



TEST REPORT

Report Number: R13337971-E8

Applicant : Raspberry Pi (Trading) Ltd
Maurice Wilkes Building
Cowley Road
Cambridge
CB4 0DS
United Kingdom

Model : RPI-RM0 (CM4)

FCC ID : 2ABCB-RPIRM0

IC : 20953-RPIRM0

EUT Description : Bluetooth and WiFi radio module

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

Date Of Issue:
2020-10-26

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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2020-10-09	Initial Issue	Niklas Haydon
V2	2020-10-26	Added conducted emissions (mains) data	Mike Antola

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Raspberry Pi (Trading) Ltd
Maurice Wilkes Building
Cowley Road
Cambridge
CB4 0DS
United Kingdom

EUT DESCRIPTION: Bluetooth and WiFi radio module

MODEL: RPI-RM0 (CM4)

SERIAL NUMBER: Non-serialized

SAMPLE RECEIVE DATE: 2020-08-28

DATE TESTED: 2020-09-10 to 2020-10-22

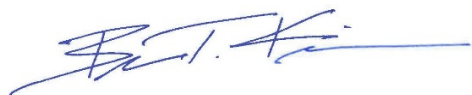
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-GEN Issue 5	Complies

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.

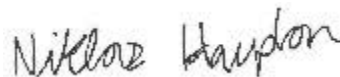
This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim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

Approved & Released For
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UL LLC

Prepared By:



Niklas Haydon
Operations Leader
Consumer Technology Division
UL LLC

2. TEST RESULTS SUMMARY

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Not performed in this report	Refer to UL VS LTD report UL-RPT-RP13337971-1016A.
See Comment	RSS-GEN 6.7	20dB BW/99% OBW		
15.247 (a)(1)	RSS-247 (5.1) (b)	Hopping Frequency Separation		
15.247 (a)(1)(iii)	RSS-247 (5.1) (d)	Number of Hopping Channels		
15.247 (a)(1)(iii)	RSS-247 (5.1) (d)	Average Time of Occupancy		
15.247 (b)(1)	RSS-247 (5.4) (b)	Output Power		
See Comment		Average Power		
15.247 (d)	RSS-247 (5.5)	Conducted Spurious Emissions	Compliant	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions		
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions		

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, KDB 414788 D01 Radiated Test Site v01r01 for < 30MHz testing, 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, North Carolina, USA and 2800 Perimeter Park Dr., Suite B, Morrisville, North Carolina, USA. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

12 Laboratory Dr.	2800 Suite Perimeter Park Dr.
☐ Chamber A RTP	☒ North Chamber
☒ Chamber C RTP	☒ South Chamber

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

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

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

5.2. DECISION RULES

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

5.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	1.82%
RF output power, conducted	1.3 dB (PK) 0.45 dB (AV)
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	3.40 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%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

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

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.

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

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a Bluetooth and WiFi radio module. The PMN and HVIN = Raspberry Pi RM0.

6.2. POWER SETTINGS USED FOR TESTING

The power setting for the testing in this report were set default in the test firmware. Please refer to UL VS LTD report UL-RPT-RP13337971-1016A for measured power.

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an internal antenna with a maximum gain of 3.5dBi and an external antenna with a maximum gain of 2dBi.

Internal antenna = Antenna 1
External antenna = Antenna 2

6.4. SOFTWARE AND FIRMWARE

The EUT hardware during testing was v1.0.
The EUT software during testing was v1.0.

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz and above 18GHz 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, high channels and inner channels where required.

The fundamental of the EUT was investigated with in three orthogonal orientations X,Y,Z, for each antenna, it was determined that X orientation was worst-case orientation for Antenna 1 and Z orientation for Antenna 2; therefore, all final radiated testing was performed with antenna in the X orientation for Antenna 1 and Z orientation for Antenna 2.

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

BT GFSK: 1DH-5
BT 8DPSK: 3DH-5

6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Description	Manufacturer	Model	Serial Number
AC/DC Adapter	Raspberry Pi	KSA-15E-051300HK	3037350
Raspberry Pi Board	Raspberry Pi	Raspberry Pi 4 Model B	3157590

I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	Mains	IEC	< 3M	Feeds AC/DC adapter
2	DC	1	DC plug	2-wire	< 3M	Powers EUT from AC/DC adapter

TEST SETUP

Test software exercised the radio card of the EUT.

SETUP DIAGRAM

Please refer to R13337971-EP2 for setup diagrams.

7. MEASUREMENT METHOD

Bandedge: ANSI C63.10:2013 Sections 7.8.6, 6.10.4 and 6.10.5

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

On Time and Duty Cycle: ANSI C63.10: 2013 Section 11.6

AC Power Line Conducted Emissions: ANSI C63.10:2013 Sections 6.2

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 (RTP – Chamber C)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	1-18 GHz				
AT0062	HORN Antenna	ETS-Lindgren	3117	2020-01-30	2021-01-30
	Gain-Loss Chains				
C-SAC02	Gain-loss string: 1-18GHz	Various	Various	2020-03-03	2021-03-03
C-SAC02 Path 7	Gain-loss string 1-7GHz	Various	Various	2020-04-03	2021-04-03
	Receiver & Software				
SA0018	Spectrum Analyzer	Agilent	PXA (N9030A)	2020-03-02	2021-03-02
SOFTEMI	EMI Software	UL	Version 9.5 (2020-07-07)	NA	NA
	Additional Equipment used				
HI0085	Temp/Humid/Pressure Meter	EXTECH	SD700	2020-04-20	2021-04-30

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

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	0.009-30MHz	(Loop Ant.)			
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2019-08-08	2020-08-08
	30-1000 MHz				
AT0081	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2019-11-20	2020-11-20
	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	2020-07-10	2021-07-10
S-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2020-07-10	2021-07-10
S-SAC04	Gain-loss string: 18-40GHz	Various	Various	2020-07-07	2021-07-07
	Receiver & Software				
SA0025	Spectrum Analyzer	Agilent	N9030A	2020-03-17	2021-03-17
SOFTEMI	EMI Software	UL	Version 9.5 (2020-07-07)	NA	NA
	Additional Equipment used				
s/n 200037635	Environmental Meter	Fisher Scientific	06-662-4	2020-01-22	2022-01-22

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

Equip. 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	2020-07-28	2021-07-28
	Receiver & Software				
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2020-03-27	2021-03-27
SOFTEMI	EMI Software	UL	Version 9.5 (2020-07-07)	NA	NA
	Additional Equipment used				
s/n 200037610	Environmental Meter	Fisher Scientific	06-662-4	2020-01-22	2022-01-22
ATA174	10dB, DC-18GHz, 5W	Mini-Circuits	BW-N10W5	2020-02-19	2021-02-19

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

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2020-03-26	2021-03-26
HI0091	Environmental Meter	Fisher Scientific	14-650-118	2020-06-26	2021-06-26
LISN003	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2020-08-18	2021-08-18
75141	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2020-08-18	2021-08-18
ATA222	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2020-03-26	2021-03-26
PS215	AC Power Source	Elgar	CW2501M (s/n 1523A02397)		
SOFTEMI	EMI Software	UL	Version 9.5 (2020-07-07)		
CDECABLE001	ANSI C63.4 1m extension cable.	UL	Per Annex B of ANSI C63.4	2020-08-08	2021-08-08

NOTES:

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

9. DUTY CYCLE

LIMITS

None, for reporting purposes only

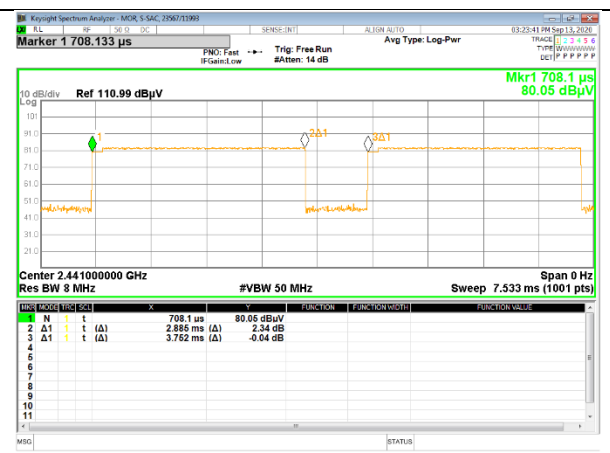
TEST PROCEDURE

ANSI C63.10 Zero Span Method.

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Voltage Averaging Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
BT - GFSK	2.884	3.749	0.769	76.93%	2.28	0.347
BT- 8DPSK	2.885	3.752	0.769	76.89%	2.28	0.347



Duty Cycle - GFSK



Duty Cycle – 8DPSK

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 1 MHz resolution bandwidth with 1/T video bandwidth with peak detection, for average measurements.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the low, middle, high channels and inner channels where required 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.

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.

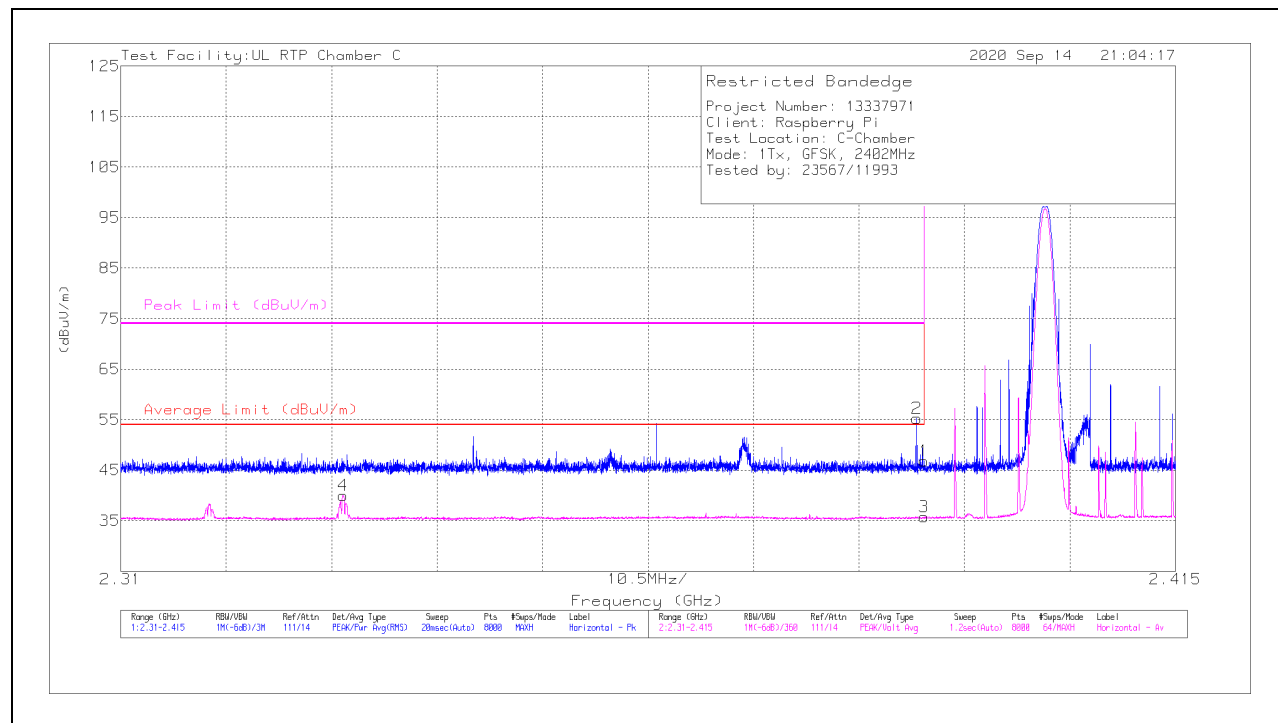
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. GFSK

1TX Antenna 1 MODE

BANDEDGE (LOW CHANNEL, 2402 MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.39	57.02	Pk	32.1	-42.3	46.82	-	-	74	-27.18	30	189	H
2	*** 2.38926	65.55	Pk	32	-42.3	55.25	-	-	74	-18.75	30	189	H
3	*** 2.39	45.91	V1TV	32.1	-42.3	35.71	54	-18.29	-	-	30	189	H
4	*** 2.33216	50.42	V1TV	31.9	-42.3	40.02	54	-13.98	-	-	30	189	H

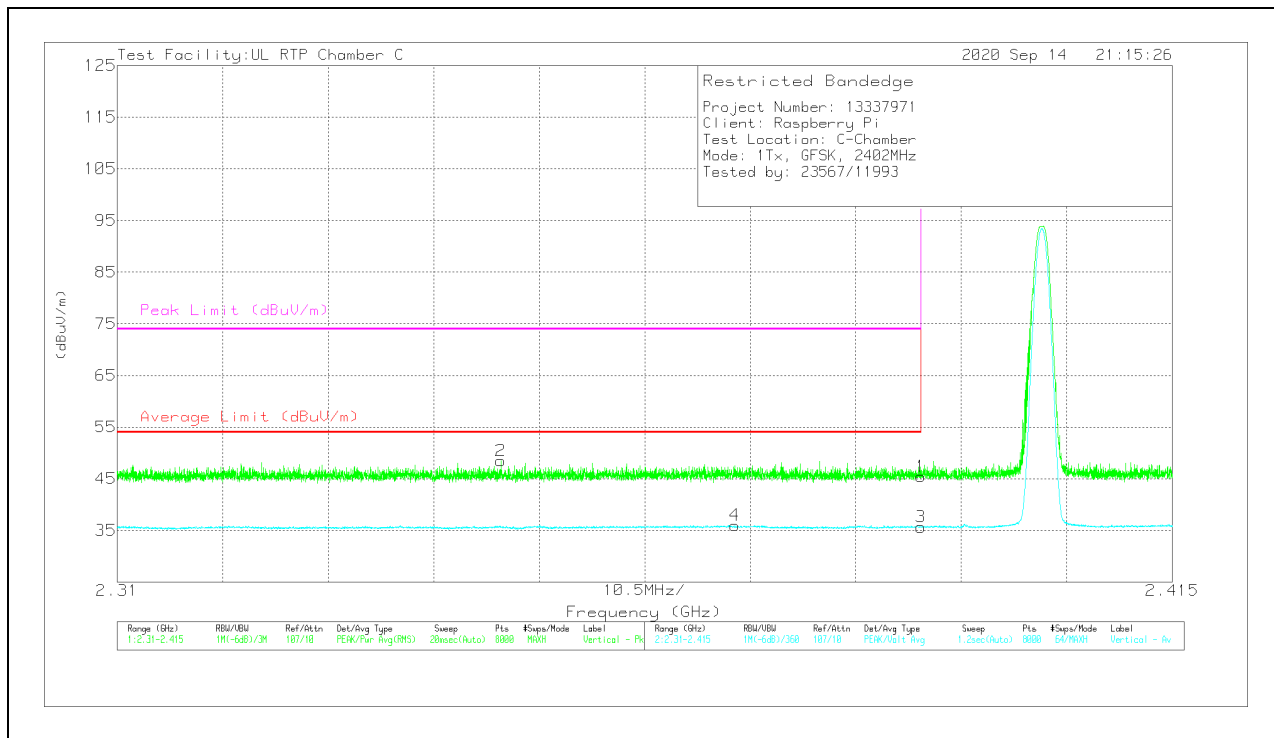
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.39	55.64	Pk	32.1	-42.3	45.44	-	-	74	-28.56	356	297	V
2	*** 2.34817	58.78	Pk	31.9	-42.2	48.48	-	-	74	-25.52	356	297	V
3	*** 2.39	45.86	V1TV	32.1	-42.3	35.66	54	-18.34	-	-	356	297	V
4	*** 2.37147	46.19	V1TV	32	-42.2	35.99	54	-18.01	-	-	356	297	V

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

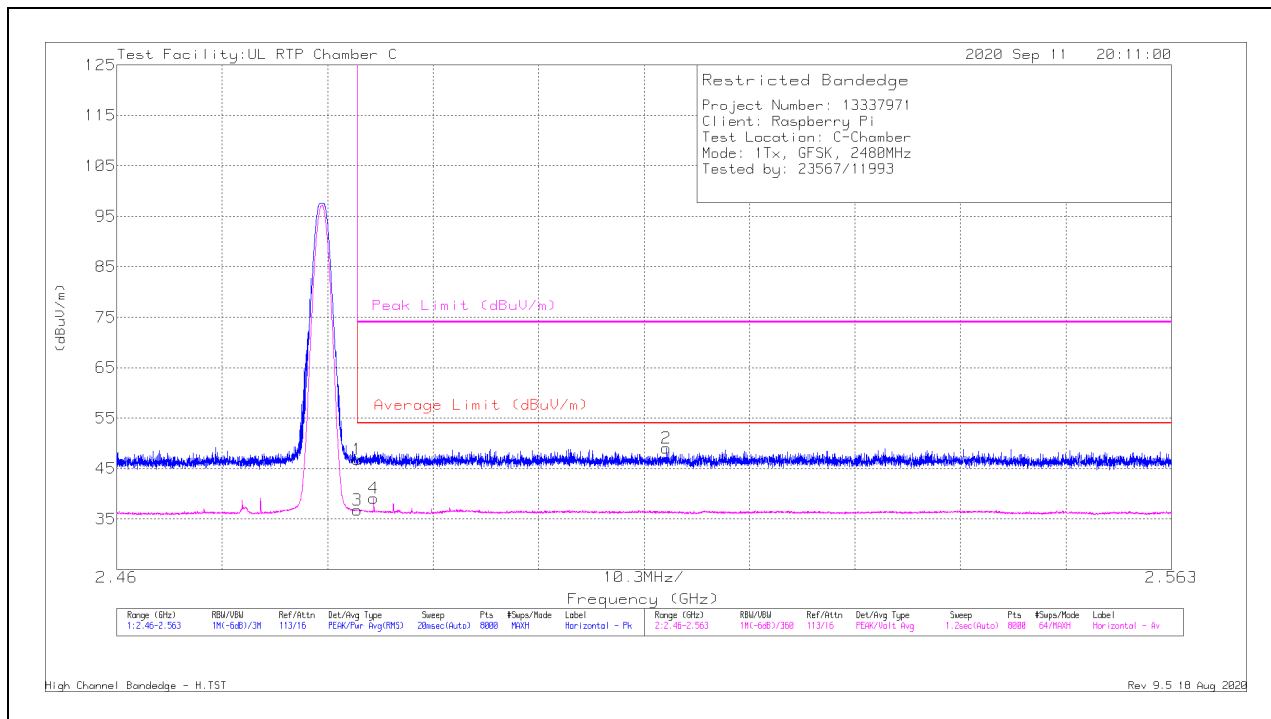
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

BANDEDGE (HIGH CHANNEL, 2480 MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	56.19	Pk	32.6	-42	46.79	-	-	74	-27.21	27	240	H
2	** 2.51367	58.12	Pk	32.7	-41.8	49.02	-	-	74	-24.98	27	240	H
3	* ** 2.4835	46.19	V1TV	32.6	-42	36.79	54	-17.21	-	-	27	240	H
4	* ** 2.48508	48.39	V1TV	32.6	-41.9	39.09	54	-14.91	-	-	27	240	H

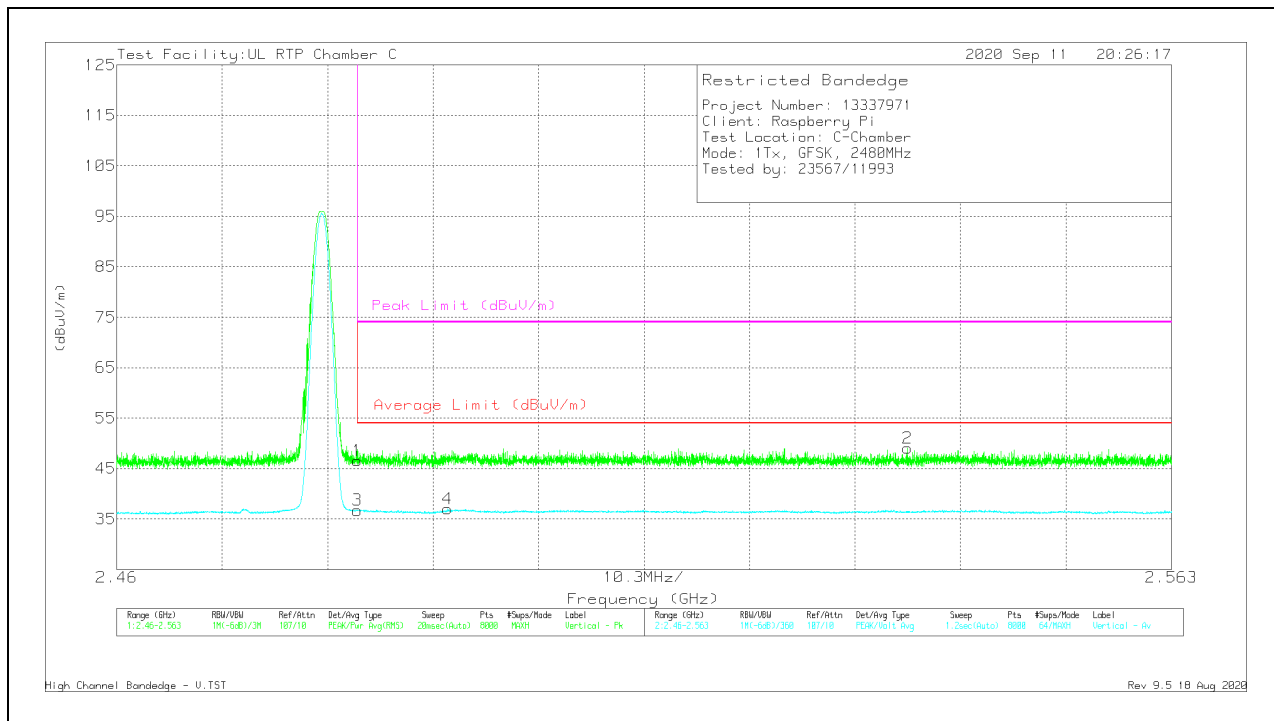
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	55.93	Pk	32.6	-42	46.53	-	-	74	-27.47	353	314	V
2	** 2.53722	58.17	Pk	32.6	-41.7	49.07	-	-	74	-24.93	353	314	V
3	* ** 2.4835	46.1	V1TV	32.6	-42	36.7	54	-17.3	-	-	353	314	V
4	* ** 2.49232	46.06	V1TV	32.7	-41.8	36.96	54	-17.04	-	-	353	314	V

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

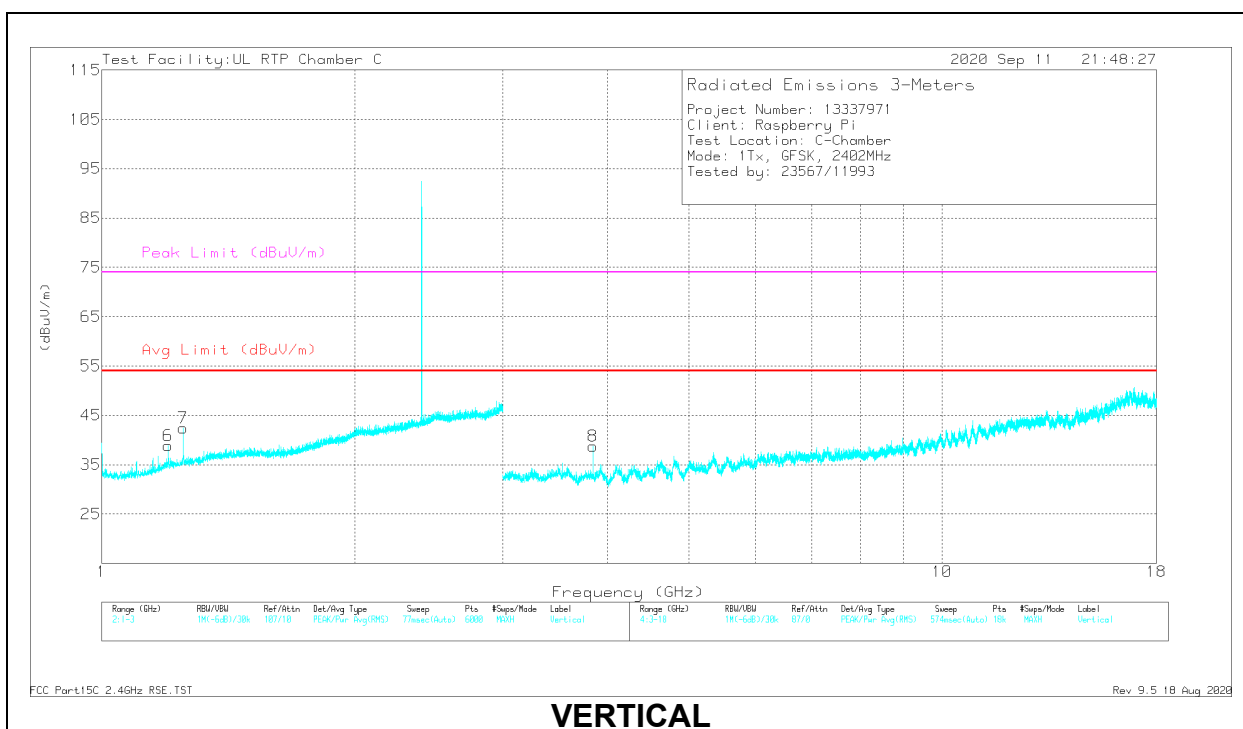
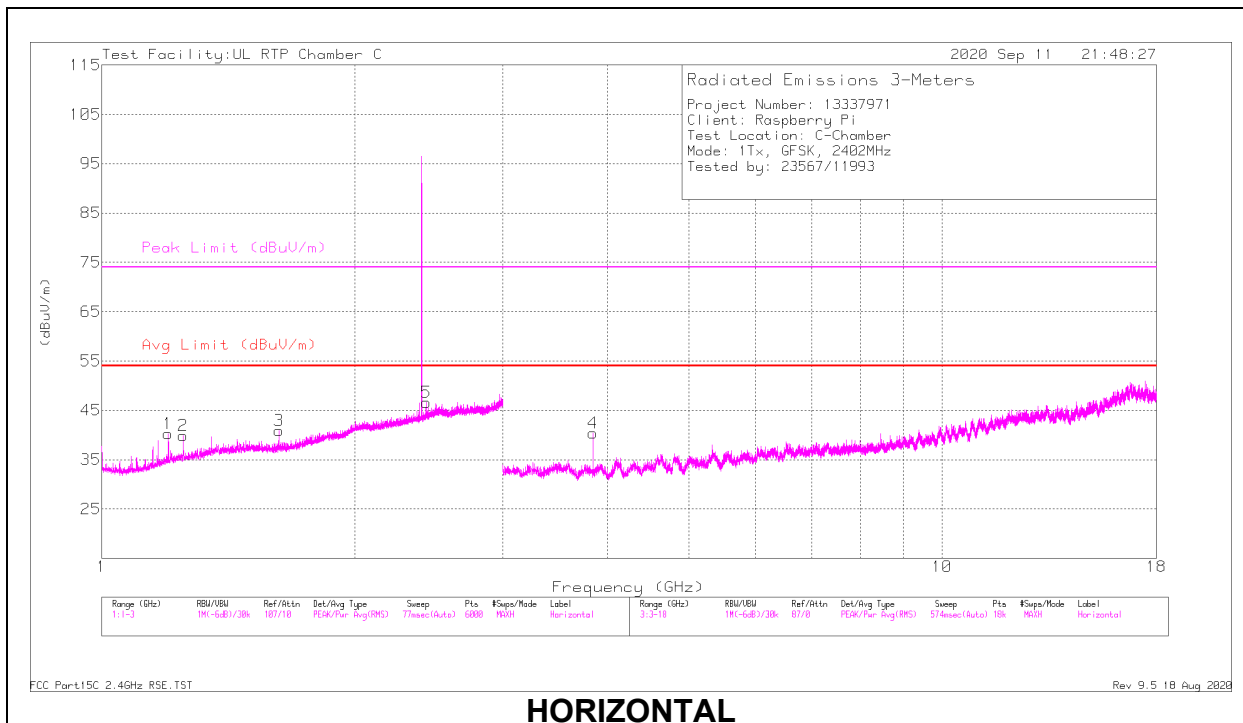
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, 2402 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.19979	37.37	PK2	28.1	-20.5	44.97	-	-	74	-29.03	6	323	H
	*** 1.19997	29.76	V1TV	28.1	-20.5	37.36	54	-16.64	-	-	6	323	H
2	* 1.24955	37.52	PK2	28.6	-20.4	45.72	-	-	74	-28.28	313	215	H
	* 1.25008	30.04	V1TV	28.6	-20.4	38.24	54	-15.76	-	-	313	215	H
3	*** 1.62456	37.35	PK2	28.5	-18.8	47.05	-	-	74	-26.95	100	189	H
	*** 1.62512	27.15	V1TV	28.5	-18.8	36.85	54	-17.15	-	-	100	189	H
6	*** 1.20015	35.58	PK2	28.1	-20.5	43.18	-	-	74	-30.82	296	386	V
	*** 1.20012	25.45	V1TV	28.1	-20.5	33.05	54	-20.95	-	-	296	386	V
7	* 1.25033	38.17	PK2	28.6	-20.4	46.37	-	-	74	-27.63	231	101	V
	* 1.25005	31.82	V1TV	28.6	-20.4	40.02	54	-13.98	-	-	231	101	V
4	*** 3.84318	60.07	PK2	33.5	-49.2	44.37	-	-	74	-29.63	302	258	H
	*** 3.84321	53.71	V1TV	33.5	-49.2	38.01	54	-15.99	-	-	302	258	H
8	*** 3.8431	60.53	PK2	33.5	-49.2	44.83	-	-	74	-29.17	352	241	V
	*** 3.8432	54.16	V1TV	33.5	-49.2	38.46	54	-15.54	-	-	352	241	V
5	2.43191	32.63	Pk	32.2	-18.2	46.63	-	-	-	-	0-360	101	H

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

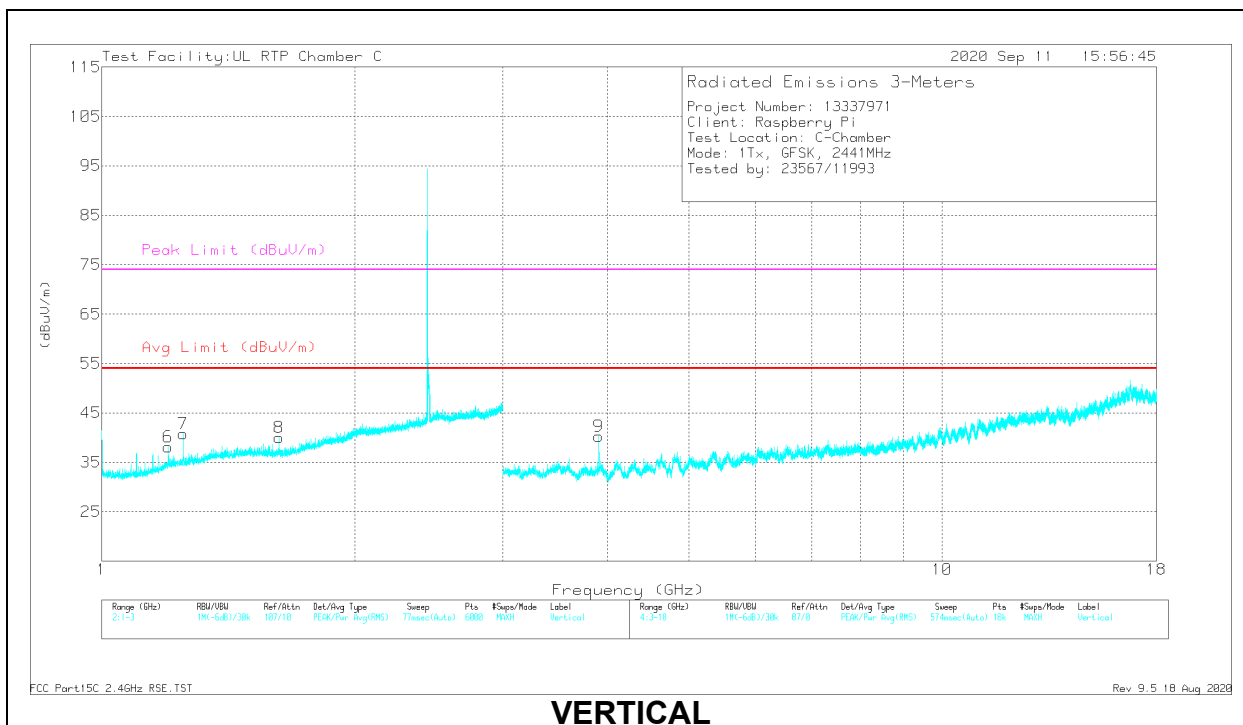
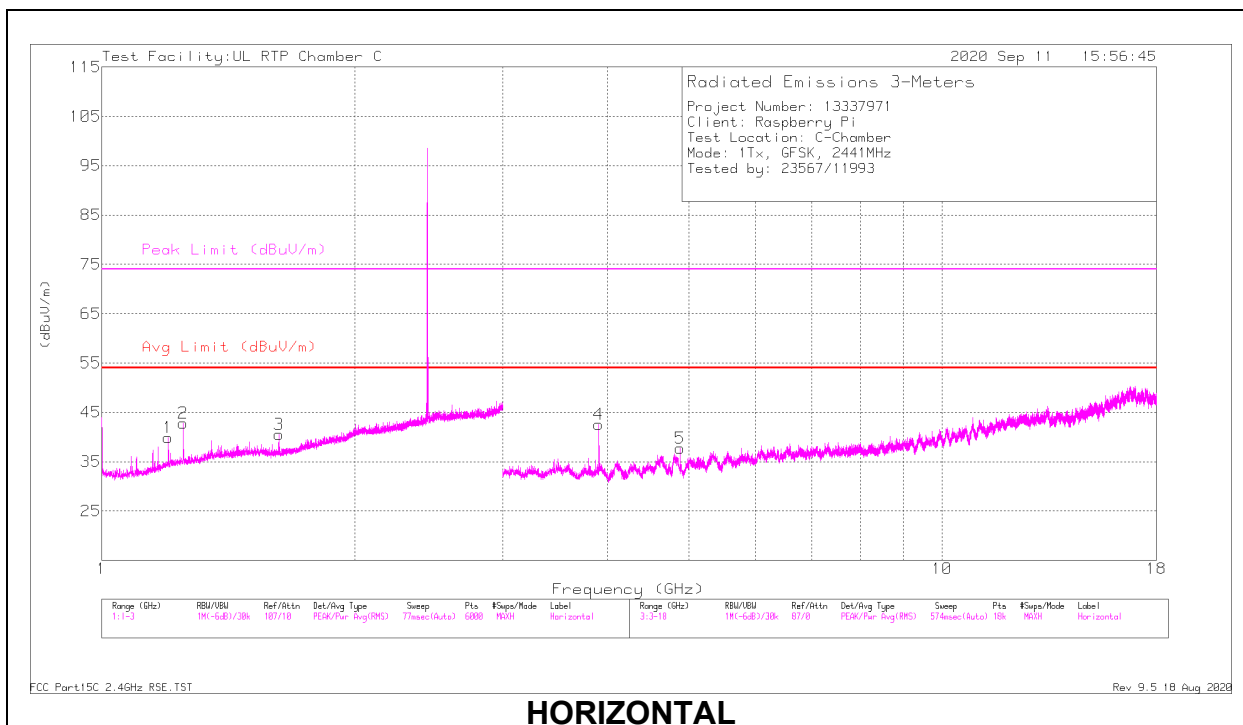
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2: Maximum Peak

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

Pk - Peak detector

MID CHANNEL, 2441 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.20001	37.07	PK2	28.1	-20.5	44.67	-	-	74	-29.33	180	148	H
	*** 1.20003	29.72	V1TV	28.1	-20.5	37.32	54	-16.68	-	-	180	148	H
2	* 1.25001	38.81	PK2	28.6	-20.4	47.01	-	-	74	-26.99	319	179	H
	* 1.25007	32.49	V1TV	28.6	-20.4	40.69	54	-13.31	-	-	319	179	H
3	*** 1.62502	38.11	PK2	28.5	-18.8	47.81	-	-	74	-26.19	202	165	H
	*** 1.62497	28.77	V1TV	28.5	-18.8	38.47	54	-15.53	-	-	202	165	H
6	*** 1.20023	34.47	PK2	28.1	-20.5	42.07	-	-	74	-31.93	259	240	V
	*** 1.20008	22.4	V1TV	28.1	-20.5	30	54	-24	-	-	259	240	V
7	* 1.25015	37.57	PK2	28.6	-20.4	45.77	-	-	74	-28.23	227	103	V
	* 1.24997	29.98	V1TV	28.6	-20.4	38.18	54	-15.82	-	-	227	103	V
8	*** 1.62495	36.61	PK2	28.5	-18.8	46.31	-	-	74	-27.69	161	262	V
	*** 1.62503	26.28	V1TV	28.5	-18.8	35.98	54	-18.02	-	-	161	262	V
4	*** 3.9057	62.12	PK2	33.5	-49	46.62	-	-	74	-27.38	62	101	H
	*** 3.90565	57.04	V1TV	33.5	-49	41.54	54	-12.46	-	-	62	101	H
5	*** 4.88188	58.59	PK2	34	-48.3	44.29	-	-	74	-29.71	152	278	H
	*** 4.88199	50.17	V1TV	34	-48.3	35.87	54	-18.13	-	-	152	278	H
9	*** 3.90569	61.28	PK2	33.5	-49	45.78	-	-	74	-28.22	357	294	V
	*** 3.90565	55.16	V1TV	33.5	-49	39.66	54	-14.34	-	-	357	294	V

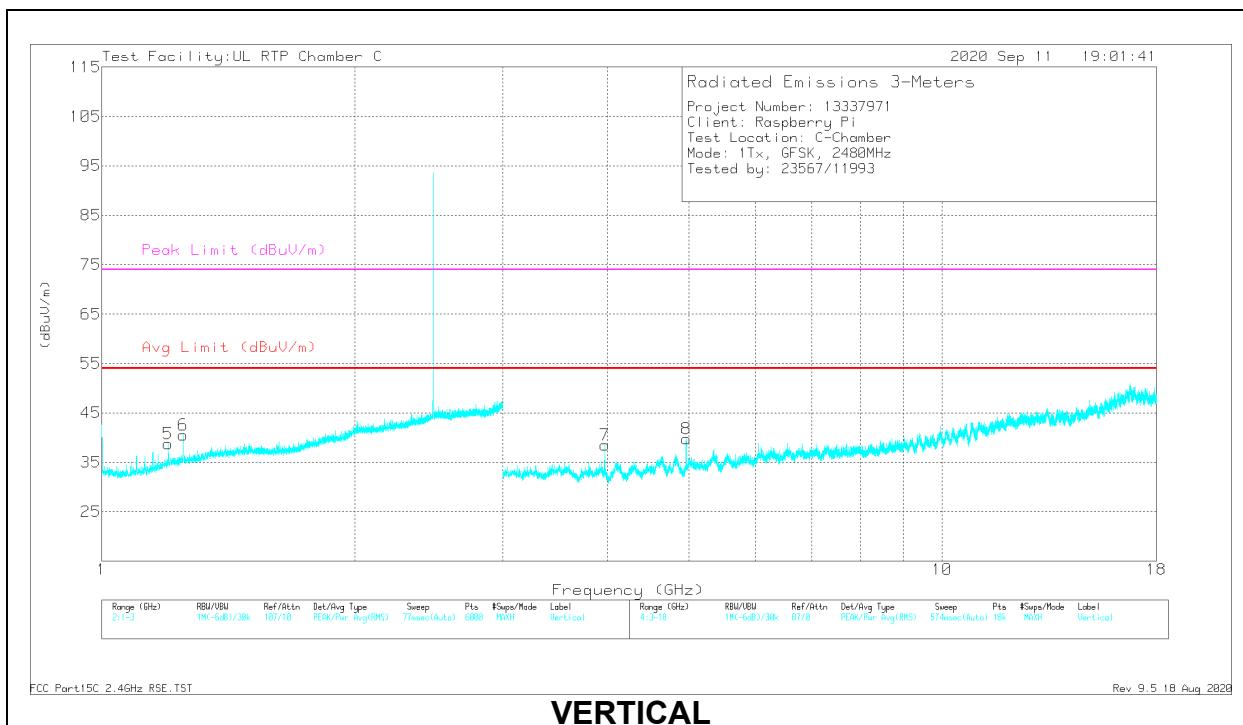
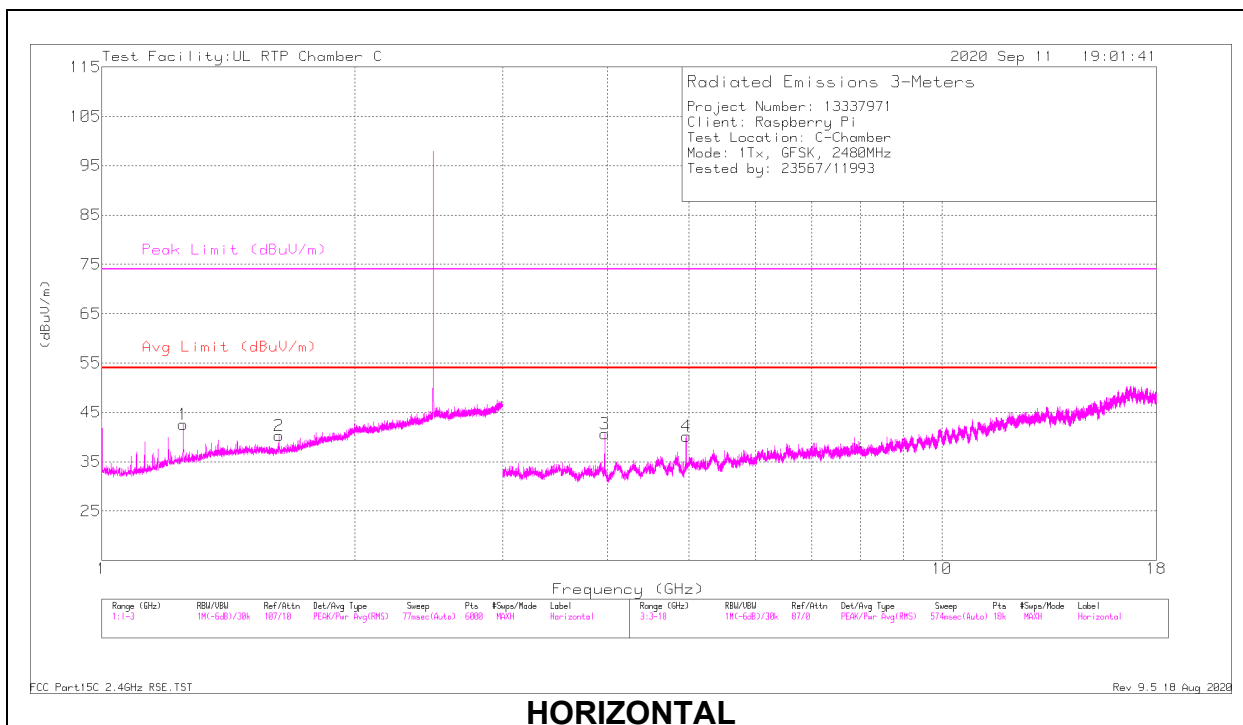
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2: Maximum Peak

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

HIGH CHANNEL, 2480 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.24994	38.99	PK2	28.6	-20.4	47.19	-	-	74	-26.81	332	102	H
	* 1.25001	32.67	V1TV	28.6	-20.4	40.87	54	-13.13	-	-	332	102	H
2	*** 1.62525	35.87	PK2	28.5	-18.9	45.47	-	-	74	-28.53	61	289	H
	*** 1.62525	26.03	V1TV	28.5	-18.9	35.63	54	-18.37	-	-	61	289	H
5	*** 1.20007	36.54	PK2	28.1	-20.5	44.14	-	-	74	-29.86	234	101	V
	*** 1.19999	28.94	V1TV	28.1	-20.5	36.54	54	-17.46	-	-	234	101	V
6	* 1.25021	37.51	PK2	28.6	-20.4	45.71	-	-	74	-28.29	228	103	V
	* 1.25003	29	V1TV	28.6	-20.4	37.2	54	-16.8	-	-	228	103	V
3	*** 3.96807	59.6	PK2	33.5	-48.3	44.8	-	-	74	-29.2	64	101	H
	*** 3.96801	54.3	V1TV	33.5	-48.3	39.5	54	-14.5	-	-	64	101	H
4	*** 4.95977	58.27	PK2	34	-47.4	44.87	-	-	74	-29.13	268	101	H
	*** 4.96002	50.6	V1TV	34	-47.4	37.2	54	-16.8	-	-	268	101	H
7	*** 3.9682	57.65	PK2	33.5	-48.3	42.85	-	-	74	-31.15	172	101	V
	*** 3.968	50.51	V1TV	33.5	-48.3	35.71	54	-18.29	-	-	172	101	V
8	*** 4.96016	59.53	PK2	34	-47.4	46.13	-	-	74	-27.87	208	269	V
	*** 4.95999	52.39	V1TV	34	-47.4	38.99	54	-15.01	-	-	208	269	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

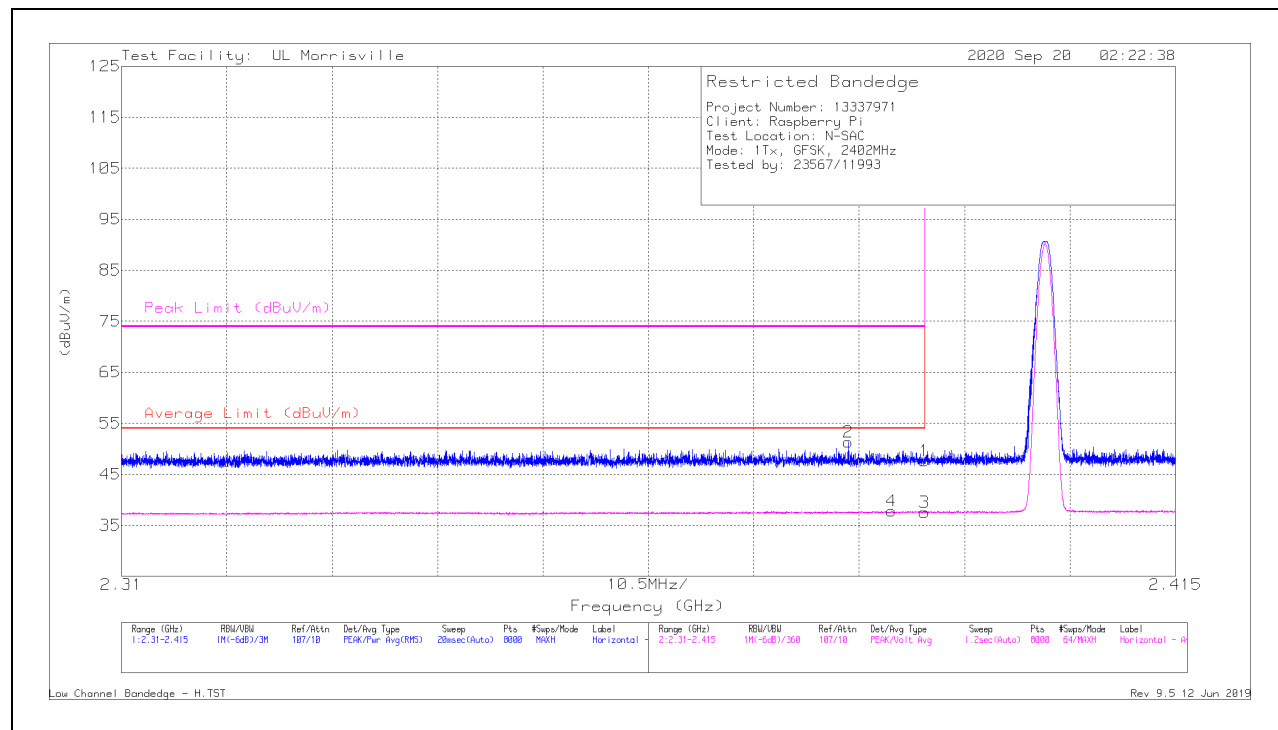
PK2: Maximum Peak

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

1TX Antenna 2 MODE

BANDEDGE (LOW CHANNEL, 2402 MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	40.2	Pk	31.8	-24.4	47.6	-	-	74	-26.4	342	117	H
2	* ** 2.38244	43.94	Pk	31.8	-24.4	51.34	-	-	74	-22.66	342	117	H
3	* ** 2.39	30.15	V1TV	31.8	-24.4	37.55	54	-16.45	-	-	342	117	H
4	* ** 2.38671	30.42	V1TV	31.8	-24.4	37.82	54	-16.18	-	-	342	117	H

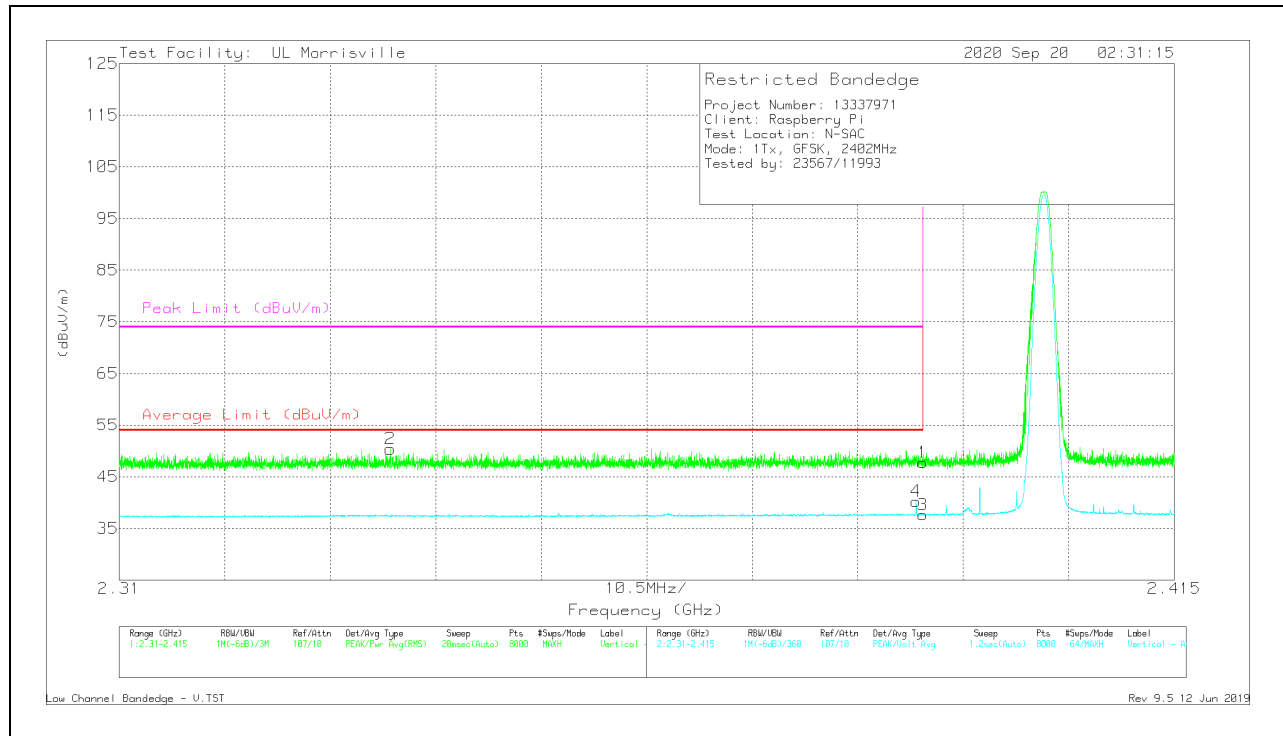
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	40.33	Pk	31.8	-24.4	47.73	-	-	74	-26.27	92	155	V
2	* ** 2.33698	43.3	Pk	31.7	-24.6	50.4	-	-	74	-23.6	92	155	V
3	* ** 2.39	30.24	V1TV	31.8	-24.4	37.64	54	-16.36	-	-	92	155	V
4	* ** 2.3893	32.82	V1TV	31.8	-24.4	40.22	54	-13.78	-	-	92	155	V

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

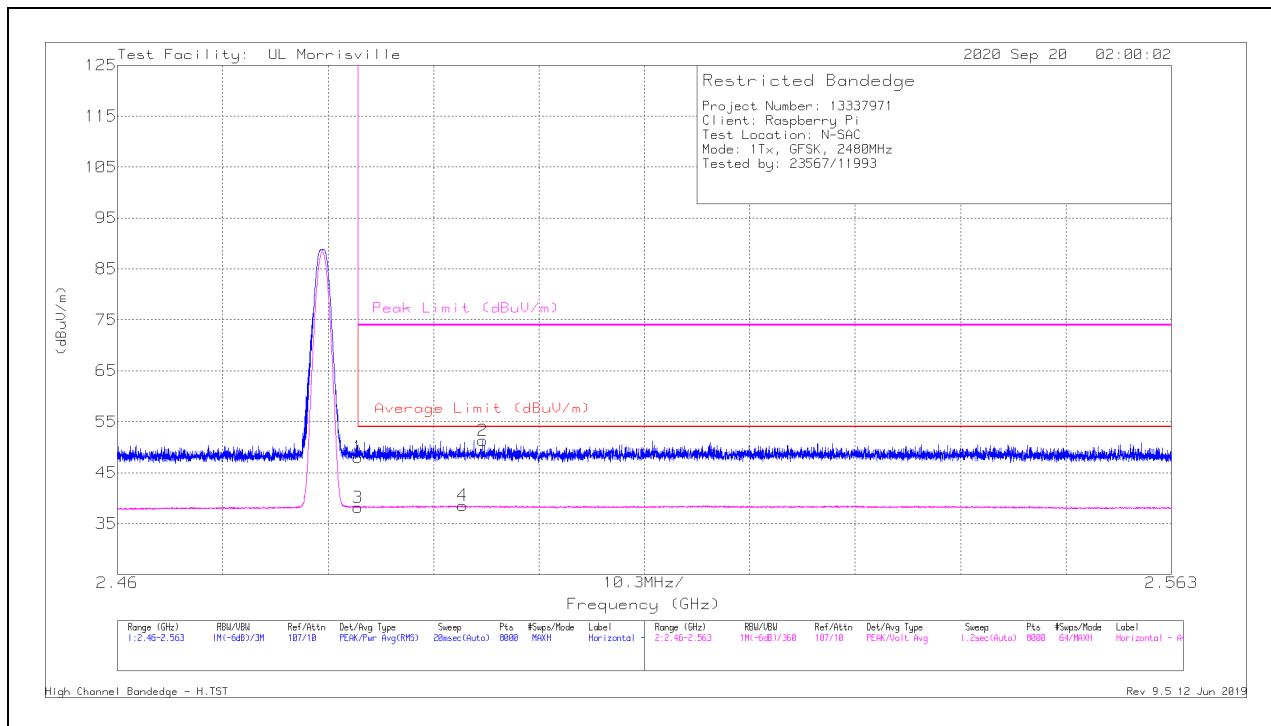
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

BANDEDGE (HIGH CHANNEL, 2480 MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	39.87	Pk	32.4	-24.2	48.07	-	-	74	-25.93	98	142	H
2	* ** 2.49571	43.02	Pk	32.5	-24.2	51.32	-	-	74	-22.68	98	142	H
3	* ** 2.4835	29.96	V1TV	32.4	-24.2	38.16	54	-15.84	-	-	98	142	H
4	* ** 2.49371	30.28	V1TV	32.5	-24.2	38.58	54	-15.42	-	-	98	142	H

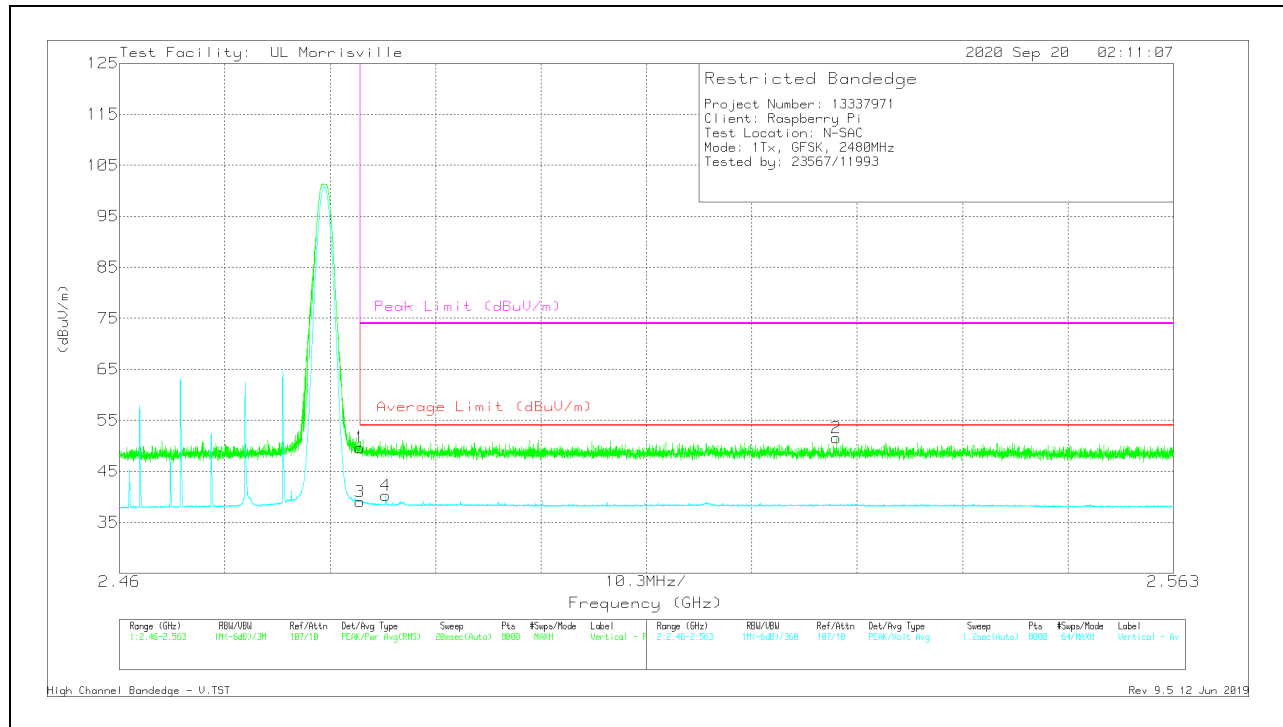
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	41.44	Pk	32.4	-24.2	49.64	-	-	74	-24.36	140	128	V
2	** 2.53005	43.25	Pk	32.5	-24.2	51.55	-	-	74	-22.45	140	128	V
3	* ** 2.4835	30.86	V1TV	32.4	-24.2	39.06	54	-14.94	-	-	140	128	V
4	* ** 2.48601	31.95	V1TV	32.5	-24.2	40.25	54	-13.75	-	-	140	128	V

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

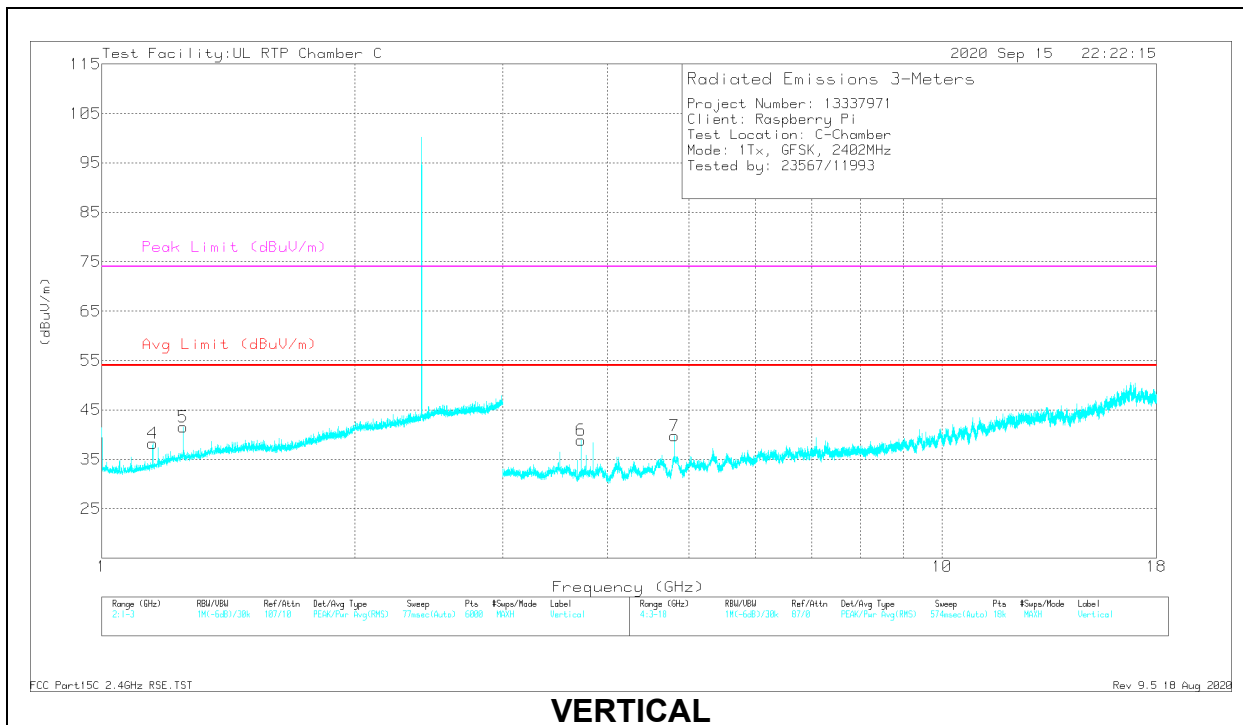
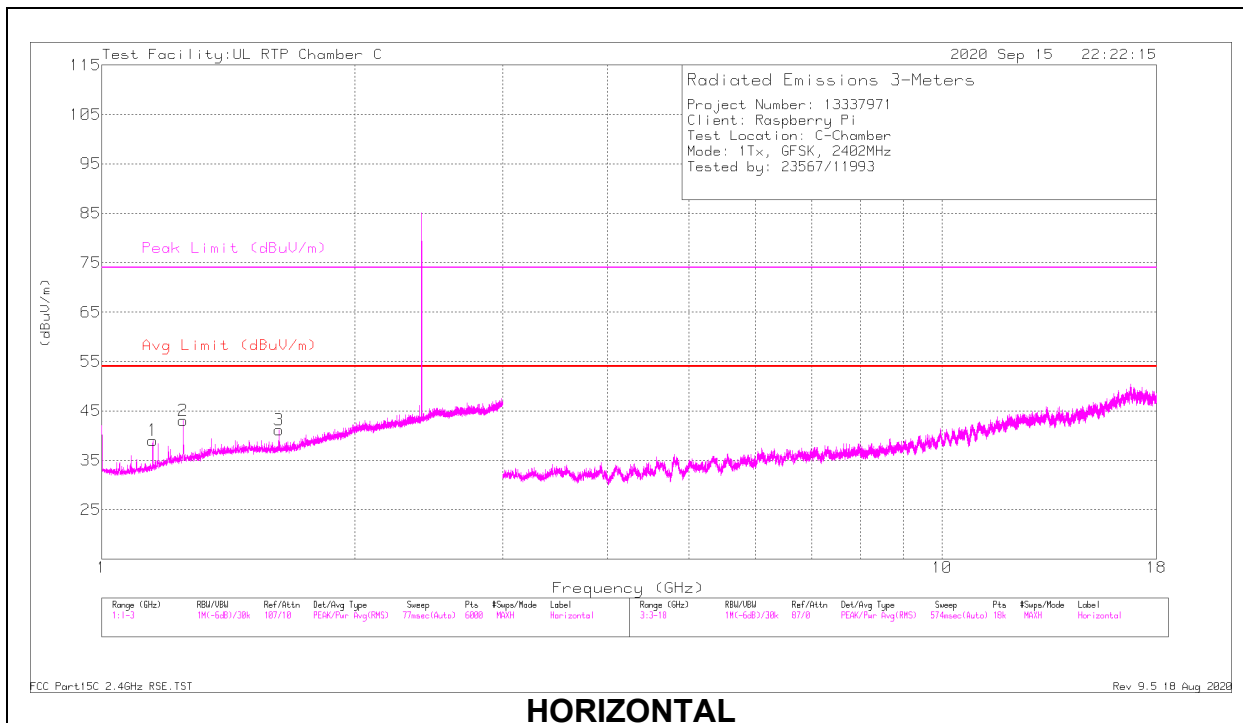
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, 2402 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.15004	36.95	PK2	27.4	-20.7	43.65	-	-	74	-30.35	192	103	H
	*** 1.15001	29.6	V1TV	27.4	-20.7	36.3	54	-17.7	-	-	192	103	H
2	* 1.25006	38.13	PK2	28.6	-20.4	46.33	-	-	74	-27.67	182	112	H
	* 1.25002	31.54	V1TV	28.6	-20.4	39.74	54	-14.26	-	-	182	112	H
3	*** 1.62515	37.7	PK2	28.5	-18.8	47.4	-	-	74	-26.6	211	168	H
	*** 1.62505	29.41	V1TV	28.5	-18.8	39.11	54	-14.89	-	-	211	168	H
4	*** 1.15007	36.82	PK2	27.4	-20.7	43.52	-	-	74	-30.48	252	111	V
	*** 1.15003	28.49	V1TV	27.4	-20.7	35.19	54	-18.81	-	-	252	111	V
5	* 1.24997	37.02	PK2	28.6	-20.4	45.22	-	-	74	-28.78	101	107	V
	* 1.25003	28.72	V1TV	28.6	-20.4	36.92	54	-17.08	-	-	101	107	V
6	*** 3.72007	58.21	PK2	33.3	-49.2	42.31	-	-	74	-31.69	229	103	V
	*** 3.71903	42.18	V1TV	33.3	-49.3	26.18	54	-27.82	-	-	229	103	V
7	*** 4.80449	58.09	PK2	34.1	-47.8	44.39	-	-	74	-29.61	285	101	V
	*** 4.80405	45.26	V1TV	34.1	-47.8	31.56	54	-22.44	-	-	285	101	V

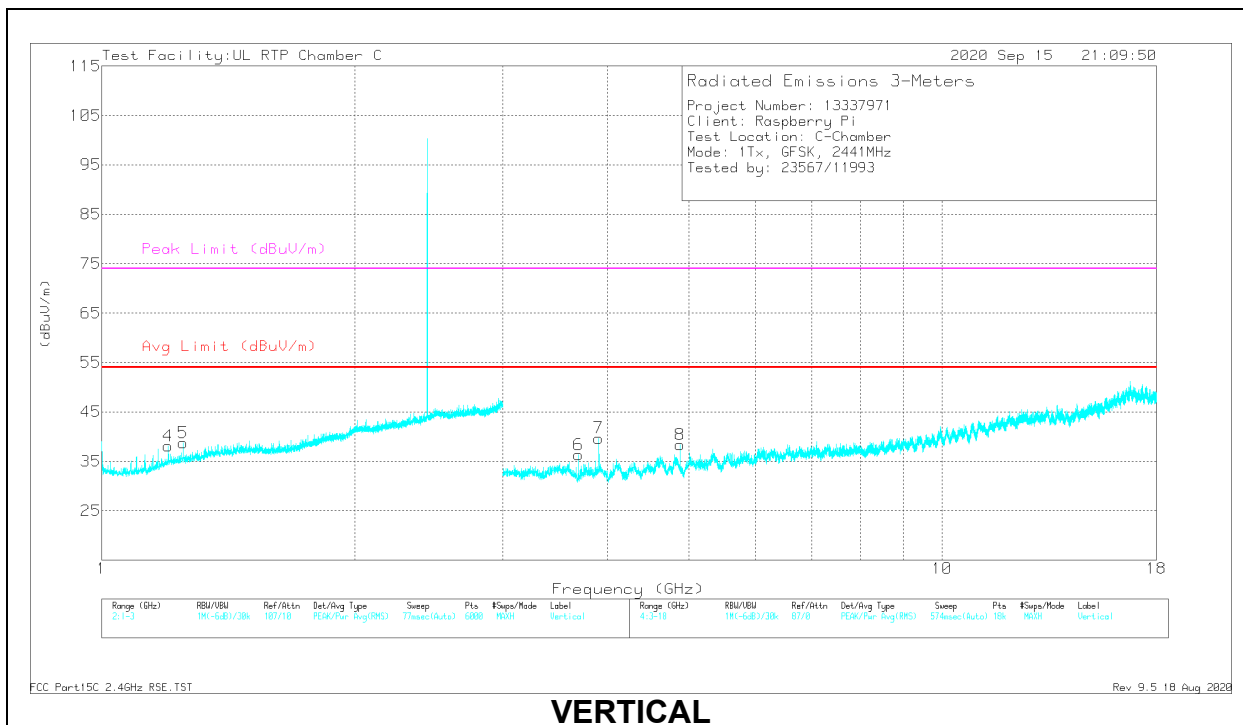
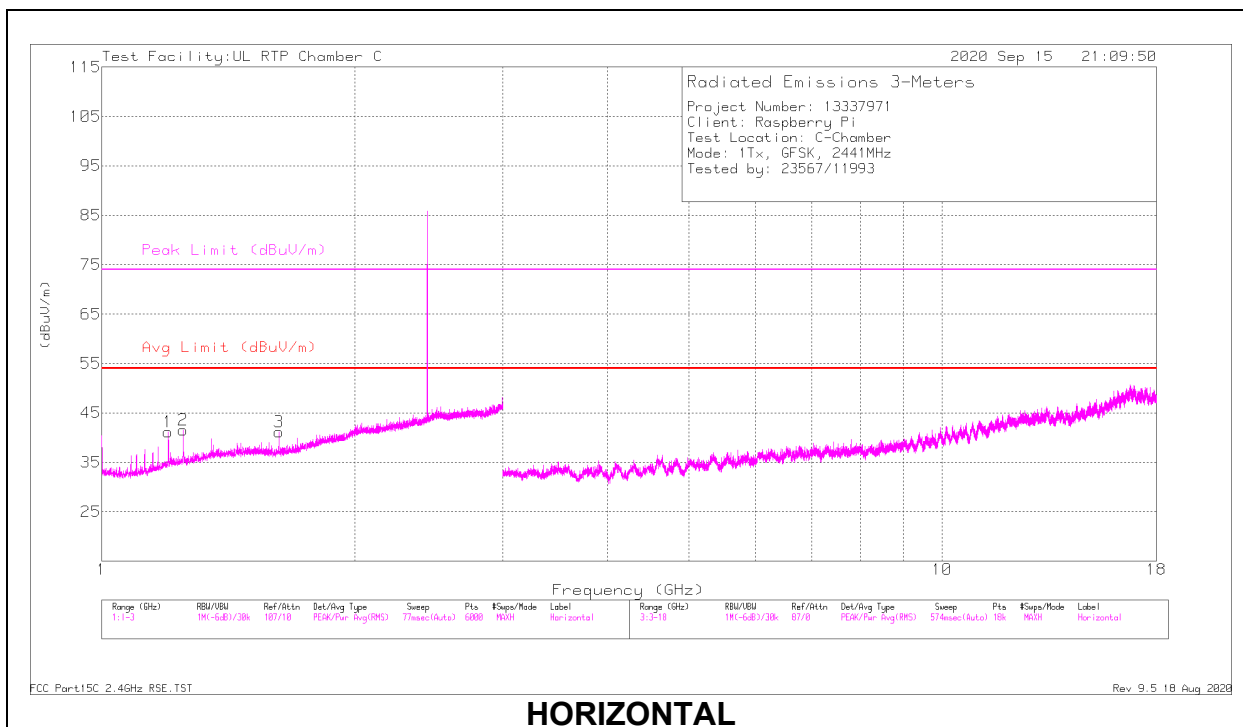
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2: Maximum Peak

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

MID CHANNEL, 2440 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.19989	38.09	PK2	28.1	-20.5	45.69	-	-	74	-28.31	190	102	H
	*** 1.20003	30.59	V1TV	28.1	-20.5	38.19	54	-15.81	-	-	190	102	H
2	* 1.25002	37.93	PK2	28.6	-20.4	46.13	-	-	74	-27.87	190	101	H
	* 1.25004	30.83	V1TV	28.6	-20.4	39.03	54	-14.97	-	-	190	101	H
3	*** 1.62491	37.49	PK2	28.5	-18.8	47.19	-	-	74	-26.81	218	154	H
	*** 1.62508	28.27	V1TV	28.5	-18.8	37.97	54	-16.03	-	-	218	154	H
4	*** 1.19999	36.55	PK2	28.1	-20.5	44.15	-	-	74	-29.85	292	103	V
	*** 1.19997	27.01	V1TV	28.1	-20.5	34.61	54	-19.39	-	-	292	103	V
5	* 1.24975	36.67	PK2	28.6	-20.4	44.87	-	-	74	-29.13	286	189	V
	* 1.25008	27.91	V1TV	28.6	-20.4	36.11	54	-17.89	-	-	286	189	V
6	*** 3.69471	55.53	PK2	33.2	-49.5	39.23	-	-	74	-34.77	12	367	V
	*** 3.69338	48.81	V1TV	33.2	-49.4	32.61	54	-21.39	-	-	12	367	V
7	*** 3.90559	59.62	PK2	33.5	-49	44.12	-	-	74	-29.88	191	101	V
	*** 3.90565	52.81	V1TV	33.5	-49	37.31	54	-16.69	-	-	191	101	V
8	*** 4.88213	57.32	PK2	34	-48.3	43.02	-	-	74	-30.98	317	266	V
	*** 4.88207	47.74	V1TV	34	-48.3	33.44	54	-20.56	-	-	317	266	V

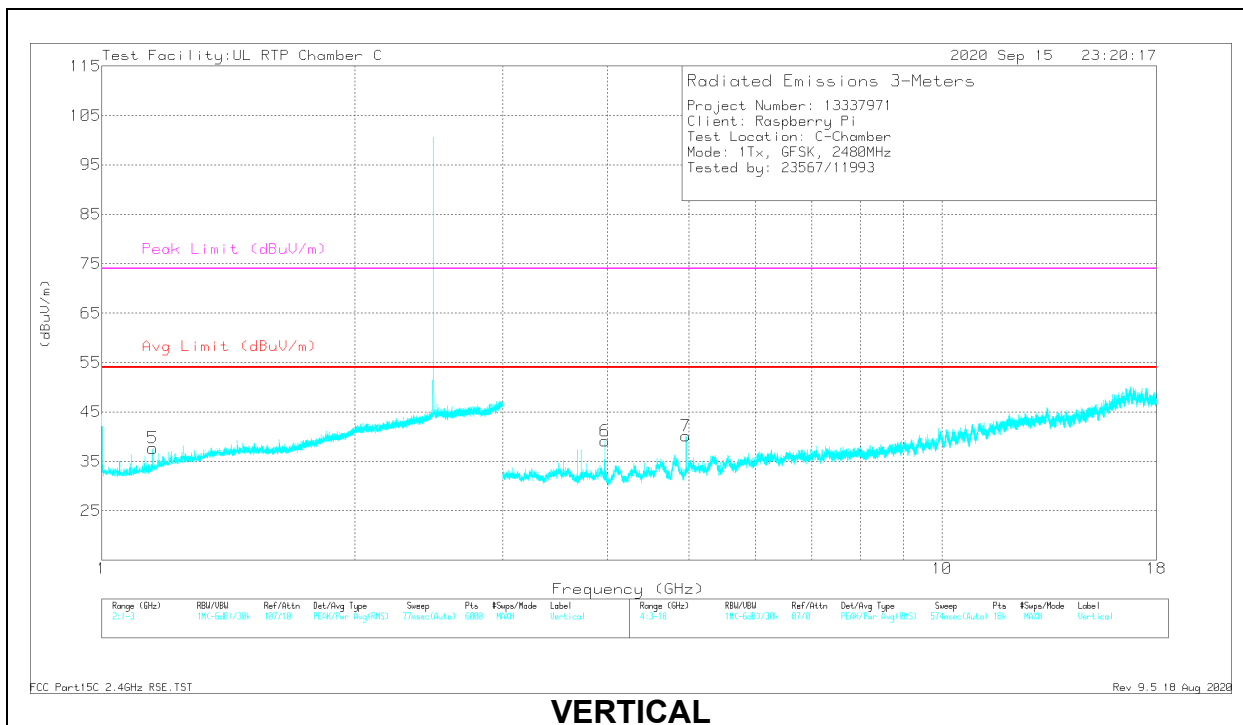
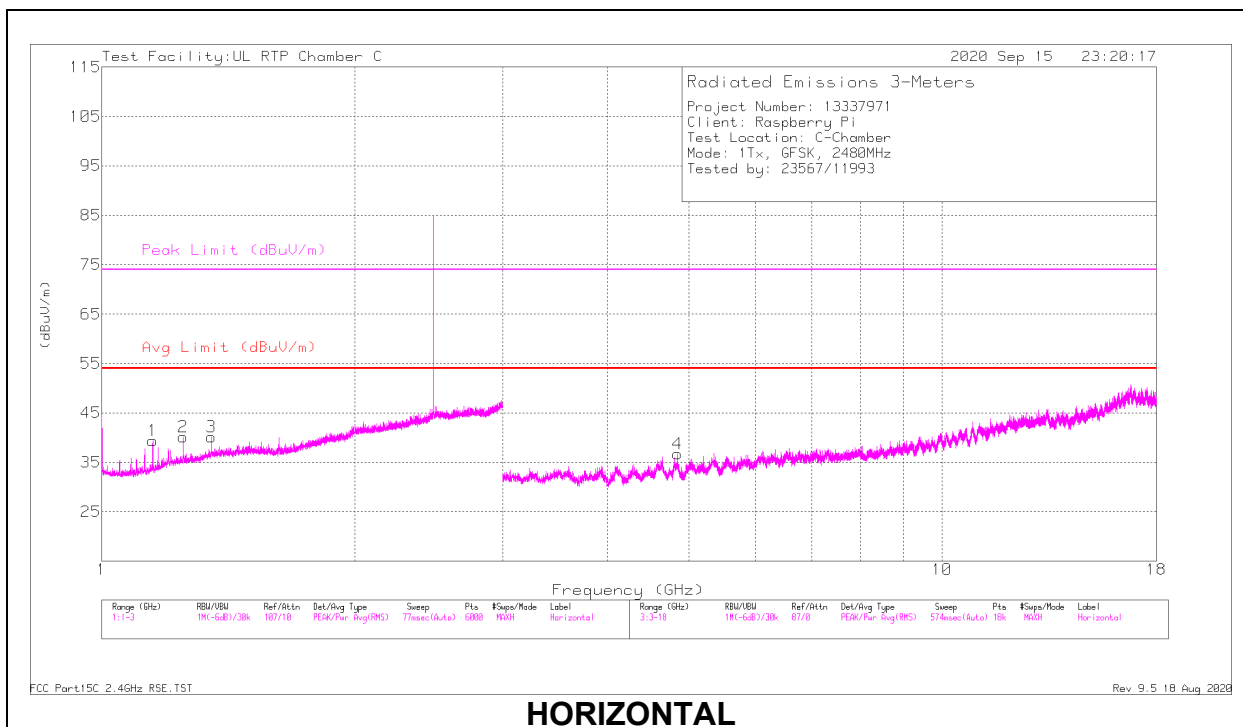
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2: Maximum Peak

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

HIGH CHANNEL, 2480 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.14996	37.34	PK2	27.4	-20.7	44.04	-	-	74	-29.96	188	103	H
	*** 1.15009	29.2	V1TV	27.4	-20.7	35.9	54	-18.1	-	-	188	103	H
2	* 1.24991	37	PK2	28.6	-20.4	45.2	-	-	74	-28.8	192	280	H
	* 1.24995	28.34	V1TV	28.6	-20.4	36.54	54	-17.46	-	-	192	280	H
3	*** 1.35023	35.61	PK2	28.8	-19.5	44.91	-	-	74	-29.09	198	204	H
	*** 1.35001	25.64	V1TV	28.8	-19.5	34.94	54	-19.06	-	-	198	204	H
5	*** 1.15015	36.27	PK2	27.4	-20.7	42.97	-	-	74	-31.03	260	103	V
	*** 1.15011	27.81	V1TV	27.4	-20.7	34.51	54	-19.49	-	-	260	103	V
4	*** 4.84701	55.42	PK2	34	-48.1	41.32	-	-	74	-32.68	13	101	H
	*** 4.84693	42.8	V1TV	34	-48.1	28.7	54	-25.3	-	-	13	101	H
6	*** 3.96795	57.84	PK2	33.5	-48.3	43.04	-	-	74	-30.96	107	101	V
	*** 3.96804	51.59	V1TV	33.5	-48.3	36.79	54	-17.21	-	-	107	101	V
7	*** 4.96006	56.6	PK2	34	-47.4	43.2	-	-	74	-30.8	133	101	V
	*** 4.95996	47.82	V1TV	34	-47.4	34.42	54	-19.58	-	-	133	101	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2: Maximum Peak

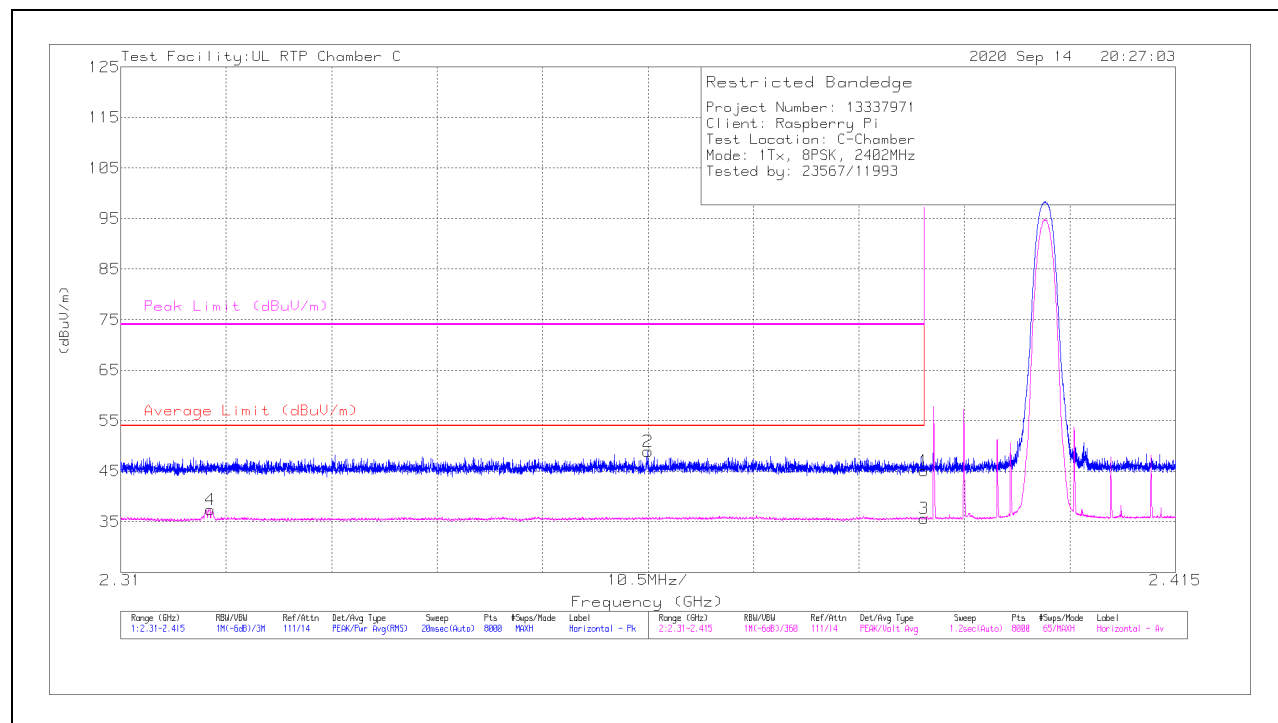
V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

10.1.2. 8DPSK

1TX Antenna 1 MODE

BANDEDGE (LOW CHANNEL, 2402 MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* * * 2.39	55.33	Pk	32.1	-42.3	45.13	-	-	74	-28.87	39	184	H
2	* * * 2.36249	59.22	Pk	32	-42.3	48.92	-	-	74	-25.08	39	184	H
3	* * * 2.39	45.81	V1TV	32.1	-42.3	35.61	54	-18.39	-	-	39	184	H
4	* * * 2.31889	47.8	V1TV	31.9	-42.3	37.4	54	-16.6	-	-	39	184	H

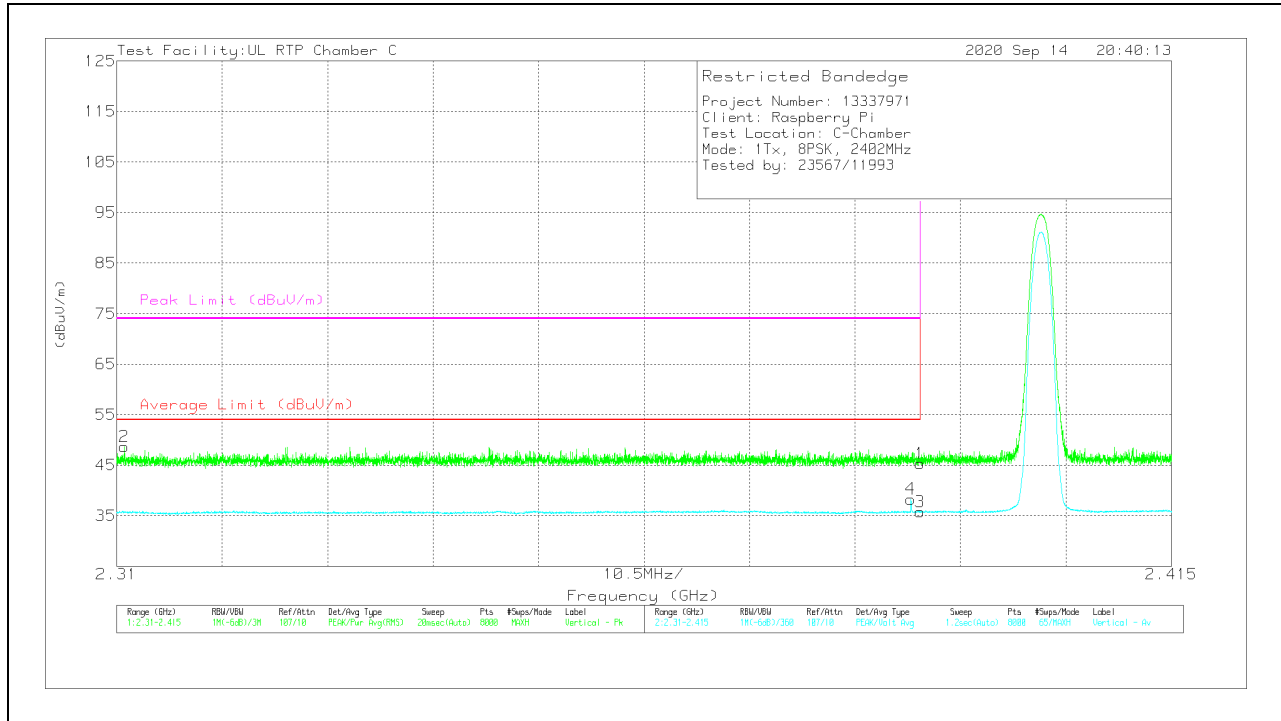
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.39	55.58	Pk	32.1	-42.3	45.38	-	-	74	-28.62	348	305	V
2	*** 2.31076	59.22	Pk	31.9	-42.4	48.72	-	-	74	-25.28	348	305	V
3	*** 2.39	45.96	V1TV	32.1	-42.3	35.76	54	-18.24	-	-	348	305	V
4	*** 2.38906	48.61	V1TV	32	-42.3	38.31	54	-15.69	-	-	348	305	V

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

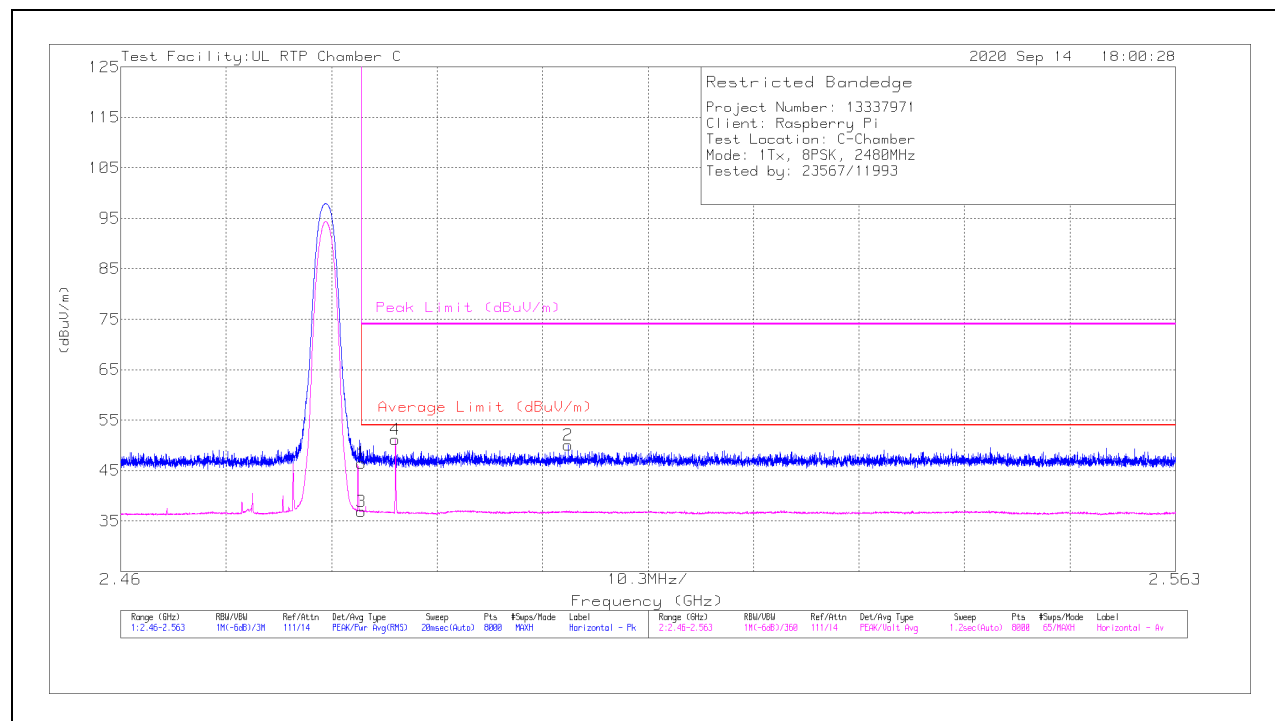
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

BANDEDGE (HIGH CHANNEL, 2480 MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	55.9	Pk	32.6	-42	46.5	-	-	74	-27.5	24	306	H
2	** 2.50368	59.19	Pk	32.7	-41.8	50.09	-	-	74	-23.91	24	306	H
3	* ** 2.4835	46.32	V1TV	32.6	-42	36.92	54	-17.08	-	-	24	306	H
4	* ** 2.48682	60.45	V1TV	32.6	-41.9	51.15	54	-2.85	-	-	24	306	H

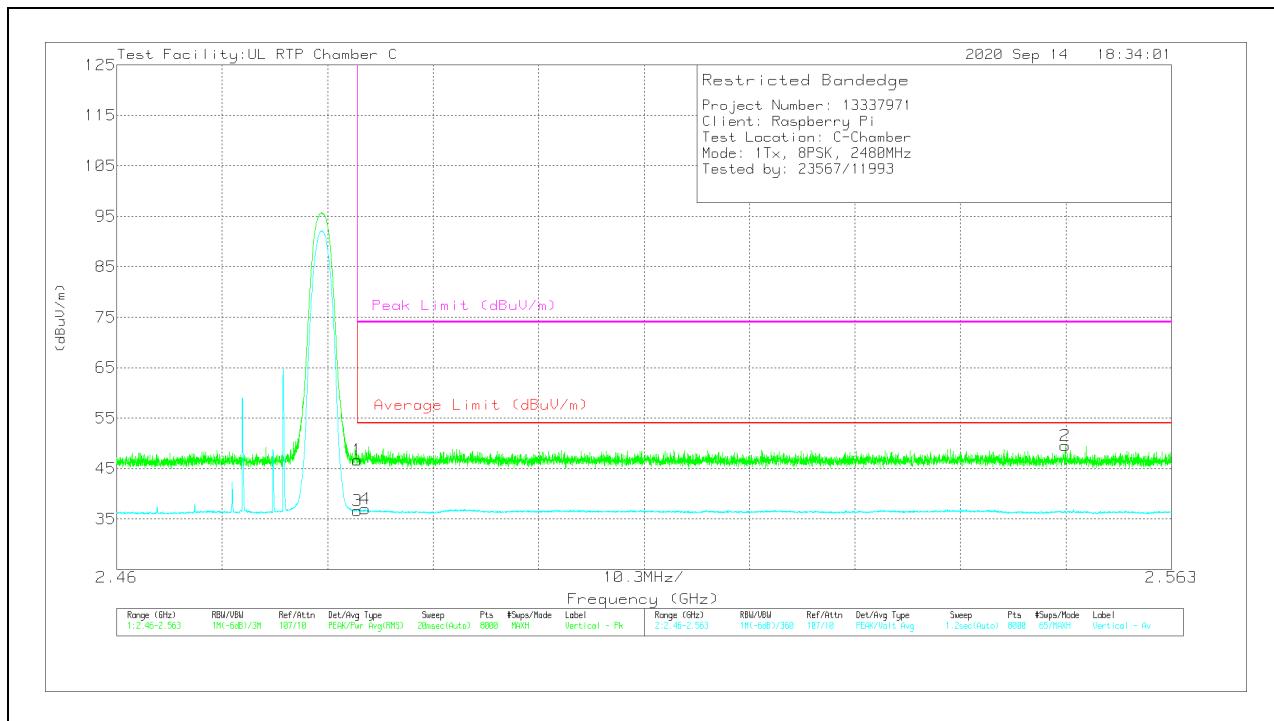
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 2.4835	56.1	Pk	32.6	-42	46.7	-	-	74	-27.3	350	314	V
2	** 2.55262	58.58	Pk	32.5	-41.5	49.58	-	-	74	-24.42	350	314	V
3	*** 2.4835	46.04	V1TV	32.6	-42	36.64	54	-17.36	-	-	350	314	V
4	*** 2.48426	46.32	V1TV	32.6	-41.9	37.02	54	-16.98	-	-	350	314	V

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

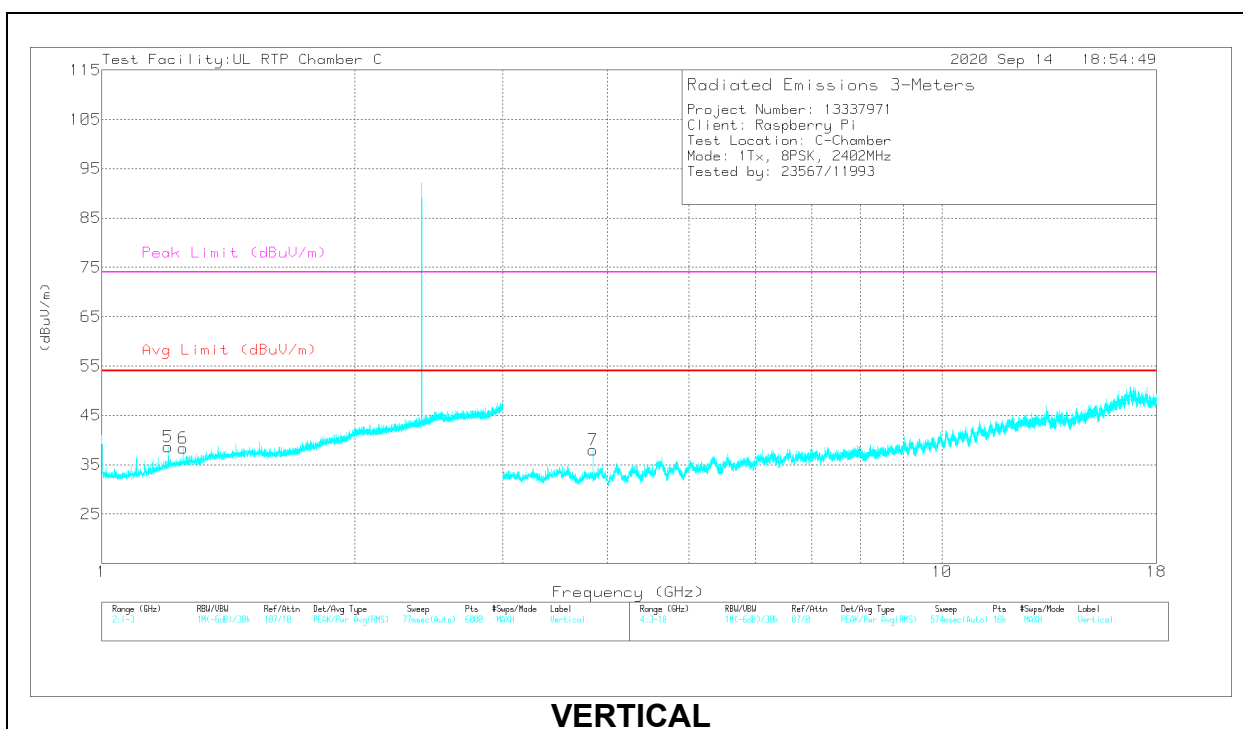
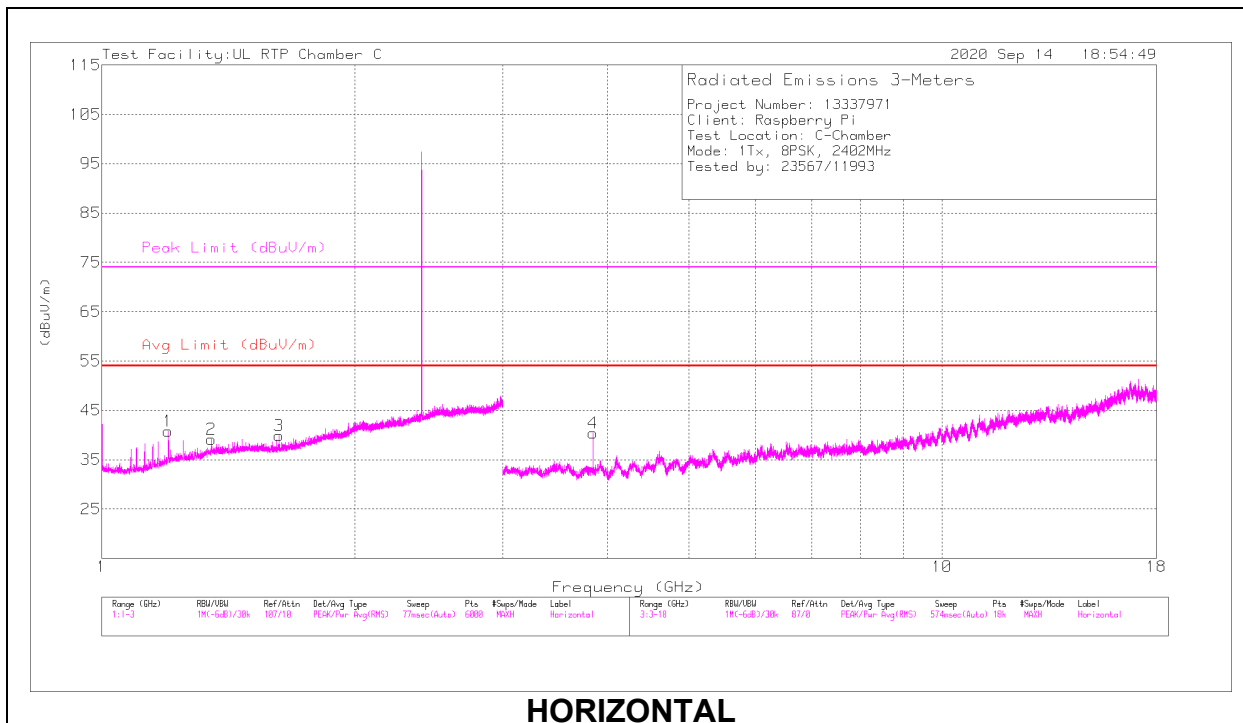
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, 2402 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.19982	37.79	PK2	28.1	-20.5	45.39	-	-	74	-28.61	180	133	H
	*** 1.2	29.71	V1TV	28.1	-20.5	37.31	54	-16.69	-	-	180	133	H
2	*** 1.35033	35.7	PK2	28.8	-19.5	45	-	-	74	-29	165	101	H
	*** 1.35003	24.81	V1TV	28.8	-19.5	34.11	54	-19.89	-	-	165	101	H
3	*** 1.62465	36.61	PK2	28.5	-18.8	46.31	-	-	74	-27.69	87	111	H
	*** 1.62504	26.82	V1TV	28.5	-18.8	36.52	54	-17.48	-	-	87	111	H
5	*** 1.20013	36.33	PK2	28.1	-20.5	43.93	-	-	74	-30.07	235	102	V
	*** 1.20003	27.84	V1TV	28.1	-20.5	35.44	54	-18.56	-	-	235	102	V
6	* 1.25011	34.97	PK2	28.6	-20.4	43.17	-	-	74	-30.83	134	244	V
	* 1.24996	24.28	V1TV	28.6	-20.4	32.48	54	-21.52	-	-	134	244	V
4	*** 3.8429	61.11	PK2	33.5	-49.2	45.41	-	-	74	-28.59	61	101	H
	*** 3.8432	54.74	V1TV	33.5	-49.2	39.04	54	-14.96	-	-	61	101	H
7	*** 3.84315	59.59	PK2	33.5	-49.2	43.89	-	-	74	-30.11	346	278	V
	*** 3.84323	55.37	V1TV	33.5	-49.2	39.67	54	-14.33	-	-	346	278	V

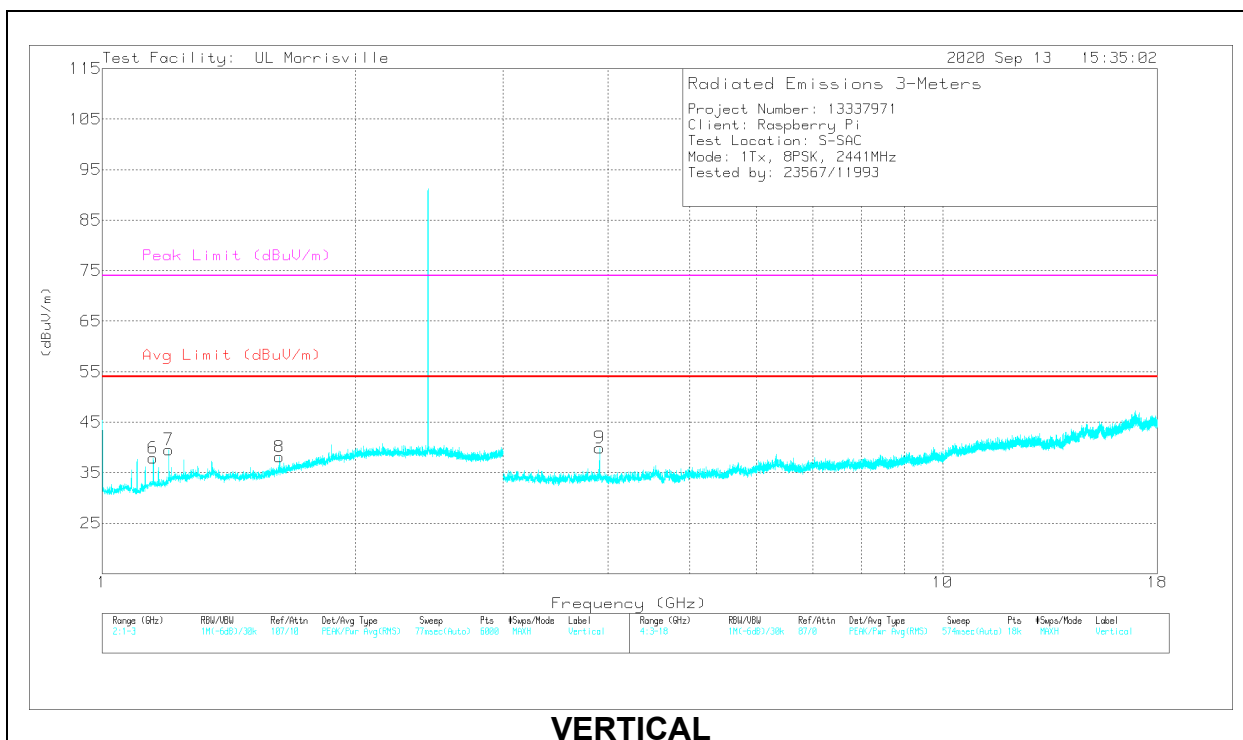
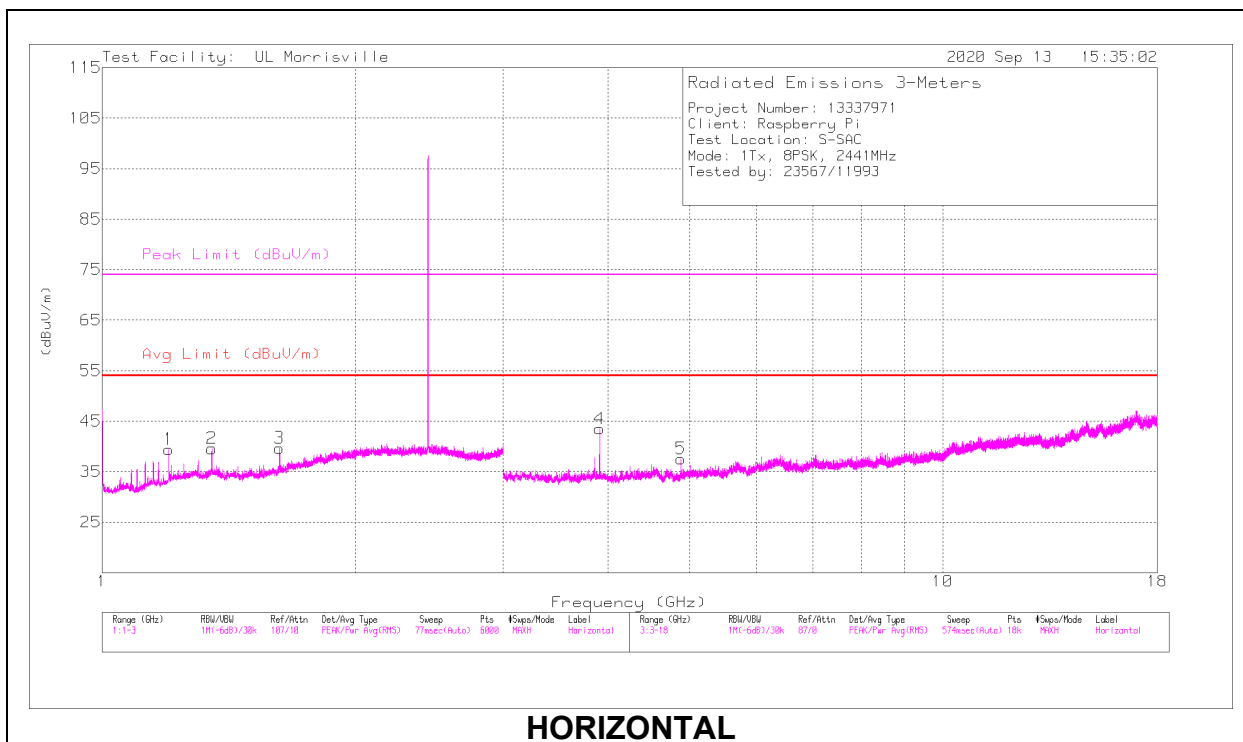
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

MID CHANNEL, 2441 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0067 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.19987	39.96	PK2	28.5	-23.7	44.76	-	-	74	-29.24	197	189	H
	*** 1.20006	33.17	V1TV	28.5	-23.7	37.97	54	-16.03	-	-	197	189	H
2	*** 1.35013	37.85	PK2	29	-22.9	43.95	-	-	74	-30.05	12	190	H
	*** 1.35007	29.35	V1TV	29	-22.9	35.45	54	-18.55	-	-	12	190	H
3	*** 1.62525	38.68	PK2	28.5	-22.2	44.98	-	-	74	-29.02	201	197	H
	*** 1.62488	31.01	V1TV	28.5	-22.2	37.31	54	-16.69	-	-	201	197	H
6	*** 1.14991	37.88	PK2	28.4	-24	42.28	-	-	74	-31.72	358	340	V
	*** 1.14999	28.33	V1TV	28.4	-24	32.73	54	-21.27	-	-	358	340	V
7	*** 1.20003	39.67	PK2	28.5	-23.7	44.47	-	-	74	-29.53	348	103	V
	*** 1.19999	32.52	V1TV	28.5	-23.7	37.32	54	-16.68	-	-	348	103	V
8	*** 1.62491	38.03	PK2	28.5	-22.2	44.33	-	-	74	-29.67	195	211	V
	*** 1.62496	28.11	V1TV	28.5	-22.2	34.41	54	-19.59	-	-	195	211	V
4	*** 3.90565	45.91	PK2	33.4	-32.1	47.21	-	-	74	-26.79	321	294	H
	*** 3.9056	40.77	V1TV	33.4	-32.1	42.07	54	-11.93	-	-	321	294	H
5	*** 4.88138	42.07	PK2	34	-30.8	45.27	-	-	74	-28.73	164	197	H
	*** 4.88195	31.88	V1TV	34	-30.8	35.08	54	-18.92	-	-	164	197	H
9	*** 3.90568	44.14	PK2	33.4	-32.1	45.44	-	-	74	-28.56	318	101	V
	*** 3.90557	37.33	V1TV	33.4	-32.1	38.63	54	-15.37	-	-	318	101	V

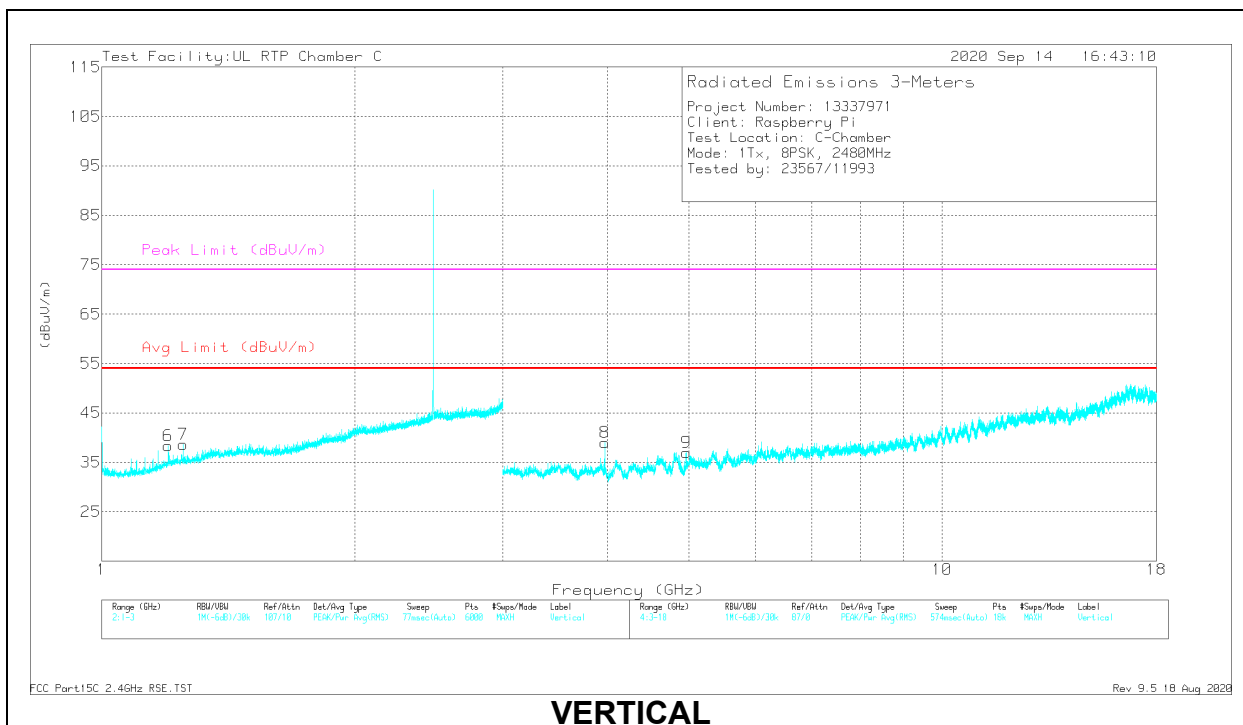
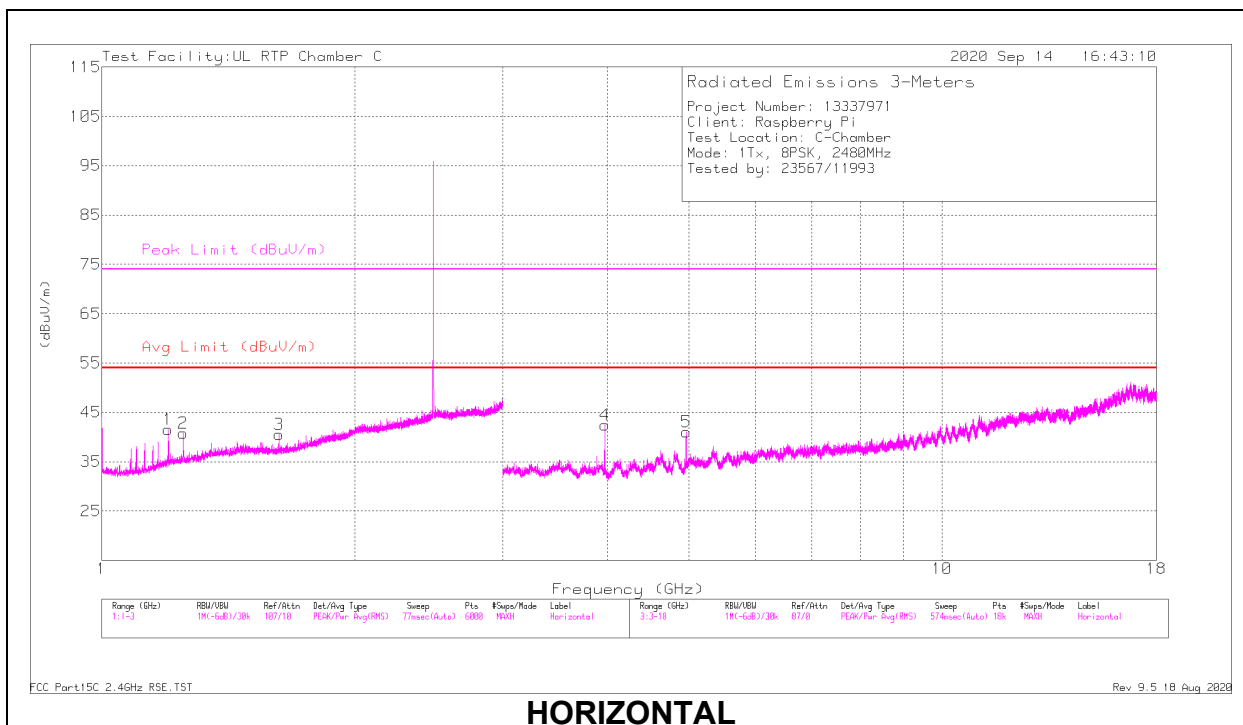
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2 - KDB558074 Method: Maximum Peak

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

HIGH CHANNEL, 2480 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.20041	38.54	PK2	28.1	-20.5	46.14	-	-	74	-27.86	182	143	H
	*** 1.2	31.4	V1TV	28.1	-20.5	39	54	-15	-	-	182	143	H
2	* 1.25036	37.27	PK2	28.6	-20.4	45.47	-	-	74	-28.53	4	102	H
	* 1.24997	29.04	V1TV	28.6	-20.4	37.24	54	-16.76	-	-	4	102	H
3	*** 1.62514	37.18	PK2	28.5	-18.8	46.88	-	-	74	-27.12	90	137	H
	*** 1.62511	27.63	V1TV	28.5	-18.8	37.33	54	-16.67	-	-	90	137	H
6	*** 1.20019	35.83	PK2	28.1	-20.5	43.43	-	-	74	-30.57	238	309	V
	*** 1.20004	25.89	V1TV	28.1	-20.5	33.49	54	-20.51	-	-	238	309	V
7	* 1.25037	34.28	PK2	28.6	-20.4	42.48	-	-	74	-31.52	225	304	V
	* 1.25005	21.86	V1TV	28.6	-20.4	30.06	54	-23.94	-	-	225	304	V
4	*** 3.96805	60.11	PK2	33.5	-48.3	45.31	-	-	74	-28.69	61	101	H
	*** 3.968	54.97	V1TV	33.5	-48.3	40.17	54	-13.83	-	-	61	101	H
5	*** 4.95988	59.35	PK2	34	-47.4	45.95	-	-	74	-28.05	144	266	H
	*** 4.96	49.86	V1TV	34	-47.4	36.46	54	-17.54	-	-	144	266	H
8	*** 3.96804	58.56	PK2	33.5	-48.3	43.76	-	-	74	-30.24	350	321	V
	*** 3.968	52.27	V1TV	33.5	-48.3	37.47	54	-16.53	-	-	350	321	V
9	*** 4.96011	58.3	PK2	34	-47.4	44.9	-	-	74	-29.1	196	262	V
	*** 4.95999	48.24	V1TV	34	-47.4	34.84	54	-19.16	-	-	196	262	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

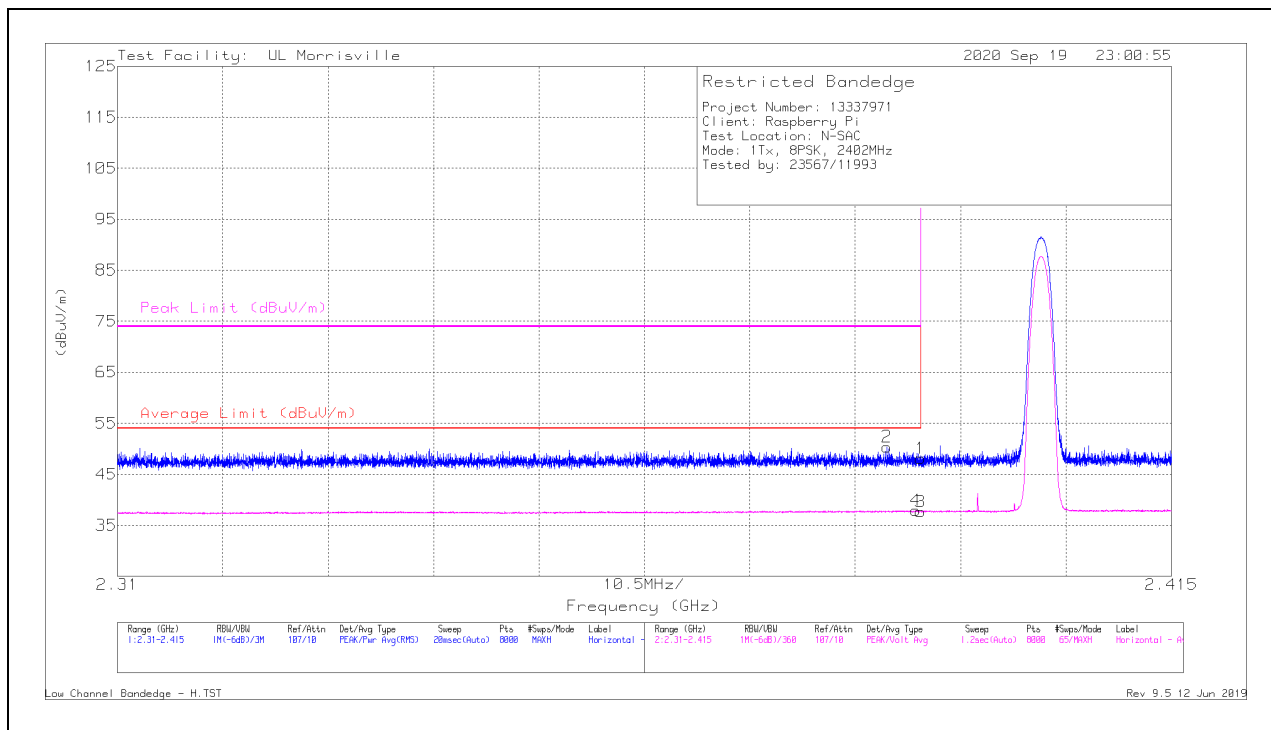
PK2: Maximum Peak

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

1TX Antenna 2 MODE

BANDEDGE (LOW CHANNEL, 2402 MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	40.75	Pk	31.8	-24.4	48.15	-	-	74	-25.85	337	118	H
2	* ** 2.38668	42.98	Pk	31.8	-24.4	50.38	-	-	74	-23.62	337	118	H
3	* ** 2.39	30.26	V1TV	31.8	-24.4	37.66	54	-16.34	-	-	337	118	H
4	* ** 2.38954	30.51	V1TV	31.8	-24.4	37.91	54	-16.09	-	-	337	118	H

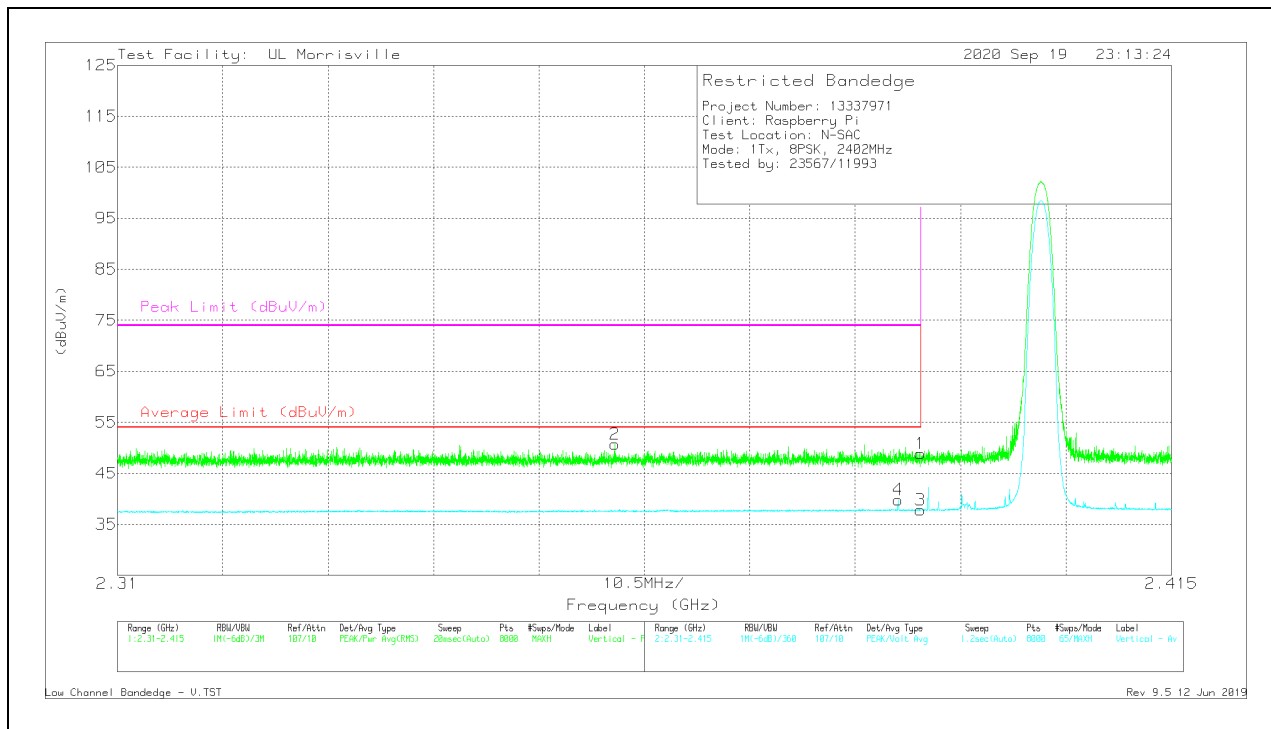
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.39	41.49	Pk	31.8	-24.4	48.89	-	-	74	-25.11	135	156	V
2	* ** 2.35958	43.48	Pk	31.7	-24.5	50.68	-	-	74	-23.32	135	156	V
3	* ** 2.39	30.41	V1TV	31.8	-24.4	37.81	54	-16.19	-	-	135	156	V
4	* ** 2.38778	32.42	V1TV	31.8	-24.4	39.82	54	-14.18	-	-	135	156	V

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

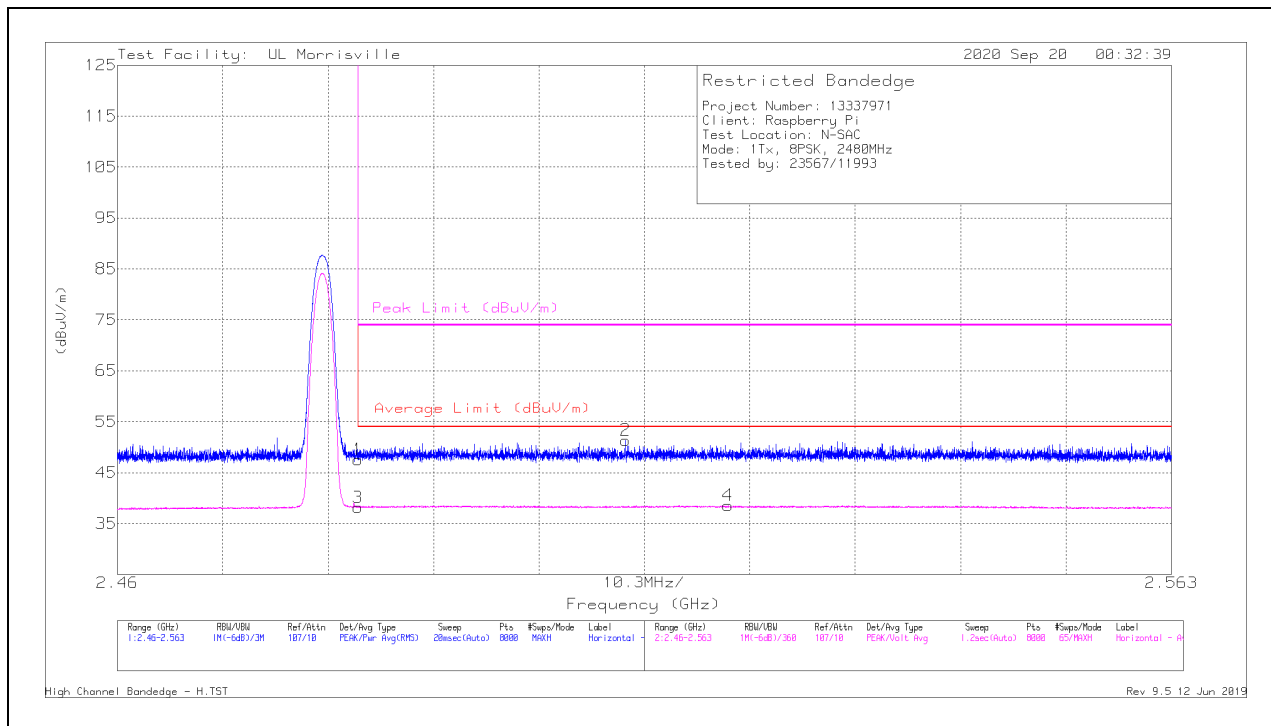
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

BANDEDGE (HIGH CHANNEL, 2480 MHz)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	39.37	Pk	32.4	-24.2	47.57	-	-	74	-26.43	92	133	H
2	** 2.50968	43.07	Pk	32.5	-24.2	51.37	-	-	74	-22.63	92	133	H
3	* ** 2.4835	29.98	V1TV	32.4	-24.2	38.18	54	-15.82	-	-	92	133	H
4	** 2.51967	30.29	V1TV	32.5	-24.2	38.59	54	-15.41	-	-	92	133	H

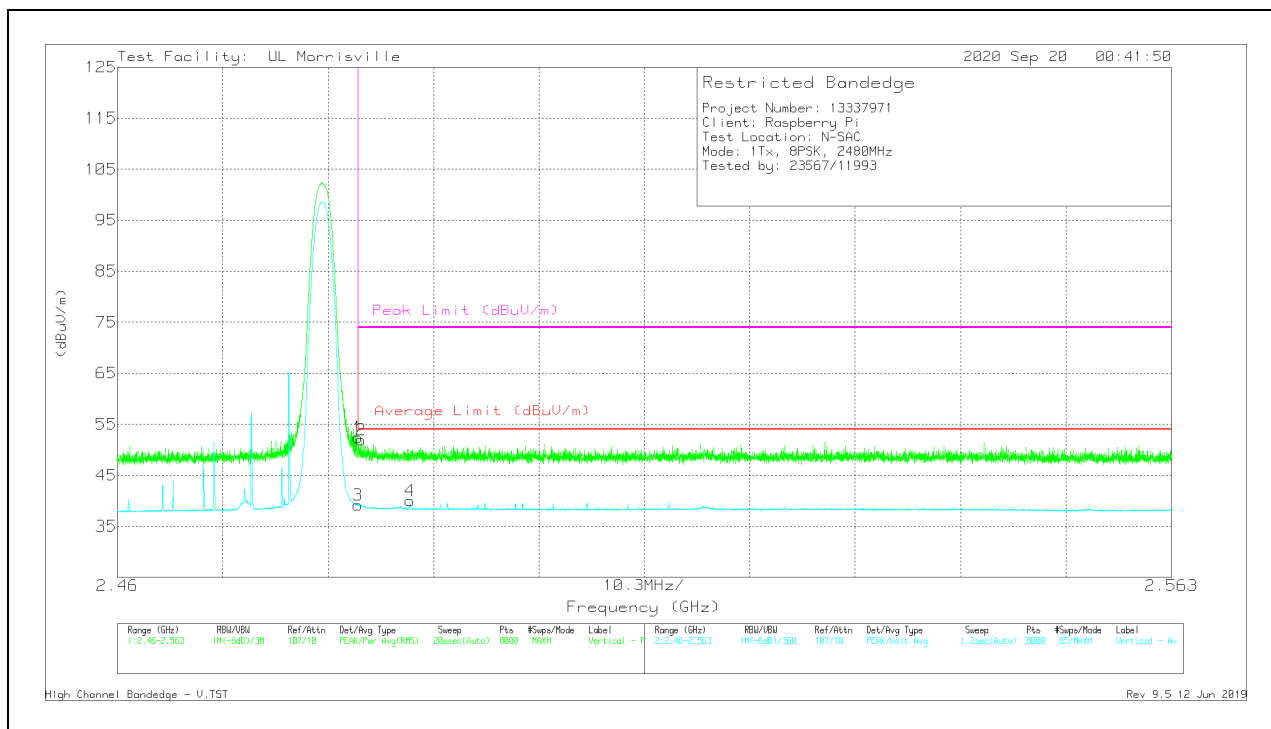
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 2.4835	44.24	Pk	32.4	-24.2	52.44	-	-	74	-21.56	139	127	V
2	* ** 2.48382	43.75	Pk	32.4	-24.2	51.95	-	-	74	-22.05	139	127	V
3	* ** 2.4835	30.96	V1TV	32.4	-24.2	39.16	54	-14.84	-	-	139	127	V
4	* ** 2.48859	31.71	V1TV	32.5	-24.2	40.01	54	-13.99	-	-	139	127	V

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

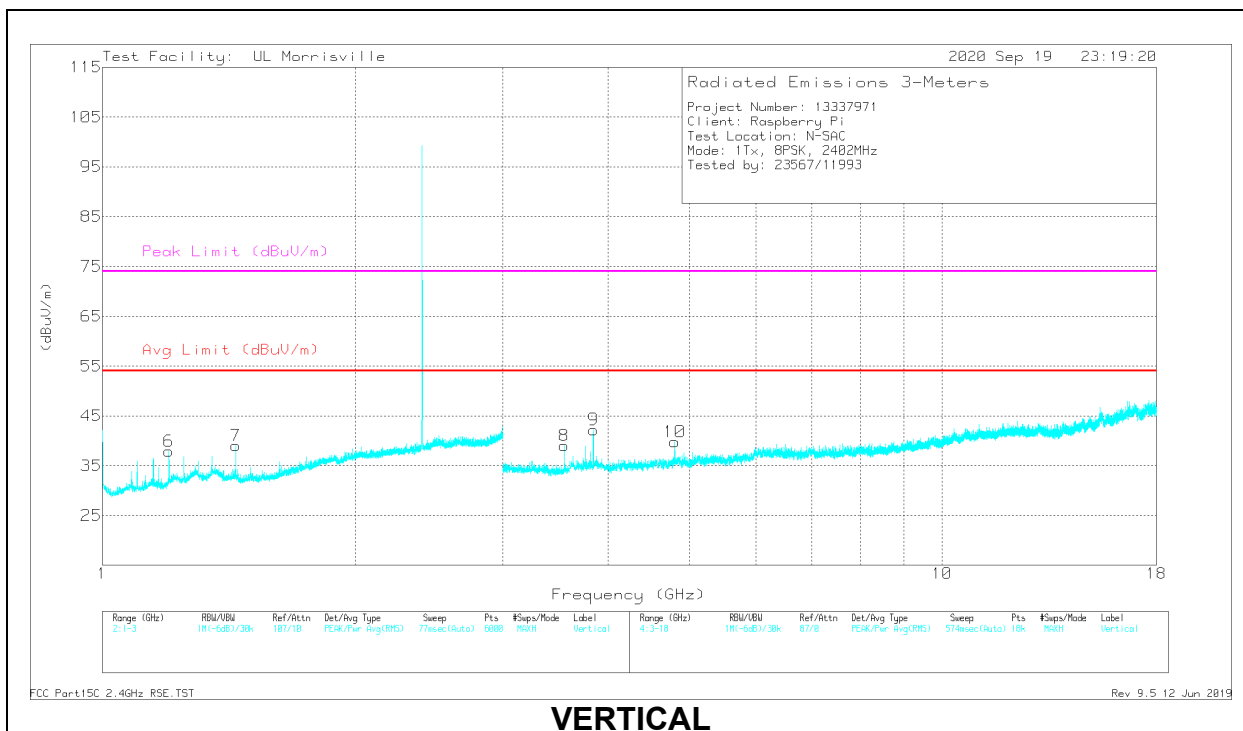
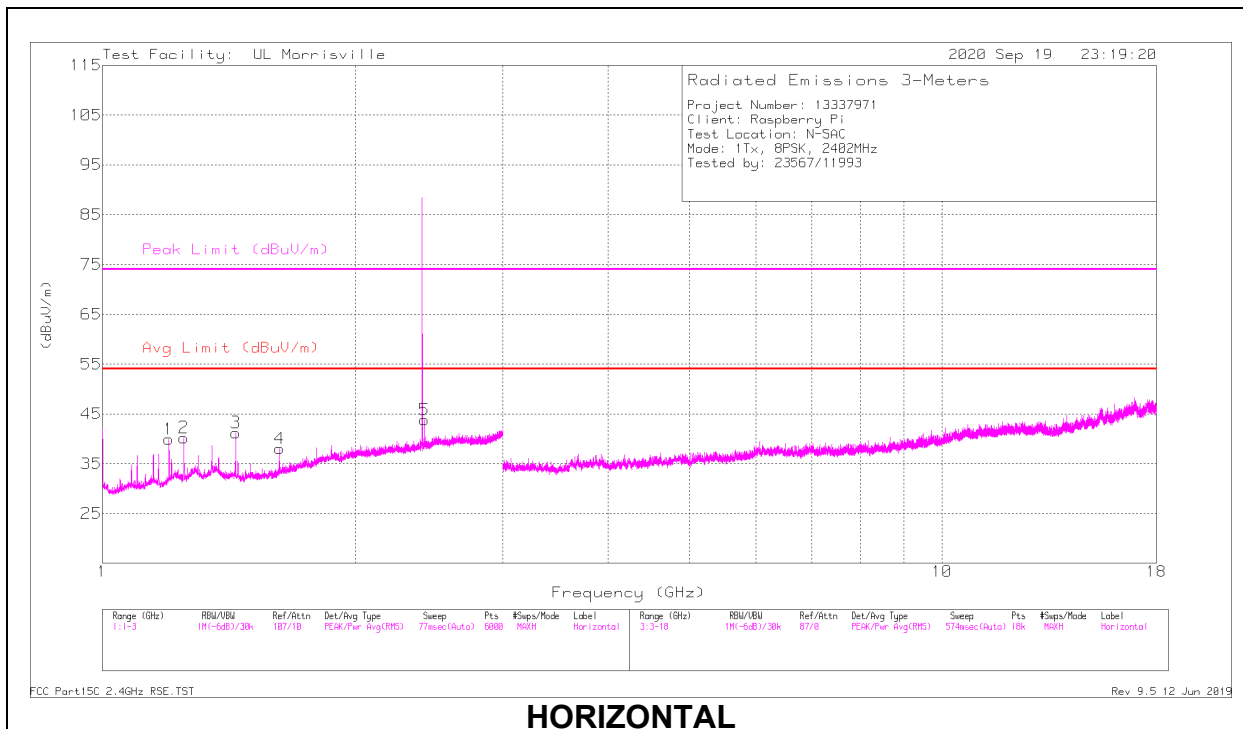
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL, 2402 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	*** 1.20009	39.9	PK2	28.7	-26	42.6	-	-	74	-31.4	126	177	H
	*** 1.2	33.06	V1TV	28.7	-26	35.76	54	-18.24	-	-	126	177	H
2	* 1.24971	41.32	PK2	29.1	-25.8	44.62	-	-	74	-29.38	349	138	H
	* 1.25005	36.22	V1TV	29.1	-25.8	39.52	54	-14.48	-	-	349	138	H
3	*** 1.44082	42.49	PK2	28.3	-25	45.79	-	-	74	-28.21	351	150	H
	*** 1.44115	35.77	V1TV	28.3	-25	39.07	54	-14.93	-	-	351	150	H
4	*** 1.62502	39.48	PK2	28.2	-24.5	43.18	-	-	74	-30.82	254	133	H
	*** 1.62505	31.04	V1TV	28.2	-24.5	34.74	54	-19.26	-	-	254	133	H
6	*** 1.20013	40.5	PK2	28.7	-26	43.2	-	-	74	-30.8	271	103	V
	*** 1.20008	34.53	V1TV	28.7	-26	37.23	54	-16.77	-	-	271	103	V
7	*** 1.44139	41.33	PK2	28.3	-25	44.63	-	-	74	-29.37	162	128	V
	*** 1.44126	34.21	V1TV	28.3	-25	37.51	54	-16.49	-	-	162	128	V
8	*** 3.54695	41.41	PK2	33.1	-32.6	41.91	-	-	74	-32.09	105	163	V
	*** 3.54649	28.5	V1TV	33	-32.6	28.9	54	-25.1	-	-	105	163	V
9	*** 3.84317	46.38	PK2	33.7	-32.4	47.68	-	-	74	-26.32	347	106	V
	*** 3.84325	40.37	V1TV	33.7	-32.4	41.67	54	-12.33	-	-	347	106	V
10	*** 4.80426	42.7	PK2	34.3	-31.5	45.5	-	-	74	-28.5	283	102	V
	*** 4.8039	30.78	V1TV	34.3	-31.5	33.58	54	-20.42	-	-	283	102	V
5	2.4189	36.34	PK	31.9	-24.4	43.84	-	-	-	-	0-360	102	H

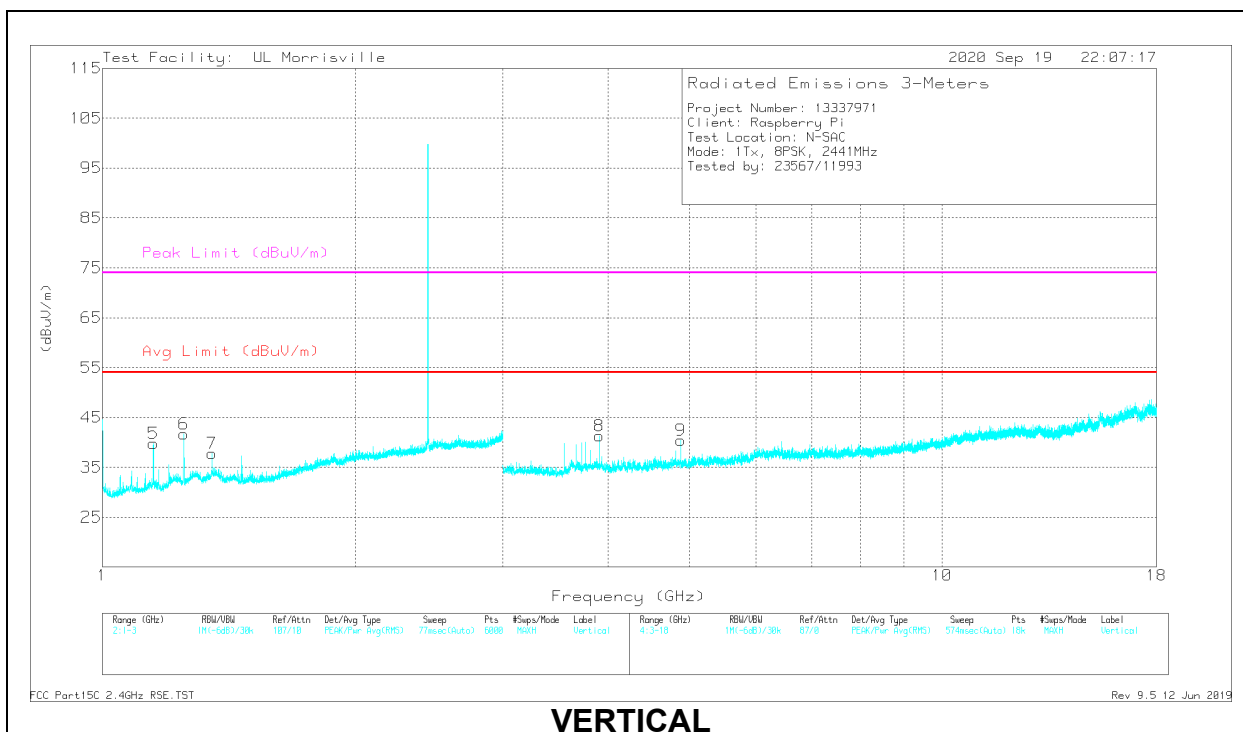
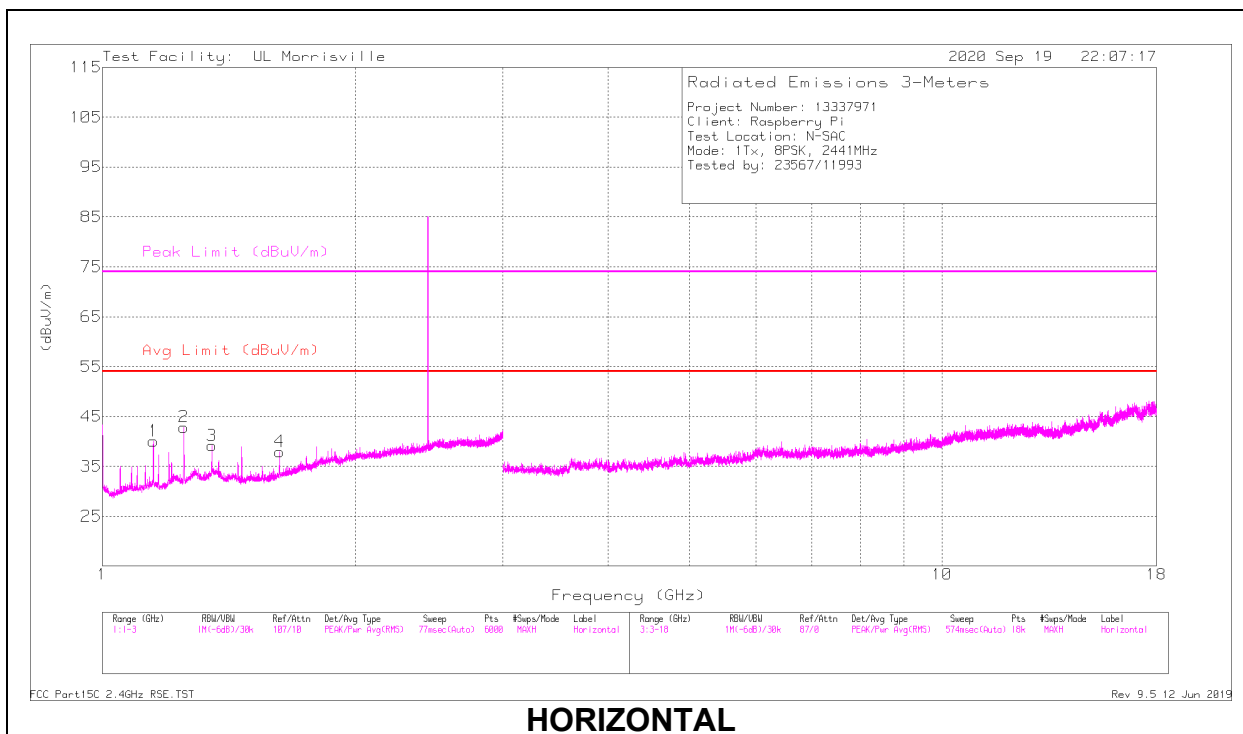
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2: Maximum Peak

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

MID CHANNEL, 2441 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.1497	39.64	PK2	28.1	-26.4	41.34	-	-	74	-32.66	156	286	H
	* ** 1.15005	28.99	V1TV	28.1	-26.4	30.69	54	-23.31	-	-	156	286	H
2	* 1.25039	40.84	PK2	29.1	-25.8	44.14	-	-	74	-29.86	164	248	H
	* 1.25001	35.05	V1TV	29.1	-25.8	38.35	54	-15.65	-	-	164	248	H
3	* ** 1.3497	38.17	PK2	29.5	-25.3	42.37	-	-	74	-31.63	343	304	H
	* ** 1.35	27.15	V1TV	29.5	-25.3	31.35	54	-22.65	-	-	343	304	H
4	* ** 1.62444	39.32	PK2	28.2	-24.5	43.02	-	-	74	-30.98	122	362	H
	* ** 1.62503	30.32	V1TV	28.2	-24.5	34.02	54	-19.98	-	-	122	362	H
5	* ** 1.15023	42.17	PK2	28.1	-26.4	43.87	-	-	74	-30.13	270	106	V
	* ** 1.15001	36.81	V1TV	28.1	-26.4	38.51	54	-15.49	-	-	270	106	V
6	* 1.25006	41.71	PK2	29.1	-25.8	45.01	-	-	74	-28.99	7	192	V
	* 1.25003	36.16	V1TV	29.1	-25.8	39.46	54	-14.54	-	-	7	192	V
7	* ** 1.35026	38.63	PK2	29.5	-25.3	42.83	-	-	74	-31.17	259	127	V
	* ** 1.35003	29.96	V1TV	29.5	-25.3	34.16	54	-19.84	-	-	259	127	V
8	* ** 3.90574	44.27	PK2	33.6	-31.8	46.07	-	-	74	-27.93	339	102	V
	* ** 3.90563	37.24	V1TV	33.6	-31.7	39.14	54	-14.86	-	-	339	102	V
9	* ** 4.88214	43.64	PK2	34.1	-31.4	46.34	-	-	74	-27.66	358	123	V
	* ** 4.88194	32.96	V1TV	34.1	-31.4	35.66	54	-18.34	-	-	358	123	V

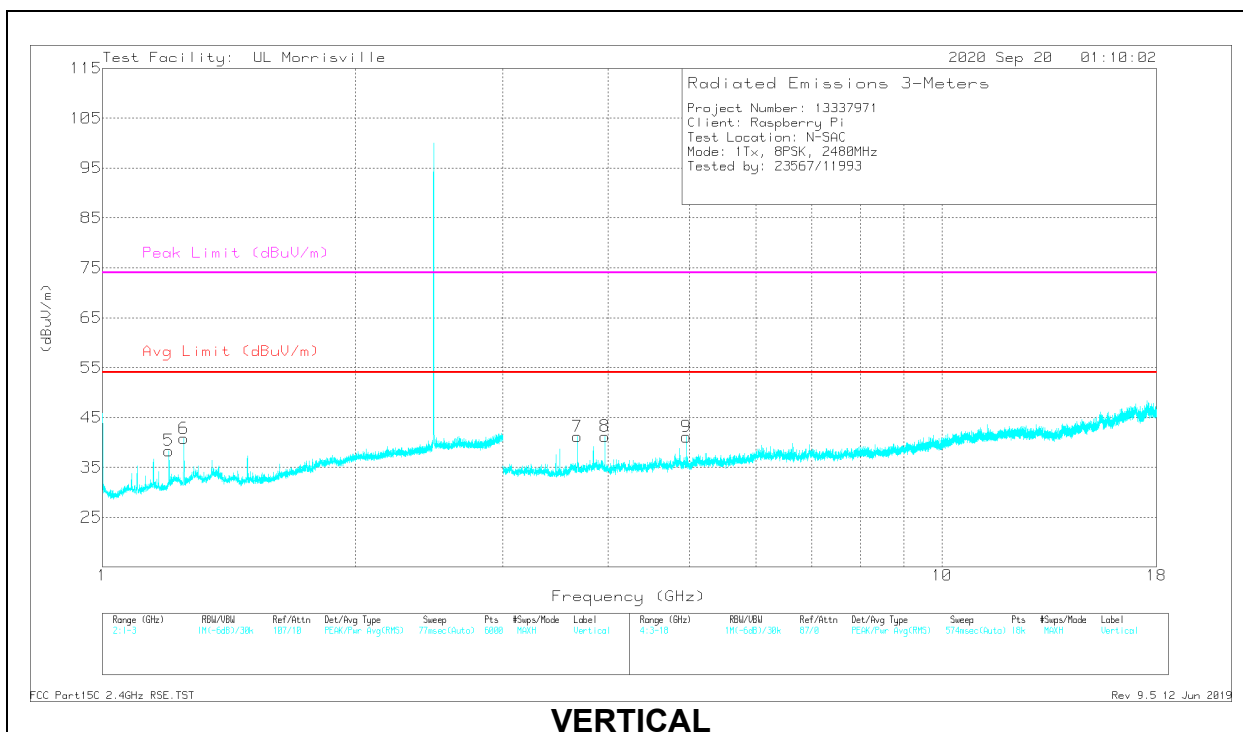
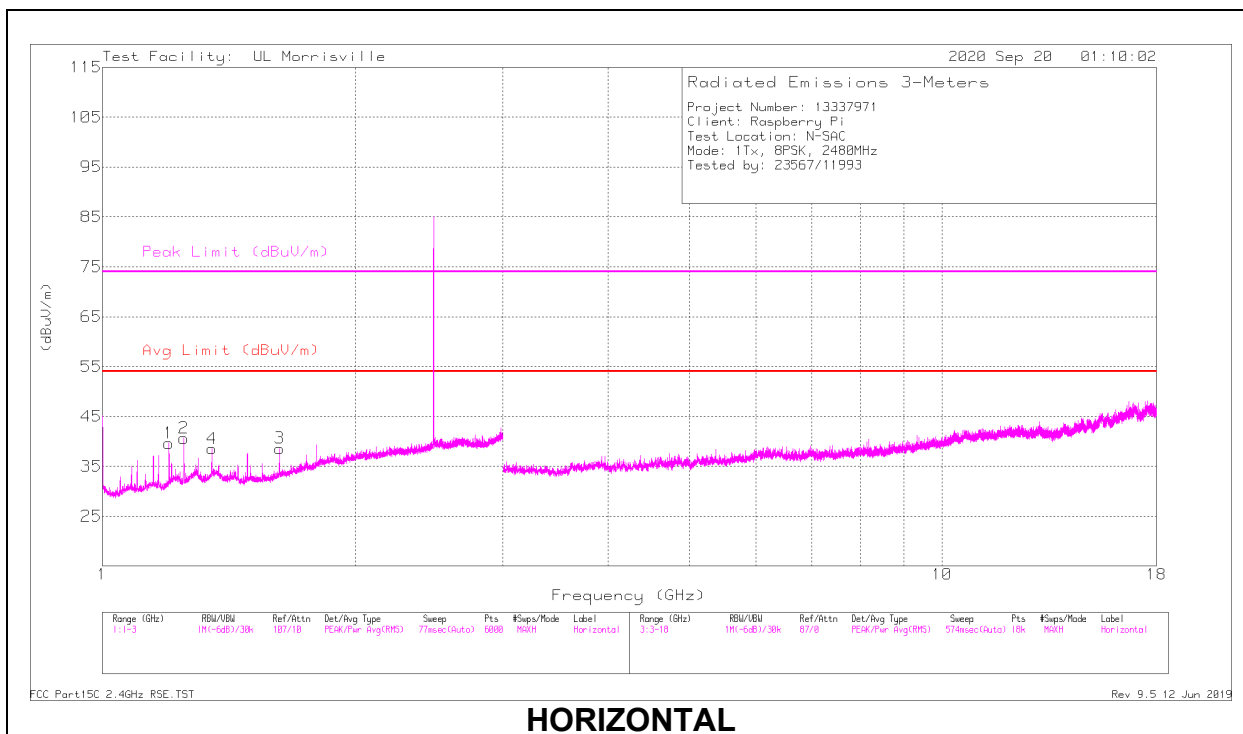
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2: Maximum Peak

V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

HIGH CHANNEL, 2480 MHz RESULTS



RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0062 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 1.20004	38.08	PK2	28.7	-26	40.78	-	-	74	-33.22	122	371	H
	* ** 1.20002	28.65	V1TV	28.7	-26	31.35	54	-22.65	-	-	122	371	H
2	* 1.25007	41.36	PK2	29.1	-25.8	44.66	-	-	74	-29.34	128	103	H
	* 1.25007	35.67	V1TV	29.1	-25.8	38.97	54	-15.03	-	-	128	103	H
3	* ** 1.62521	40.26	PK2	28.2	-24.5	43.96	-	-	74	-30.04	137	119	H
	* ** 1.62505	32.09	V1TV	28.2	-24.5	35.79	54	-18.21	-	-	137	119	H
4	* ** 1.35014	39.84	PK2	29.5	-25.3	44.04	-	-	74	-29.96	168	149	H
	* ** 1.35003	31.76	V1TV	29.5	-25.3	35.96	54	-18.04	-	-	168	149	H
5	* ** 1.20012	40.18	PK2	28.7	-26	42.88	-	-	74	-31.12	13	214	V
	* ** 1.20001	32.82	V1TV	28.7	-26	35.52	54	-18.48	-	-	13	214	V
6	* 1.2504	40.79	PK2	29.1	-25.8	44.09	-	-	74	-29.91	0	217	V
	* 1.25005	34.55	V1TV	29.1	-25.8	37.85	54	-16.15	-	-	0	217	V
7	* ** 3.68154	41.21	PK2	33.1	-31.8	42.51	-	-	74	-31.49	317	263	V
	* ** 3.6799	28.45	V1TV	33.1	-31.8	29.75	54	-24.25	-	-	317	263	V
8	* ** 3.96811	44.64	PK2	33.6	-32	46.24	-	-	74	-27.76	178	210	V
	* ** 3.96802	38.68	V1TV	33.6	-32	40.28	54	-13.72	-	-	178	210	V
9	* ** 4.95993	45.55	PK2	34.1	-32.4	47.25	-	-	74	-26.75	263	122	V
	* ** 4.95997	35.68	V1TV	34.1	-32.4	37.38	54	-16.62	-	-	263	122	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

PK2: Maximum Peak

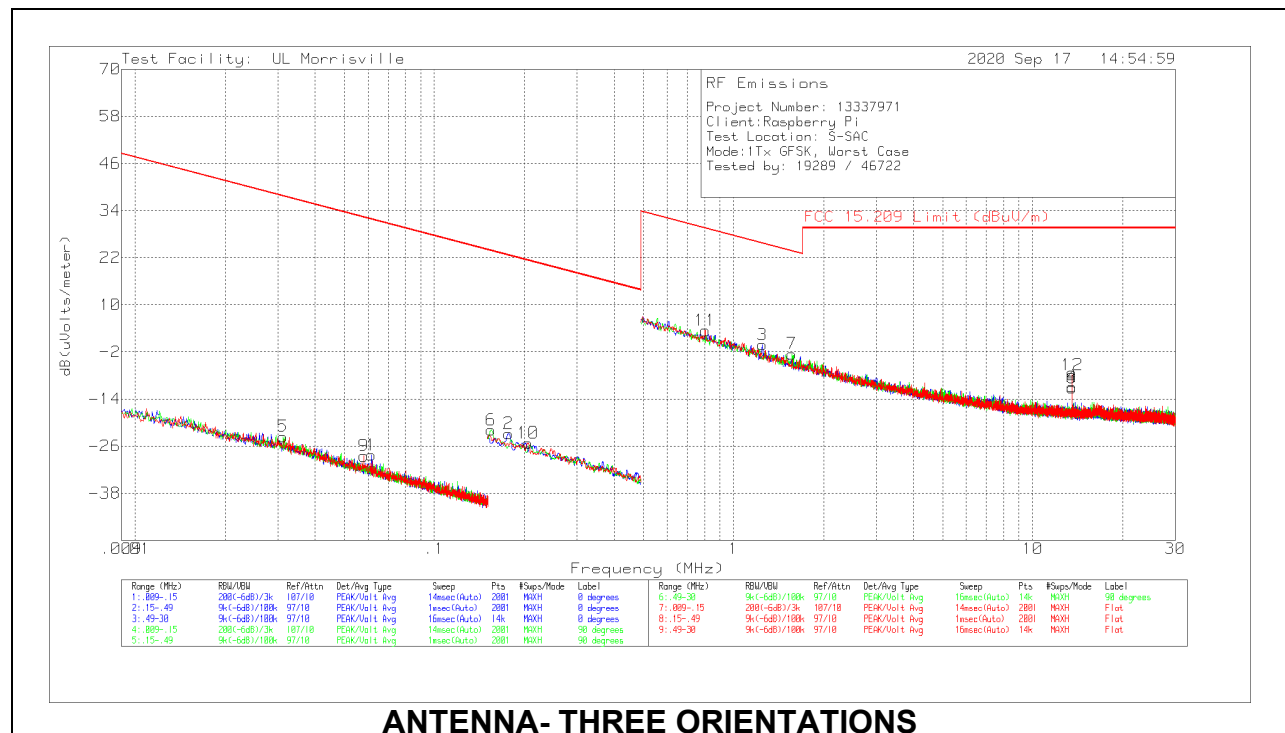
V1TV: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

10.2. WORST CASE BELOW 30MHZ

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 $40 \cdot \log(\text{test distance} / \text{specification distance})$.

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 31.22 kHz resulted in a level of -23.58 dBuV/m, which is equivalent to $-23.58 - 51.5 = -75.08$ dBuA/m, which has the same margin, -61.3 dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION) – Antenna 1

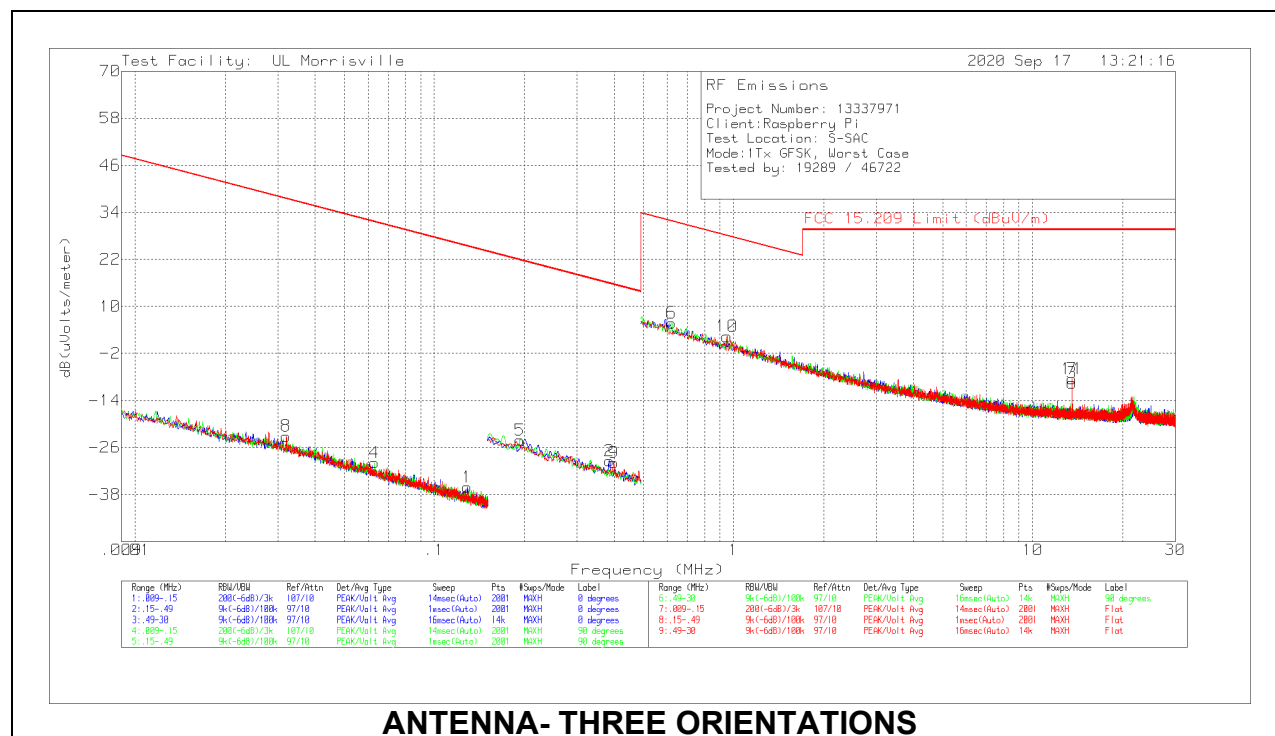


Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.209 QP/Avg Limit (dBuV/m)	FCC 15.209 Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
5	.03122	43.12	Pk	13.2	.1	-80	-23.58	37.72	57.72	-61.3	0-360
9	.05813	39.89	Pk	11.5	.1	-80	-28.51	32.32	52.32	-60.83	0-360
1	.06168	40.2	Pk	11.4	.1	-80	-28.3	31.8	51.8	-60.1	0-360
6	.15485	47.18	Pk	10.8	.1	-80	-21.92	23.81	43.81	-45.73	0-360
2	.17703	46.31	Pk	10.8	.1	-80	-22.79	22.64	42.64	-45.43	0-360
10	.20551	43.88	Pk	10.8	.1	-80	-25.22	21.35	41.35	-46.57	0-360
11	.80409	32.43	Pk	10.8	.2	-40	3.43	29.5	-	-26.07	0-360
3	1.24888	28.65	Pk	11	.2	-40	-.15	25.67	-	-25.82	0-360
7	1.5693	26.2	Pk	11.1	.2	-40	-2.5	23.69	-	-26.19	0-360
12	13.5596	21.05	Pk	10.4	.7	-40	-7.85	29.54	-	-37.39	0-360
4	13.56171	18.05	Pk	10.4	.7	-40	-10.85	29.54	-	-40.39	0-360
8	13.56171	17.76	Pk	10.4	.7	-40	-11.14	29.54	-	-40.68	0-360

Pk - Peak detector

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION) – Antenna 2



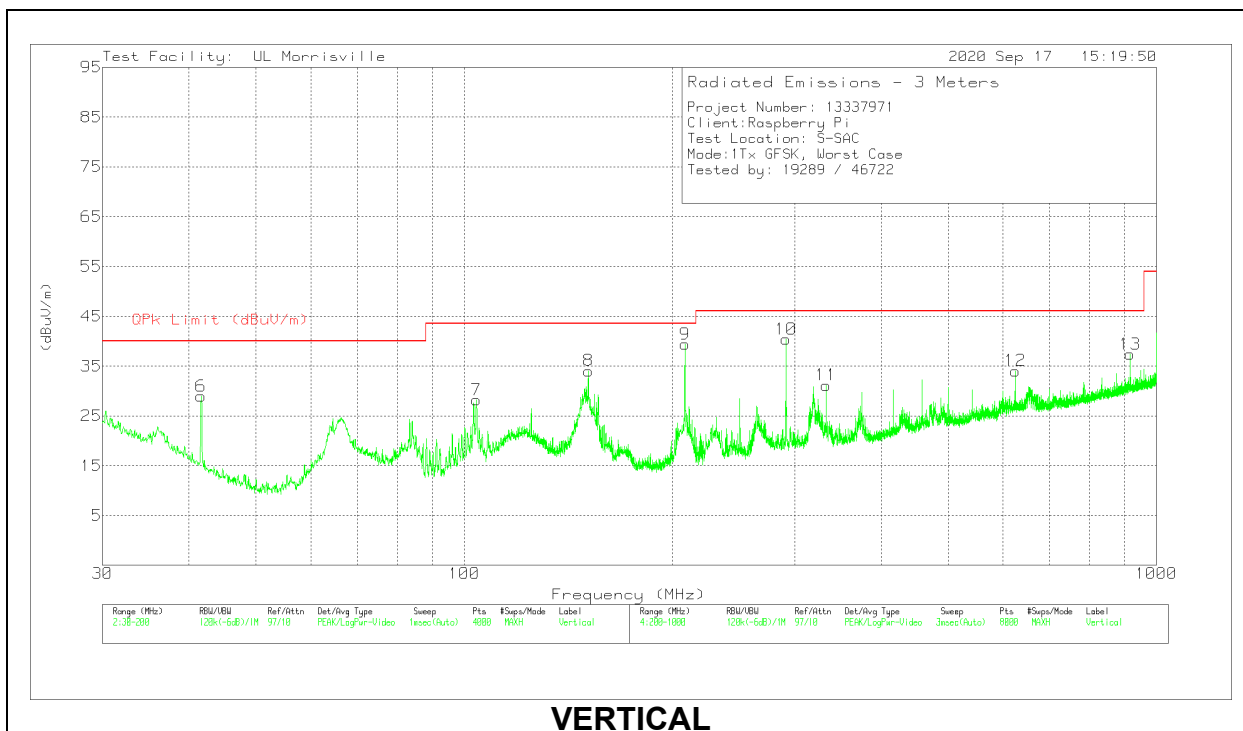
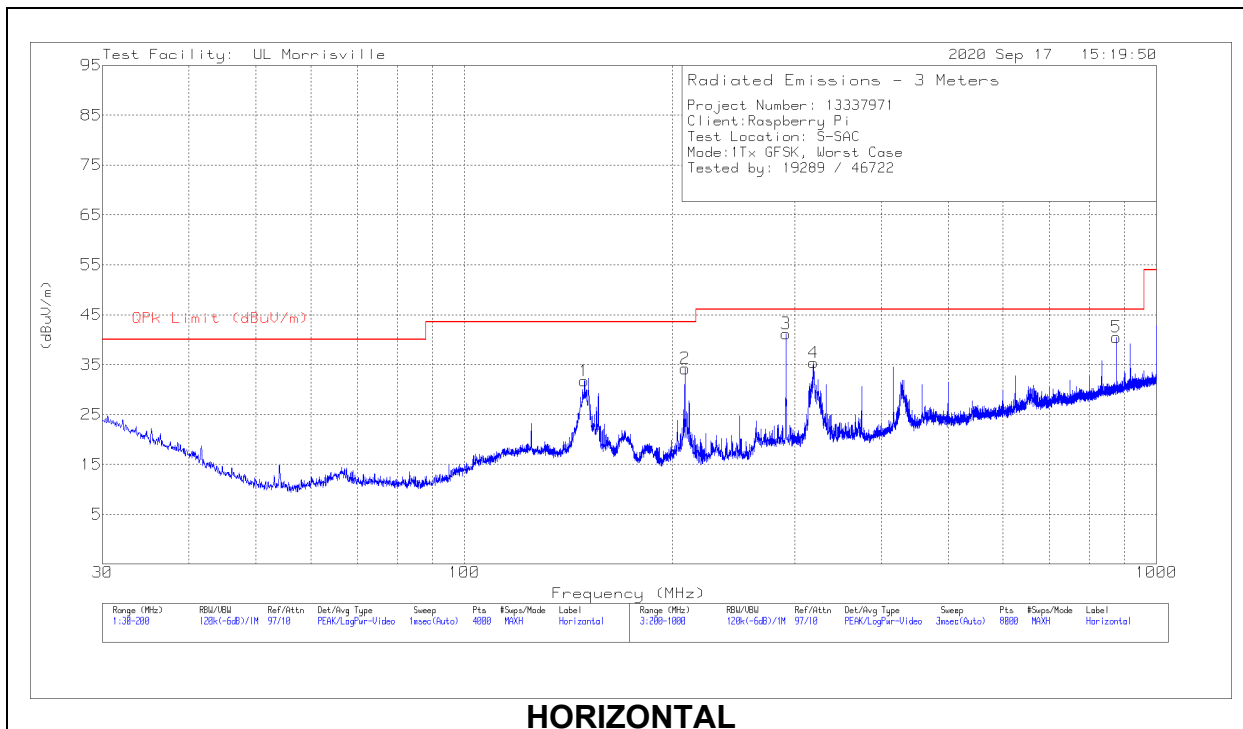
Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.209 QP/Avg Limit (dBuV/m)	FCC 15.209 Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
8	.032	43.69	Pk	13.1	.1	-80	-23.11	37.5	57.5	-60.61	0-360
4	.06303	38.58	Pk	11.4	.1	-80	-29.92	31.61	51.61	-61.53	0-360
1	.12899	32.87	Pk	10.9	.1	-80	-36.13	25.39	56.13	-61.52	0-360
5	.19301	44.96	Pk	10.8	.1	-80	-24.14	21.89	41.89	-46.03	0-360
2	.38452	39.91	Pk	10.6	.1	-80	-29.39	15.91	35.91	-45.3	0-360
9	.39854	39.39	Pk	10.6	.1	-80	-29.91	15.59	35.59	-45.5	0-360
6	.6207	34.79	Pk	10.8	.2	-40	5.79	31.75	-	-25.96	0-360
10	.95165	31.11	Pk	11	.2	-40	2.31	28.03	-	-25.72	0-360
3	13.5596	19.38	Pk	10.4	.7	-40	-9.52	29.54	-	-39.06	0-360
7	13.5596	20.39	Pk	10.4	.7	-40	-8.51	29.54	-	-38.05	0-360
11	13.56171	20.4	Pk	10.4	.7	-40	-8.5	29.54	-	-38.04	0-360
8	.032	43.69	Pk	13.1	.1	-80	-23.11	37.5	-	-60.61	0-360

Pk - Peak detector

10.3. WORST CASE BELOW 1 GHZ

Antenna 1



Below 1GHz DATA

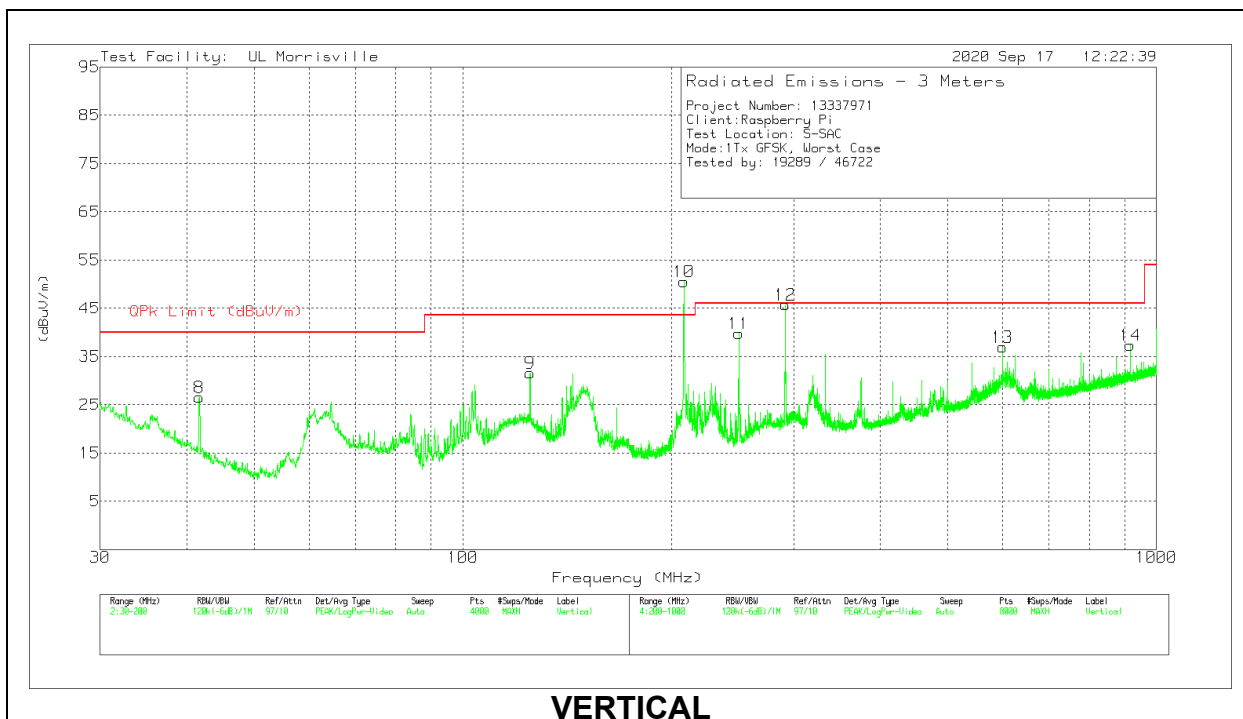
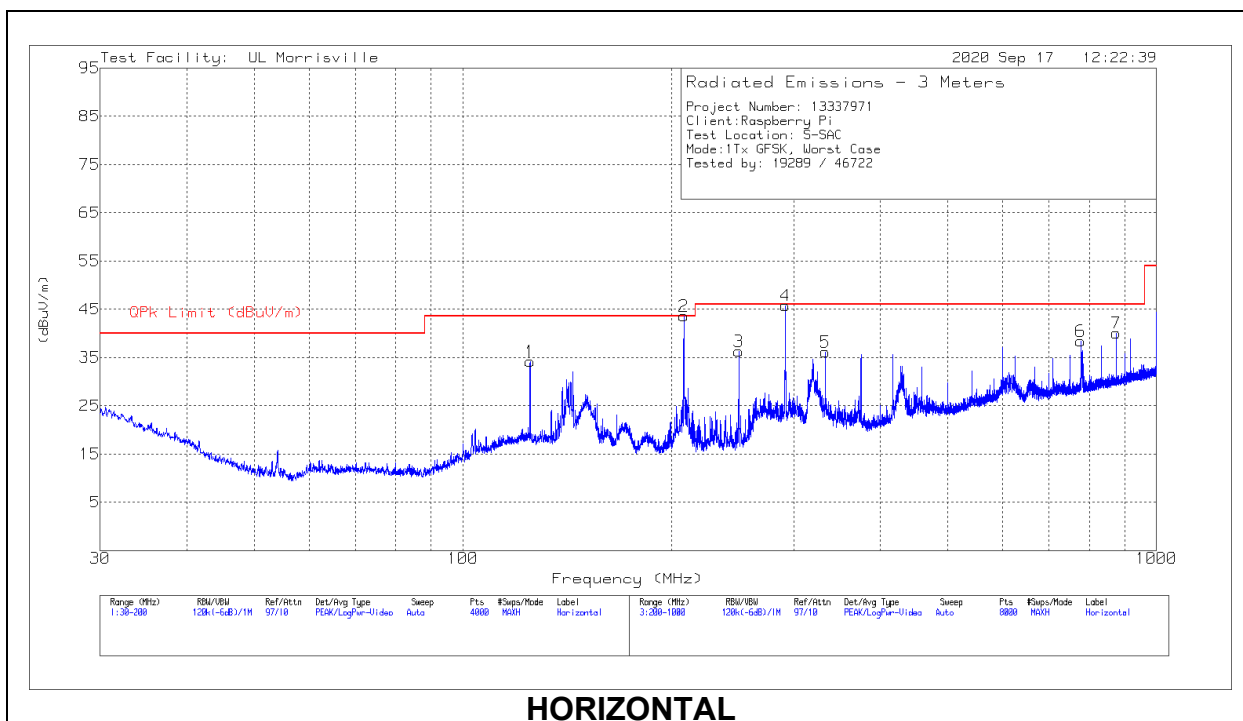
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	** 875.0211	36.38	Qp	28	-26	38.38	46.02	-7.64	118	171	H
11	* ** 333.3173	39.78	Pk	20.1	-28.7	31.18	46.02	-14.84	0-360	200	V
6	41.648	41.35	Pk	18.9	-31.3	28.95	-	-	0-360	101	V
7	104.0967	41.2	Pk	17.5	-30.5	28.2	-	-	0-360	101	V
1	149.1583	43.04	Pk	18.7	-30	31.74	-	-	0-360	299	H
8	151.1138	45.47	Pk	18.6	-30	34.07	-	-	0-360	101	V
2	208.3011	47	Pk	16.6	-29.4	34.2	-	-	0-360	200	H
9	208.3011	52.22	Pk	16.6	-29.4	39.42	-	-	0-360	101	V
3	291.7119	50.7	Pk	19.3	-28.8	41.2	-	-	0-360	101	H
10	291.7119	49.87	Pk	19.3	-28.8	40.37	-	-	0-360	200	V
4	319.6155	44.17	Pk	20	-28.8	35.37	-	-	0-360	101	H
12	625.0553	35.87	Pk	25.4	-27.2	34.07	-	-	0-360	101	V
13	916.6932	34.26	Pk	28.5	-25.4	37.36	-	-	0-360	200	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

Antenna 1



Below 1GHz DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 125.0121	44.33	Pk	20.1	-30.3	34.13	43.52	-9.39	0-360	200	H
9	* ** 125.0121	41.74	Pk	20.1	-30.3	31.54	43.52	-11.98	0-360	101	V
3	* ** 250.0065	47.74	Pk	17.6	-29.1	36.24	46.02	-9.78	0-360	101	H
5	* ** 333.3173	44.67	Pk	20.1	-28.7	36.07	46.02	-9.95	0-360	101	H
6	** 777.9251	37.77	Pk	27.2	-26.6	38.37	46.02	-7.65	0-360	200	H
7	** 875.0092	37.57	Qp	28	-26	39.57	46.02	-6.45	284	102	H
11	* ** 250.0065	51.29	Pk	17.6	-29.1	39.79	46.02	-6.23	0-360	101	V
8	41.6905	38.99	Pk	18.8	-31.3	26.49	-	-	0-360	101	V
2	208.3011	56.35	Pk	16.6	-29.4	43.55	-	-	0-360	101	H
10	208.3011	63.31	Pk	16.6	-29.4	50.51	-	-	0-360	101	V
4	291.7119	55.23	Pk	19.3	-28.8	45.73	-	-	0-360	101	H
12	291.7119	55.17	Pk	19.3	-28.8	45.67	-	-	0-360	200	V
13	600.052	39.99	Pk	24.4	-27.5	36.89	-	-	0-360	101	V
14	916.6932	34.21	Pk	28.5	-25.4	37.31	-	-	0-360	101	V

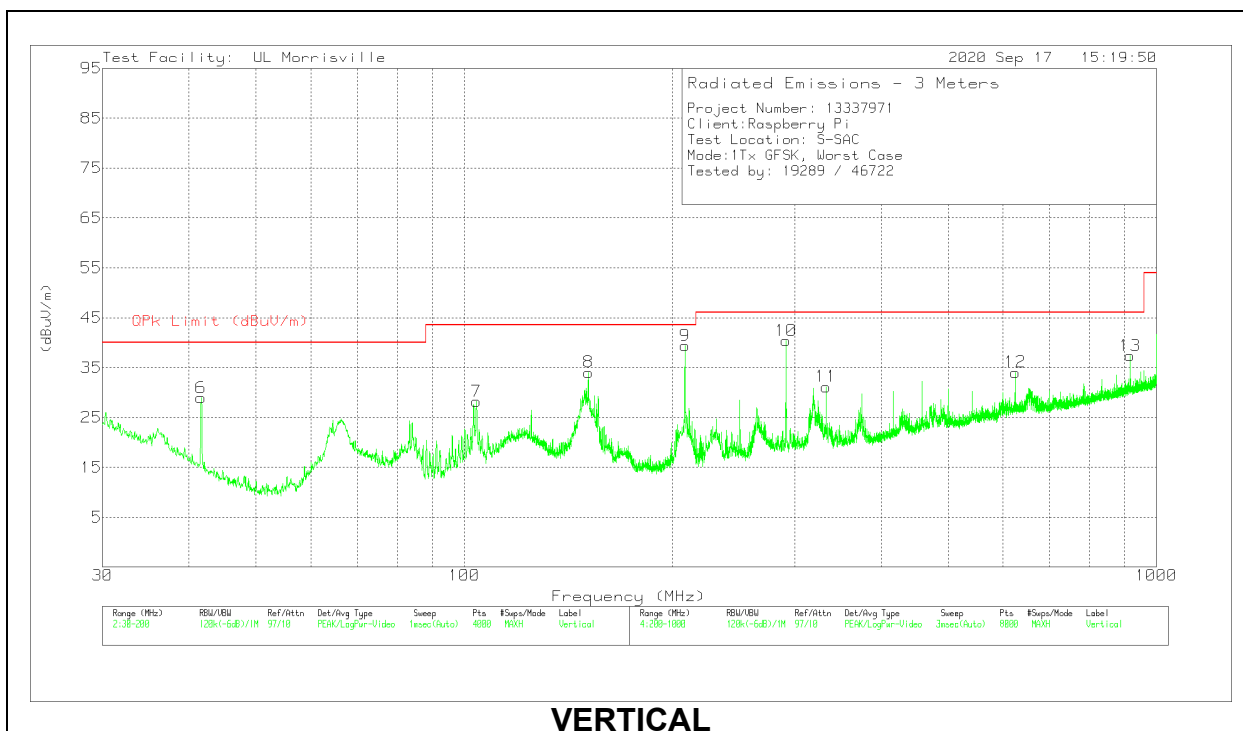
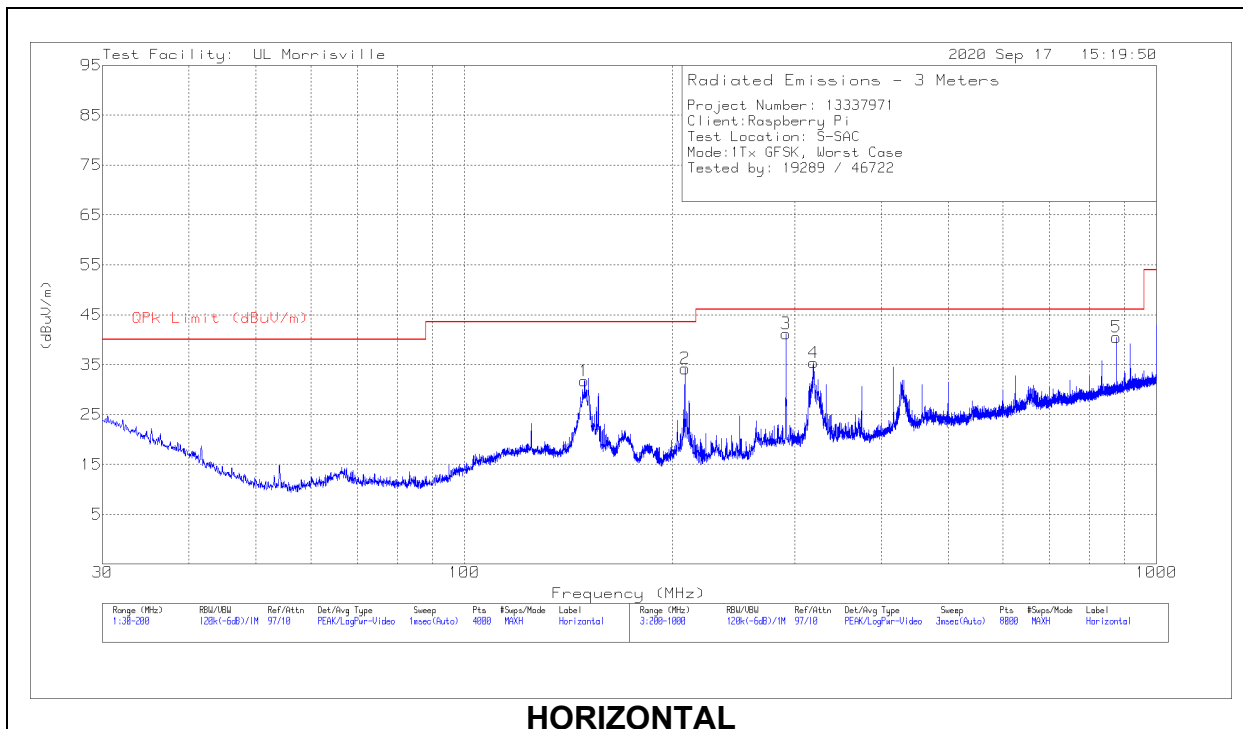
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

Qp – Quasi-Peak detector

Antenna 2



Below 1GHz DATA

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0081 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	** 875.0211	36.38	Qp	28	-26	38.38	46.02	-7.64	118	171	H
11	* ** 333.3173	39.78	Pk	20.1	-28.7	31.18	46.02	-14.84	0-360	200	V
6	41.648	41.35	Pk	18.9	-31.3	28.95	-	-	0-360	101	V
7	104.0967	41.2	Pk	17.5	-30.5	28.2	-	-	0-360	101	V
1	149.1583	43.04	Pk	18.7	-30	31.74	-	-	0-360	299	H
8	151.1138	45.47	Pk	18.6	-30	34.07	-	-	0-360	101	V
2	208.3011	47	Pk	16.6	-29.4	34.2	-	-	0-360	200	H
9	208.3011	52.22	Pk	16.6	-29.4	39.42	-	-	0-360	101	V
3	291.7119	50.7	Pk	19.3	-28.8	41.2	-	-	0-360	101	H
10	291.7119	49.87	Pk	19.3	-28.8	40.37	-	-	0-360	200	V
4	319.6155	44.17	Pk	20	-28.8	35.37	-	-	0-360	101	H
12	625.0553	35.87	Pk	25.4	-27.2	34.07	-	-	0-360	101	V
13	916.6932	34.26	Pk	28.5	-25.4	37.36	-	-	0-360	200	V

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

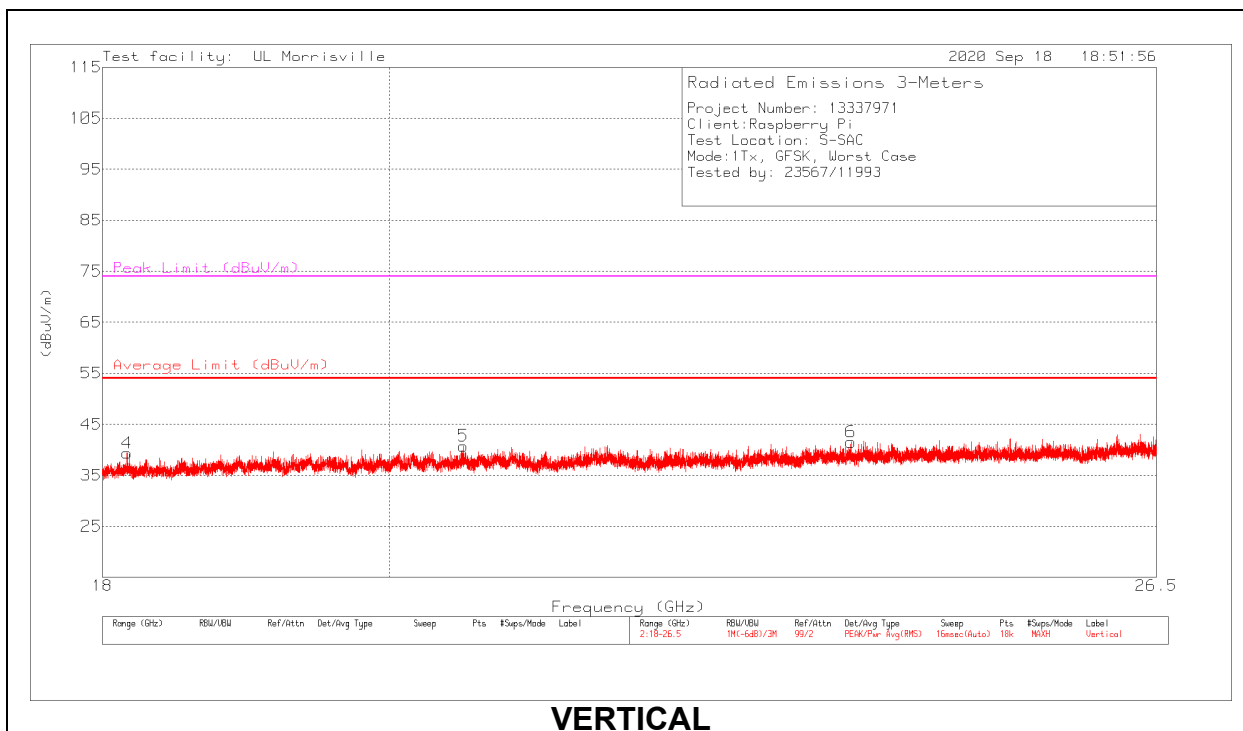
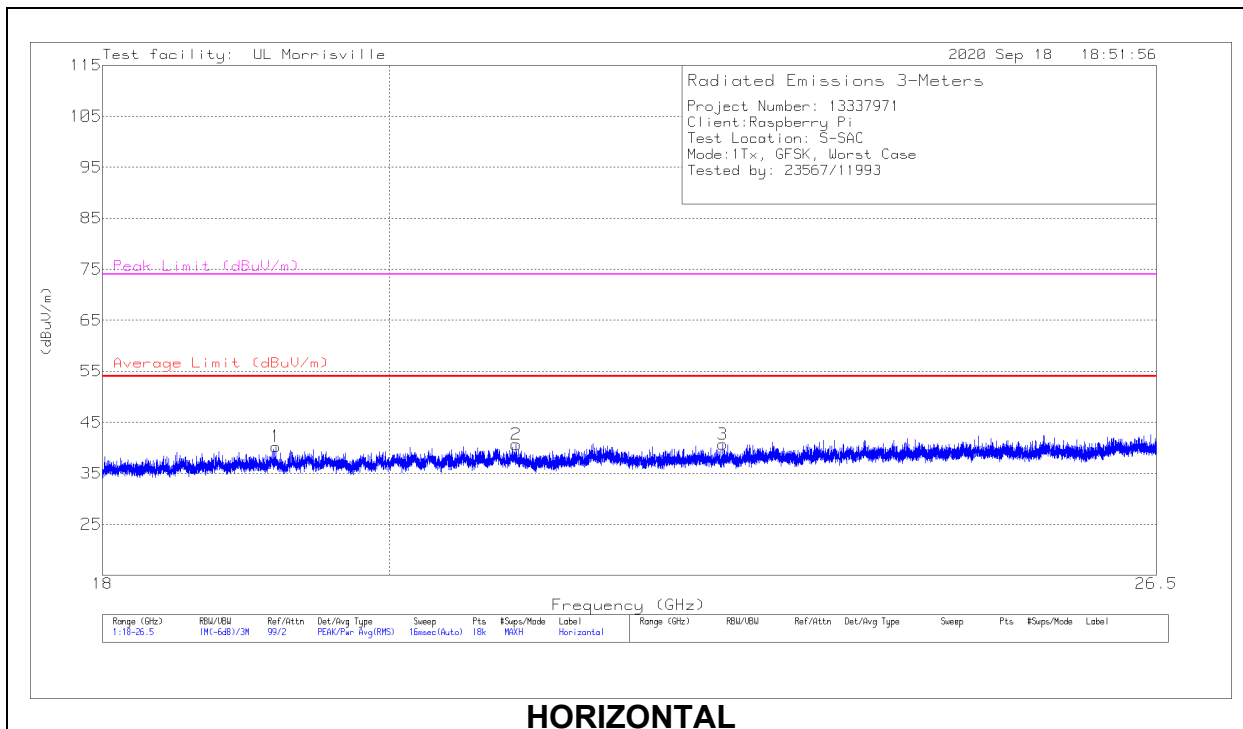
** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

Qp – Quasi-Peak detector

10.4. WORST CASE 18-26 GHZ

Antenna 1



18 – 26GHz DATA

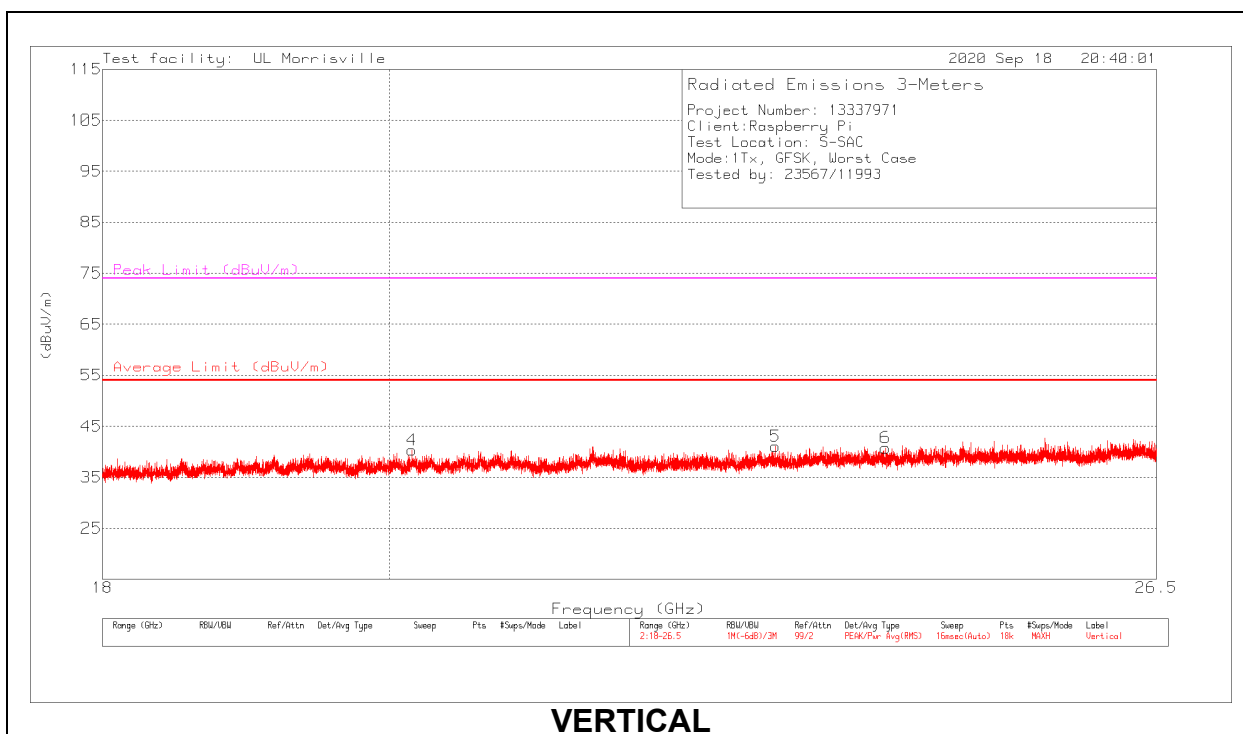
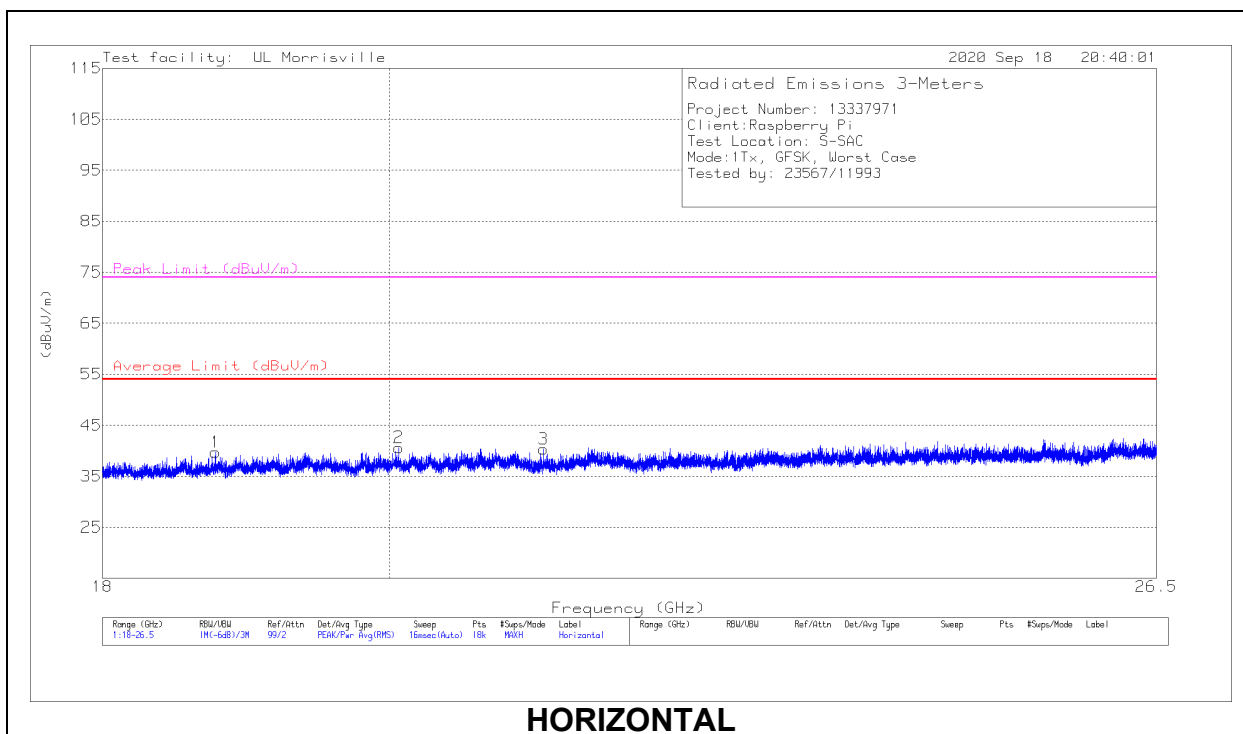
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AT0076 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 19.18156	46.86	Pk	32.7	-39.3	40.26	54	-13.74	74	-33.74	0-360	200	H
2	* ** 20.95155	46.76	Pk	33.2	-39.3	40.66	54	-13.34	74	-33.34	0-360	101	H
3	* ** 22.60111	46.24	Pk	33.4	-38.9	40.74	54	-13.26	74	-33.26	0-360	250	H
4	* ** 18.1634	46.59	Pk	32.4	-39.6	39.39	54	-14.61	74	-34.61	0-360	250	V
5	* ** 20.55014	46.36	Pk	33.2	-38.8	40.76	54	-13.24	74	-33.24	0-360	200	V
6	* ** 23.68964	46.02	Pk	34	-38.5	41.52	54	-12.48	74	-32.48	0-360	300	V

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

** - indicates frequency in Taiwan NCC LP0002 Restricted Band

Pk - Peak detector

Antenna 2



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	* ** 18.76221	46.61	Pk	32.6	-39.5	39.71	54	-14.29	74	-34.29	0-360	101	H
2	* ** 20.06703	46.64	Pk	32.9	-38.9	40.64	54	-13.36	74	-33.36	0-360	101	H
3	* ** 21.1617	46.56	Pk	33.1	-39.3	40.36	54	-13.64	74	-33.64	0-360	150	H
4	* ** 20.16431	46.07	Pk	32.9	-38.6	40.37	54	-13.63	74	-33.63	0-360	101	V
5	* ** 23.04125	46.31	Pk	33.8	-39	41.11	54	-12.89	74	-32.89	0-360	150	V
6	* ** 23.99141	45.28	Pk	34.1	-38.6	40.78	54	-13.22	74	-33.22	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

11. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)
RSS-Gen 8.8

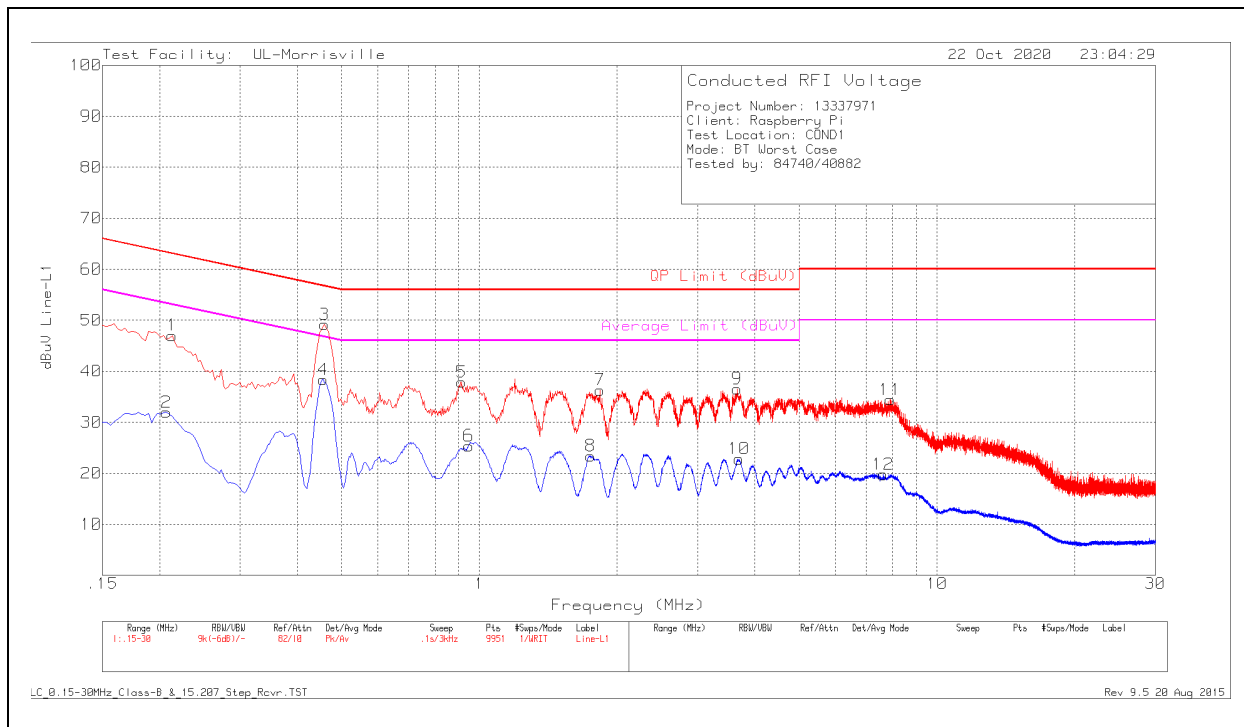
Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

RESULTS

11.1. ANTENNA 1

LINE 1 RESULTS

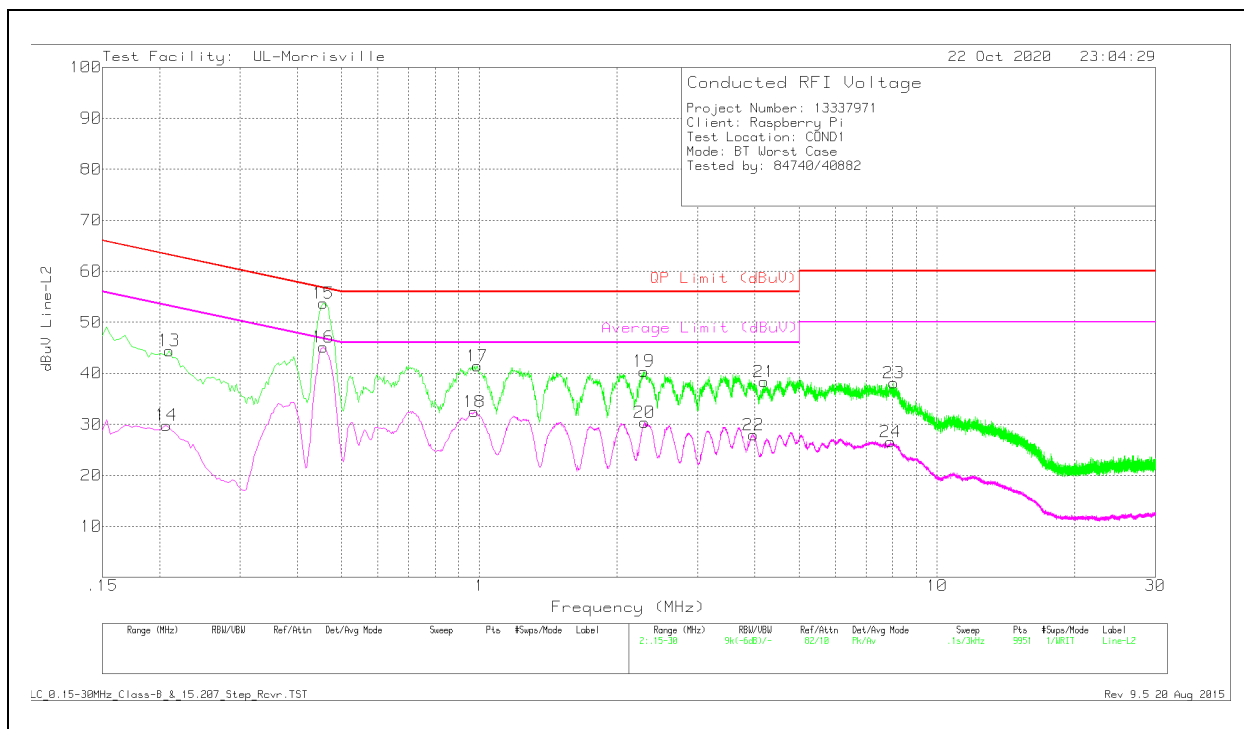


Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.213	37.24	Pk	.1	9.7	47.04	63.09	-16.05	-	-
2	.207	22.19	Av	.1	9.7	31.99	-	-	53.32	-21.33
3	.459	39.3	Pk	.1	9.8	49.2	56.71	-7.51	-	-
4	.456	28.48	Av	.1	9.8	38.38	-	-	46.77	-8.39
5	.915	28.09	Pk	0	9.8	37.89	56	-18.11	-	-
6	.948	15.59	Av	0	9.8	25.39	-	-	46	-20.61
7	1.833	26.54	Pk	0	9.8	36.34	56	-19.66	-	-
8	1.752	13.62	Av	0	9.8	23.42	-	-	46	-22.58
9	3.654	26.68	Pk	0	9.9	36.58	56	-19.42	-	-
10	3.693	12.93	Av	0	9.9	22.83	-	-	46	-23.17
11	7.902	24.34	Pk	.1	10	34.44	60	-25.56	-	-
12	7.614	9.76	Av	.1	9.9	19.76	-	-	50	-30.24

Pk - Peak detector

Av - Average detection

LINE 2 RESULTS

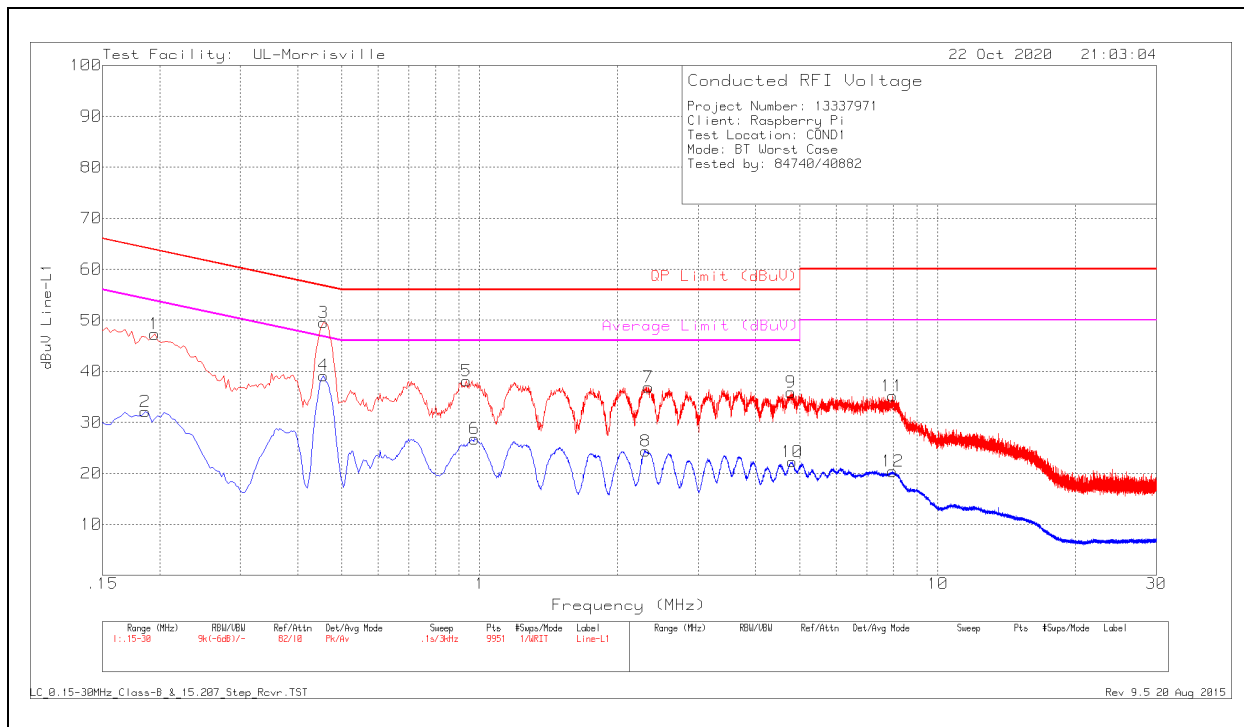


Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
13	.21	34.54	Pk	.2	9.7	44.44	63.21	-18.77	-	-
14	.207	19.92	Av	.2	9.7	29.82	-	-	53.32	-23.5
15	.4586	40.86	Qp	.1	9.8	50.76	56.72	-5.96	-	-
16	.45918	35.4	Ca	.1	9.8	45.3	-	-	46.71	-1.41
17	.99	31.65	Pk	0	9.8	41.45	56	-14.55	-	-
18	.975	22.67	Av	0	9.8	32.47	-	-	46	-13.53
19	2.286	30.59	Pk	0	9.8	40.39	56	-15.61	-	-
20	2.295	20.55	Av	0	9.8	30.35	-	-	46	-15.65
21	4.191	28.35	Pk	.1	9.9	38.35	56	-17.65	-	-
22	3.966	18.05	Av	0	9.9	27.95	-	-	46	-18.05
23	8.04	28.05	Pk	.1	10	38.15	60	-21.85	-	-
24	7.908	16.46	Av	.1	10	26.56	-	-	50	-23.44

Pk - Peak detector
Av - Average detection
Qp - Quasi-peak detection
Ca - CISPR average detection

11.2. ANTENNA 2

LINE 1 RESULTS

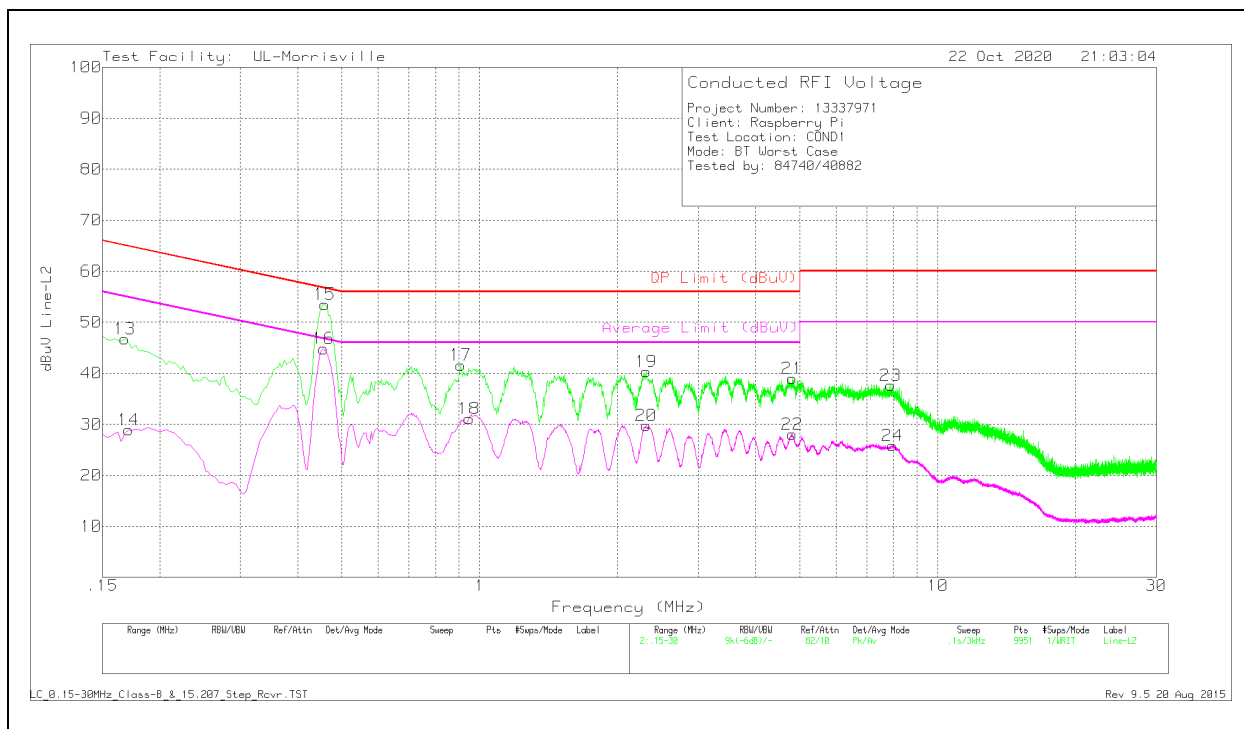


Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.195	37.4	Pk	.2	9.7	47.3	63.82	-16.52	-	-
2	.186	22.23	Av	.2	9.7	32.13	-	-	54.21	-22.08
3	.456	39.67	Pk	.1	9.8	49.57	56.77	-7.2	-	-
4	.456	29.27	Av	.1	9.8	39.17	-	-	46.77	-7.6
5	.936	28.32	Pk	0	9.8	38.12	56	-17.88	-	-
6	.975	16.97	Av	0	9.8	26.77	-	-	46	-19.23
7	2.334	27.11	Pk	0	9.8	36.91	56	-19.09	-	-
8	2.304	14.58	Av	0	9.8	24.38	-	-	46	-21.62
9	4.782	25.96	Pk	0	9.9	35.86	56	-20.14	-	-
10	4.815	12.39	Av	0	9.9	22.29	-	-	46	-23.71
11	7.953	25.1	Pk	.1	10	35.2	60	-24.8	-	-
12	7.974	10.28	Av	.1	10	20.38	-	-	50	-29.62

Pk - Peak detector

Av - Average detection

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	.168	36.83	Pk	.2	9.7	46.73	65.06	-18.33	-	-
14	.171	18.99	Av	.2	9.7	28.89	-	-	54.91	-26.02
15	.46008	40.47	Qp	.1	9.8	50.37	56.69	-6.32	-	-
16	.45867	34.66	Ca	.1	9.8	44.56	-	-	46.72	-2.16
17	.909	31.81	Pk	0	9.8	41.61	56	-14.39	-	-
18	.948	21.29	Av	0	9.8	31.09	-	-	46	-14.91
19	2.307	30.53	Pk	0	9.8	40.33	56	-15.67	-	-
20	2.307	19.96	Av	0	9.8	29.76	-	-	46	-16.24
21	4.809	29.01	Pk	.1	9.9	39.01	56	-16.99	-	-
22	4.809	18.06	Av	.1	9.9	28.06	-	-	46	-17.94
23	7.881	27.51	Pk	.1	10	37.61	60	-22.39	-	-
24	7.956	15.76	Av	.1	10	25.86	-	-	50	-24.14

Pk - Peak detector

Av - Average detection

Qp - Quasi-peak detection

Ca - CISPR average detection

12. SETUP PHOTOS

Please refer to R13337971-EP2 for setup photos.

END OF TEST REPORT