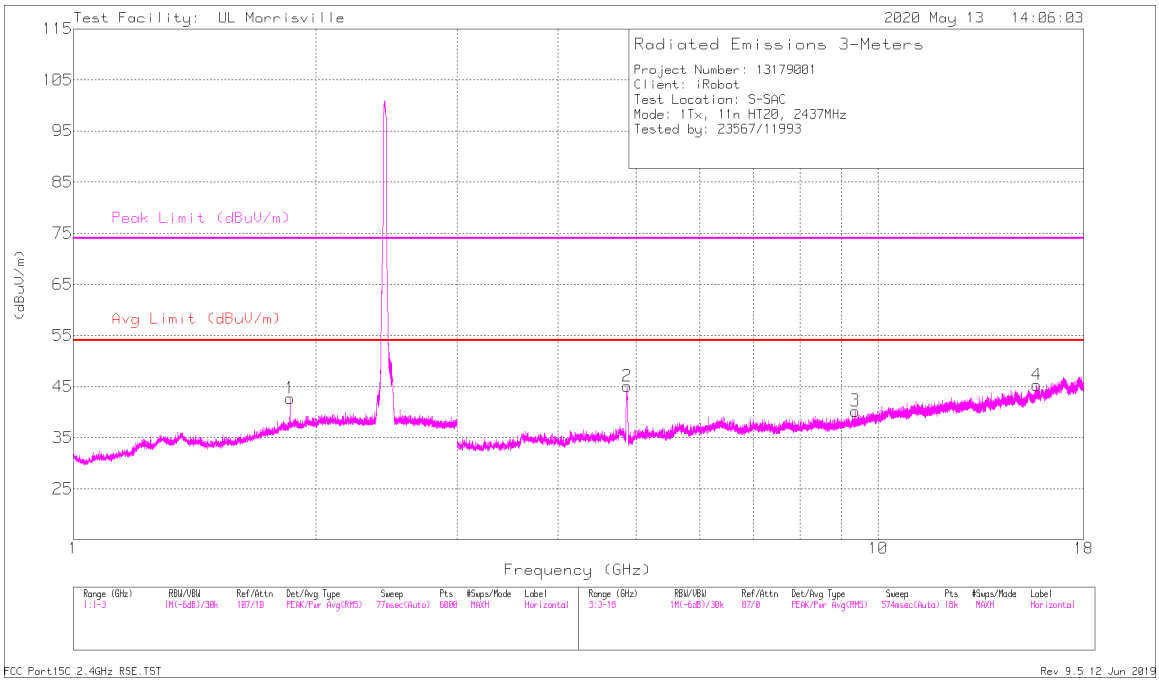
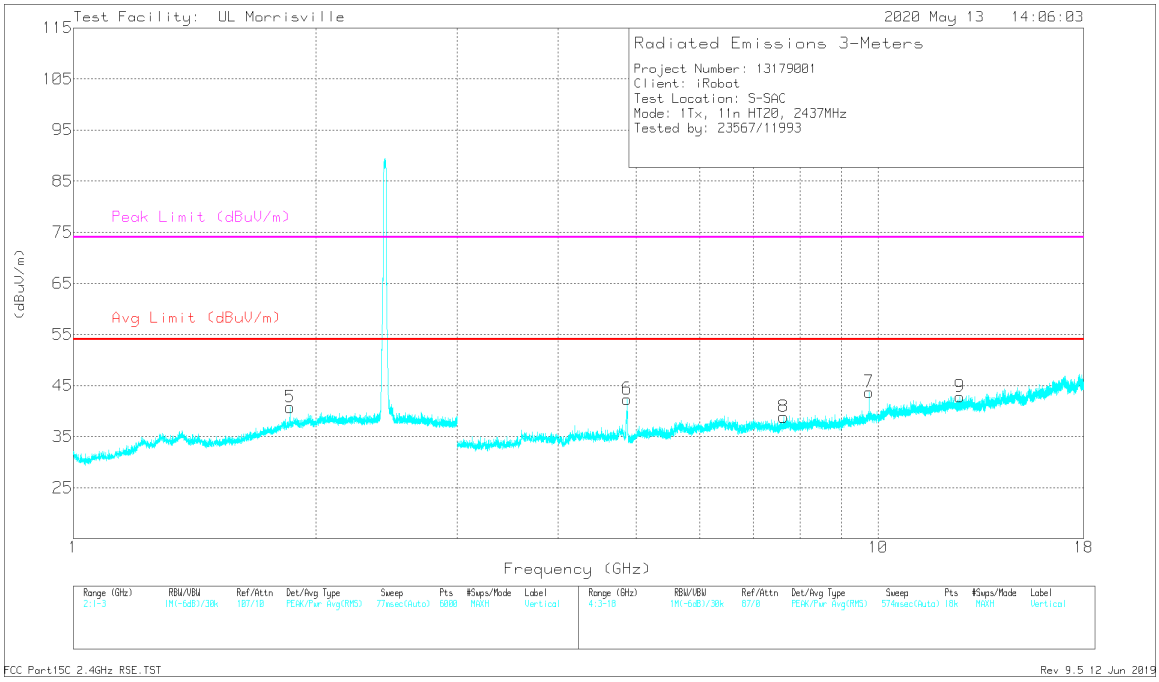
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	** 1.85518	37.12	PK2	31.2	-22.2	0	46.12	-	-	74	-27.88	168	314	H
	** 1.85554	22.35	ADV	31.2	-22.2	.25	31.6	54	-22.4	-	-	168	314	H
5	** 1.86023	35.18	PK2	31.3	-22.2	0	44.28	-	-	74	-29.72	84	228	V
	** 1.85861	22.36	ADV	31.2	-22.2	.25	31.61	54	-22.39	-	-	84	228	V
2	* ** 4.87496	48.34	PK2	33.8	-31	0	51.14	-	-	74	-22.86	253	273	H
	* ** 4.87604	34.67	ADV	33.8	-31	.25	37.72	54	-16.28	-	-	253	273	H
3	* ** 9.36538	35.67	PK2	36.4	-26.5	0	45.57	-	-	74	-28.43	191	247	H
	* ** 9.36369	22.56	ADV	36.4	-26.5	.25	32.71	54	-21.29	-	-	191	247	H
4	* ** 15.73581	34.96	PK2	40.1	-23.5	0	51.56	-	-	74	-22.44	139	326	H
	* ** 15.73476	21.34	ADV	40.1	-23.5	.25	38.19	54	-15.81	-	-	139	326	H
6	* ** 4.87606	46.55	PK2	33.8	-31	0	49.35	-	-	74	-24.65	79	101	V
	* ** 4.87621	32.63	ADV	33.8	-31	.25	35.68	54	-18.32	-	-	79	101	V
8	* ** 7.62938	36.54	PK2	35.7	-27.7	0	44.54	-	-	74	-29.46	249	159	V
	* ** 7.62844	23.57	ADV	35.7	-27.6	.25	31.92	54	-22.08	-	-	249	159	V
9	* ** 12.63589	34.58	PK2	38.9	-24.6	0	48.88	-	-	74	-25.12	50	362	V
	* ** 12.63503	21.07	ADV	38.9	-24.6	.25	35.62	54	-18.38	-	-	50	362	V
7	9.74788	32.85	Pk	36.7	-25.8	0	43.75	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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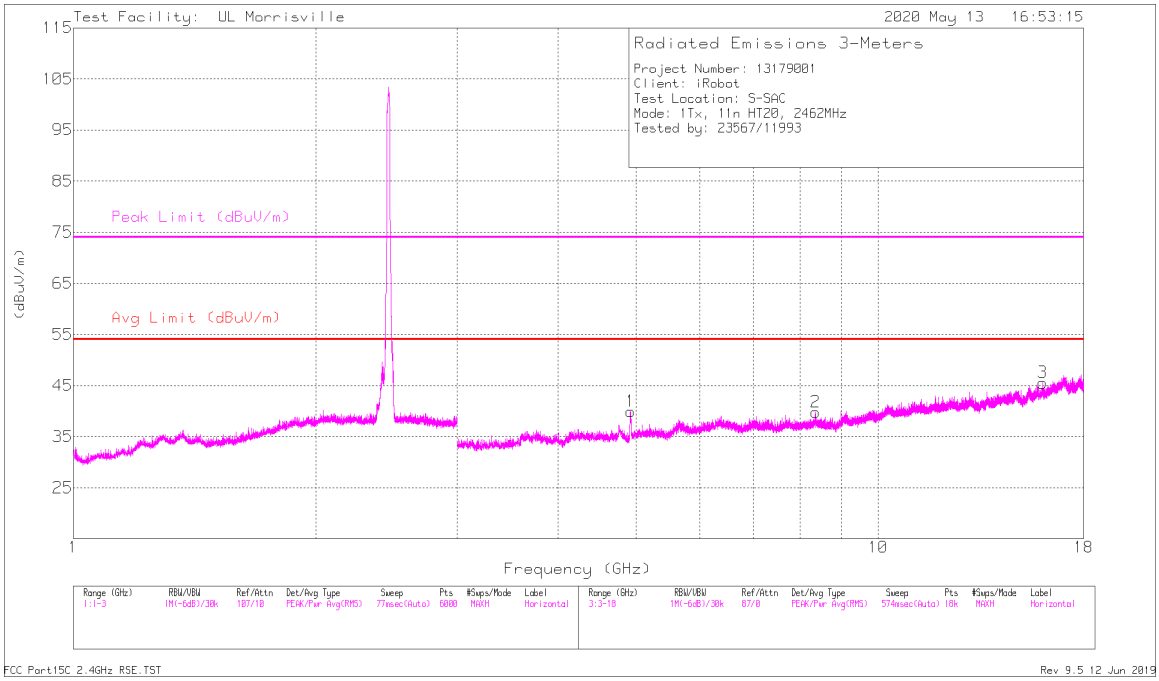
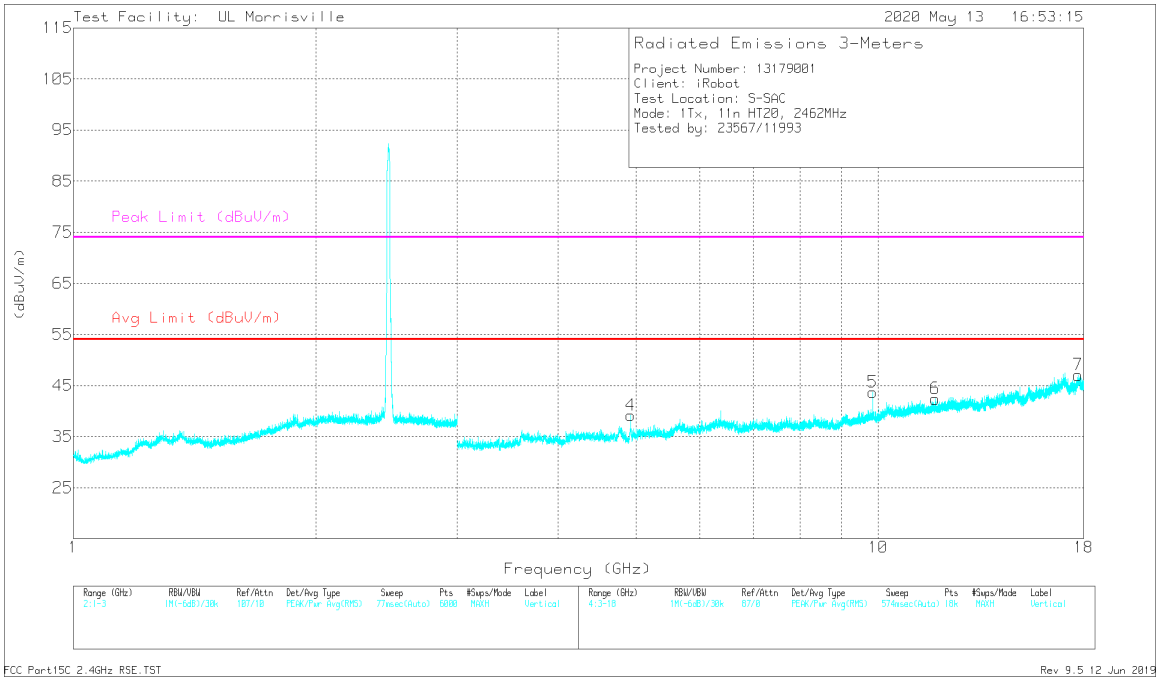
HIGH CHANNEL, CH 11 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.92728	43.88	PK2	33.9	-31	0	46.78	-	-	74	-27.22	0	101	H
	* ** 4.92606	30.17	ADV	33.9	-31	.25	33.32	54	-20.68	-	-	0	101	H
2	* ** 8.36664	36.46	PK2	35.7	-27.3	0	44.86	-	-	74	-29.14	348	114	H
	* ** 8.36629	23.63	ADV	35.7	-27.3	.25	32.28	54	-21.72	-	-	348	114	H
3	* ** 16.01219	35.34	PK2	40.4	-24.1	0	51.64	-	-	74	-22.36	287	101	H
	* ** 16.01283	21.97	ADV	40.4	-24.1	.25	38.52	54	-15.48	-	-	287	101	H
4	* ** 4.92513	43.23	PK2	33.9	-31	0	46.13	-	-	74	-27.87	110	102	V
	* ** 4.92422	29.47	ADV	33.9	-31	.25	32.62	54	-21.38	-	-	110	102	V
6	* ** 11.78181	34.15	PK2	38.4	-24.3	0	48.25	-	-	74	-25.75	37	144	V
	* ** 11.78105	21.12	ADV	38.4	-24.3	.25	35.47	54	-18.53	-	-	37	144	V
7	* ** 17.72248	35.73	PK2	41	-22.5	0	54.23	-	-	74	-19.77	326	159	V
	* ** 17.72342	21.83	ADV	41	-22.5	.25	40.58	54	-13.42	-	-	326	159	V
5	9.84788	32.66	Pk	36.9	-25.9	0	43.66	-	-	-	-	0-360	199	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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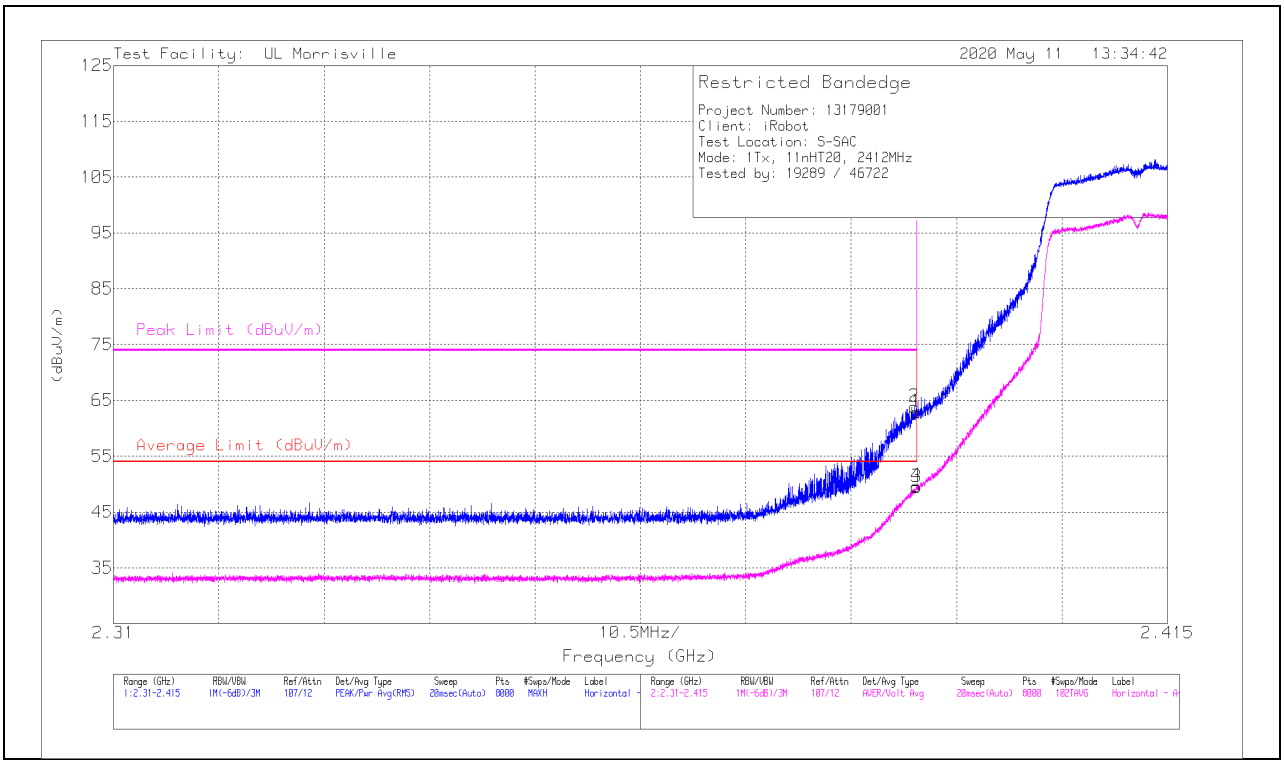
PCB Antenna

BANDEDGE (LOW CHANNEL, CH 1)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	54.85	Pk	32	-24	0	62.85	-	-	74	-11.15	73	102	H
2	* ** 2.38976	55.83	Pk	32	-24	0	63.83	-	-	74	-10.17	73	102	H
3	* ** 2.39	41.21	ADV	32	-24	.25	49.46	54	-4.54	-	-	73	102	H
4	* ** 2.38996	41.41	ADV	32	-24	.25	49.66	54	-4.34	-	-	73	102	H

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

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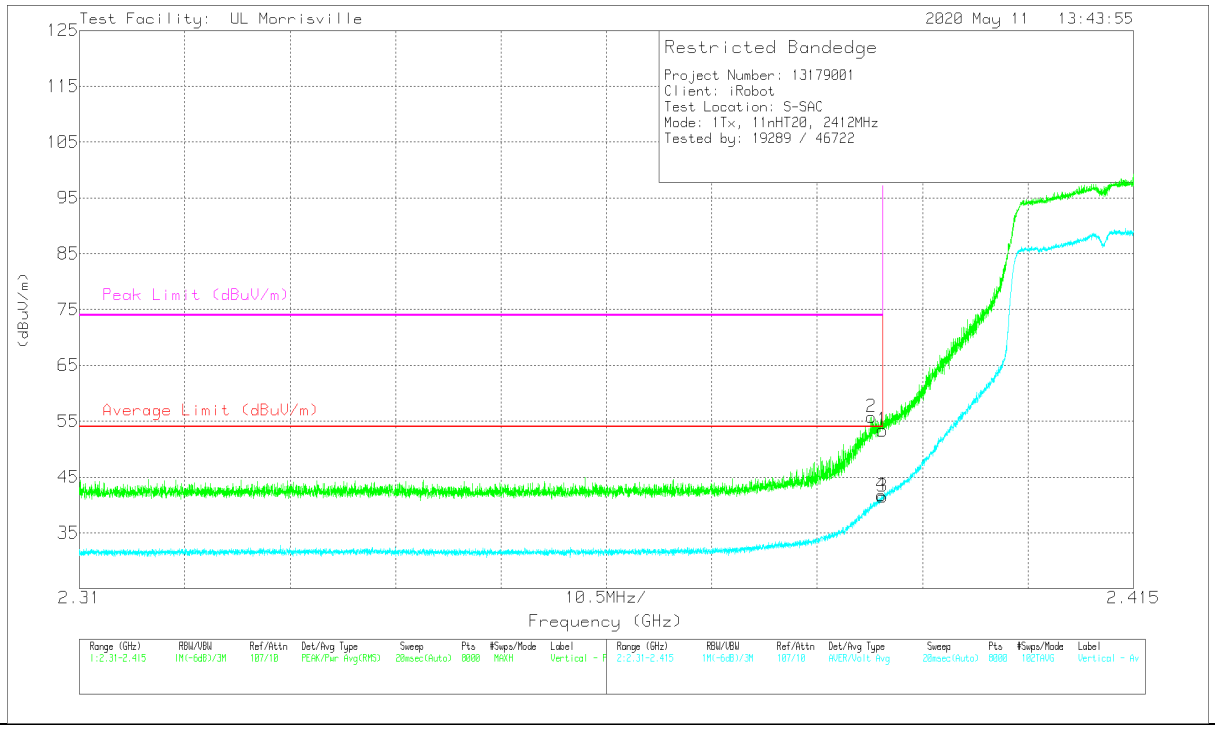
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	45.37	Pk	32	-24	0	53.37	-	-	74	-20.63	101	349	V
2	* ** 2.38892	47.71	Pk	32	-24	0	55.71	-	-	74	-18.29	101	349	V
3	* ** 2.39	33.27	ADV	32	-24	.25	41.52	54	-12.48	-	-	101	349	V
4	* ** 2.38989	33.52	ADV	32	-24	.25	41.77	54	-12.23	-	-	101	349	V

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

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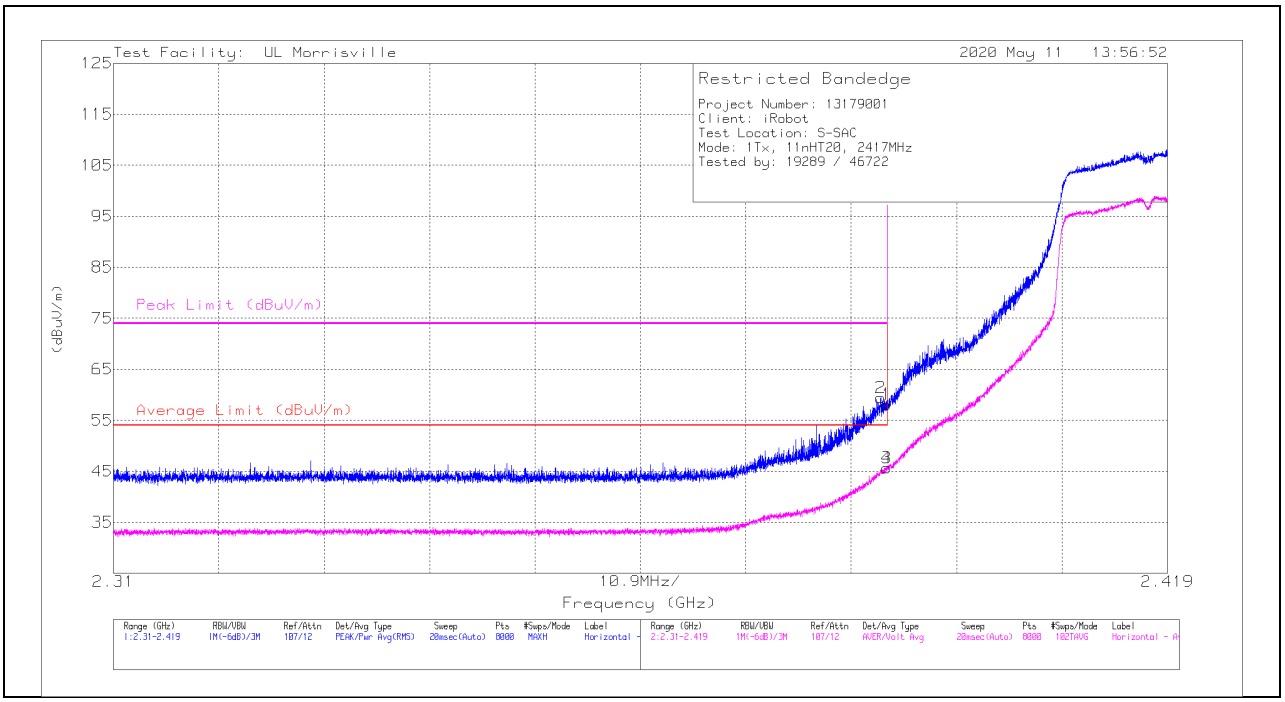
BANDEDGE (LOW CHANNEL, CH 2)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	50.12	Pk	32	-24	0	58.12	-	-	74	-15.88	25	100	H
2	* ** 2.38935	51.42	Pk	32	-24	0	59.42	-	-	74	-14.58	25	100	H
3	* ** 2.38999	37.4	ADV	32	-24	.25	45.65	54	-8.35	-	-	25	100	H
4	* ** 2.38995	37.44	ADV	32	-24	.25	45.69	54	-8.31	-	-	25	100	H

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

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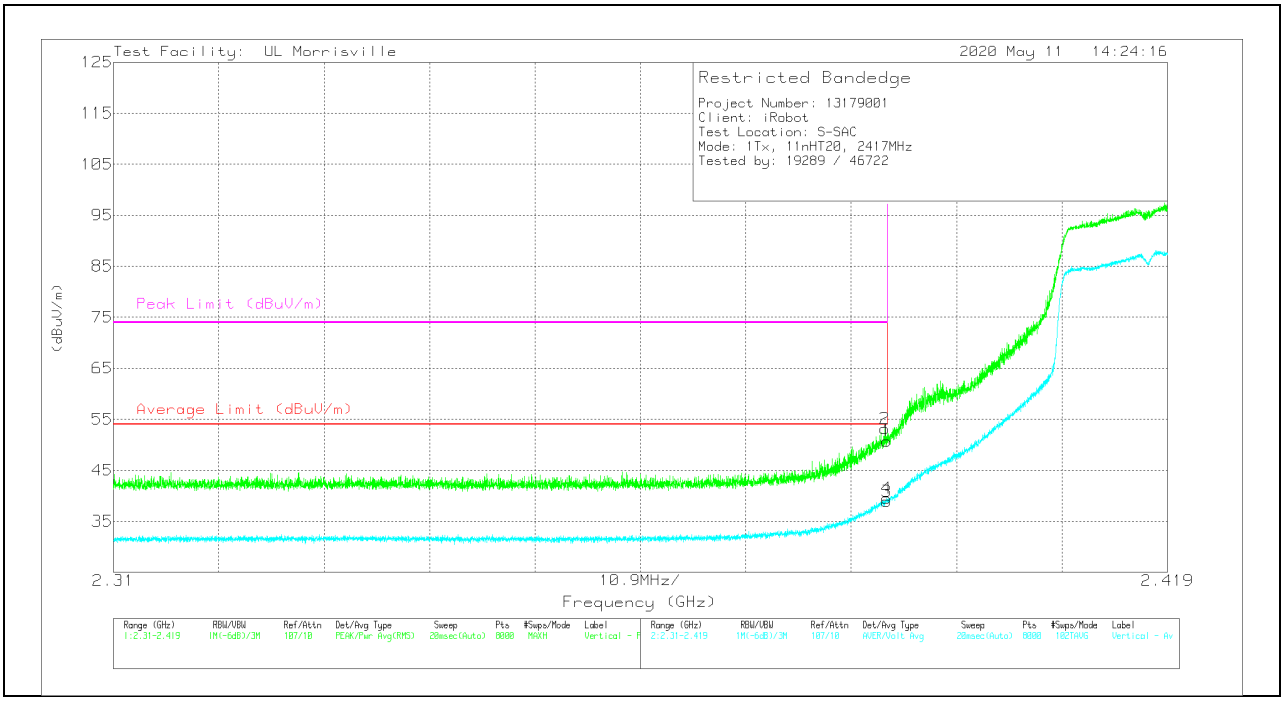
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	42.77	Pk	32	-24	0	50.77	-	-	74	-23.23	94	358	V
2	* ** 2.38979	45.19	Pk	32	-24	0	53.19	-	-	74	-20.81	94	358	V
3	* ** 2.38999	30.66	ADV	32	-24	.25	38.91	54	-15.09	-	-	94	358	V
4	* ** 2.38998	31.26	ADV	32	-24	.25	39.51	54	-14.49	-	-	94	358	V

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

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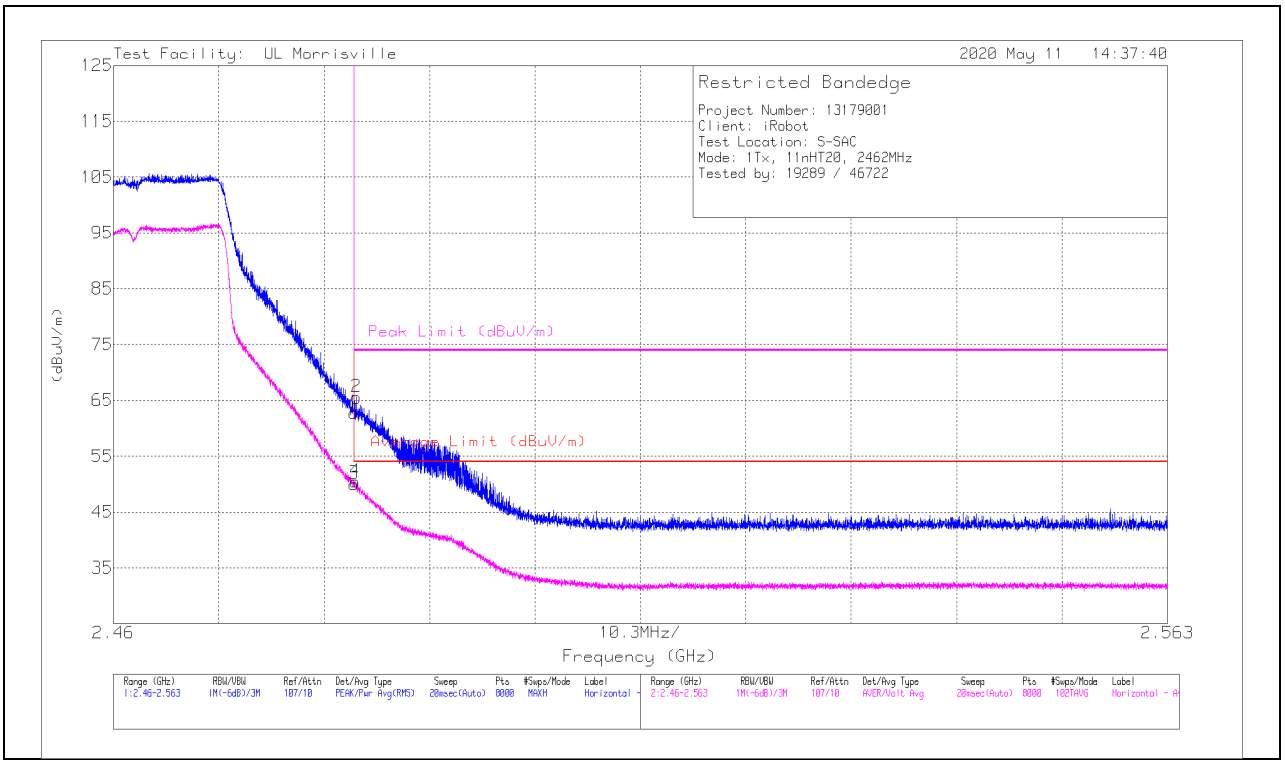
BANDEDGE (HIGH CHANNEL, CH 11)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	55.05	Pk	32.1	-24.4	0	62.75	-	-	74	-11.25	118	145	H
2	* ** 2.48375	57.84	Pk	32.1	-24.4	0	65.54	-	-	74	-8.46	118	145	H
3	* ** 2.4835	42.08	ADV	32.1	-24.4	.25	50.03	54	-3.97	-	-	118	145	H
4	* ** 2.4836	42.55	ADV	32.1	-24.4	.25	50.5	54	-3.5	-	-	118	145	H

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

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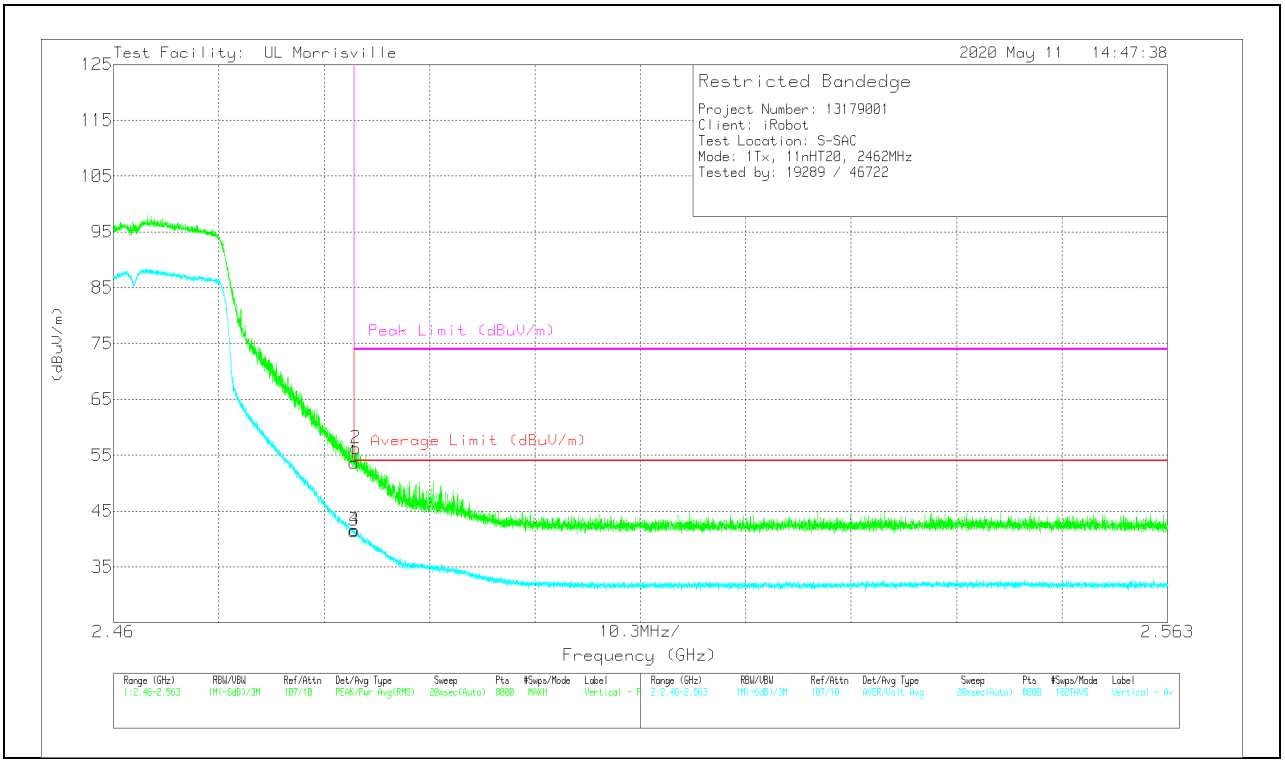
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	45.95	Pk	32.1	-24.4	0	53.65	-	-	74	-20.35	241	320	V
2	* ** 2.48371	48.52	Pk	32.1	-24.4	0	56.22	-	-	74	-17.78	241	320	V
3	* ** 2.4835	33.5	ADV	32.1	-24.4	.25	41.45	54	-12.55	-	-	241	320	V
4	* ** 2.48355	33.64	ADV	32.1	-24.4	.25	41.59	54	-12.41	-	-	241	320	V

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

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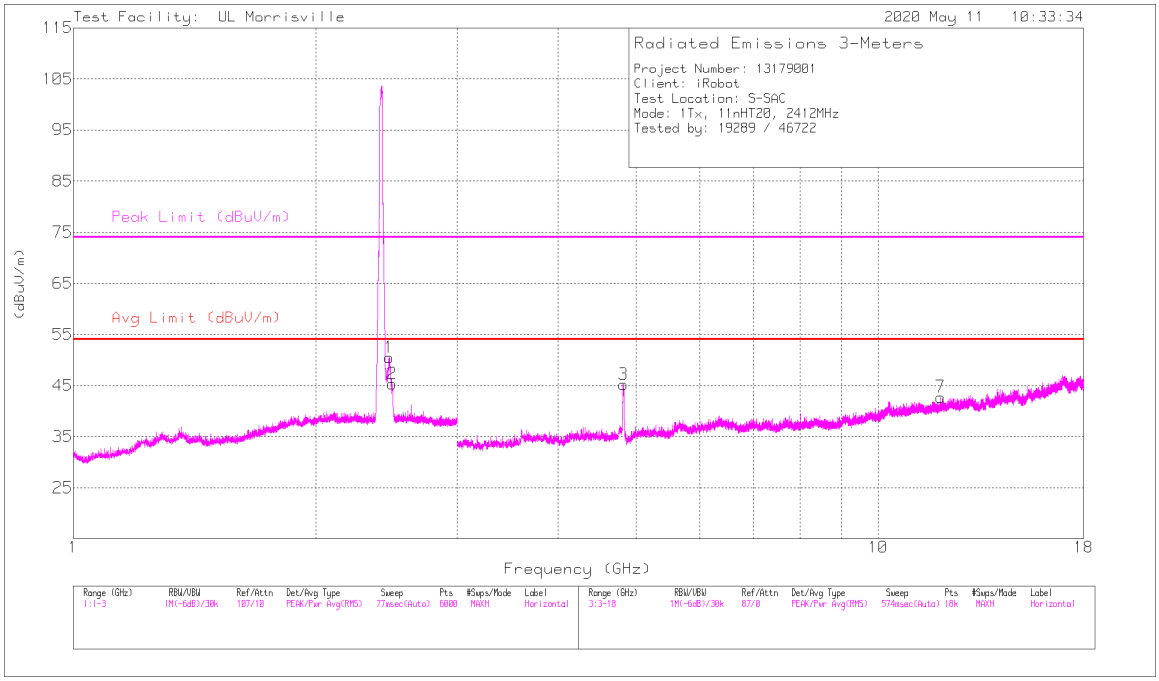
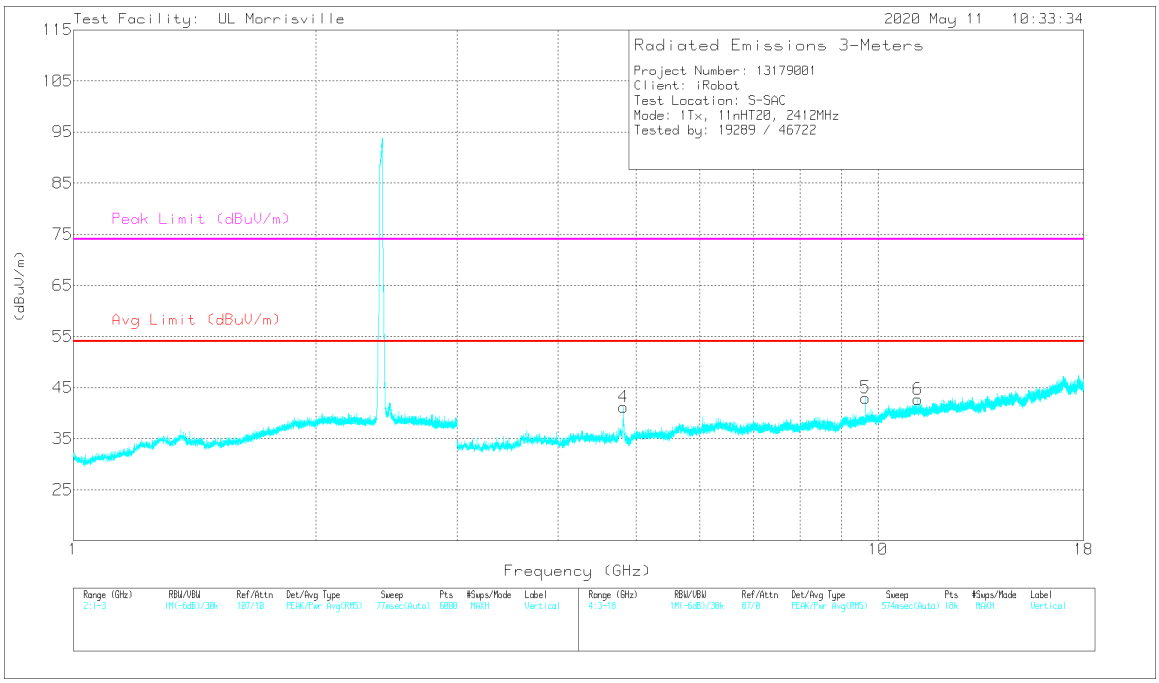
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 1 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 2.49134	44.49	PK2	32.2	-24.4	0	52.29	-	-	74	-21.71	86	109	H
	* ** 2.49029	31.31	ADV	32.2	-24.4	.25	39.36	54	-14.64	-	-	86	109	H
3	* ** 4.82388	52.67	PK2	33.9	-30.9	0	55.67	-	-	74	-18.33	2	106	H
	* ** 4.82453	37.85	ADV	33.9	-30.9	.25	41.1	54	-12.9	-	-	2	106	H
7	* ** 11.95499	33.9	PK2	38.5	-24.4	0	48	-	-	74	-26	20	303	H
	* ** 11.95468	21.21	ADV	38.5	-24.4	.25	35.56	54	-18.44	-	-	20	303	H
4	* ** 4.82432	45.61	PK2	33.9	-30.9	0	48.61	-	-	74	-25.39	168	363	V
	* ** 4.82408	32.08	ADV	33.9	-30.9	.25	35.33	54	-18.67	-	-	168	363	V
6	* ** 11.19423	34.96	PK2	37.9	-24.4	0	48.46	-	-	74	-25.54	238	101	V
	* ** 11.19345	21.5	ADV	37.9	-24.4	.25	35.25	54	-18.75	-	-	238	101	V
1	2.46691	42.75	Pk	32.1	-24.4	0	50.45	-	-	-	-	0-360	101	H
5	9.64787	32.5	Pk	36.6	-26.1	0	43	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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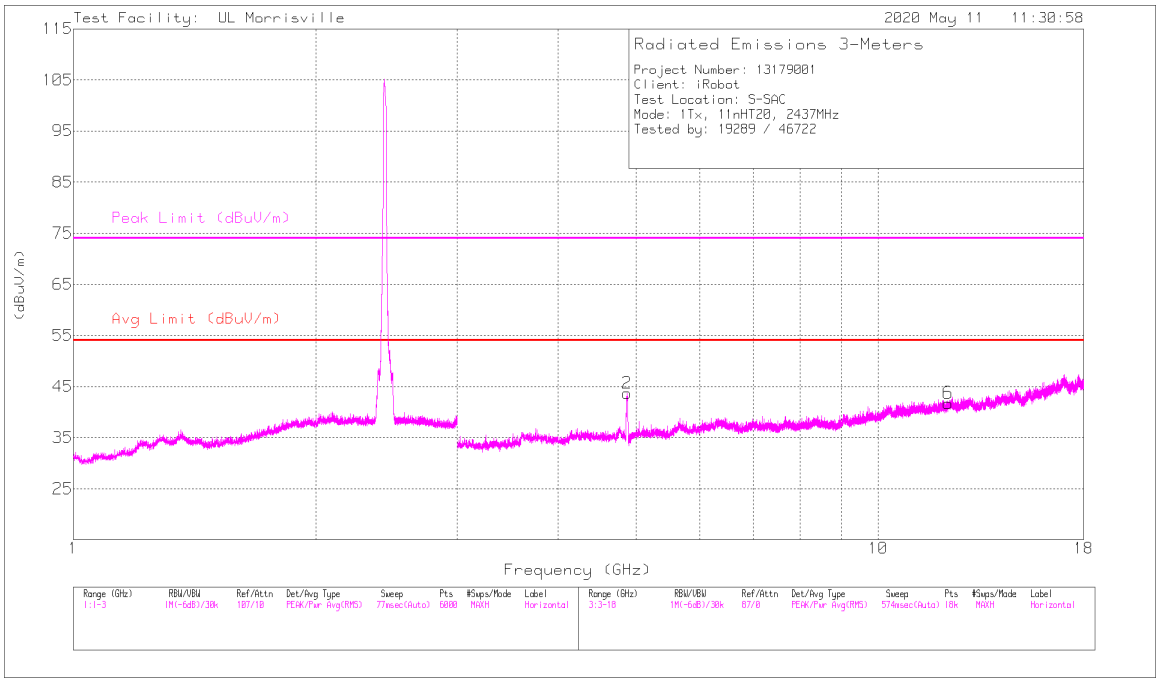
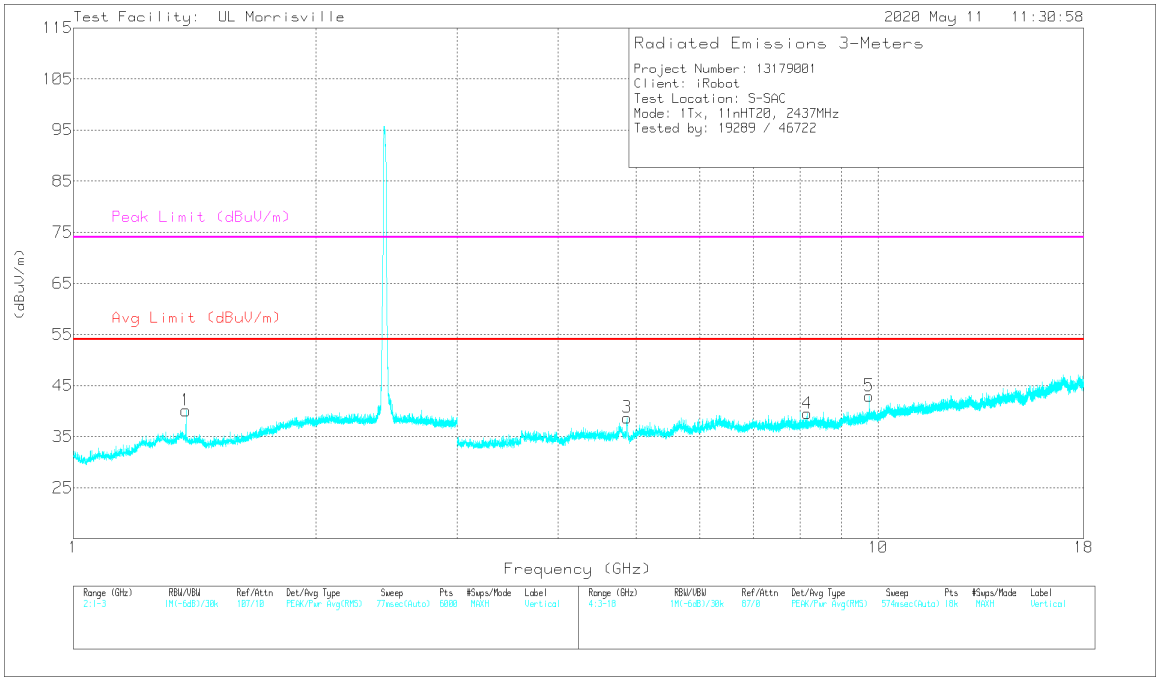
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.37689	35.54	PK2	29.3	-22.8	0	42.04	-	-	74	-31.96	33	255	V
	* ** 1.37699	22.19	ADV	29.3	-22.8	.25	28.94	54	-25.06	-	-	33	255	V
2	* ** 4.87236	49.07	PK2	33.8	-30.9	0	51.97	-	-	74	-22.03	0	100	H
	* ** 4.8727	35.04	ADV	33.8	-31	.25	38.09	54	-15.91	-	-	0	100	H
6	* ** 12.21465	34.41	PK2	38.8	-24.3	0	48.91	-	-	74	-25.09	239	310	H
	* ** 12.21438	21.28	ADV	38.8	-24.3	.25	36.03	54	-17.97	-	-	239	310	H
3	* ** 4.87027	42.81	PK2	33.8	-30.9	0	45.71	-	-	74	-28.29	218	345	V
	* ** 4.8718	29.87	ADV	33.8	-30.9	.25	33.02	54	-20.98	-	-	218	345	V
4	* ** 8.16118	35.67	PK2	35.7	-27.3	0	44.07	-	-	74	-29.93	190	219	V
	* ** 8.15811	23.33	ADV	35.7	-27.3	.25	31.98	54	-22.02	-	-	190	219	V
5	9.74788	32.09	Pk	36.7	-25.8	0	42.99	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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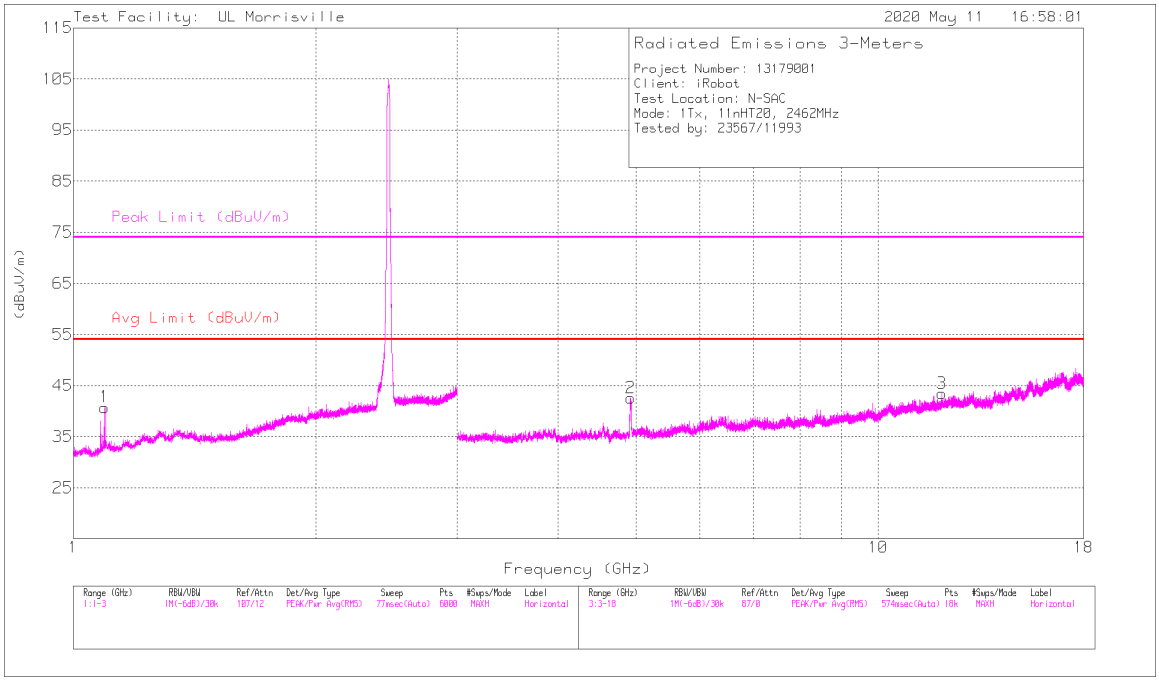
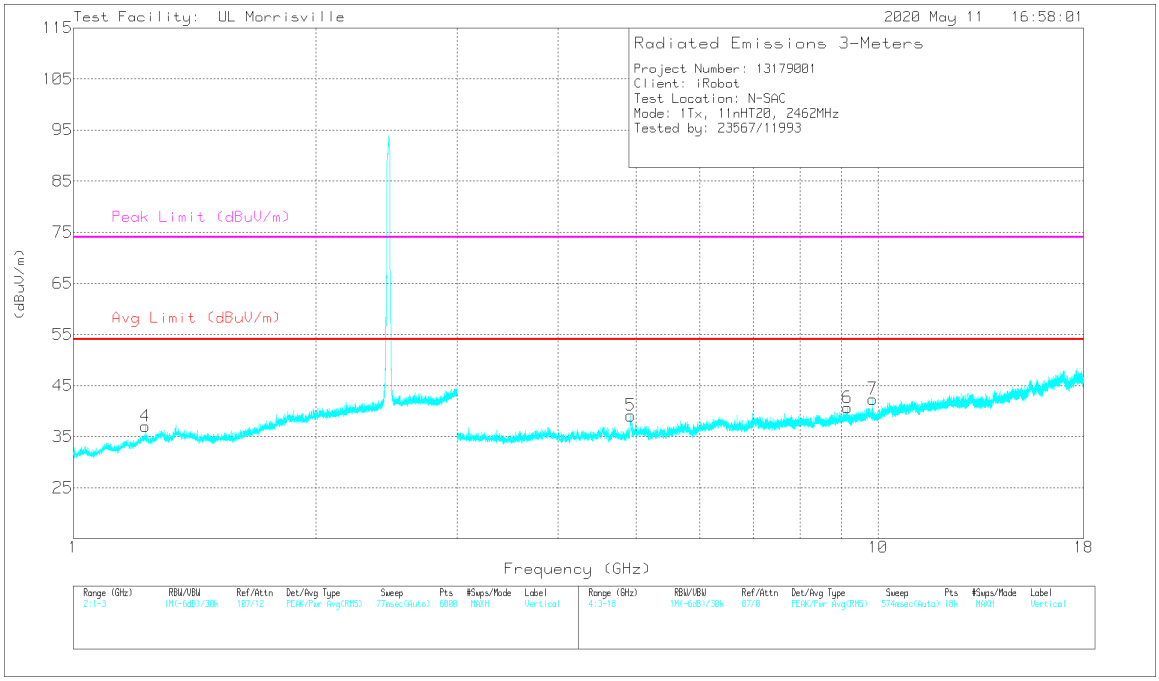
HIGH CHANNEL, CH 11 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.09051	38.02	PK2	27.9	-26	0	39.92	-	-	74	-34.08	238	257	H
	* ** 1.09225	25.07	ADV	28	-25.9	.25	27.42	54	-26.58	-	-	238	257	H
4	* ** 1.22571	47.79	PK2	28.8	-25.1	0	51.49	-	-	74	-22.51	244	236	V
	* ** 1.22546	25.03	ADV	28.7	-25.1	.25	28.88	54	-25.12	-	-	244	236	V
2	* ** 4.92201	47.54	PK2	34	-31.2	0	50.34	-	-	74	-23.66	277	131	H
	* ** 4.92346	33.09	ADV	34	-31.2	.25	36.14	54	-17.86	-	-	277	131	H
3	* ** 12.00131	35.03	PK2	38.7	-25.1	0	48.63	-	-	74	-25.37	162	326	H
	* ** 12.00131	22.11	ADV	38.7	-25.1	.25	35.96	54	-18.04	-	-	162	326	H
5	* ** 4.92669	44.37	PK2	34.1	-31.2	0	47.27	-	-	74	-26.73	141	392	V
	* ** 4.92569	30.31	ADV	34.1	-31.2	.25	33.46	54	-20.54	-	-	141	392	V
6	* ** 9.16643	36.91	PK2	36.5	-27.1	0	46.31	-	-	74	-27.69	212	254	V
	* ** 9.1669	23.84	ADV	36.5	-27.1	.25	33.49	54	-20.51	-	-	212	254	V
7	9.84788	32.36	Pk	36.9	-26.9	0	42.36	-	-	-	-	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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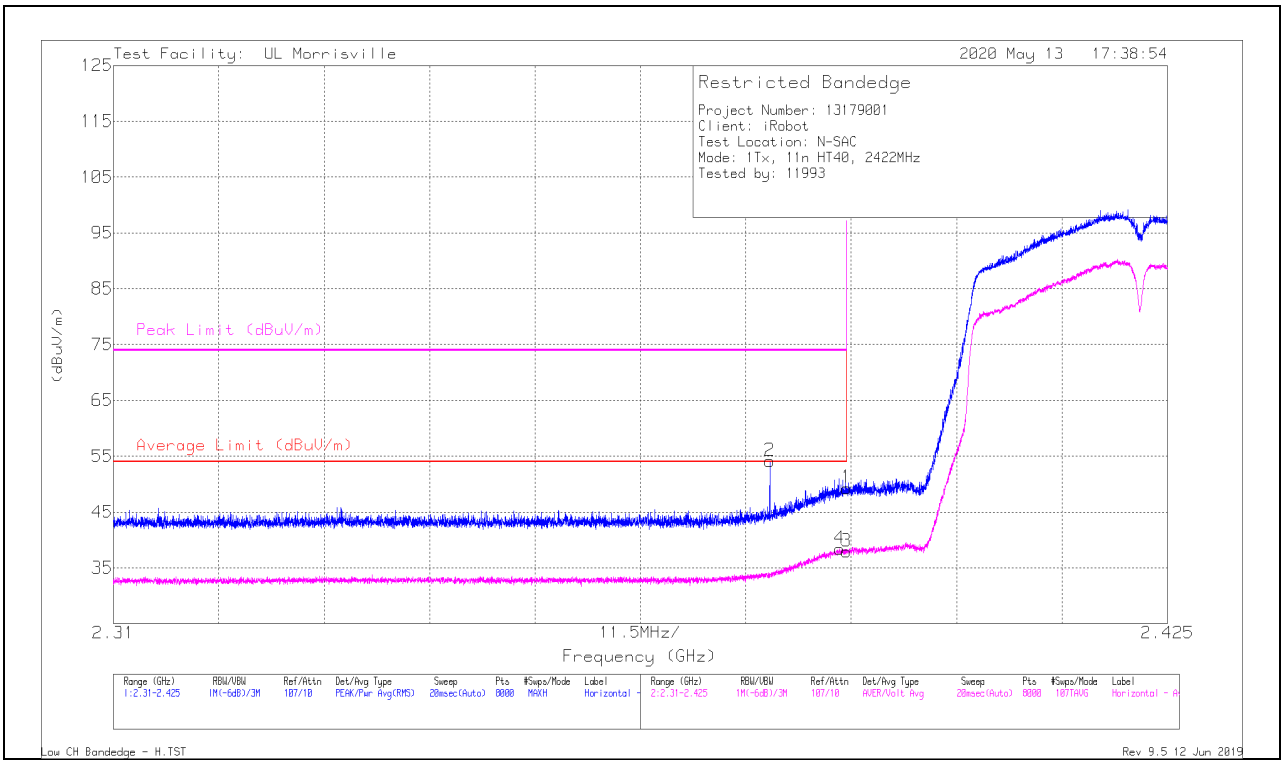
10.1.4. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 2.4 GHz BAND

External Antenna

BANDEDGE (LOW CHANNEL, CH 3)

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	* ** 2.38999	41.1	Pk	31.8	-23.6	0	49.3	-	-	74	-24.7	114	213	H
2	* ** 2.38161	45.82	Pk	31.8	-23.5	0	54.12	-	-	74	-19.88	114	213	H
3	* ** 2.38999	29.04	ADV	31.8	-23.6	.66	37.9	54	-16.1	-	-	114	213	H
4	* ** 2.38925	29.53	ADV	31.8	-23.6	.66	38.39	54	-15.61	-	-	114	213	H

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

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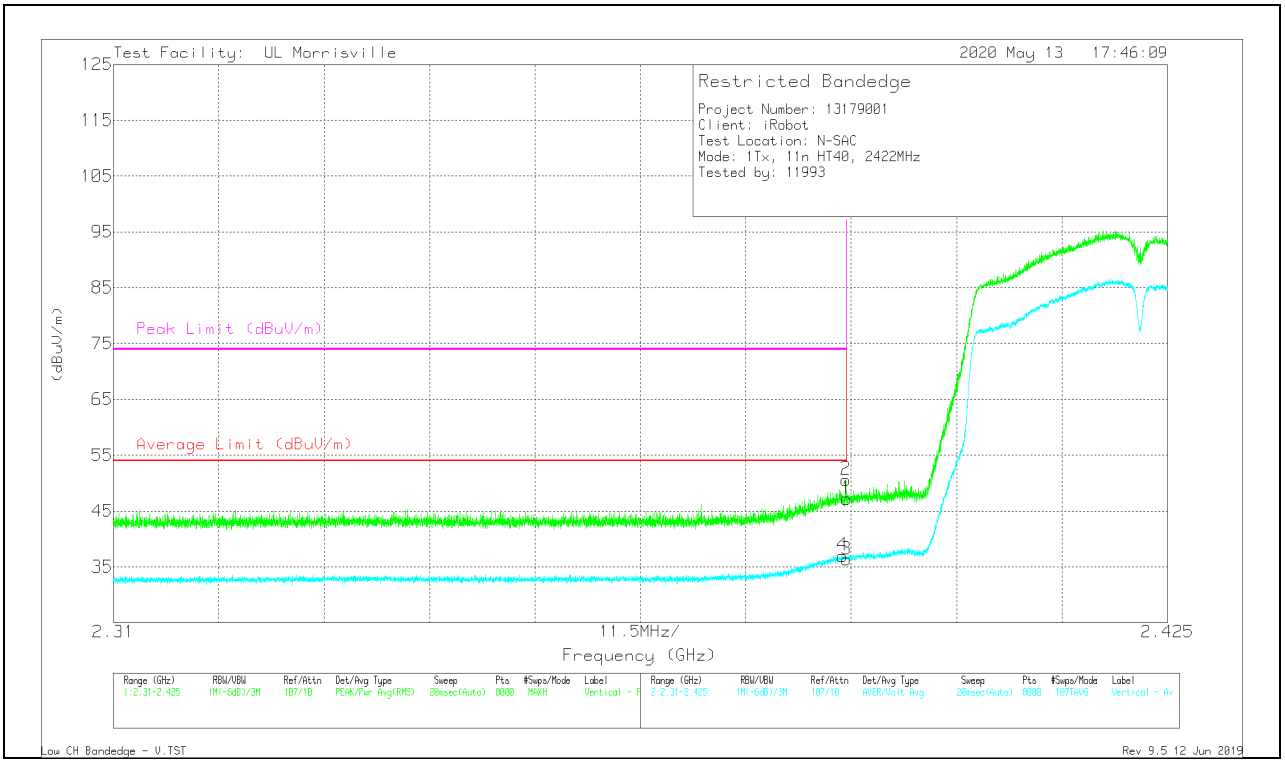
VERTICAL RESULT



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	* ** 2.38999	39.02	Pk	31.8	-23.6	0	47.22	-	-	74	-26.78	353	393	V
2	* ** 2.38994	42.44	Pk	31.8	-23.6	0	50.64	-	-	74	-23.36	353	393	V
3	* ** 2.38999	27.46	ADV	31.8	-23.6	.66	36.32	54	-17.68	-	-	353	393	V
4	* ** 2.38955	28.15	ADV	31.8	-23.6	.66	37.01	54	-16.99	-	-	353	393	V

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

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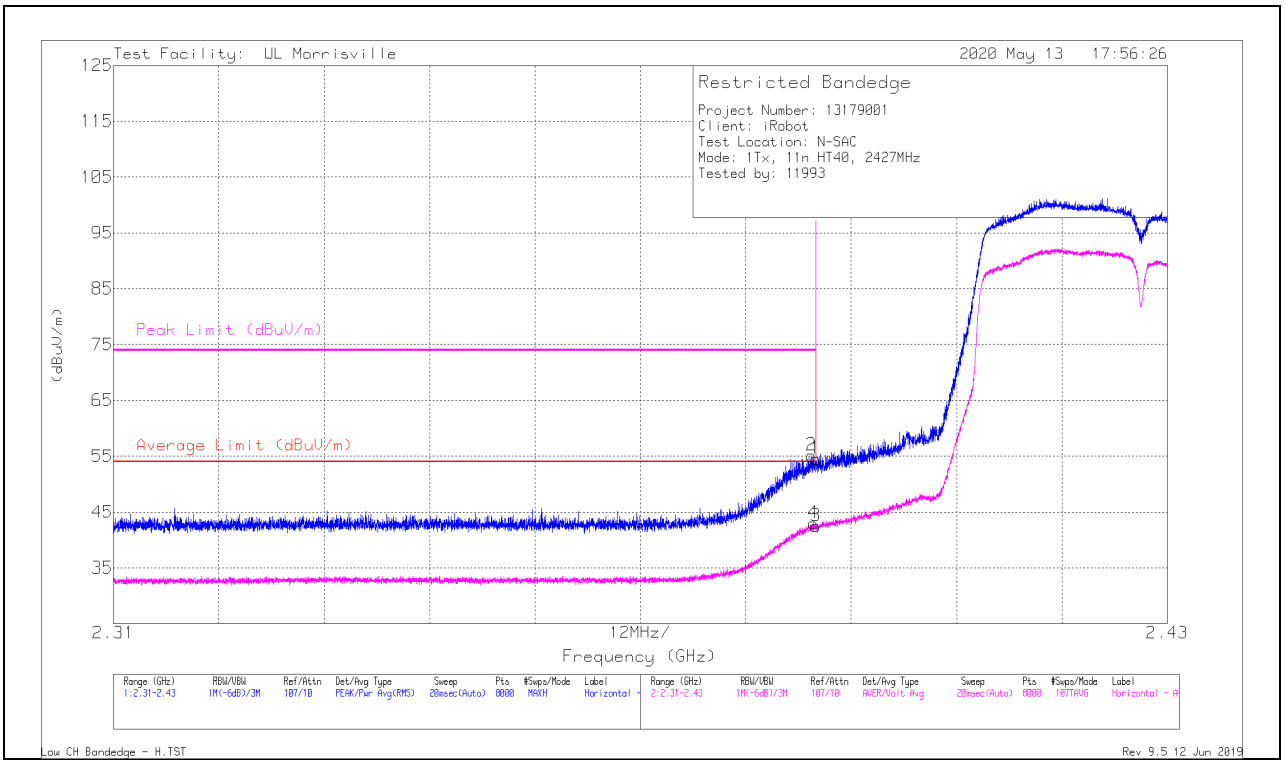
BANDEDGE (LOW CHANNEL, CH 4)

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	* ** 2.38999	46.3	Pk	31.8	-23.6	0	54.5	-	-	74	-19.5	297	350	H
2	* ** 2.3895	46.88	Pk	31.8	-23.6	0	55.08	-	-	74	-18.92	297	350	H
3	* ** 2.38999	33.58	ADV	31.8	-23.6	.66	42.44	54	-11.56	-	-	297	350	H
4	* ** 2.38966	34.1	ADV	31.8	-23.6	.66	42.96	54	-11.04	-	-	297	350	H

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

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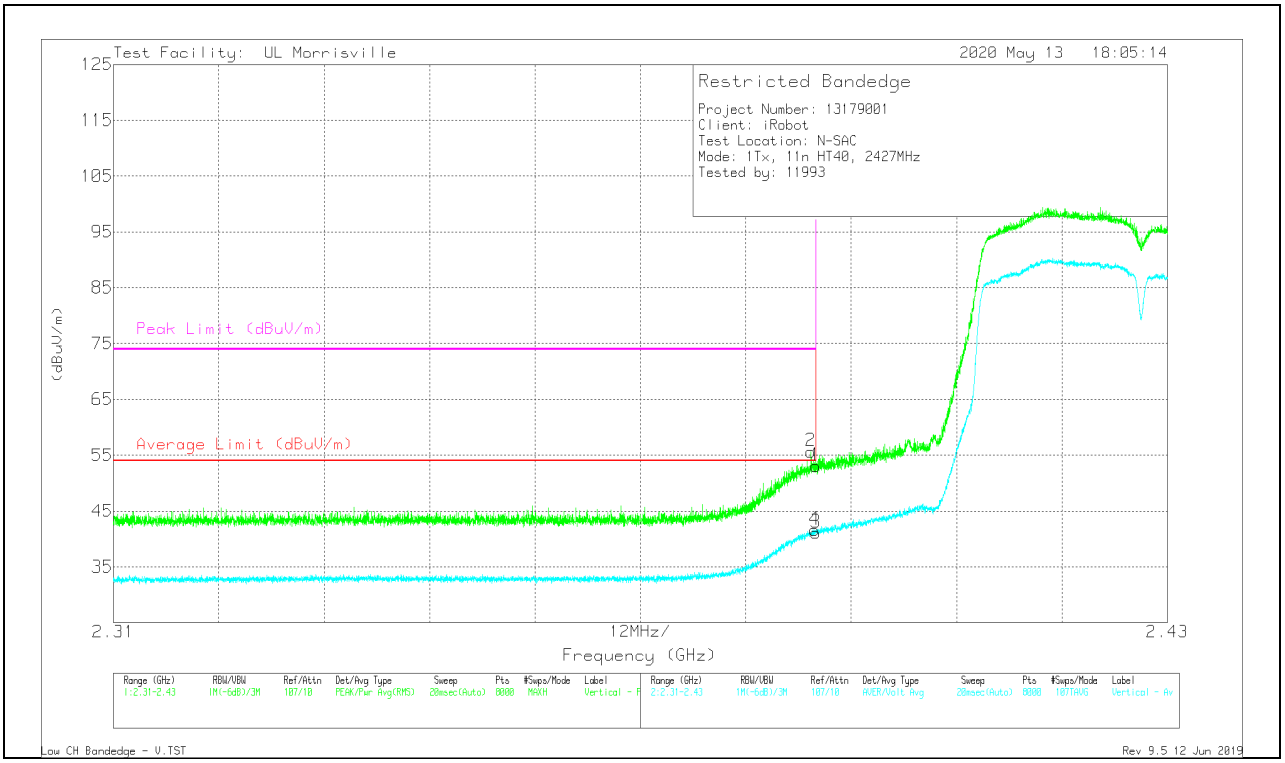
VERTICAL RESULT



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	* ** 2.38999	44.91	Pk	31.8	-23.6	0	53.11	-	-	74	-20.89	4	394	V
2	* ** 2.38942	47.49	Pk	31.8	-23.6	0	55.69	-	-	74	-18.31	4	394	V
3	* ** 2.38999	32.3	ADV	31.8	-23.6	.66	41.16	54	-12.84	-	-	4	394	V
4	* ** 2.38983	32.8	ADV	31.8	-23.6	.66	41.66	54	-12.34	-	-	4	394	V

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

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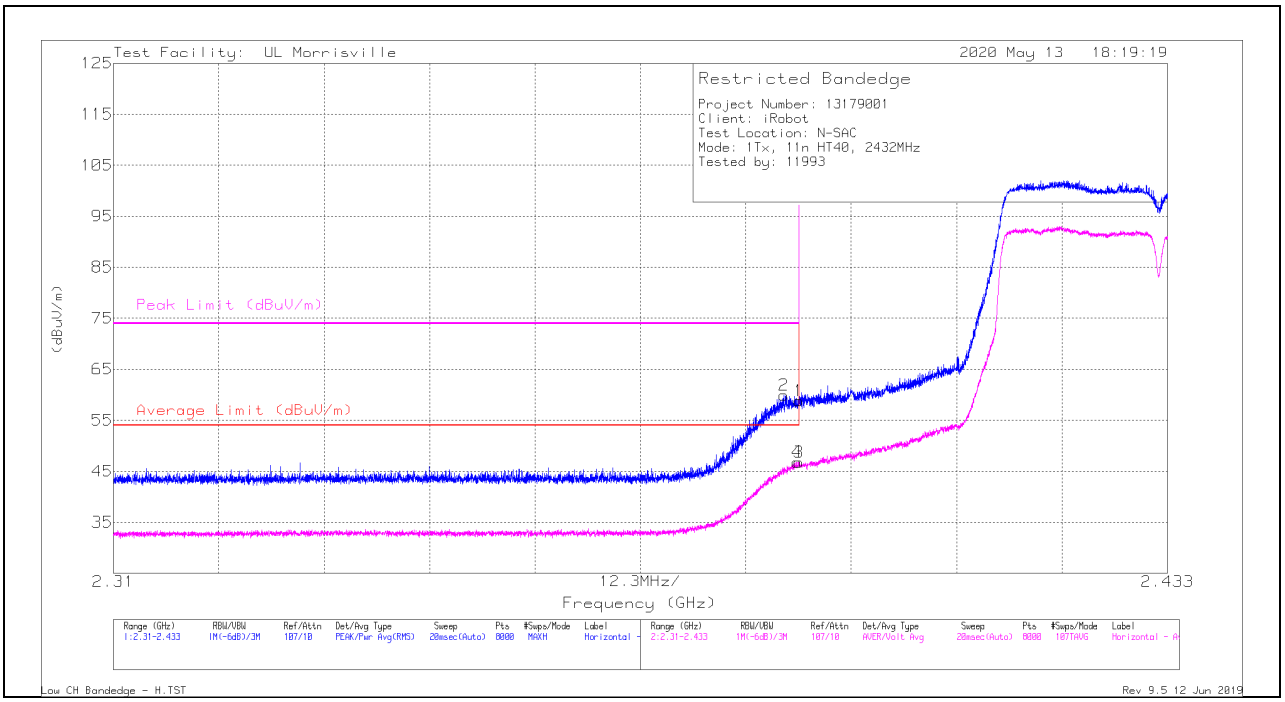
BANDEDGE (LOW CHANNEL, CH 5)

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	* ** 2.38999	50.65	Pk	31.8	-23.6	0	58.85	-	-	74	-15.15	297	398	H
2	* ** 2.38825	51.74	Pk	31.8	-23.6	0	59.94	-	-	74	-14.06	297	398	H
3	* ** 2.38999	37.91	ADV	31.8	-23.6	.66	46.77	54	-7.23	-	-	297	398	H
4	* ** 2.38979	37.96	ADV	31.8	-23.6	.66	46.82	54	-7.18	-	-	297	398	H

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

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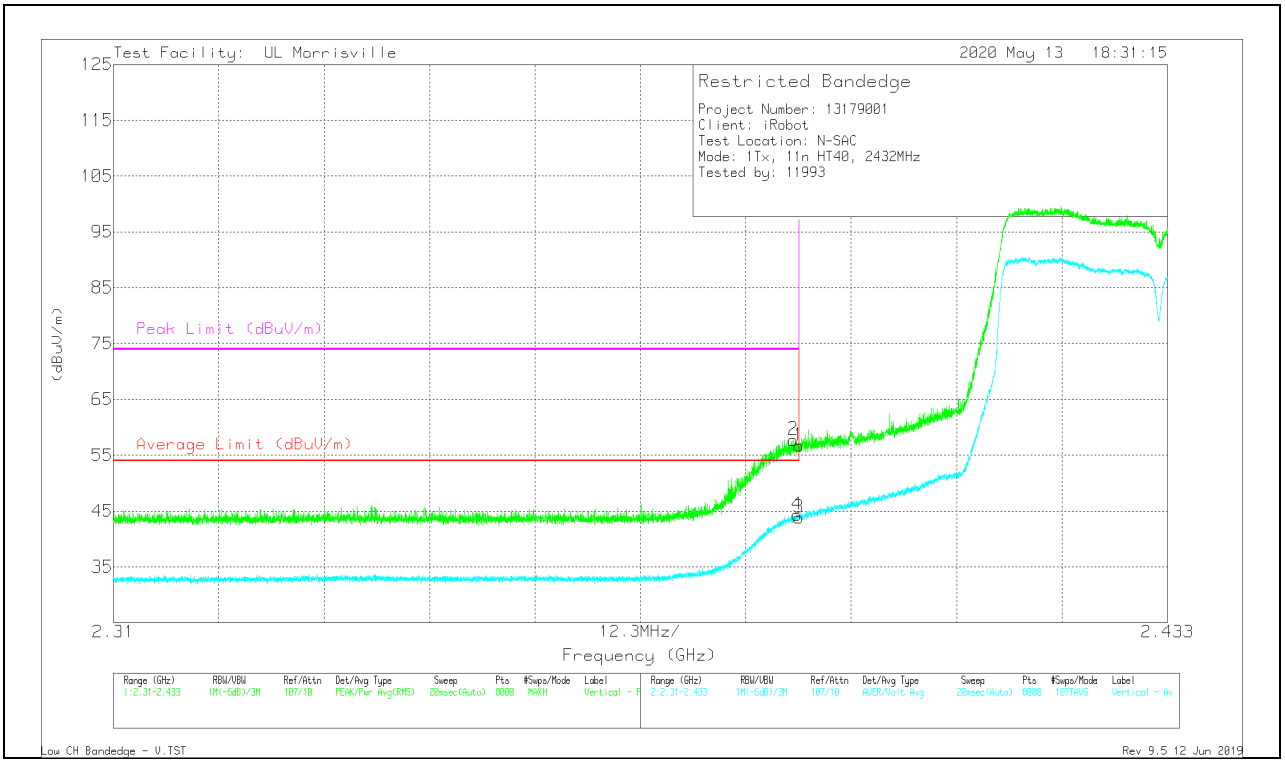
VERTICAL RESULT



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	* ** 2.38999	48.56	Pk	31.8	-23.6	0	56.76	-	-	74	-17.24	4	398	V
2	* ** 2.38932	49.56	Pk	31.8	-23.6	0	57.76	-	-	74	-16.24	4	398	V
3	* ** 2.38999	34.94	ADV	31.8	-23.6	.66	43.8	54	-10.2	-	-	4	398	V
4	* ** 2.38976	35.48	ADV	31.8	-23.6	.66	44.34	54	-9.66	-	-	4	398	V

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

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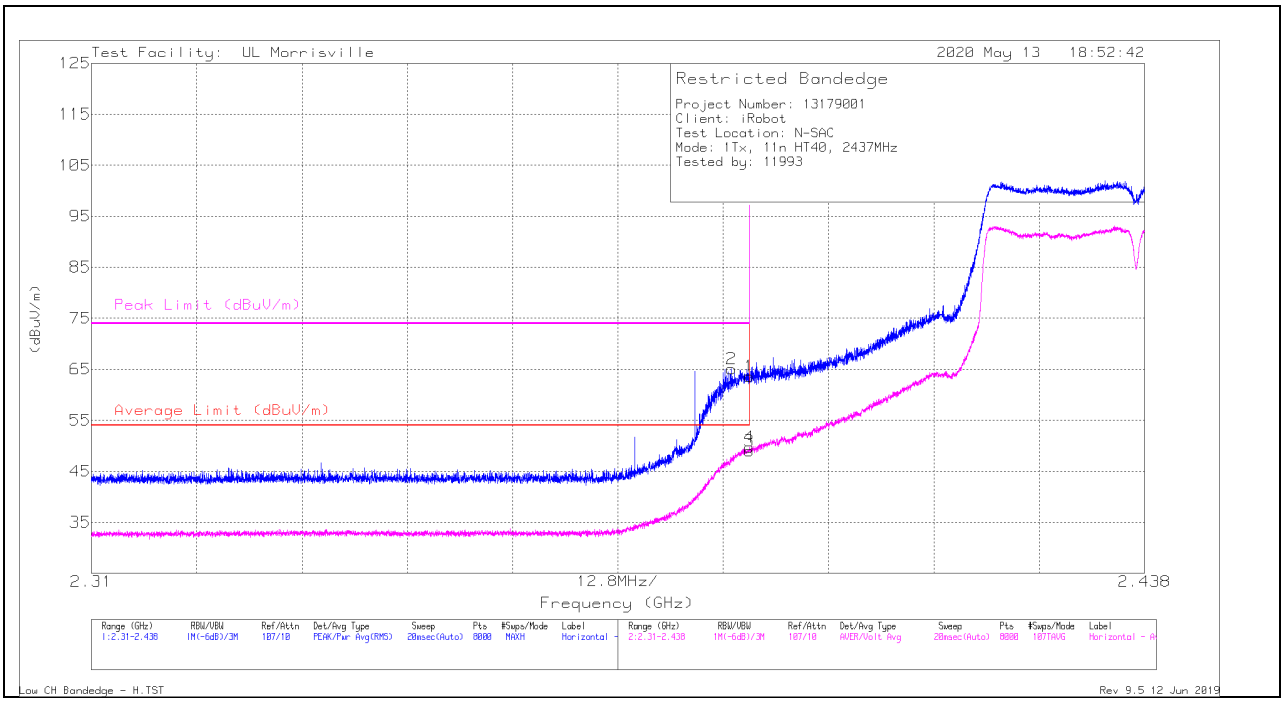
BANDEDGE LOW EDGE (MID CHANNEL, CH 6)

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	* ** 2.38999	55.42	Pk	31.8	-23.6	0	63.62	-	-	74	-10.38	293	169	H
2	* ** 2.3878	56.87	Pk	31.8	-23.6	0	65.07	-	-	74	-8.93	293	169	H
3	* ** 2.38999	40.1	ADV	31.8	-23.6	.66	48.96	54	-5.04	-	-	293	169	H
4	* ** 2.38995	40.87	ADV	31.8	-23.6	.66	49.73	54	-4.27	-	-	293	169	H

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

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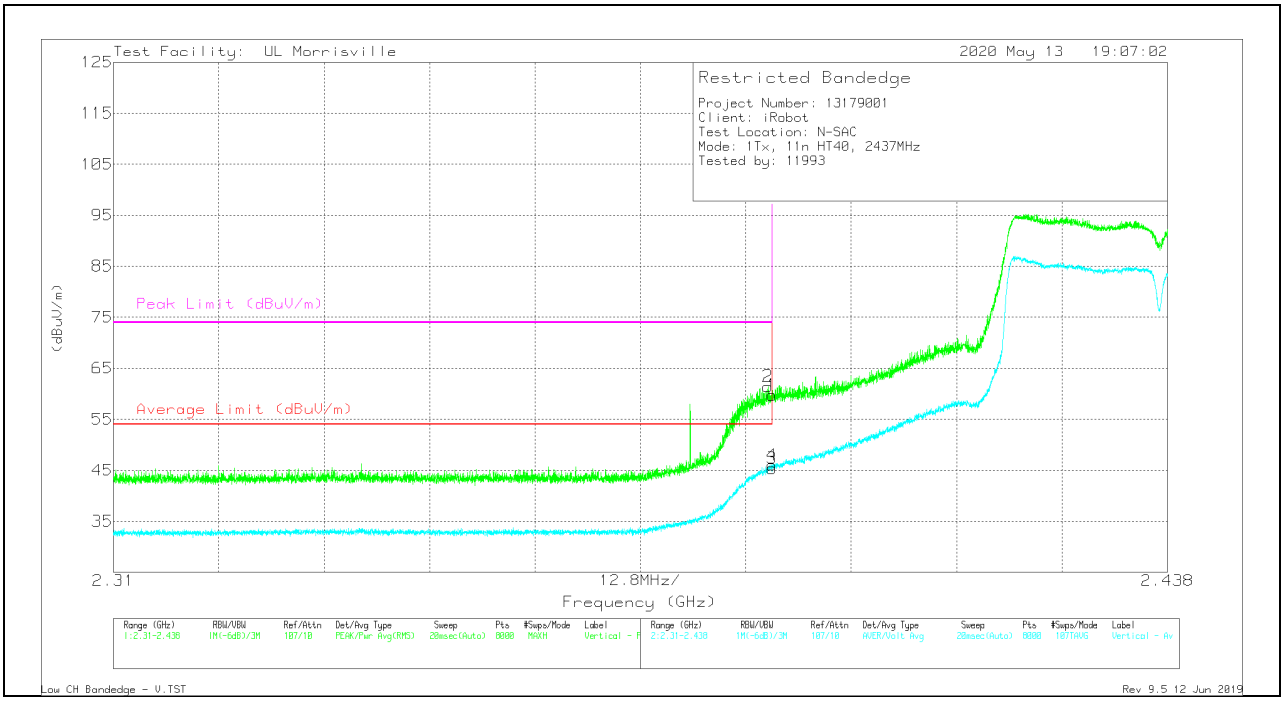
VERTICAL RESULT



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	* ** 2.38999	51.56	Pk	31.8	-23.6	0	59.76	-	-	74	-14.24	353	323	V
2	* ** 2.38948	53.24	Pk	31.8	-23.6	0	61.44	-	-	74	-12.56	353	323	V
3	* ** 2.38999	36.51	ADV	31.8	-23.6	.66	45.37	54	-8.63	-	-	353	323	V
4	* ** 2.38995	37.21	ADV	31.8	-23.6	.66	46.07	54	-7.93	-	-	353	323	V

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

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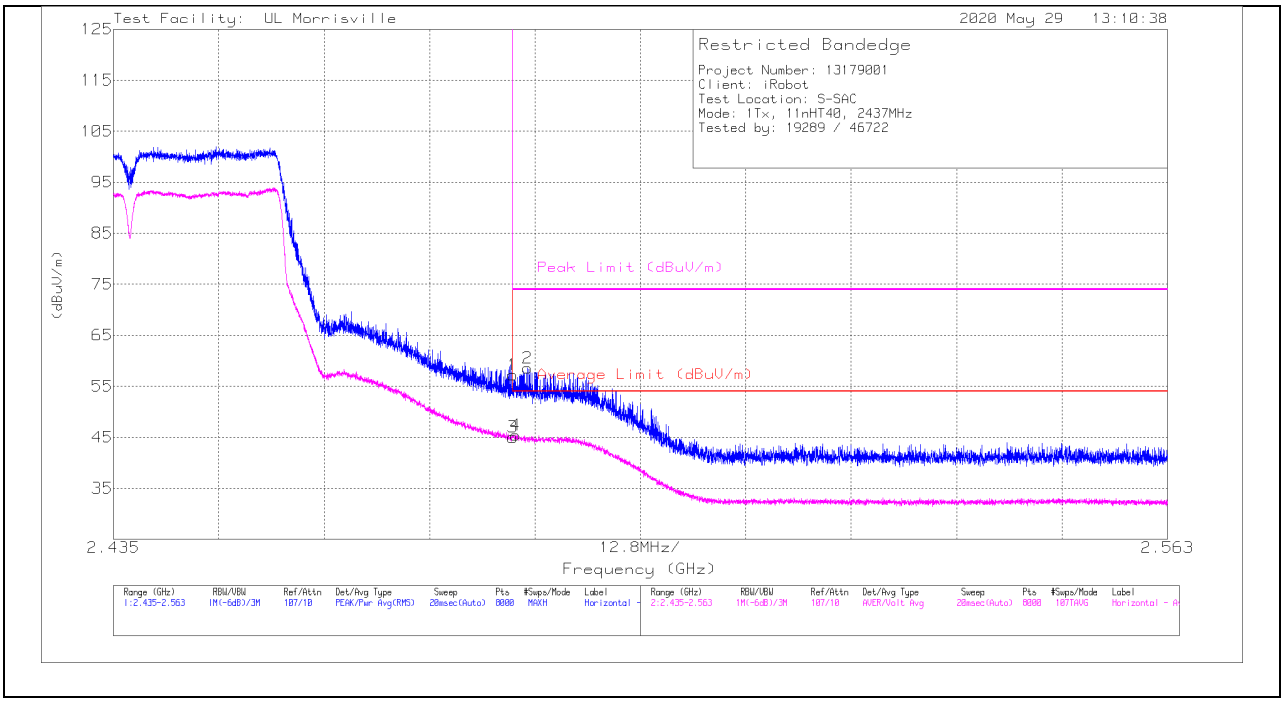
BANDEDGE HIGH EDGE (MID CHANNEL, CH 6)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	49.33	Pk	32.1	-24.2	0	57.23	-	-	74	-16.77	210	267	H
2	* ** 2.48528	50.58	Pk	32.2	-24.2	0	58.58	-	-	74	-15.42	210	267	H
3	* ** 2.4835	36.45	ADV	32.1	-24.2	.66	45.01	54	-8.99	-	-	210	267	H
4	* ** 2.48384	36.89	ADV	32.1	-24.2	.66	45.45	54	-8.55	-	-	210	267	H

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

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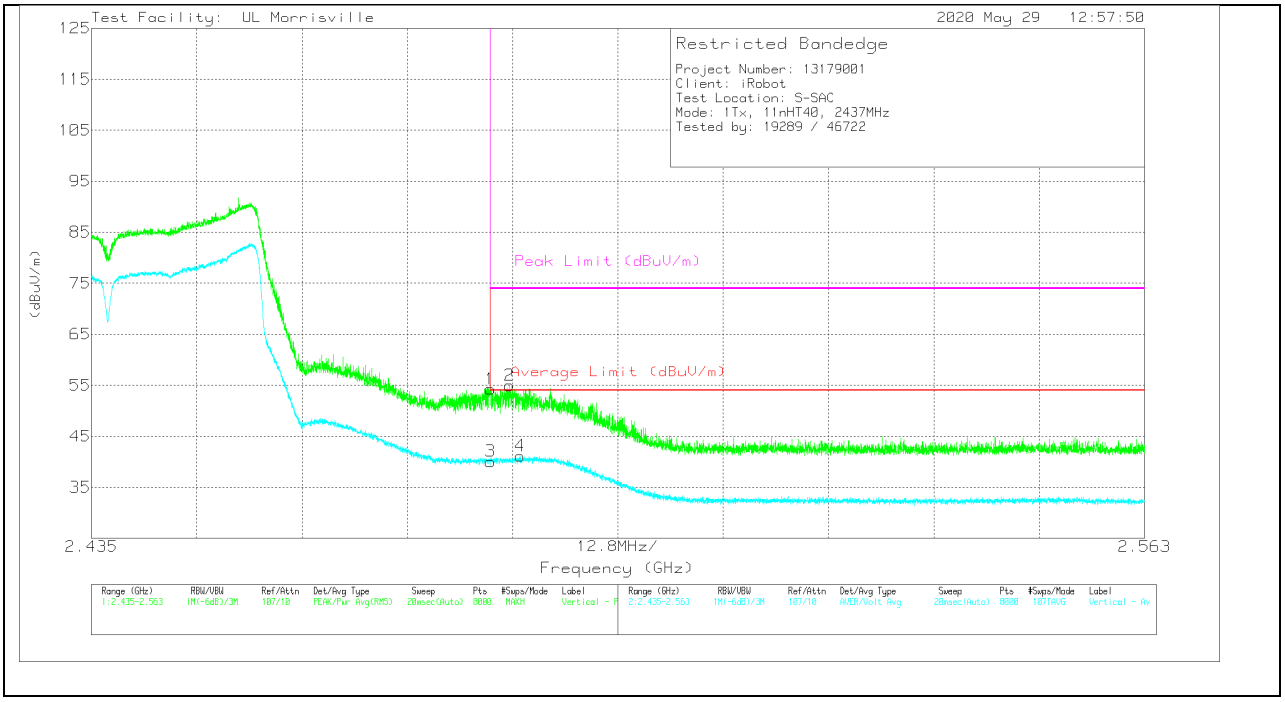
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	46.37	Pk	32.1	-24.2	0	54.27	-	-	74	-19.73	105	296	V
2	* ** 2.48581	46.97	Pk	32.2	-24.2	0	54.97	-	-	74	-19.03	105	296	V
3	* ** 2.4835	31.52	ADV	32.1	-24.2	.66	40.08	54	-13.92	-	-	105	296	V
4	* ** 2.48715	32.51	ADV	32.2	-24.2	.66	41.17	54	-12.83	-	-	105	296	V

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

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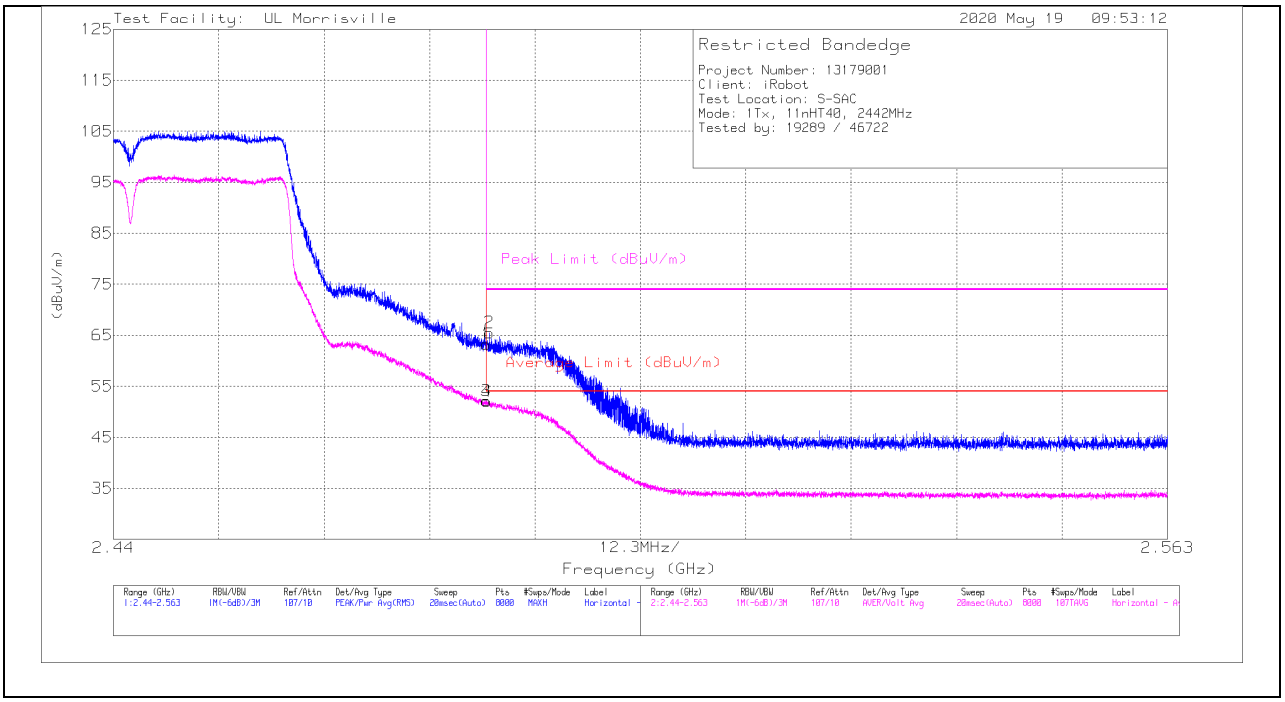
BANDEDGE HIGH EDGE (MID CHANNEL, CH 7)

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	* ** 2.4835	54.22	Pk	32.4	-23.4	0	63.22	-	-	74	-10.78	15	102	H
2	* ** 2.48386	56.51	Pk	32.4	-23.4	0	65.51	-	-	74	-8.49	15	102	H
3	* ** 2.4835	42.52	ADV	32.4	-23.4	.66	52.18	54	-1.82	-	-	15	102	H
4	* ** 2.48358	42.39	ADV	32.4	-23.4	.66	52.05	54	-1.95	-	-	15	102	H

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

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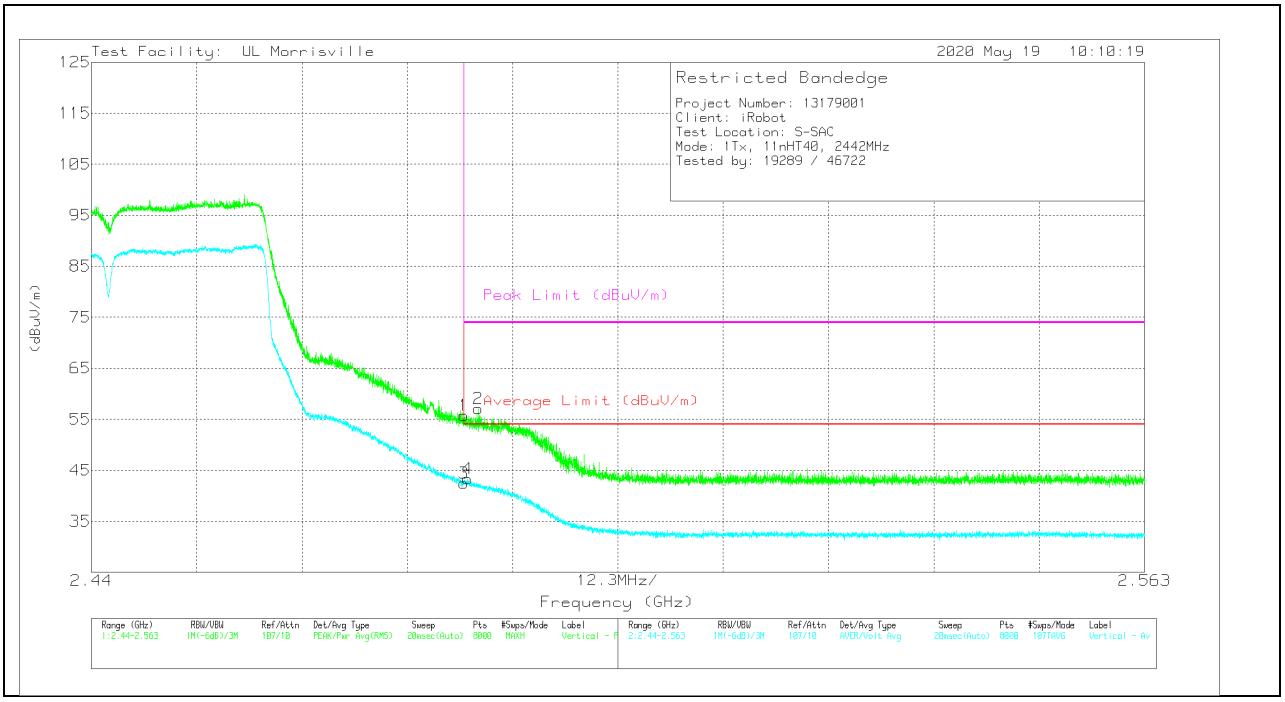
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.4835	47.88	Pk	32.1	-24.2	0	55.78	-	-	74	-18.22	115	269	V
2	* ** 2.48518	49.12	Pk	32.2	-24.2	0	57.12	-	-	74	-16.88	115	269	V
3	* ** 2.4835	33.91	ADV	32.1	-24.2	.66	42.47	54	-11.53	-	-	115	269	V
4	* ** 2.48395	34.74	ADV	32.1	-24.2	.66	43.3	54	-10.7	-	-	115	269	V

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

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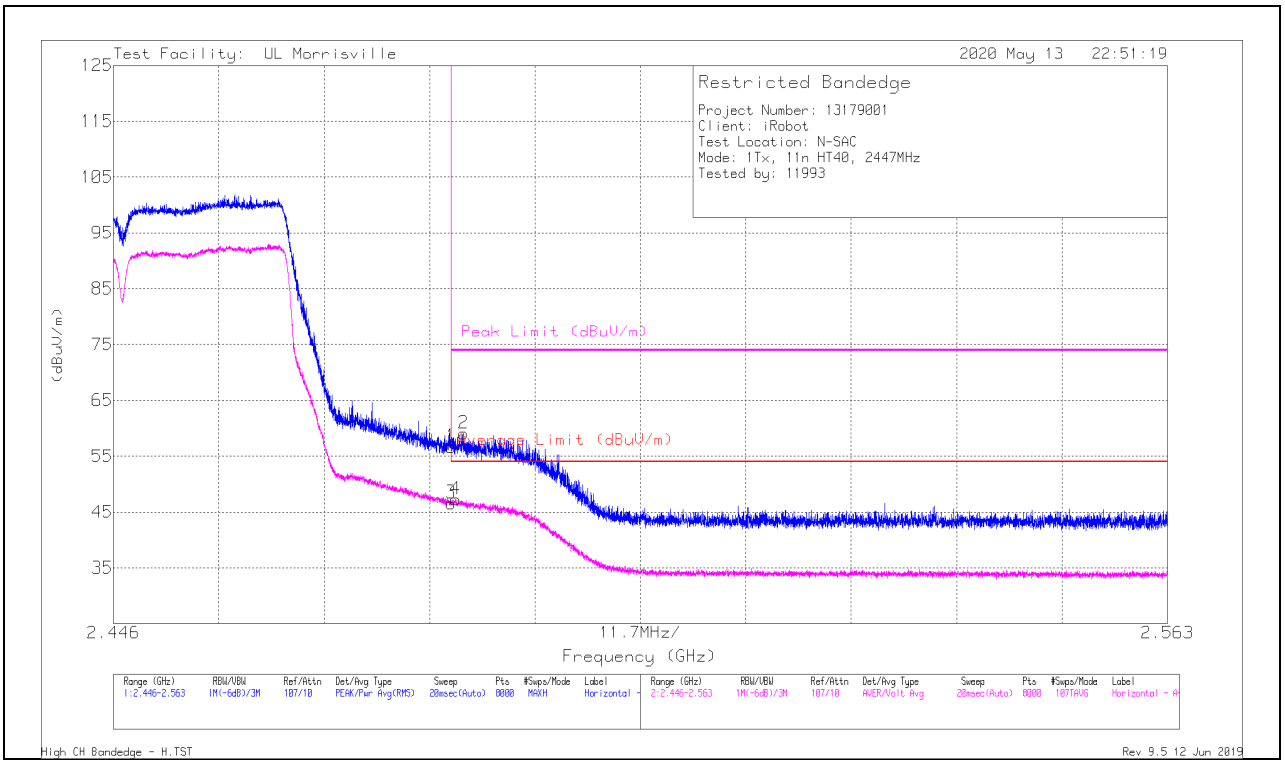
BANDEDGE (HIGH CHANNEL, CH 8)

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	* ** 2.4835	47.68	Pk	32.4	-23.4	0	56.68	-	-	74	-17.32	102	240	H
2	* ** 2.48485	49.94	Pk	32.5	-23.4	0	59.04	-	-	74	-14.96	102	240	H
3	* ** 2.4835	36.92	ADV	32.4	-23.4	.66	46.58	54	-7.42	-	-	102	239	H
4	* ** 2.484	37.6	ADV	32.4	-23.4	.66	47.26	54	-6.74	-	-	102	239	H

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

Note: Channel 8 run at mid channel power settings.

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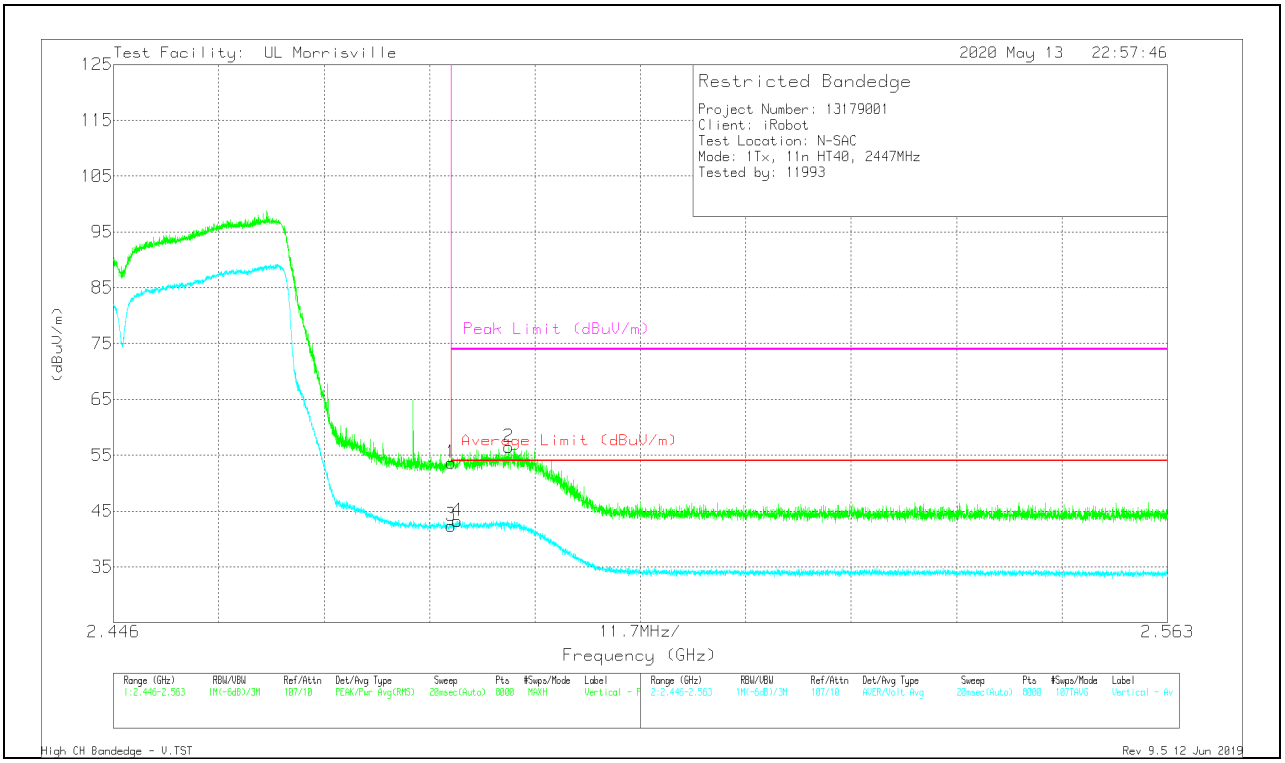
VERTICAL RESULT



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	* ** 2.4835	44.68	Pk	32.4	-23.4	0	53.68	-	-	74	-20.32	84	339	V
2	* ** 2.48988	47.47	Pk	32.5	-23.5	0	56.47	-	-	74	-17.53	84	339	V
3	* ** 2.4835	32.75	ADV	32.4	-23.4	.66	42.41	54	-11.59	-	-	84	339	V
4	* ** 2.48416	33.57	ADV	32.4	-23.4	.66	43.23	54	-10.77	-	-	84	339	V

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

Note: Channel 8 run at mid channel power settings.

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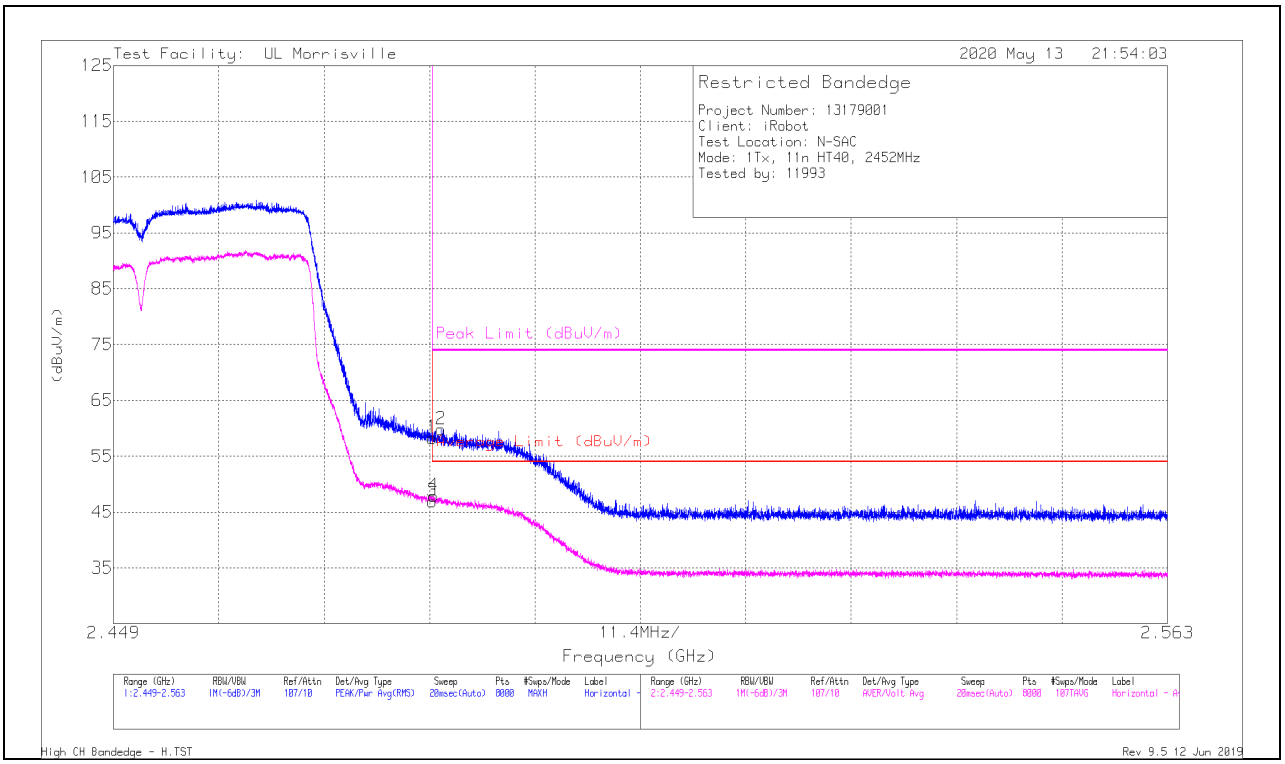
BANDEDGE (HIGH CHANNEL, CH 9)

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	* ** 2.4835	49.27	Pk	32.4	-23.4	0	58.27	-	-	74	-15.73	92	306	H
2	* ** 2.48446	50.82	Pk	32.4	-23.4	0	59.82	-	-	74	-14.18	92	306	H
3	* ** 2.4835	37.26	ADV	32.4	-23.4	.66	46.92	54	-7.08	-	-	92	305	H
4	* ** 2.48363	38.22	ADV	32.4	-23.4	.66	47.88	54	-6.12	-	-	92	305	H

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

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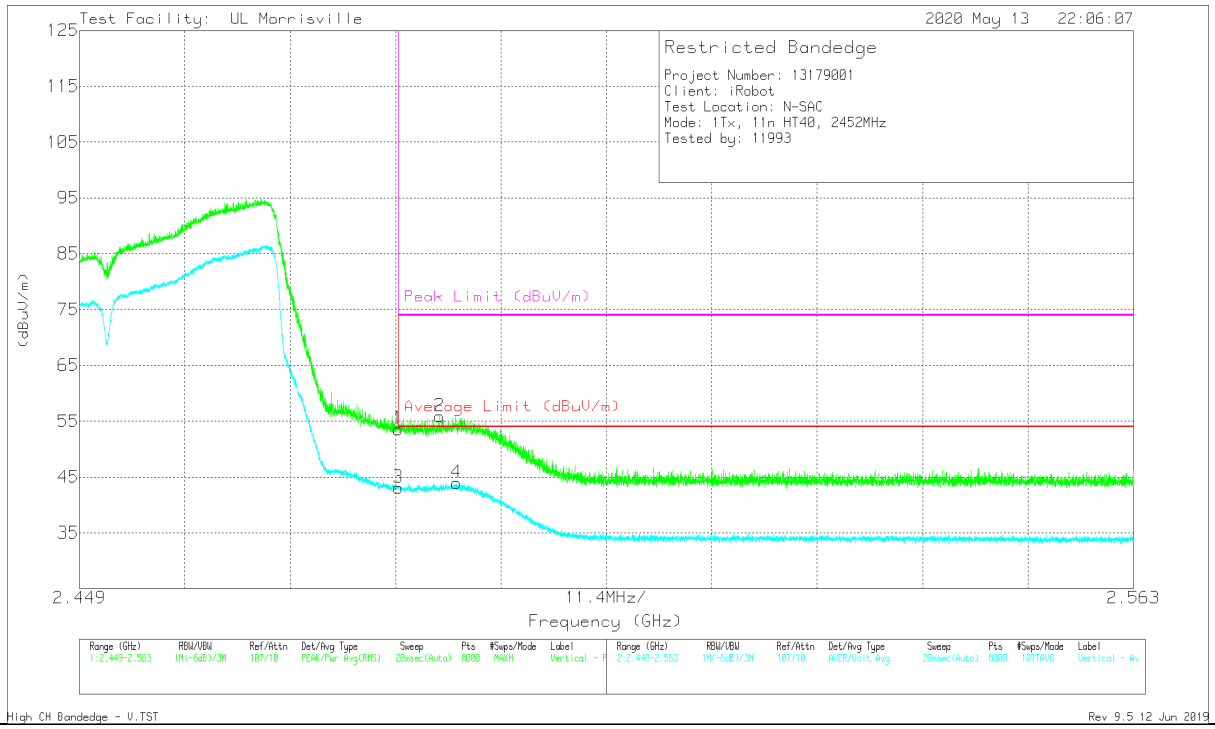
VERTICAL RESULT



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	* ** 2.4835	44.6	Pk	32.4	-23.4	0	53.6	-	-	74	-20.4	90	372	V
2	* ** 2.48797	46.79	Pk	32.5	-23.4	0	55.89	-	-	74	-18.11	90	372	V
3	* ** 2.4835	33.4	ADV	32.4	-23.4	.66	43.06	54	-10.94	-	-	90	372	V
4	* ** 2.48978	34.28	ADV	32.5	-23.5	.66	43.94	54	-10.06	-	-	90	372	V

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

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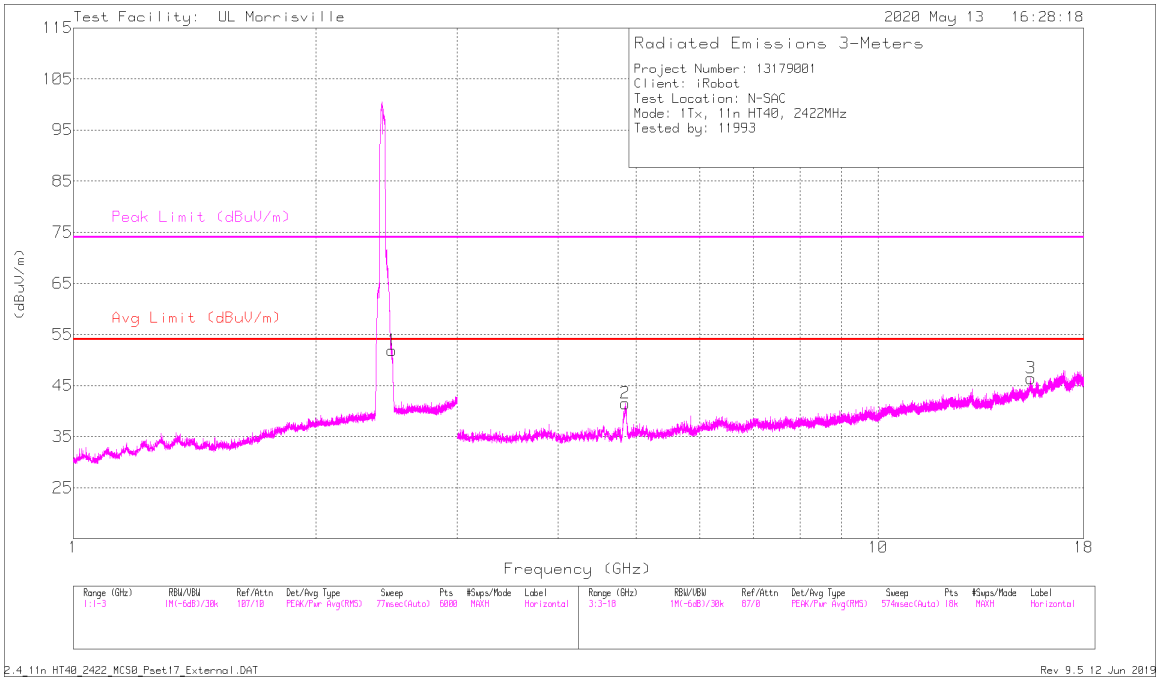
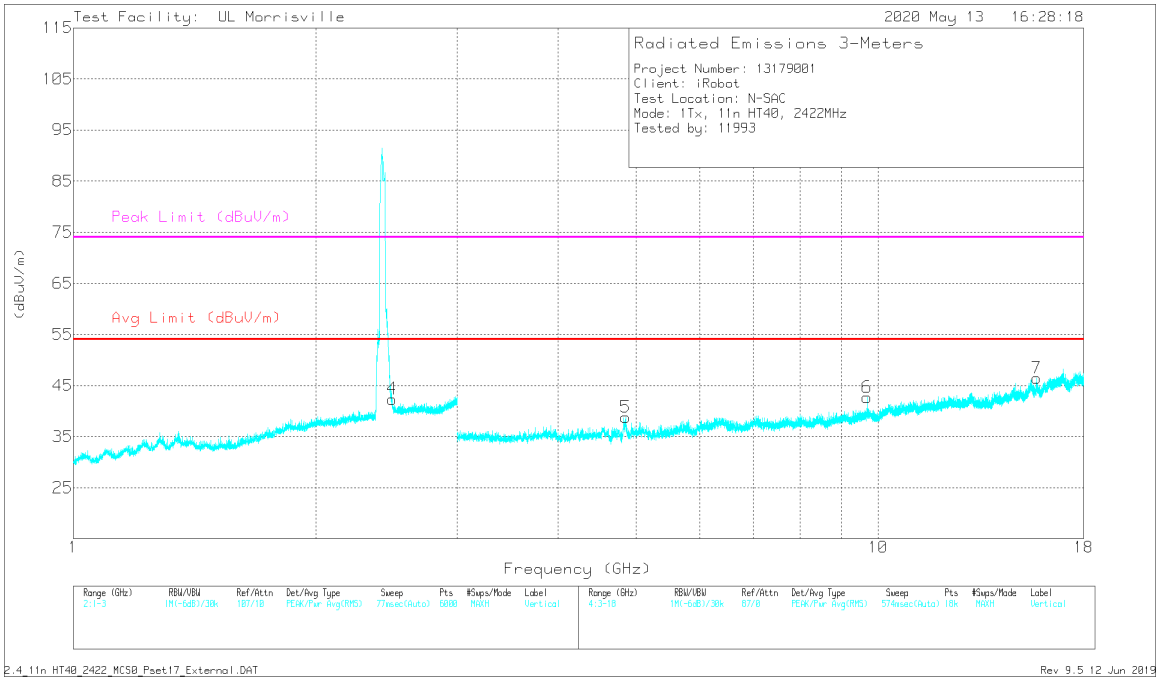
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 3 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.48396	52.04	PK2	32.4	-23.4	0	61.04	-	-	74	-12.96	104	260	H
	* ** 2.48465	37.04	ADV	32.4	-23.4	.66	46.7	54	-7.3	-	-	104	260	H
4	* ** 2.48913	45.01	PK2	32.5	-23.5	0	54.01	-	-	74	-19.99	186	332	V
	* ** 2.4878	30.48	ADV	32.5	-23.4	.66	40.24	54	-13.76	-	-	186	332	V
2	* ** 4.85235	43.83	PK2	34.1	-30.9	0	47.03	-	-	74	-26.97	160	121	H
	* ** 4.85184	31.27	ADV	34.1	-30.9	.66	35.13	54	-18.87	-	-	160	121	H
3	* ** 15.48325	35.25	PK2	40.2	-23.1	0	52.35	-	-	74	-21.65	211	159	H
	* ** 15.48374	22.4	ADV	40.2	-23.1	.66	40.16	54	-13.84	-	-	211	159	H
5	* ** 4.85778	43.06	PK2	34.1	-31	0	46.16	-	-	74	-27.84	43	104	V
	* ** 4.85574	30.36	ADV	34.1	-30.9	.66	34.22	54	-19.78	-	-	43	104	V
7	* ** 15.73538	34.81	PK2	40.1	-23.5	0	51.41	-	-	74	-22.59	72	365	V
	* ** 15.73496	22.51	ADV	40.1	-23.5	.66	39.77	54	-14.23	-	-	72	365	V
6	9.68788	32.58	Pk	37	-26.9	0	42.68	-	-	-	-	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV -Linear Voltage Average
Pk - Peak detector

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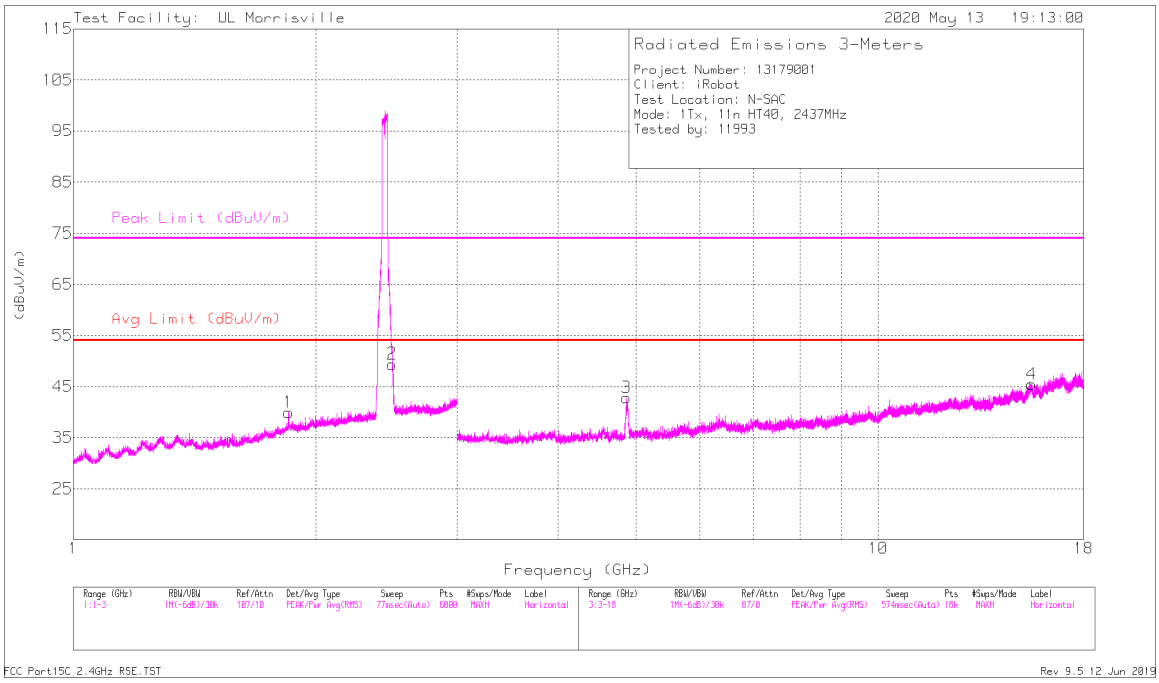
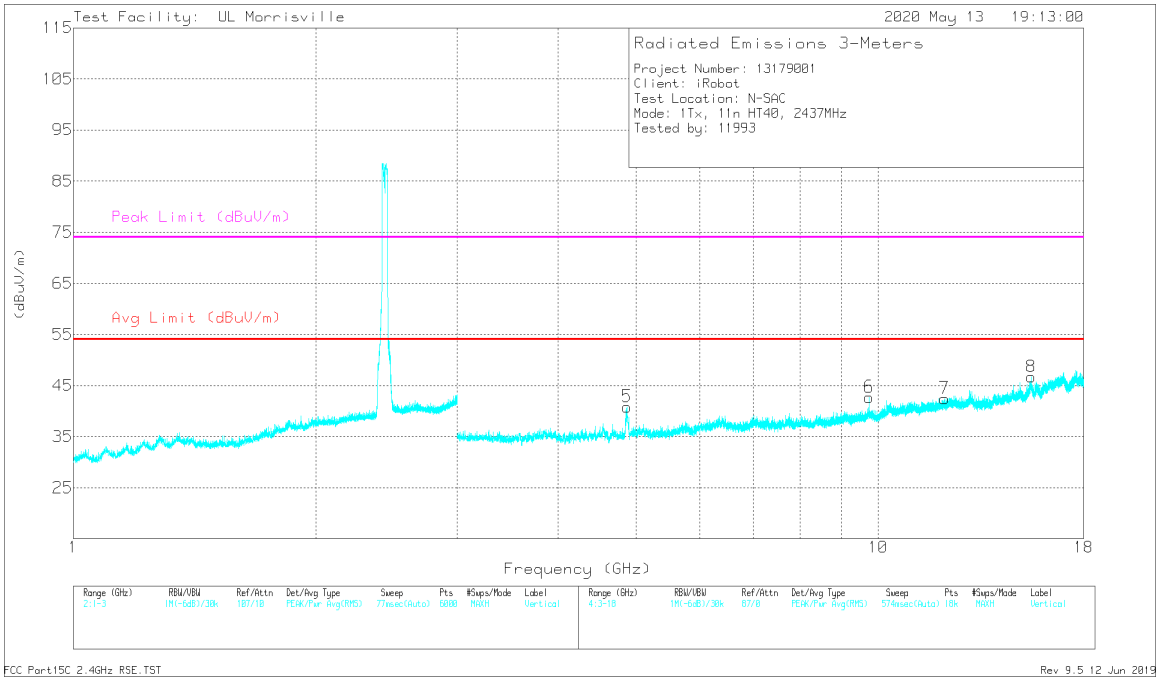
MID CHANNEL, CH 6 RESULTS



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)	Azimuth (Degs)	Height (cm)	Polarity
1	** 1.85137	36.63	PK2	31	-23.4	0	44.23	-	-	74	-29.77	151	389	H
	** 1.85361	23.64	ADV	31	-23.4	.66	31.9	54	-22.1	-	-	151	389	H
2	* ** 2.48961	49.27	PK2	32.5	-23.5	0	58.27	-	-	74	-15.73	133	344	H
	* ** 2.48961	33.39	ADV	32.5	-23.5	.66	43.05	54	-10.95	-	-	133	344	H
3	* ** 4.86975	45.95	PK2	34	-31	0	48.95	-	-	74	-25.05	182	188	H
	* ** 4.86987	33.23	ADV	34	-31	.66	36.89	54	-17.11	-	-	182	188	H
4	* ** 15.51688	35.75	PK2	40.2	-23.6	0	52.35	-	-	74	-21.65	195	340	H
	* ** 15.51779	22.44	ADV	40.2	-23.6	.66	39.7	54	-14.3	-	-	195	340	H
5	* ** 4.87521	43.23	PK2	34.1	-30.9	0	46.43	-	-	74	-27.57	5	104	V
	* ** 4.87386	30.25	ADV	34.1	-30.9	.66	34.11	54	-19.89	-	-	5	104	V
7	* ** 12.09412	34.91	PK2	38.9	-25.1	0	48.71	-	-	74	-25.29	45	170	V
	* ** 12.09488	22.15	ADV	38.8	-25.1	.66	36.51	54	-17.49	-	-	45	170	V
8	* ** 15.48961	34.76	PK2	40.2	-23.1	0	51.86	-	-	74	-22.14	323	132	V
	* ** 15.48841	22.57	ADV	40.2	-23.1	.66	40.33	54	-13.67	-	-	323	132	V
6	9.74788	32.34	Pk	37	-26.6	0	42.74	-	-	-	-	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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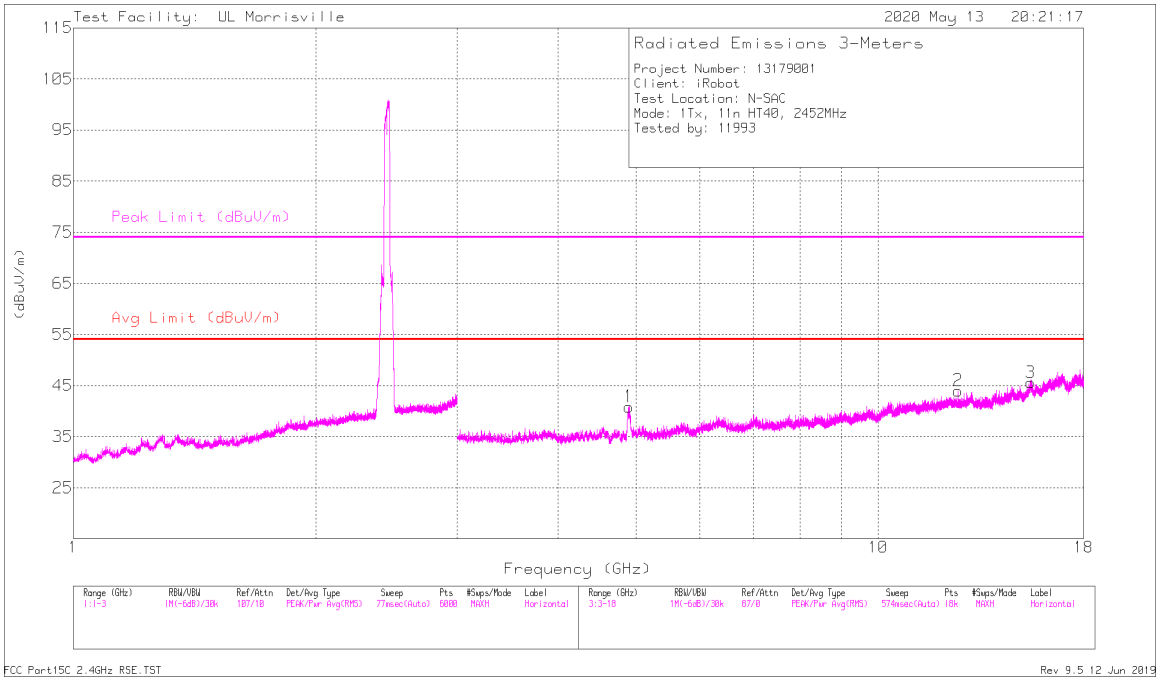
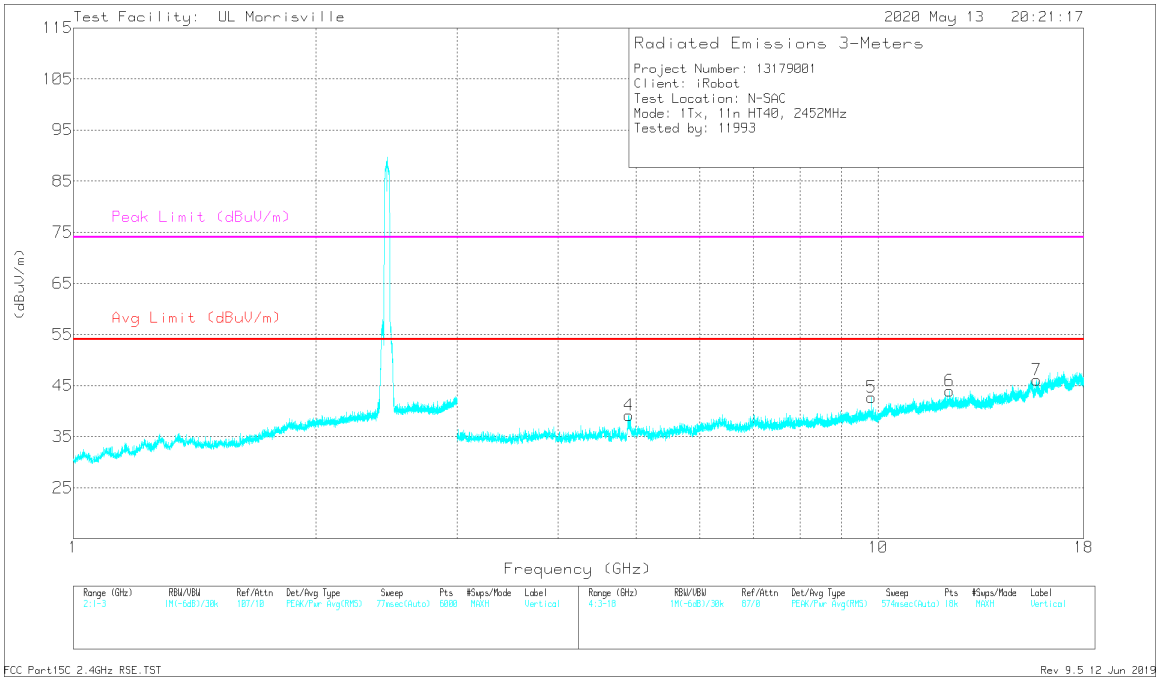
HIGH CHANNEL, CH 9 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.90611	43.73	PK2	34	-31.1	0	46.63	-	-	74	-27.37	175	137	H
	* ** 4.90387	30.49	ADV	34	-31	.66	34.15	54	-19.85	-	-	175	137	H
2	* ** 12.57007	36.06	PK2	39	-25.9	0	49.16	-	-	74	-24.84	231	217	H
	* ** 12.56999	23.08	ADV	39	-25.9	.66	36.84	54	-17.16	-	-	231	217	H
3	* ** 15.48684	35.32	PK2	40.2	-23.1	0	52.42	-	-	74	-21.58	253	234	H
	* ** 15.48724	22.77	ADV	40.2	-23.1	.66	40.53	54	-13.47	-	-	253	234	H
4	* ** 4.90385	42.99	PK2	34	-31	0	45.99	-	-	74	-28.01	4	102	V
	* ** 4.904	29.86	ADV	34	-31	.66	33.52	54	-20.48	-	-	4	102	V
5	* ** 12.26898	35.52	PK2	38.9	-25.1	0	49.32	-	-	74	-24.68	52	259	V
	* ** 12.27142	22.53	ADV	38.9	-25.1	.66	36.99	54	-17.01	-	-	52	259	V
7	* ** 15.73885	34.98	PK2	40.1	-23.5	0	51.58	-	-	74	-22.42	136	281	V
	* ** 15.73688	22.45	ADV	40.1	-23.5	.66	39.71	54	-14.29	-	-	136	281	V
5	9.80705	32.61	Pk	37	-26.9	0	42.71	-	-	-	-	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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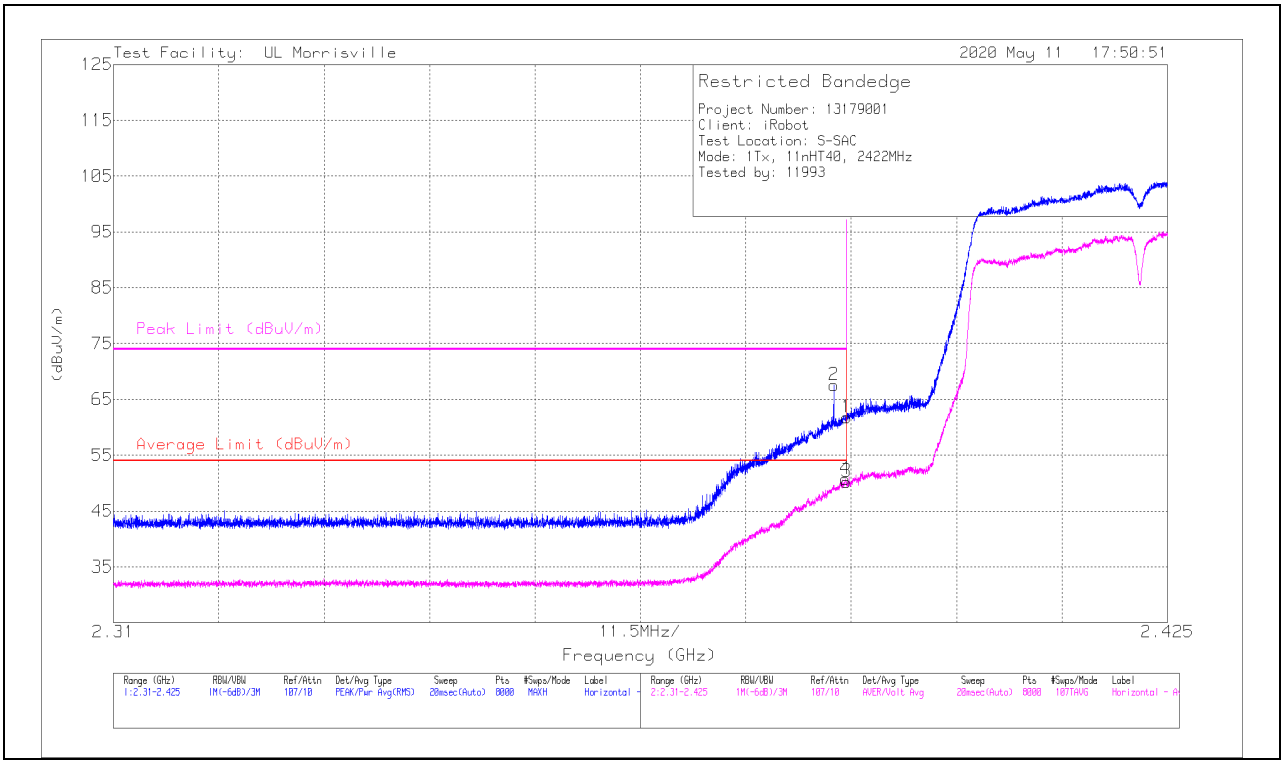
PCB Antenna

BANDEDGE (LOW CHANNEL, CH 3)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	53.75	Pk	32	-24	0	61.75	-	-	74	-12.25	72	116	H
2	* ** 2.3886	59.58	Pk	32	-24	0	67.58	-	-	74	-6.42	72	116	H
3	* ** 2.38999	41.62	ADV	32	-24	.66	50.28	54	-3.72	-	-	72	116	H
4	* ** 2.38985	42.08	ADV	32	-24	.66	50.74	54	-3.26	-	-	72	116	H

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

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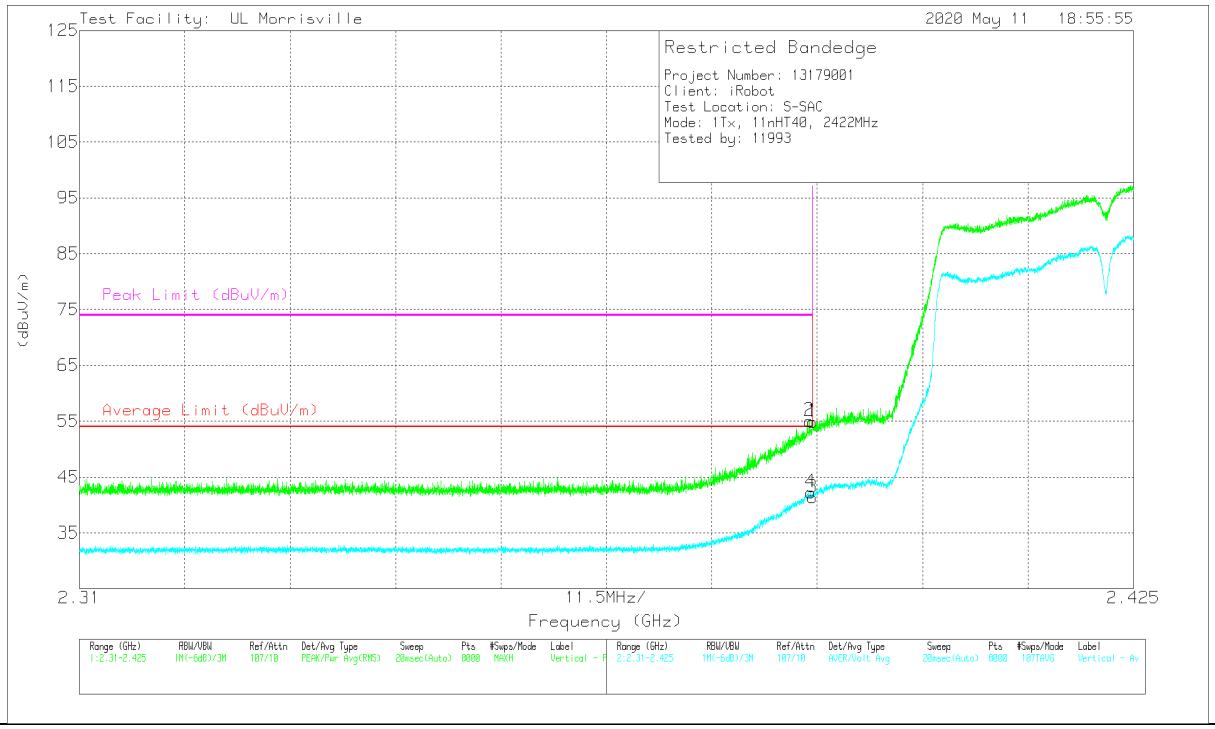
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	46.94	Pk	32	-24	0	54.94	-	-	74	-19.06	161	348	V
2	* ** 2.38962	47.07	Pk	32	-24	0	55.07	-	-	74	-18.93	161	348	V
3	* ** 2.38999	32.72	ADV	32	-24	.66	41.38	54	-12.62	-	-	161	348	V
4	* ** 2.38976	33.63	ADV	32	-24	.66	42.29	54	-11.71	-	-	161	348	V

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

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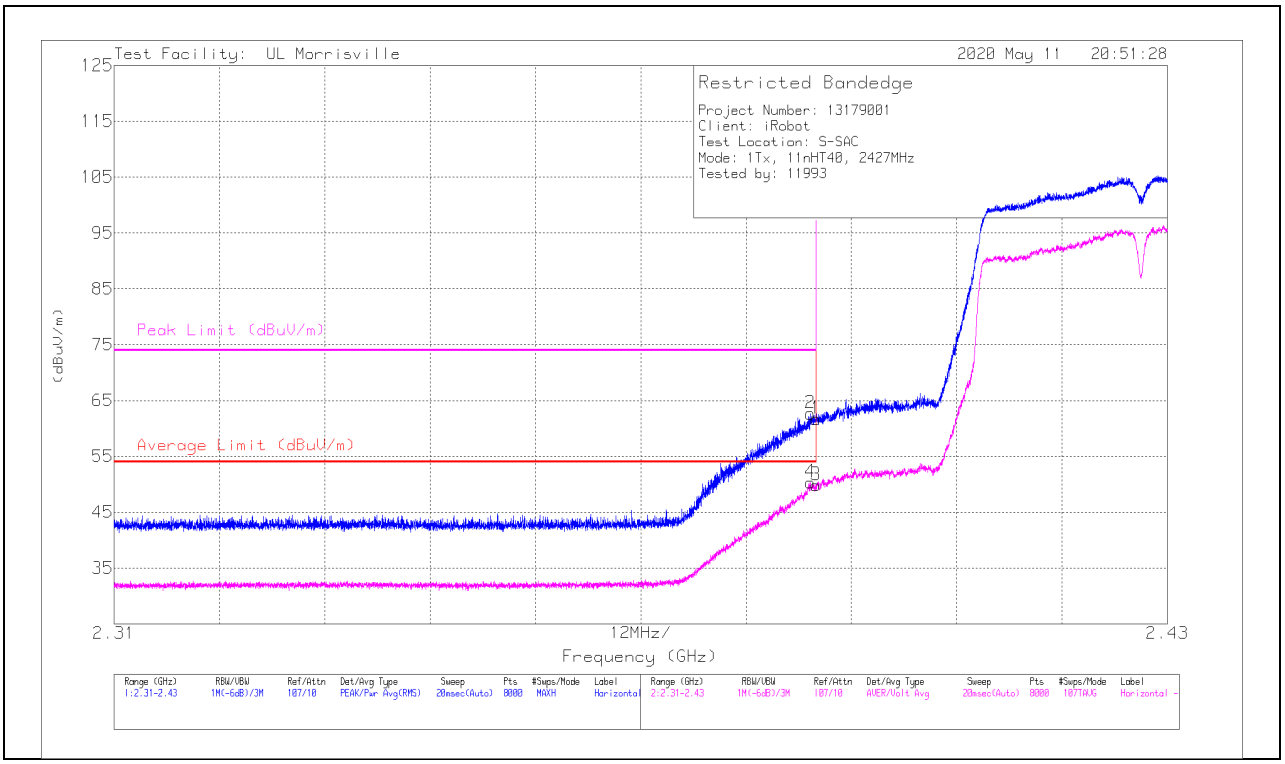
BANDEDGE (LOW CHANNEL, CH 4)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	53.73	Pk	32	-24	0	61.73	-	-	74	-12.27	76	133	H
2	* ** 2.38932	54.69	Pk	32	-24	0	62.69	-	-	74	-11.31	76	133	H
3	* ** 2.38999	41.2	ADV	32	-24	.66	49.86	54	-4.14	-	-	76	133	H
4	* ** 2.3893	41.69	ADV	32	-24	.66	50.35	54	-3.65	-	-	76	133	H

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

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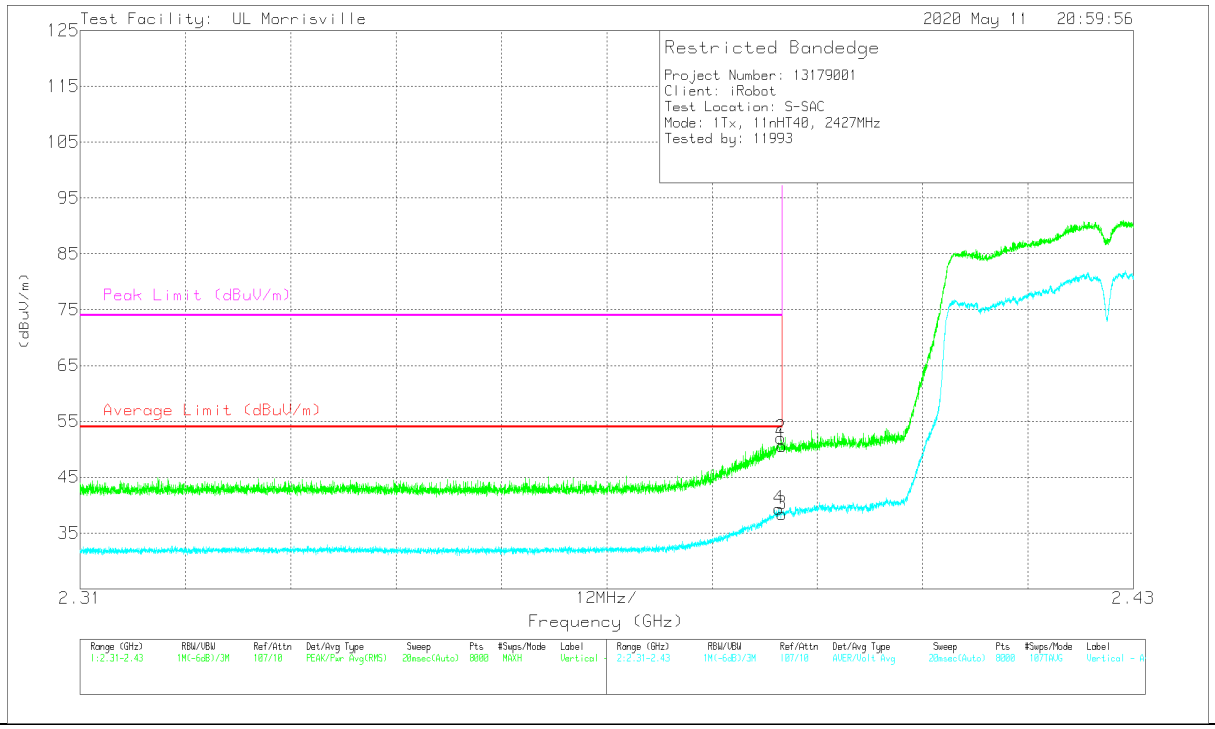
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	42.54	Pk	32	-24	0	50.54	-	-	74	-23.46	228	112	V
2	* ** 2.38983	44.03	Pk	32	-24	0	52.03	-	-	74	-21.97	228	112	V
3	* ** 2.38999	29.77	ADV	32	-24	.66	38.43	54	-15.57	-	-	228	112	V
4	* ** 2.38959	30.73	ADV	32	-24	.66	39.39	54	-14.61	-	-	228	112	V

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

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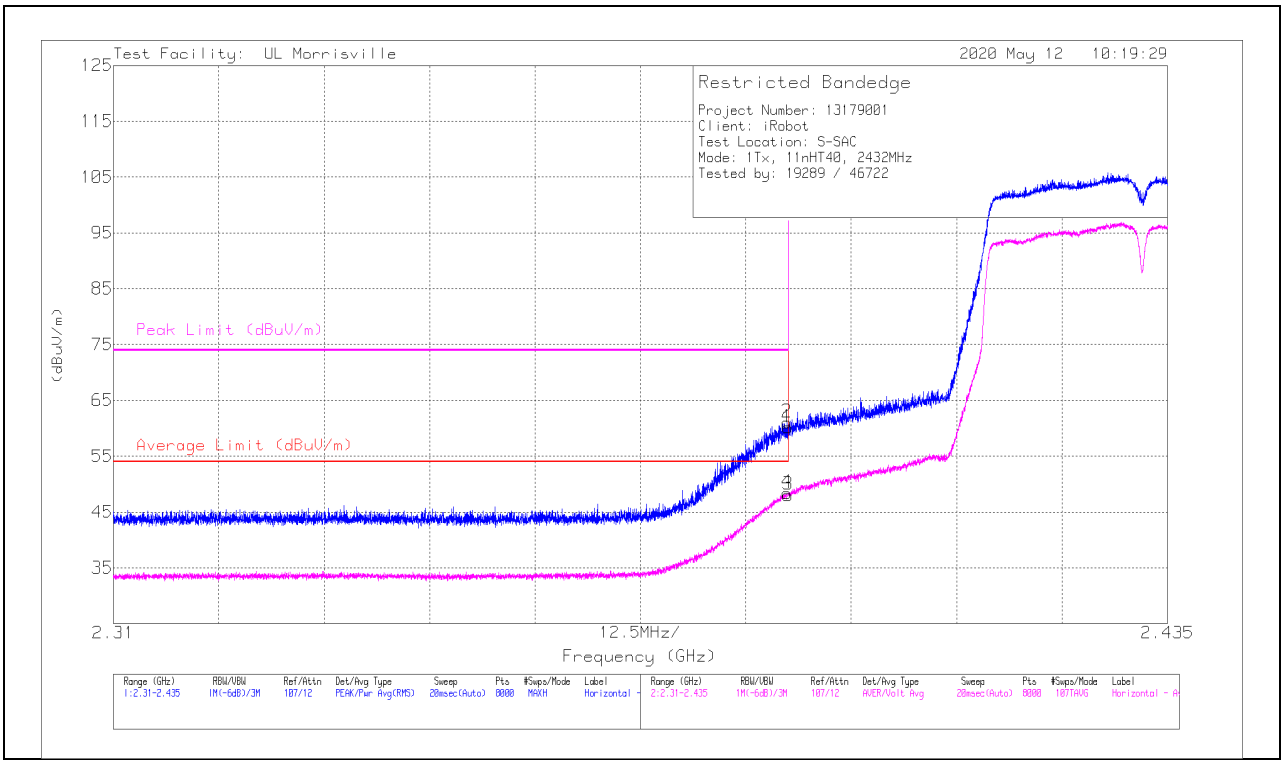
BANDEDGE (LOW CHANNEL, CH 5)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	52.2	Pk	32	-24	0	60.2	-	-	74	-13.8	76	140	H
2	* ** 2.38989	53.08	Pk	32	-24	0	61.08	-	-	74	-12.92	76	140	H
3	* ** 2.39	39.43	ADV	32	-24	.66	48.09	54	-5.91	-	-	76	140	H
4	* ** 2.38985	39.79	ADV	32	-24	.66	48.45	54	-5.55	-	-	76	140	H

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

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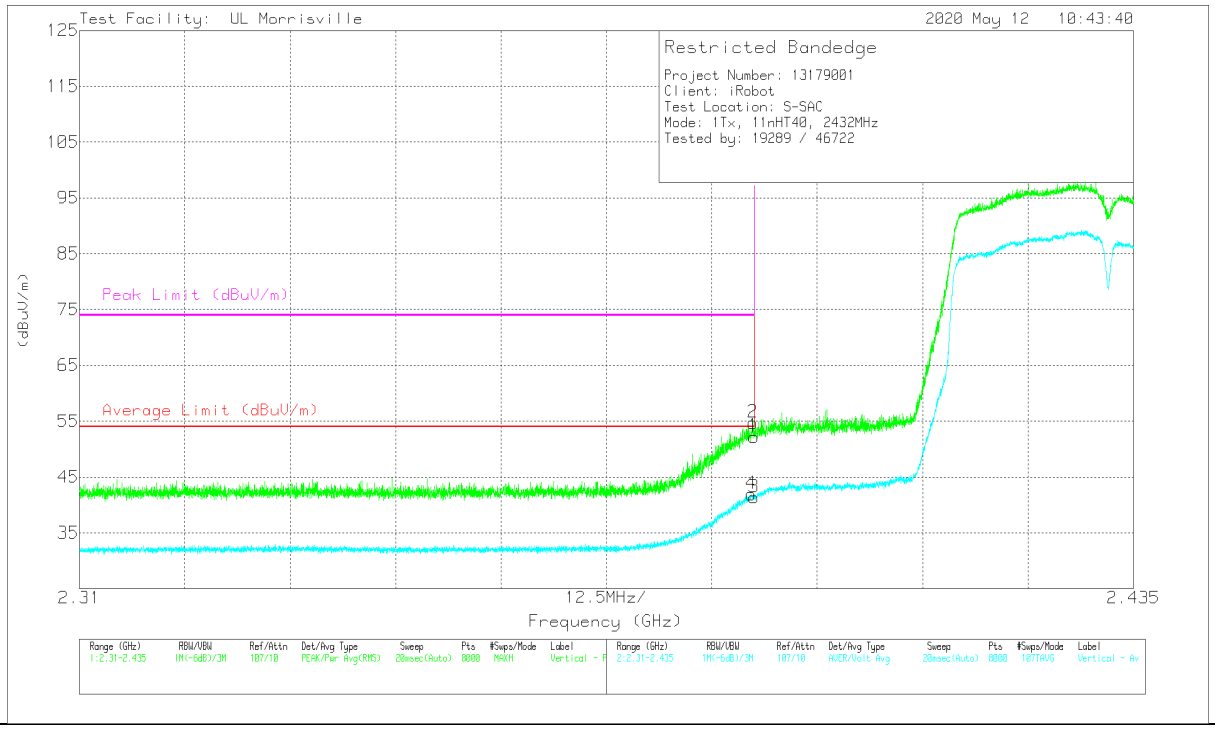
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.39	44.23	Pk	32	-24	0	52.23	-	-	74	-21.77	109	350	V
2	* ** 2.38985	46.72	Pk	32	-24	0	54.72	-	-	74	-19.28	109	350	V
3	* ** 2.39	32.7	ADV	32	-24	.66	41.36	54	-12.64	-	-	109	350	V
4	* ** 2.38967	33.3	ADV	32	-24	.66	41.96	54	-12.04	-	-	109	350	V

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

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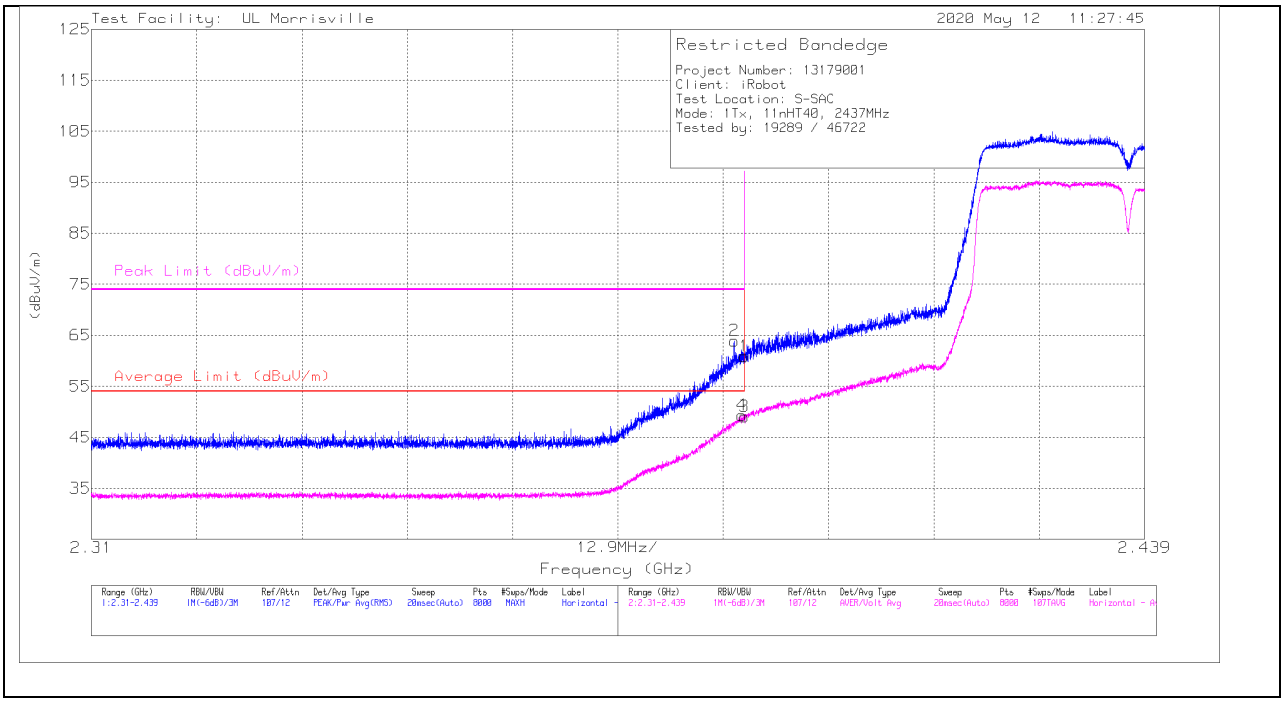
BANDEDGE LOW EDGE (MID CHANNEL, CH 6)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	52.87	Pk	32	-24	0	60.87	-	-	74	-13.13	20	189	H
2	* ** 2.38873	55.93	Pk	32	-24	0	63.93	-	-	74	-10.07	20	189	H
3	* ** 2.38999	40.42	ADV	32	-24	.66	49.08	54	-4.92	-	-	20	189	H
4	* ** 2.3897	40.67	ADV	32	-24	.66	49.33	54	-4.67	-	-	20	189	H

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

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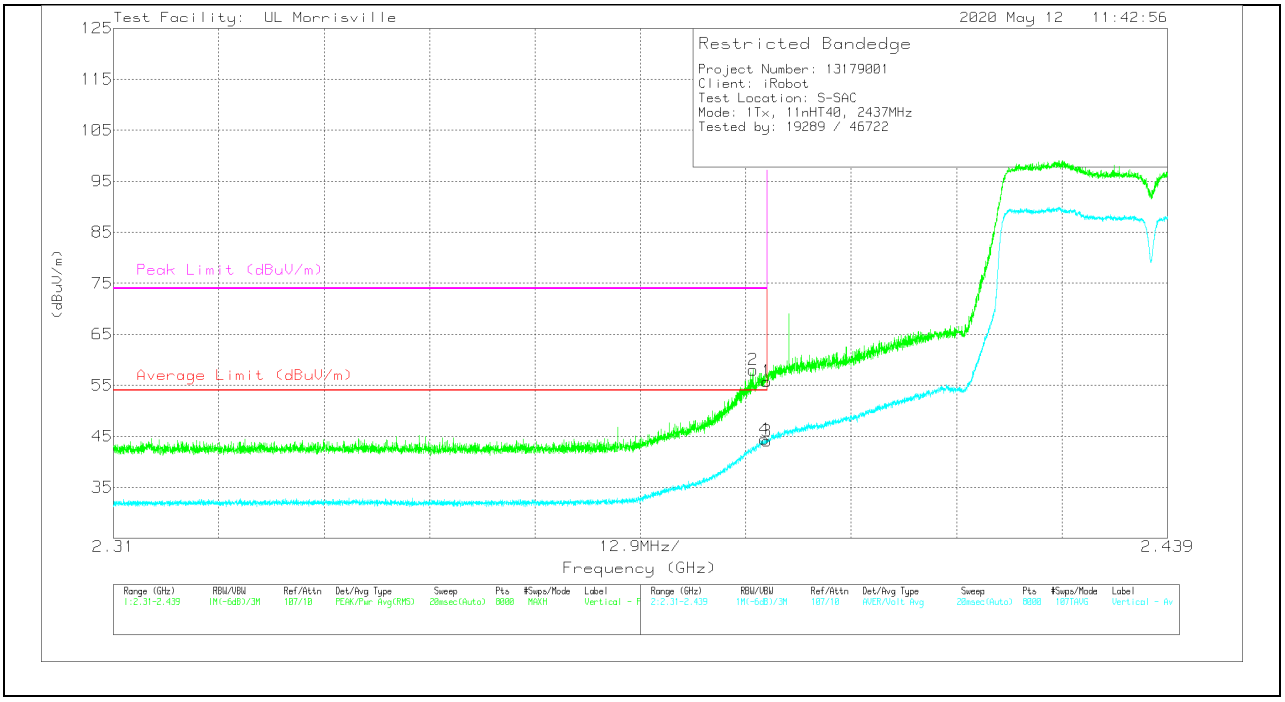
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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	* ** 2.38999	47.79	Pk	32	-24	0	55.79	-	-	74	-18.21	150	324	V
2	* ** 2.3883	50.04	Pk	32	-24	0	58.04	-	-	74	-15.96	150	324	V
3	* ** 2.38999	35.42	ADV	32	-24	.66	44.08	54	-9.92	-	-	150	324	V
4	* ** 2.38968	35.78	ADV	32	-24	.66	44.44	54	-9.56	-	-	150	324	V

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

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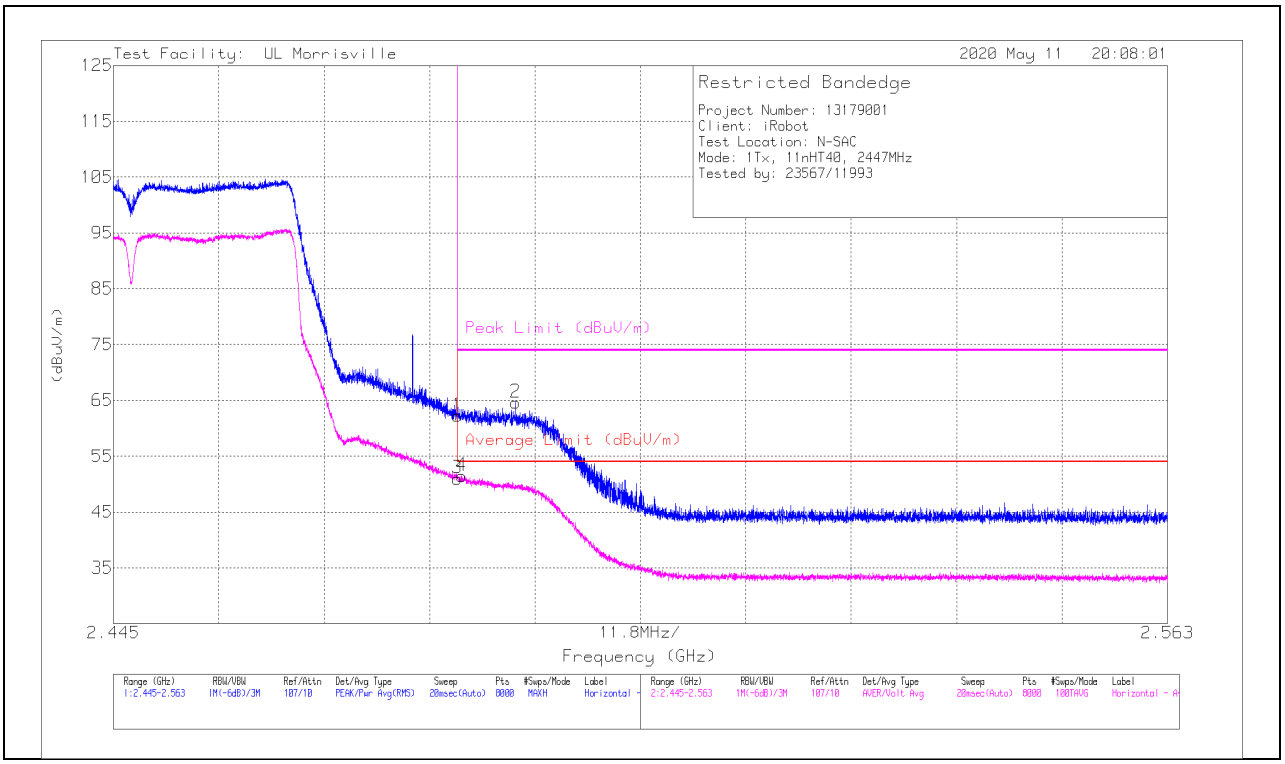
BANDEDGE (HIGH CHANNEL, CH 8)

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	* ** 2.4835	53.29	Pk	32.4	-23.4	0	62.29	-	-	74	-11.71	210	231	H
2	* ** 2.49004	55.64	Pk	32.5	-23.5	0	64.64	-	-	74	-9.36	210	231	H
3	* ** 2.4835	41.38	ADV	32.4	-23.4	.66	51.04	54	-2.96	-	-	210	231	H
4	* ** 2.48398	41.84	ADV	32.4	-23.4	.66	51.5	54	-2.5	-	-	210	231	H

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

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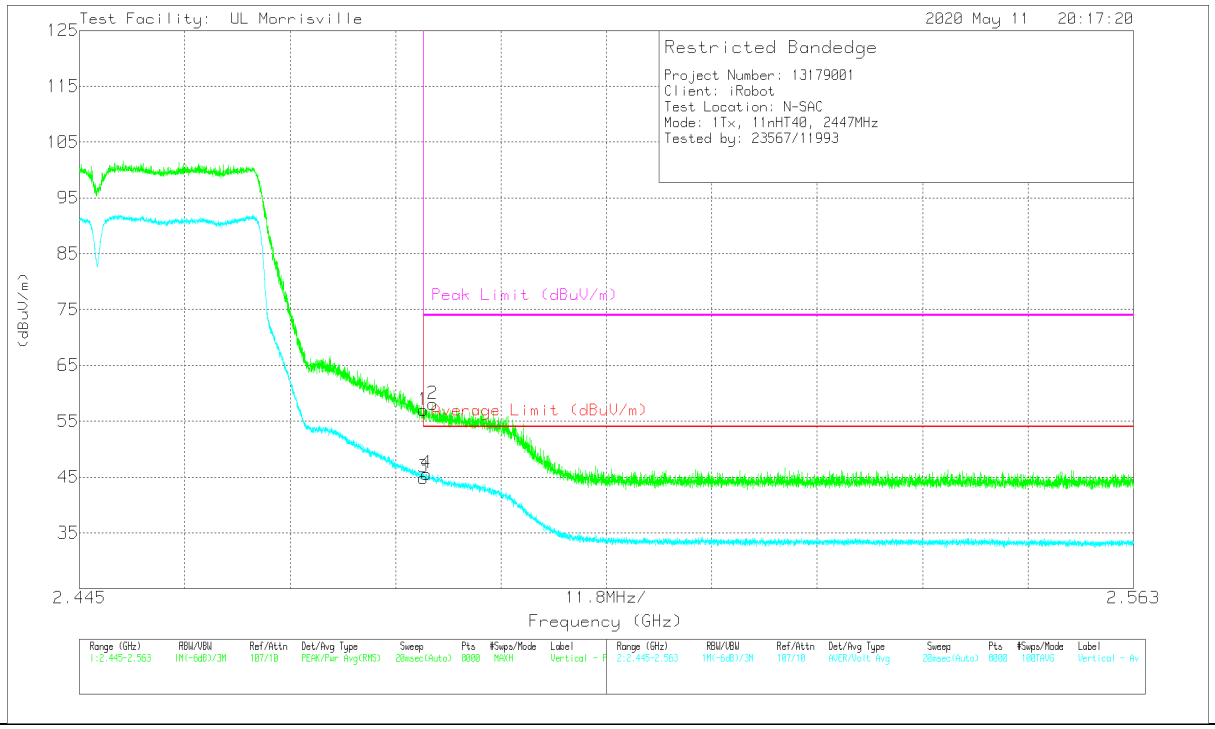
VERTICAL RESULT



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	* ** 2.4835	48	Pk	32.4	-23.4	0	57	-	-	74	-17	86	304	V
2	* ** 2.48455	49.07	Pk	32.4	-23.4	0	58.07	-	-	74	-15.93	86	304	V
3	* ** 2.4835	35.23	ADV	32.4	-23.4	.66	44.89	54	-9.11	-	-	86	304	V
4	* ** 2.48383	35.97	ADV	32.4	-23.4	.66	45.63	54	-8.37	-	-	86	304	V

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

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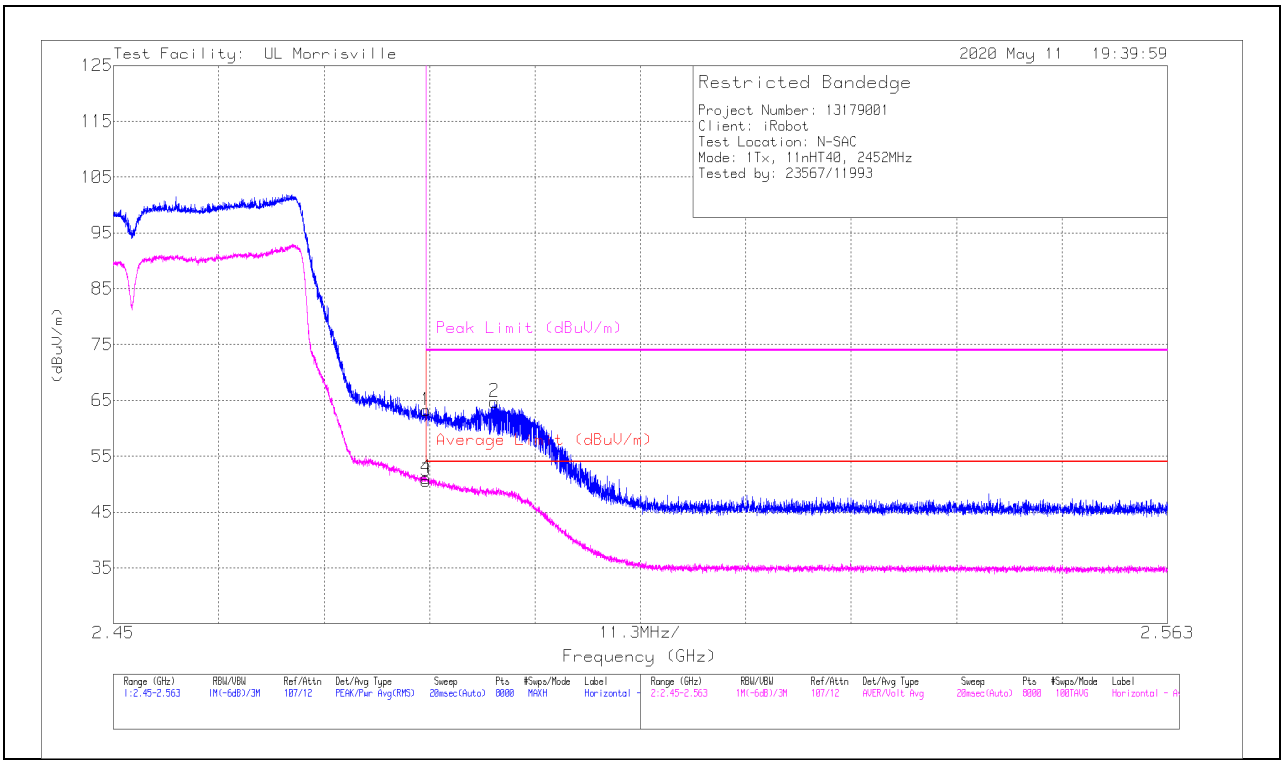
BANDEDGE (HIGH CHANNEL, CH 9)

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	* ** 2.48351	54.26	Pk	32.4	-23.4	0	63.26	-	-	74	-10.74	198	291	H
2	* ** 2.49086	55.77	Pk	32.5	-23.5	0	64.77	-	-	74	-9.23	198	291	H
3	* ** 2.48351	40.93	ADV	32.4	-23.4	.66	50.59	54	-3.41	-	-	198	291	H
4	* ** 2.48352	41.48	ADV	32.4	-23.4	.66	51.14	54	-2.86	-	-	198	291	H

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

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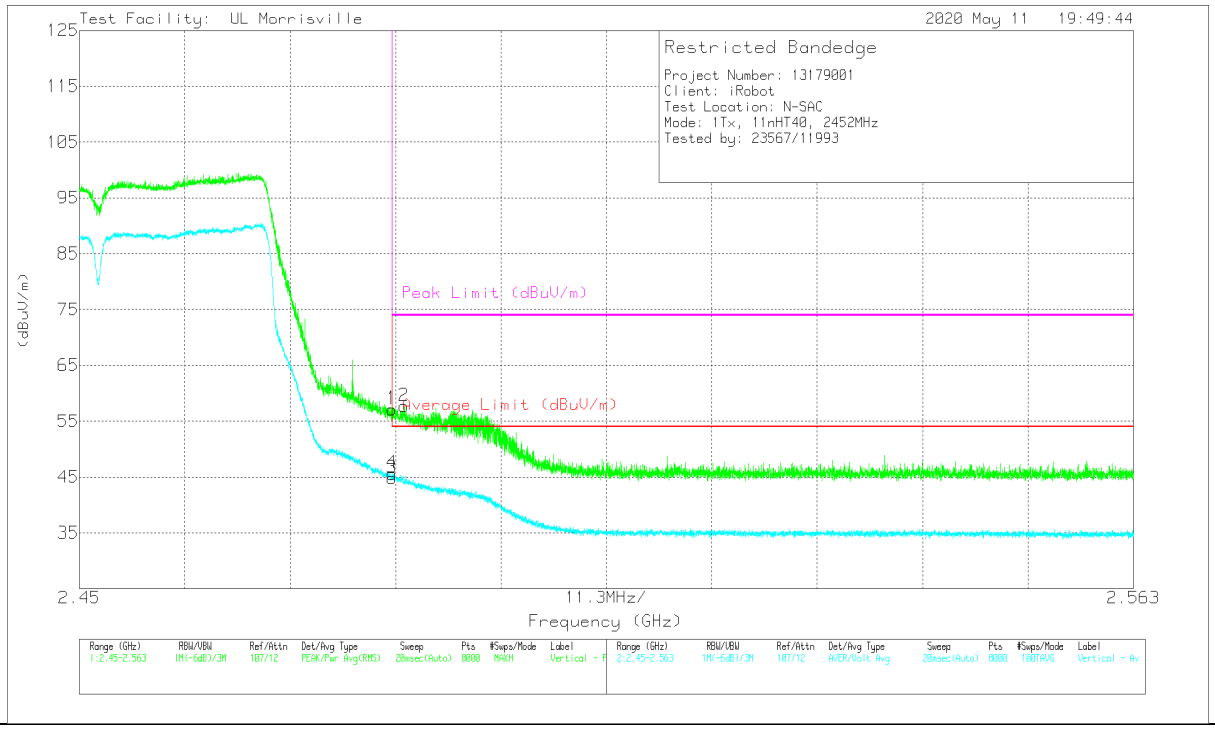
VERTICAL RESULT



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	* ** 2.48351	48.16	Pk	32.4	-23.4	0	57.16	-	-	74	-16.84	78	295	V
2	* ** 2.48478	48.59	Pk	32.5	-23.4	0	57.69	-	-	74	-16.31	78	295	V
3	* ** 2.48351	35.17	ADV	32.4	-23.4	.66	44.83	54	-9.17	-	-	78	295	V
4	* ** 2.48354	35.98	ADV	32.4	-23.4	.66	45.64	54	-8.36	-	-	78	295	V

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

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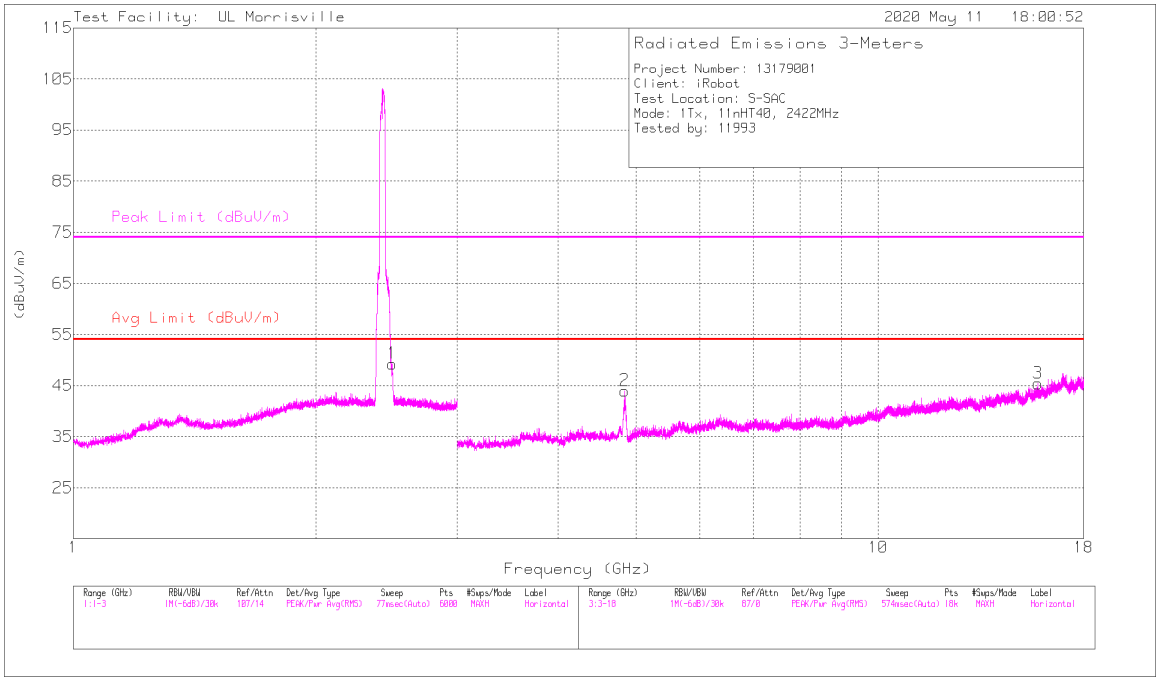
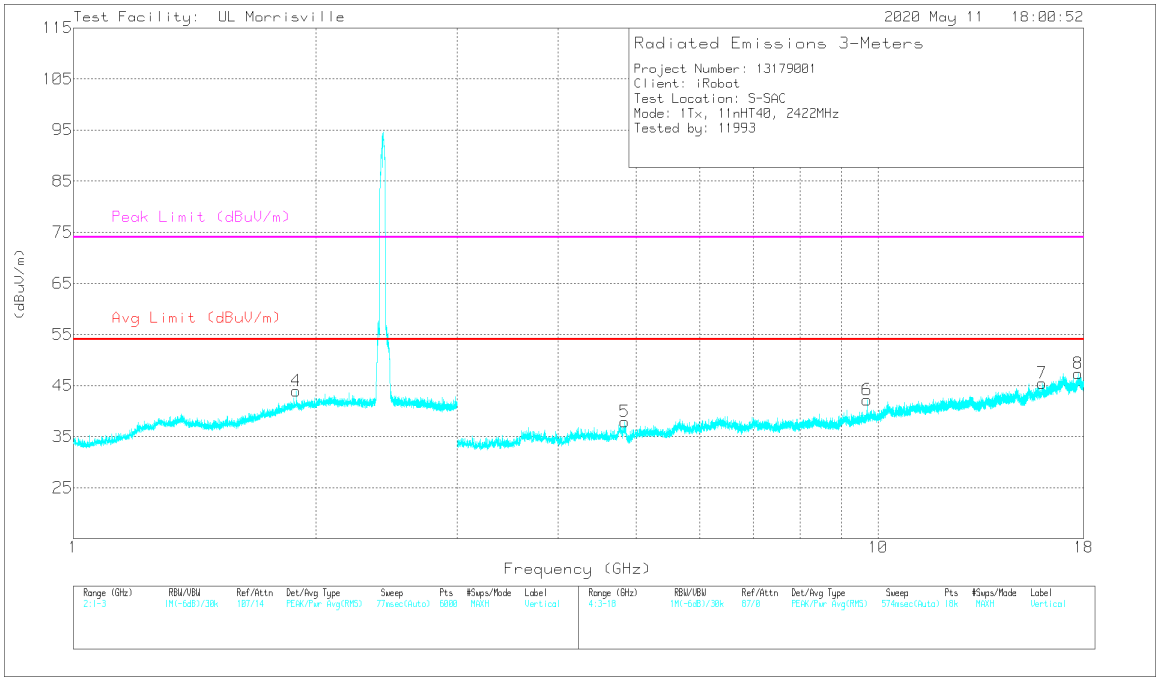
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, CH 3 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4887	51.52	PK2	32.2	-24.4	0	59.32	-	-	74	-14.68	76	110	H
	* ** 2.49038	35.1	ADV	32.2	-24.4	.66	43.56	54	-10.44	-	-	76	110	H
4	** 1.89056	38.48	PK2	31.3	-22.3	0	47.48	-	-	74	-26.52	44	337	V
	** 1.89257	25.67	ADV	31.3	-22.3	.66	35.33	54	-18.67	-	-	44	337	V
2	* ** 4.84422	46.95	PK2	33.9	-31	0	49.85	-	-	74	-24.15	352	103	H
	* ** 4.845	33.44	ADV	33.9	-31	.66	37	54	-17	-	-	352	103	H
3	* ** 15.79108	34.3	PK2	40.2	-23.3	0	51.2	-	-	74	-22.8	6	253	H
	* ** 15.7887	21.32	ADV	40.2	-23.4	.66	38.78	54	-15.22	-	-	6	253	H
5	* ** 4.84404	42.04	PK2	33.9	-31	0	44.94	-	-	74	-29.06	235	343	V
	* ** 4.84268	29.42	ADV	33.9	-31	.66	32.98	54	-21.02	-	-	235	343	V
7	* ** 15.98635	35.37	PK2	40.3	-23.8	0	51.87	-	-	74	-22.13	29	116	V
	* ** 15.98662	21.9	ADV	40.3	-23.8	.66	39.06	54	-14.94	-	-	29	116	V
8	* ** 17.72071	34.42	PK2	41	-22.5	0	52.92	-	-	74	-21.08	2	257	V
	* ** 17.7212	21.81	ADV	41	-22.5	.66	40.97	54	-13.03	-	-	2	257	V
6	9.68788	31.46	Pk	36.6	-25.9	0	42.16	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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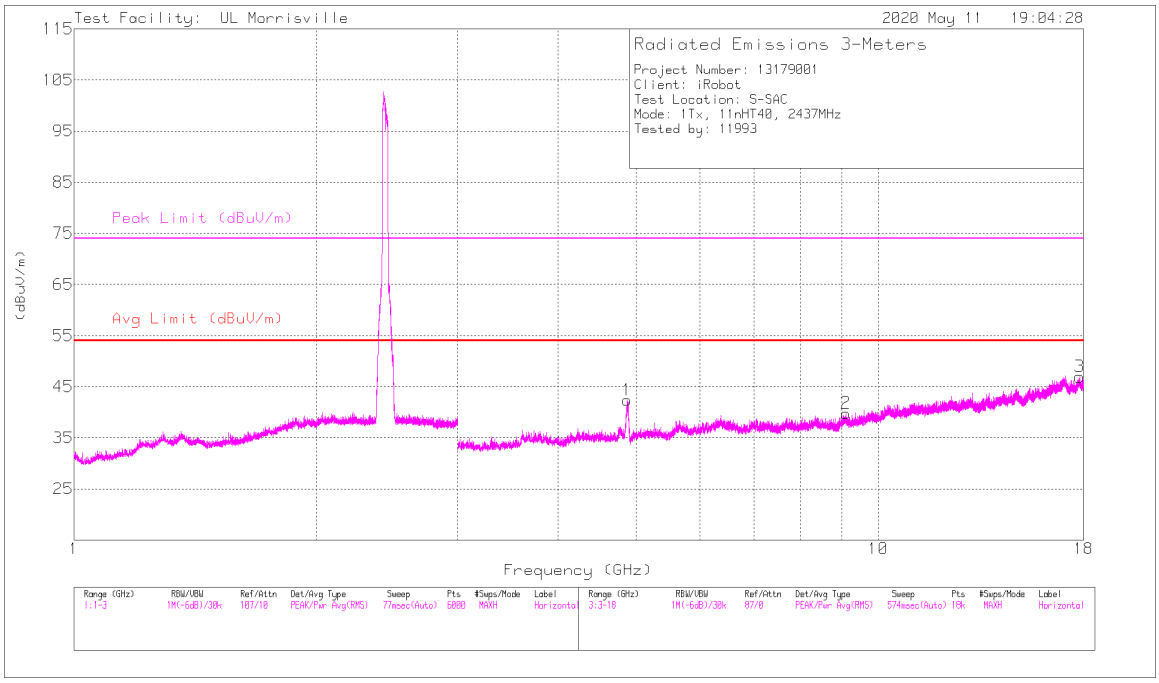
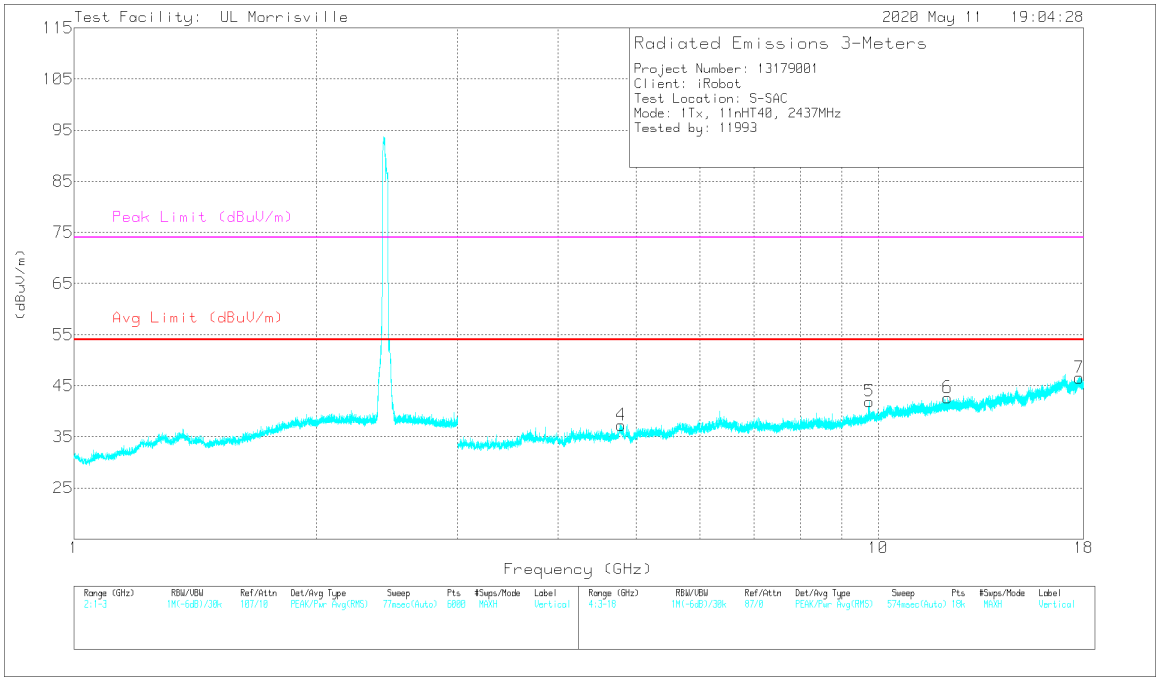
MID CHANNEL, CH 6 RESULTS



HORIZONTAL



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RADIATED EMISSIONS

Markeer	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0078 (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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.87006	45.35	PK2	33.8	-30.9	-	48.25	-	-	74	-25.75	2	127	H
	* ** 4.87009	32.3	ADV	33.8	-30.9	0.66	35.86	54	-18.14	-	-	2	127	H
2	* ** 9.12325	34.69	PK2	36.3	-26	-	44.99	-	-	74	-29.01	156	260	H
	* ** 9.12249	21.88	ADV	36.3	-26.1	0.66	32.74	54	-21.26	-	-	156	260	H
3	* ** 17.79782	33.48	PK2	41.2	-22	-	52.68	-	-	74	-21.32	333	117	H
	* ** 17.79653	21.21	ADV	41.2	-22.1	0.66	40.97	54	-13.03	-	-	333	117	H
4	* ** 4.79046	40.58	PK2	33.9	-31.3	-	43.18	-	-	74	-30.82	287	195	V
	* ** 4.78938	27.94	ADV	33.9	-31.3	0.66	31.2	54	-22.8	-	-	287	195	V
6	* ** 12.1998	33.38	PK2	38.7	-24.4	-	47.68	-	-	74	-26.32	331	378	V
	* ** 12.20195	20.99	ADV	38.7	-24.4	0.66	35.95	54	-18.05	-	-	331	378	V
7	* ** 17.7865	34.54	PK2	41.2	-22.3	-	53.44	-	-	74	-20.56	47	330	V
	* ** 17.78655	21.38	ADV	41.2	-22.3	0.66	40.94	54	-13.06	-	-	47	330	V
5	9.74788	31.04	Pk	36.7	-25.8	-	41.94	-	-	-	-	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2 - Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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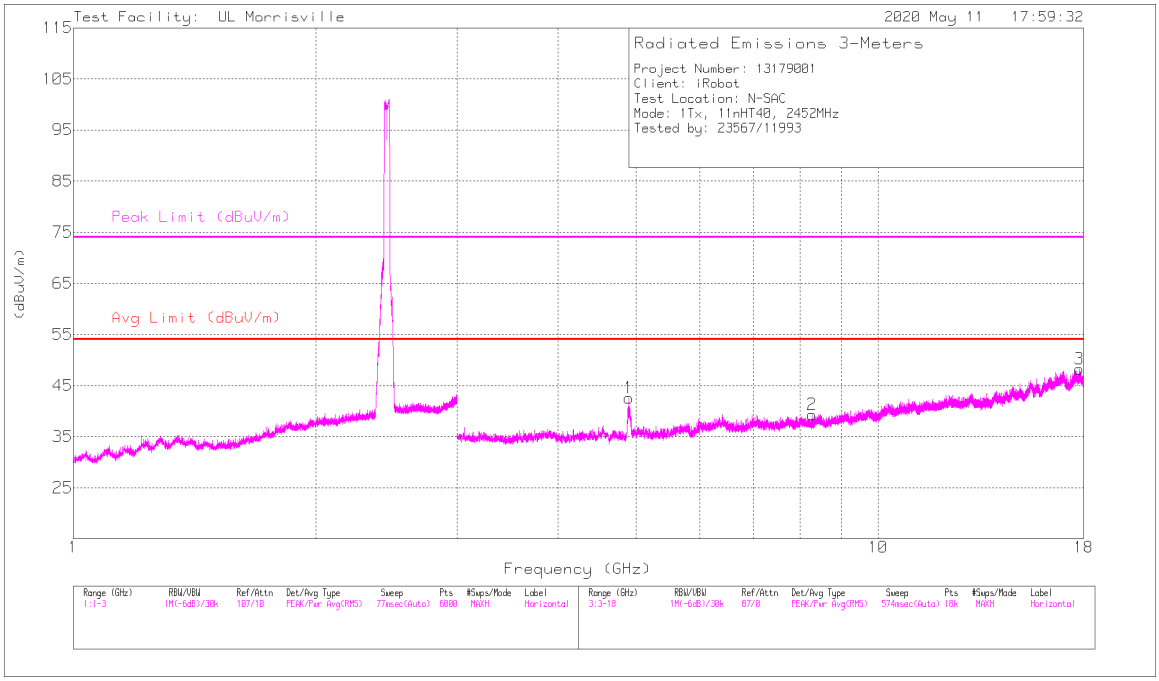
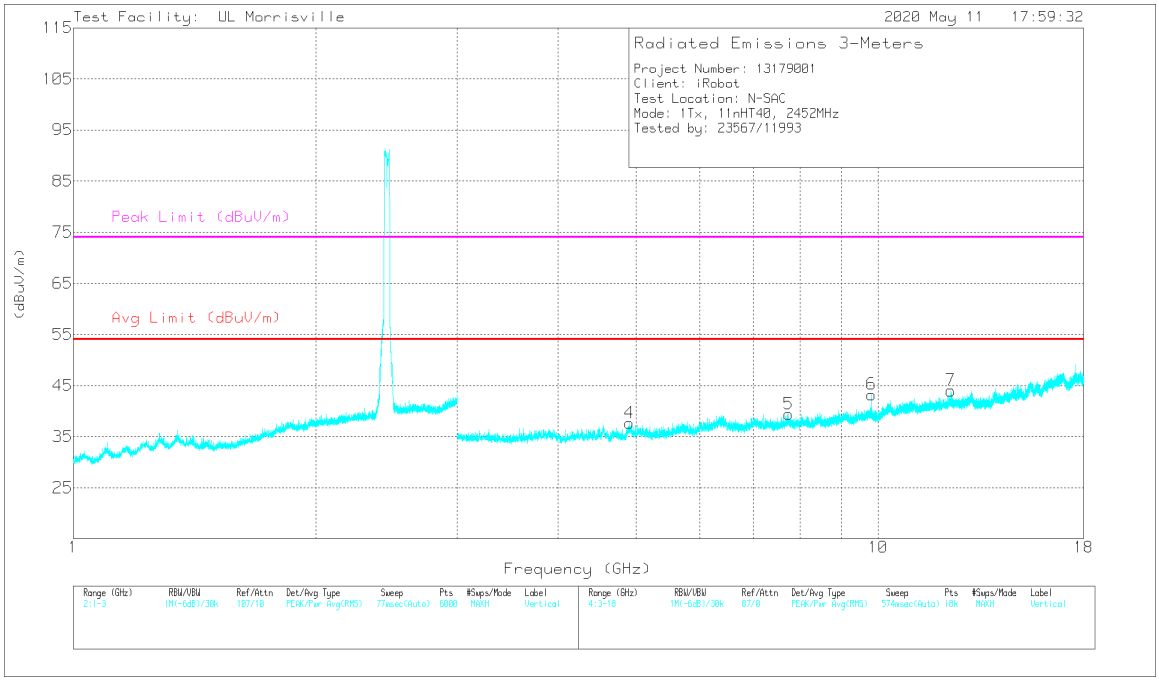
HIGH CHANNEL, CH 9 RESULTS

Note – Low and High channels were tested at worst-case mid channel power settings.



HORIZONTAL



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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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 4.90216	47.06	PK2	34	-31	0	50.06	-	-	74	-23.94	291	114	H
	* ** 4.90361	31.86	ADV	34	-31	.66	35.52	54	-18.48	-	-	291	114	H
2	* ** 8.27281	37.65	PK2	36	-28.3	0	45.35	-	-	74	-28.65	187	326	H
	* ** 8.27177	24.36	ADV	36	-28.3	.66	32.72	54	-21.28	-	-	187	326	H
3	* ** 17.78867	34.43	PK2	41.6	-21.9	0	54.13	-	-	74	-19.87	347	334	H
	* ** 17.78999	20.94	ADV	41.5	-21.9	.66	41.2	54	-12.8	-	-	347	334	H
4	* ** 4.90617	41.6	PK2	34	-31.1	0	44.5	-	-	74	-29.5	27	315	V
	* ** 4.90669	27.68	ADV	34	-31.1	.66	31.24	54	-22.76	-	-	27	315	V
5	* ** 7.7377	38.06	PK2	35.9	-28.1	0	45.86	-	-	74	-28.14	273	210	V
	* ** 7.7385	24.5	ADV	35.9	-28.1	.66	32.96	54	-21.04	-	-	273	210	V
7	* ** 12.30497	36.12	PK2	38.9	-25.2	0	49.82	-	-	74	-24.18	245	105	V
	* ** 12.30537	22.55	ADV	38.9	-25.2	.66	36.91	54	-17.09	-	-	245	105	V
6	9.80788	33.16	Pk	37	-26.9	0	43.26	-	-	-	-	0-360	102	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
PK2- Maximum Peak
ADV - Linear Voltage Average
Pk - Peak detector

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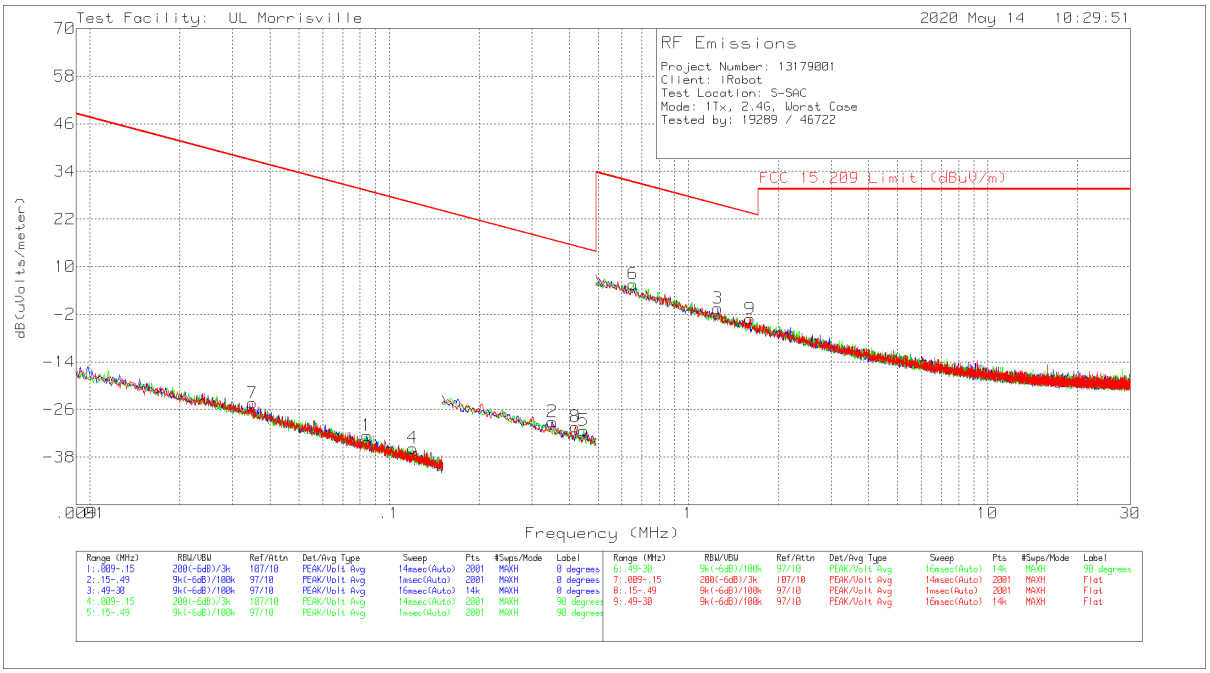
10.2. WORST CASE BELOW 30MHz

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).

The below 30 MHz 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 377Ω. For example, the measurement frequency 34.99 kHz resulted in a level of -24.35 dBuV/m, which is equivalent to -24.3 - 51.5= -75.85 dBuA/m, which has the same margin, -61.08 dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

10.2.1. External Antenna



ANTENNA- THREE ORIENTATIONS

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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 QP/AV Limit (dBuV/m)	FCC 15.209 Pk Limit (dBuV/m)	Worst-Case Margin (dB)	Azimuth (Degs)
7	.03499	42.75	Pk	12.8	.1	-80	-24.35	36.73	56.73	-61.08	0-360
1	.0844	36.27	Pk	11.1	.1	-80	-32.53	29.08	49.08	-61.61	0-360
4	.11976	33.1	Pk	11.1	.1	-80	-35.7	26.04	46.04	-61.74	0-360
2	.35094	39.81	Pk	11	.1	-80	-29.09	16.7	36.7	-45.79	0-360
8	.41954	38.56	Pk	11	.1	-80	-30.34	15.15	35.15	-45.49	0-360
5	.44691	37.61	Pk	11	.1	-80	-31.29	14.6	34.6	-45.89	0-360
6	.65442	34.54	Pk	11	.1	-40	5.64	31.29	-	-25.65	0-360
3	1.2531	28.19	Pk	11.1	.2	-40	-.51	25.64	-	-26.15	0-360
9	1.60829	25.53	Pk	11.1	.2	-40	-3.17	23.48	-	-26.65	0-360

Pk - Peak detector

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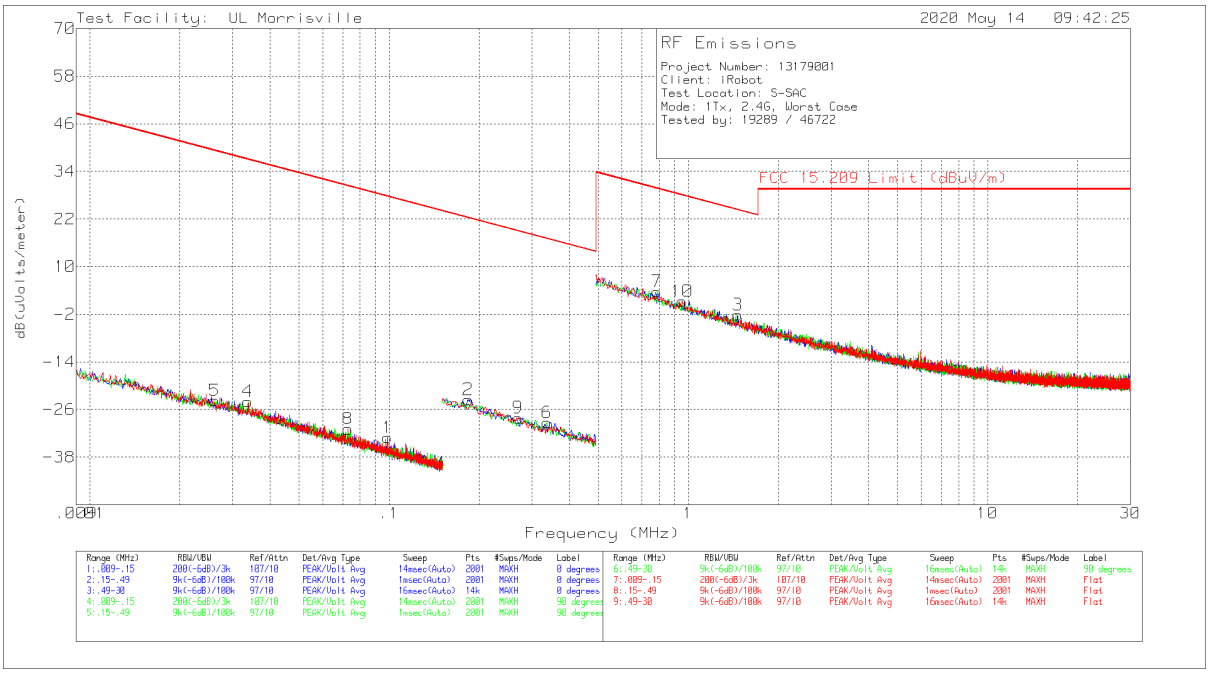
10.2.2. PCB Antenna



ANTENNA- THREE ORIENTATIONS

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 QP/AV Limit (dBuV/m)	FCC 15.209 Pk Limit (dBuV/m)	Worst-Case Margin (dB)	Azimuth (Degs)
5	.02611	42.64	Pk	13.5	.1	-80	-23.76	39.27	59.27	-63.03	0-360
4	.03371	43.01	Pk	12.9	.1	-80	-23.99	37.05	57.05	-61.04	0-360
8	.0729	37.81	Pk	11.2	.1	-80	-30.89	30.35	50.35	-61.24	0-360
1	.0986	35.73	Pk	11.1	.1	-80	-33.07	27.73	47.73	-60.8	0-360
2	.18375	45.35	Pk	11	.1	-80	-23.55	22.32	42.32	-45.87	0-360
9	.27028	40.8	Pk	11	.1	-80	-28.1	18.97	38.97	-47.07	0-360
6	.33658	39.62	Pk	11	.1	-80	-29.28	17.06	37.06	-46.34	0-360
7	.78512	32.61	Pk	11	.1	-40	3.71	29.71	-	-26	0-360
10	.95376	30.19	Pk	11	.1	-40	1.29	28.02	-	-26.73	0-360
3	1.4639	26.52	Pk	11.1	.2	-40	-2.18	24.29	-	-26.47	0-360

Pk - Peak detector

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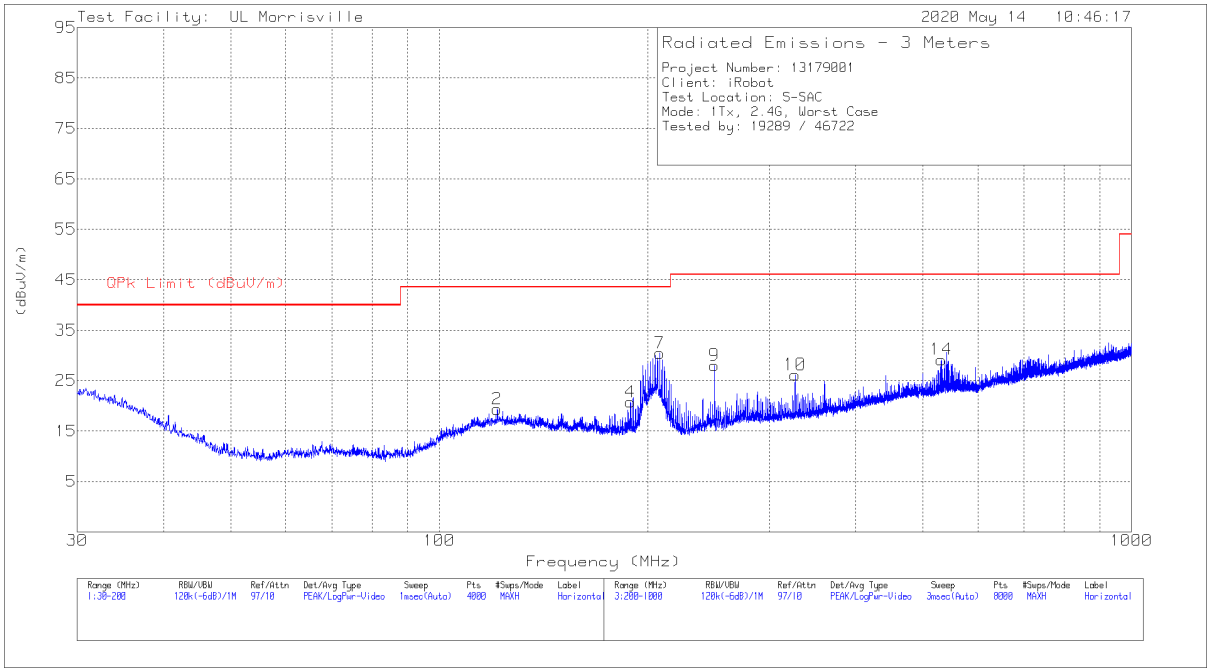
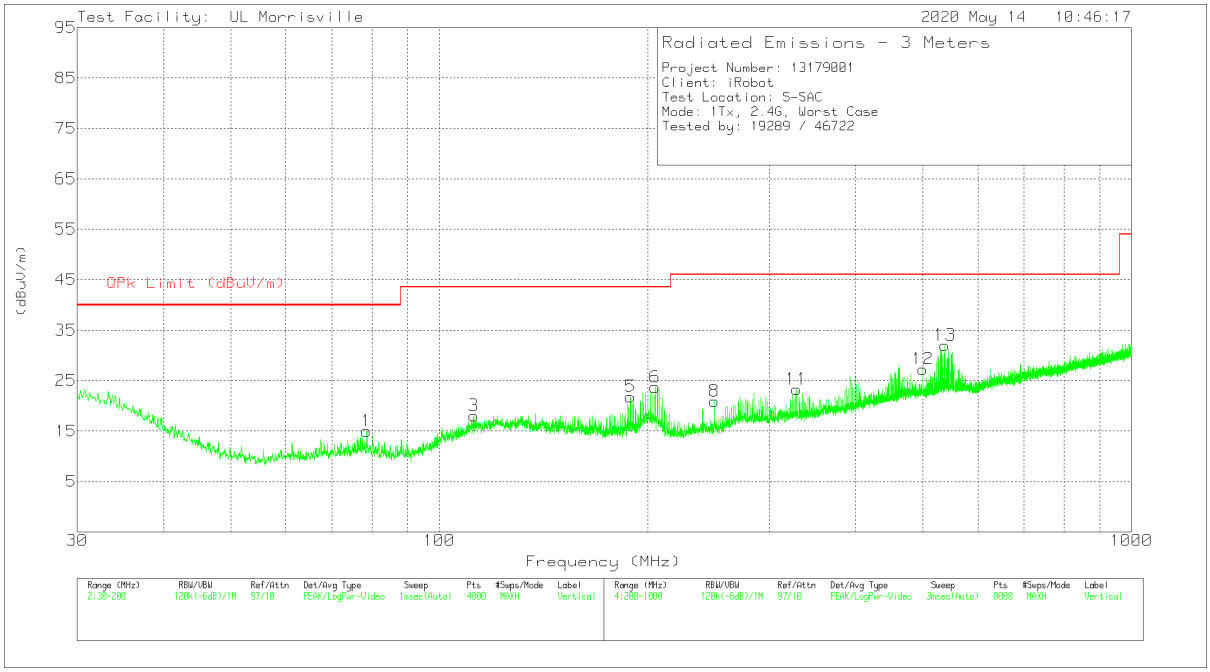
10.3. WORST CASE BELOW 1 GHZ

10.3.1. External Antenna



HORIZONTAL



VERTICAL

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Below 1GHz DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0074 AF (dB/m)	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* ** 121.3561	30.26	Pk	19.9	-30.8	19.36	43.52	-24.16	0-360	101	H
3	* ** 112.1738	29.75	Pk	19.1	-30.8	18.05	43.52	-25.47	0-360	102	V
9	* ** 249.9065	40.4	Pk	17.5	-29.9	28	46.02	-18.02	0-360	102	H
10	* ** 326.7165	35.57	Pk	20	-29.4	26.17	46.02	-19.85	0-360	102	H
8	* ** 249.9065	33.33	Pk	17.5	-29.9	20.93	46.02	-25.09	0-360	101	V
11	* ** 328.3167	32.68	Pk	20	-29.4	23.28	46.02	-22.74	0-360	101	V
12	** 499.5389	32.4	Pk	23.7	-28.8	27.3	46.02	-18.72	0-360	101	V
1	78.5901	32.49	Pk	13.7	-31.2	14.99	40	-25.01	0-360	102	V
4	188.9911	33.47	Pk	17.5	-30.2	20.77	43.52	-22.75	0-360	101	H
5	188.9911	34.52	Pk	17.5	-30.2	21.82	43.52	-21.7	0-360	102	V
6	205.1007	37.02	Pk	16.8	-30.1	23.72	43.52	-19.8	0-360	101	V
7	208.3011	44.13	Pk	16.4	-30.1	30.43	43.52	-13.09	0-360	102	H
14	531.5431	33.97	Pk	24	-28.8	29.17	46.02	-16.85	0-360	199	H
13	537.9439	36.42	Pk	24.2	-28.6	32.02	46.02	-14	0-360	101	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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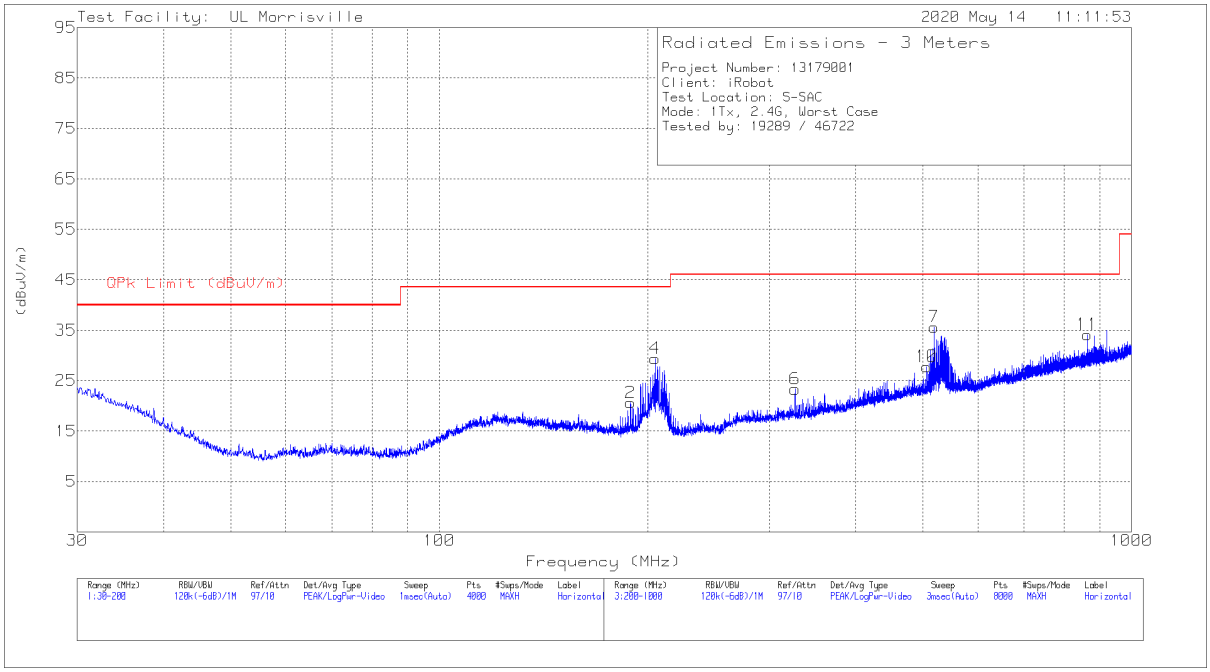
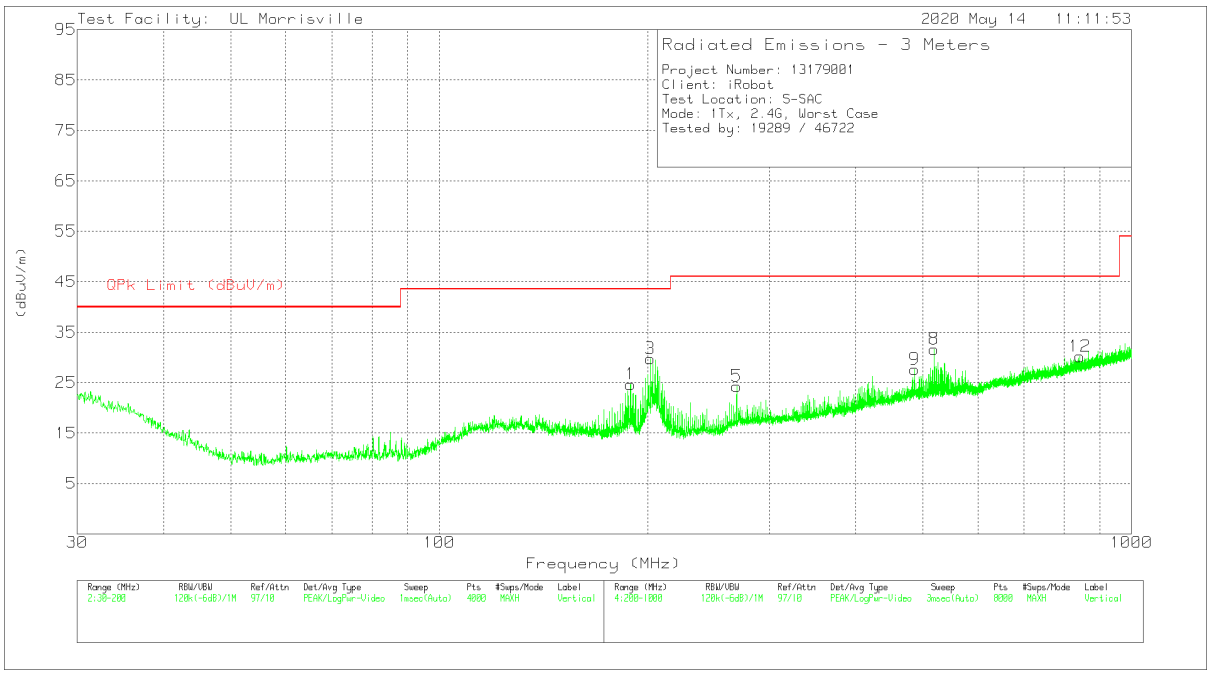
10.3.2. PCB Antenna



HORIZONTAL



VERTICAL

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Below 1GHz DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0074 AF (dB/m)	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* ** 326.7165	32.73	Pk	20	-29.4	23.33	46.02	-22.69	0-360	101	H
10	** 505.9398	32.99	Pk	23.7	-28.9	27.79	46.02	-18.23	0-360	299	H
11	** 864.2863	33.51	Pk	28	-27.4	34.11	46.02	-11.91	0-360	101	H
5	* ** 269.109	34.78	Pk	19.2	-29.7	24.28	46.02	-21.74	0-360	101	V
9	** 486.7373	32.74	Pk	23.8	-28.9	27.64	46.02	-18.38	0-360	101	V
12	** 843.0336	29.78	Pk	27.9	-27.5	30.18	46.02	-15.84	0-360	198	V
2	188.9911	33.32	Pk	17.5	-30.2	20.62	43.52	-22.9	0-360	99	H
1	189.0337	37.39	Pk	17.5	-30.2	24.69	43.52	-18.83	0-360	101	V
3	201.9002	41.74	Pk	18.2	-30.2	29.74	43.52	-13.78	0-360	101	V
4	205.1007	42.7	Pk	16.8	-30.1	29.4	43.52	-14.12	0-360	198	H
7	518.7414	40.84	Pk	23.7	-28.9	35.64	46.02	-10.38	0-360	198	H
8	518.7414	36.84	Pk	23.7	-28.9	31.64	46.02	-14.38	0-360	101	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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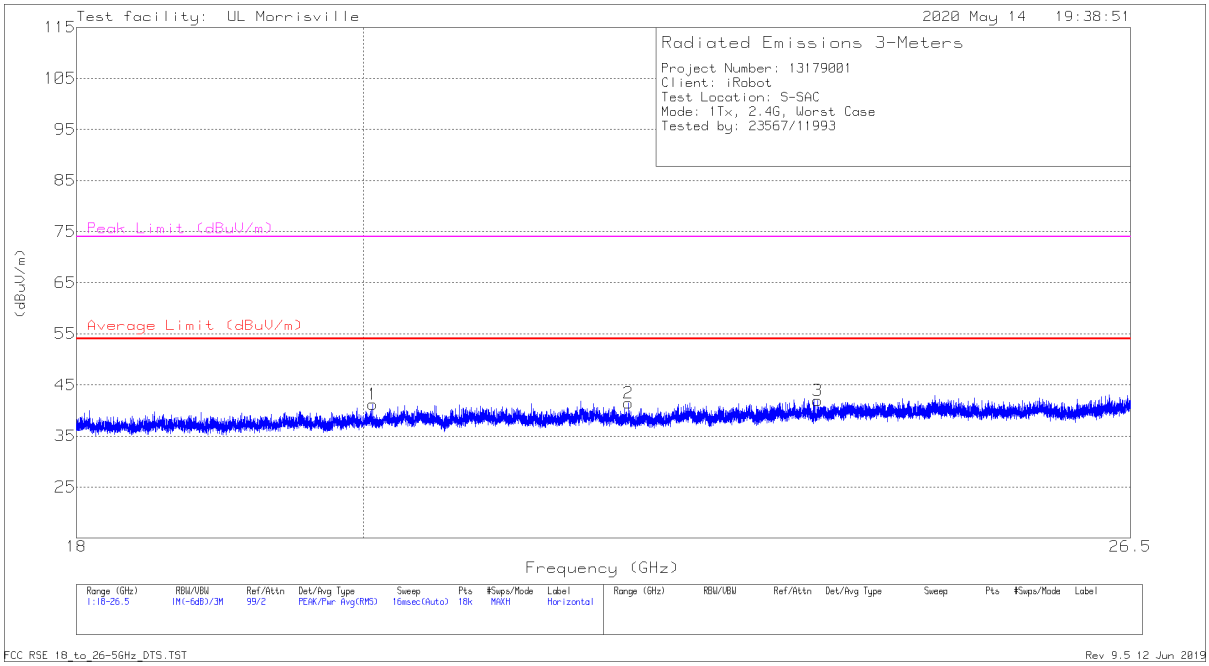
10.4. WORST CASE 18-26 GHZ

10.4.1. External Antenna



HORIZONTAL

VERTICAL

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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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 20.06845	45.99	Pk	32.8	-37.6	41.19	54	-12.81	74	-32.81	0-360	198	H
2	* ** 22.04339	45.26	Pk	33.4	-37.2	41.46	54	-12.54	74	-32.54	0-360	102	H
3	* ** 23.62872	44.61	Pk	33.9	-36.6	41.91	54	-12.09	74	-32.09	0-360	148	H
4	* ** 21.18626	45.79	Pk	33	-37.4	41.39	54	-12.61	74	-32.61	0-360	152	V
5	* ** 22.54019	45.54	Pk	33.5	-36.9	42.14	54	-11.86	74	-31.86	0-360	202	V
6	* ** 23.82235	44.65	Pk	34	-36.7	41.95	54	-12.05	74	-32.05	0-360	252	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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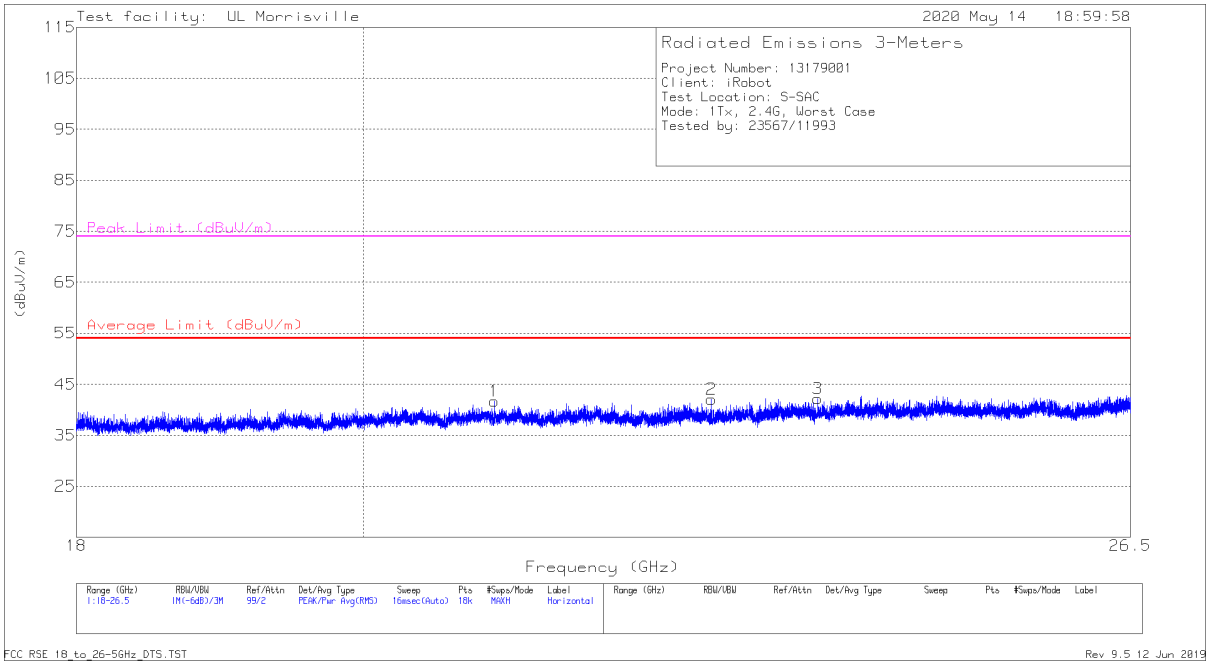
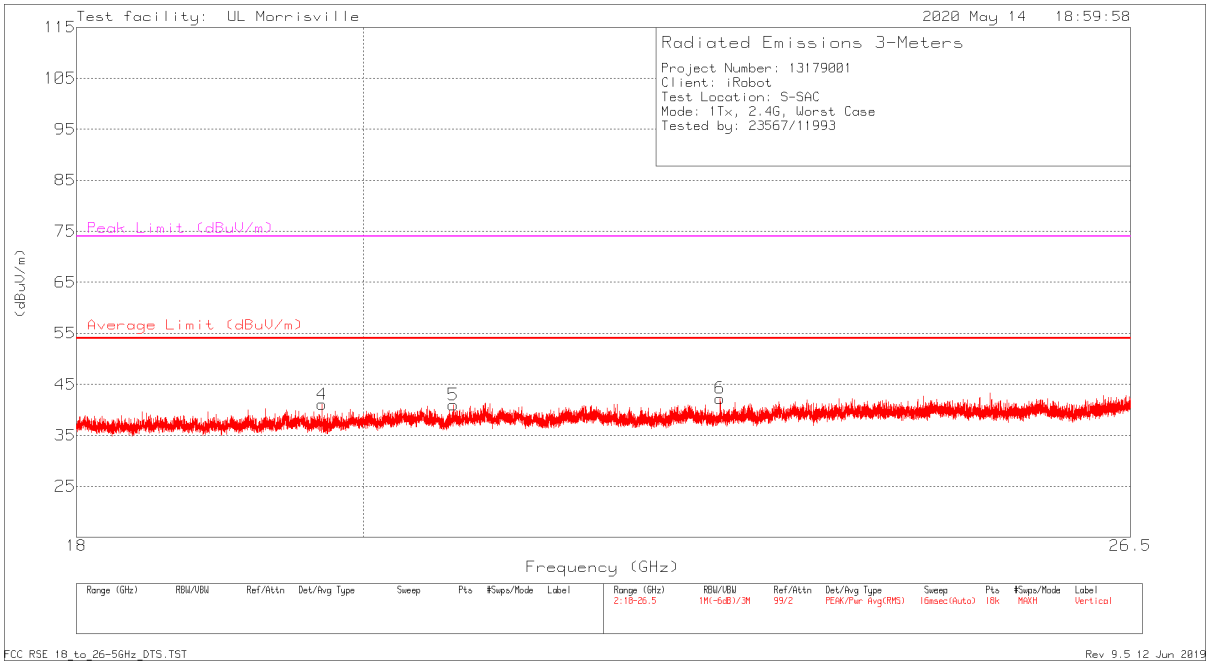
10.4.2. PCB Antenna



HORIZONTAL



VERTICAL

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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)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 20.9813	45.89	Pk	33.2	-37.4	41.69	54	-12.31	74	-32.31	0-360	248	H
2	* ** 22.72342	45.59	Pk	33.5	-37	42.09	54	-11.91	74	-31.91	0-360	298	H
3	* ** 23.62825	44.91	Pk	33.9	-36.6	42.21	54	-11.79	74	-31.79	0-360	102	H
4	* ** 19.69584	46.15	Pk	32.6	-37.7	41.05	54	-12.95	74	-32.95	0-360	298	V
5	* ** 20.66962	45.39	Pk	33	-37.4	40.99	54	-13.01	74	-33.01	0-360	252	V
6	* ** 22.79521	45.65	Pk	33.5	-36.9	42.25	54	-11.75	74	-31.75	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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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.

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 NEUTRAL and HOT lines.

RESULTS

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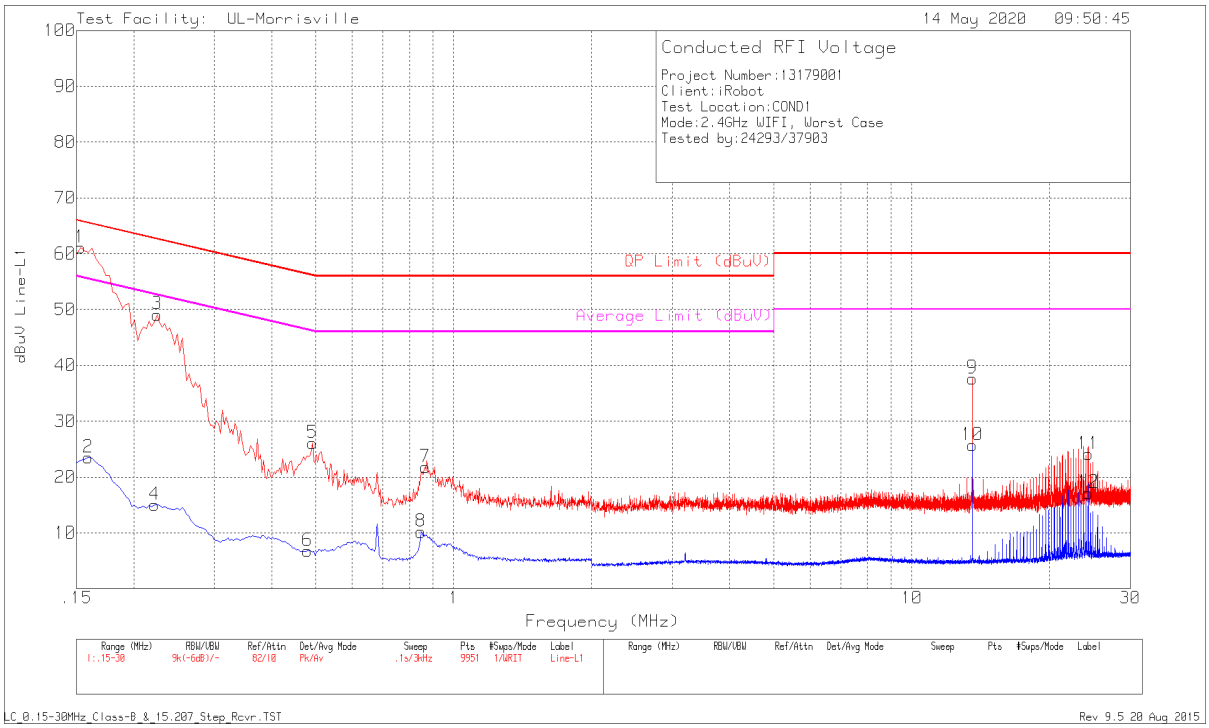
11.1.1. AC Power Line Norm

External Antenna

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	.1605	42.15	Qp	.2	9.7	52.05	65.44	-13.39	-	-
2	.159	13.58	Av	.2	9.7	23.48	-	-	55.52	-32.04
3	.225	39.33	Pk	.1	9.7	49.13	62.63	-13.5	-	-
4	.222	5.23	Av	.1	9.7	15.03	-	-	52.74	-37.71
5	.492	16.2	Pk	.1	9.8	26.1	56.13	-30.03	-	-
6	.48	-3.12	Av	.1	9.8	6.78	-	-	46.34	-39.56
7	.867	12	Pk	0	9.8	21.8	56	-34.2	-	-
8	.849	.38	Av	0	9.8	10.18	-	-	46	-35.82
9	13.56	27.57	Pk	.1	10	37.67	60	-22.33	-	-
10	13.56	15.63	Av	.1	10	25.73	-	-	50	-24.27
11	24.264	13.72	Pk	.2	10.2	24.12	60	-35.88	-	-
12	24.264	6.75	Av	.2	10.2	17.15	-	-	50	-32.85

Pk – Peak Detector
Av – Average Detector
Qp – Quasi-peak Detector

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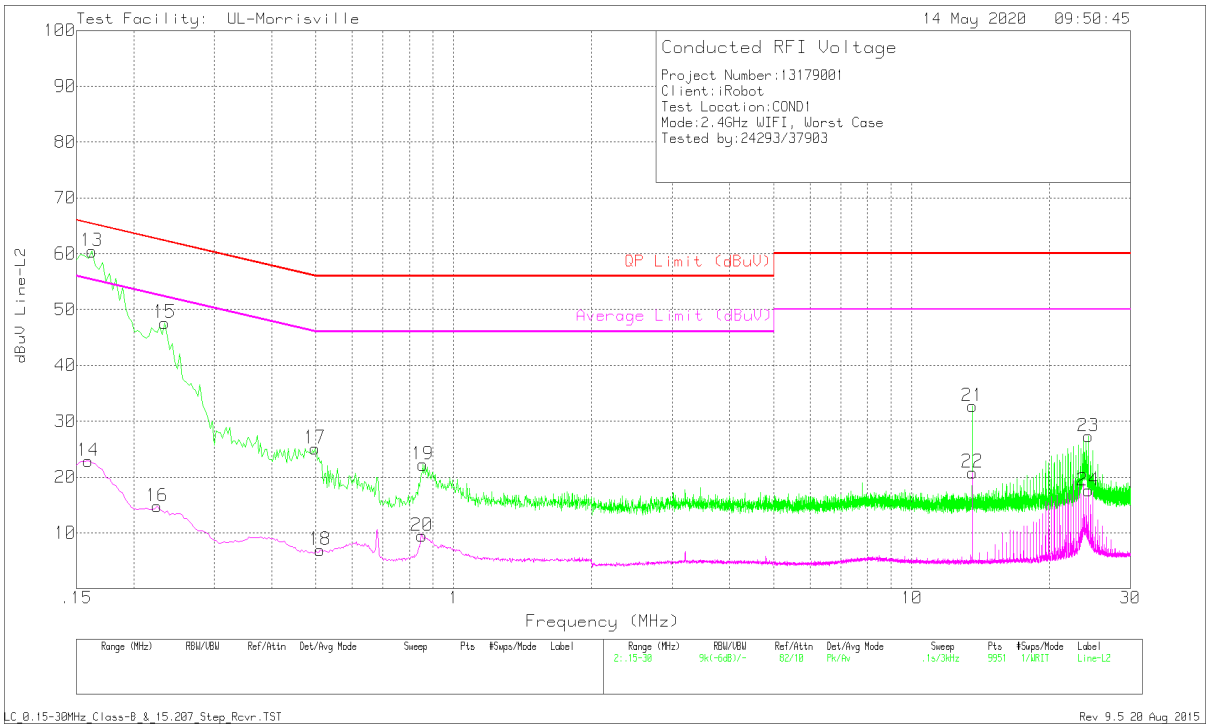
LINE 2 RESULTS



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	.165	41.54	Qp	.2	9.7	51.44	65.21	-13.77	-	-
14	.159	12.98	Av	.2	9.7	22.88	-	-	55.52	-32.64
15	.234	37.83	Pk	.1	9.7	47.63	62.31	-14.68	-	-
16	.225	4.99	Av	.1	9.7	14.79	-	-	52.63	-37.84
17	.498	15.23	Pk	.1	9.8	25.13	56.03	-30.9	-	-
18	.51	-2.86	Av	0	9.8	6.94	-	-	46	-39.06
19	.855	12.42	Pk	0	9.8	22.22	56	-33.78	-	-
20	.852	-.33	Av	0	9.8	9.47	-	-	46	-36.53
21	13.56	22.61	Pk	.1	10	32.71	60	-27.29	-	-
22	13.56	10.75	Av	.1	10	20.85	-	-	50	-29.15
23	24.27	16.87	Pk	.2	10.2	27.27	60	-32.73	-	-
24	24.267	7.18	Av	.2	10.2	17.58	-	-	50	-32.42

Pk – Peak Detector
Av – Average Detector
Qp – Quasi-peak Detector

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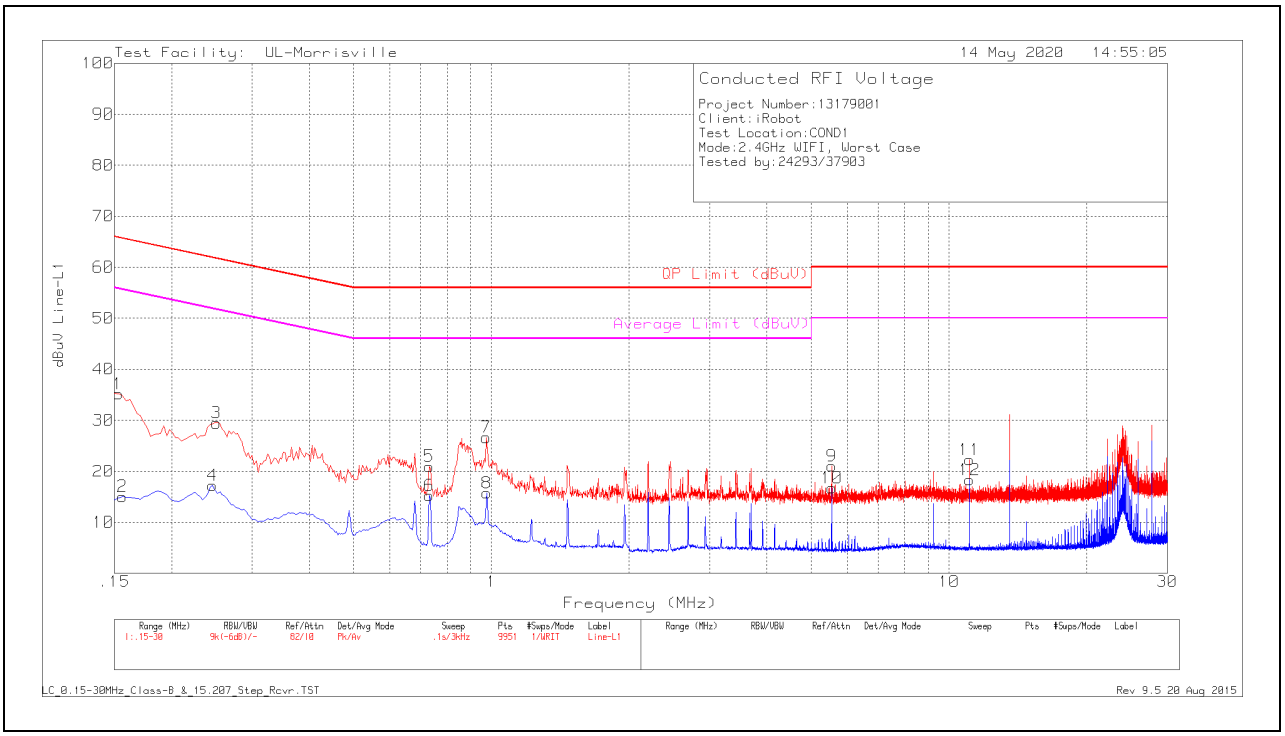
PCB Antenna

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	.153	25.26	Pk	.2	9.7	35.16	65.84	-30.68	-	-
2	.156	5.16	Av	.2	9.7	15.06	-	-	55.67	-40.61
3	.2505	19.68	Pk	.1	9.7	29.48	61.74	-32.26	-	-
4	.246	7.43	Av	.1	9.7	17.23	-	-	51.89	-34.66
5	.732	11.16	Pk	0	9.8	20.96	56	-35.04	-	-
6	.732	5.44	Av	0	9.8	15.24	-	-	46	-30.76
7	.975	16.84	Pk	0	9.8	26.64	56	-29.36	-	-
8	.978	5.98	Av	0	9.8	15.78	-	-	46	-30.22
9	5.541	11.05	Pk	.1	9.9	21.05	60	-38.95	-	-
10	5.538	6.73	Av	.1	9.9	16.73	-	-	50	-33.27
11	11.076	12.18	Pk	.1	10	22.28	60	-37.72	-	-
12	11.076	8.2	Av	.1	10	18.3	-	-	50	-31.7

Pk – Peak Detector
Av – Average Detector

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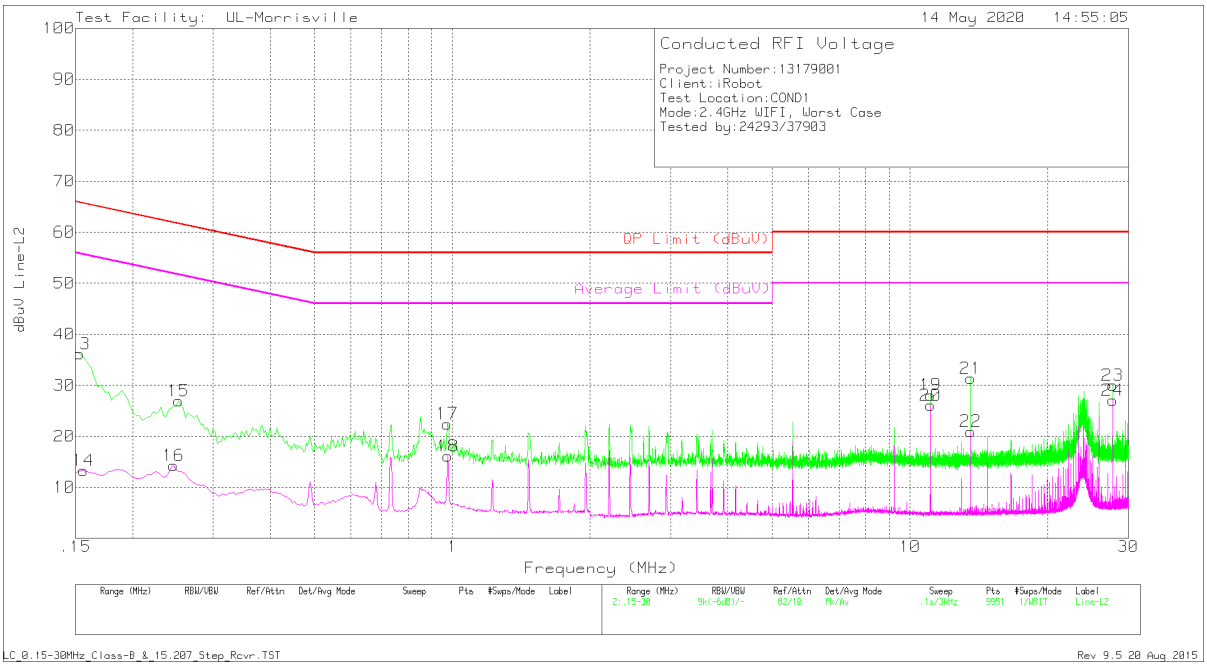
LINE 2 RESULTS



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	.153	26.24	Pk	.2	9.7	36.14	65.84	-29.7	-	-
14	.156	3.4	Av	.2	9.7	13.3	-	-	55.67	-42.37
15	.252	17.17	Pk	.1	9.7	26.97	61.69	-34.72	-	-
16	.246	4.47	Av	.1	9.7	14.27	-	-	51.89	-37.62
17	.975	12.64	Pk	0	9.8	22.44	56	-33.56	-	-
18	.978	6.34	Av	0	9.8	16.14	-	-	46	-29.86
19	11.076	18.01	Pk	.1	10	28.11	60	-31.89	-	-
20	11.076	15.96	Av	.1	10	26.06	-	-	50	-23.94
21	13.56	21.29	Pk	.1	10	31.39	60	-28.61	-	-
22	13.56	10.86	Av	.1	10	20.96	-	-	50	-29.04
23	27.693	19.6	Pk	.2	10.2	30	60	-30	-	-
24	27.693	16.65	Av	.2	10.2	27.05	-	-	50	-22.95

Pk – Peak Detector
Av – Average Detector

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12. SETUP PHOTOS

Please refer to R13179001-EP1 for setup photos

END OF TEST REPORT

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