FCC CFR47 PART 90.103

CERTIFICATION TEST REPORT

FOR

GROUND RADAR

MODEL NUMBER: 10024640

FCC ID: QFS-001-10024640

REPORT NUMBER: 10965797A

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Prepared for
Dynetics
1002 Explorer Boulevard
Huntsville, AL 35806

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Revision History

Rev.	Issue Date	Revisions	Revised By
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Dynetics
1002 Explorer Boulevard
Huntsville, AL 35806-2806

EUT DESCRIPTION: Ground Radar

MODEL: 10024640

SERIAL NUMBER: non-serialzed

DATE TESTED: November 16, 2015

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
47 CFR Part 90.103	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, 47 CFR Part 90.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 333 Pfingsten Road, Northbrook, IL 60062.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 100414-0. The full scope of accreditation can be viewed at http://ts.nist.gov/

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

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

4.3. MEASUREMENT UNCERTAINTY

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

Test	Range	Equipment	Uncertainty k=2
Conducted Emissions	150k-30MHz	LISN	2.29dB
Radiated Emissions	30-200MHz	Bicon 10m Horz	4.27dB
Radiated Emissions	30-200MHz	Bicon 10m Vert	4.28dB
Radiated Emissions	200-1000MHz	LogP 10m Horz	3.33dB
Radiated Emissions	200-1000MHz	LogP 10m Vert	3.39dB
Radiated Emissions	1-6GHz	Horn	5.02dB
Radiated Emissions	6-18GHz	Horn	5.34dB
Radiated Emissions	18-26GHz	Horn	6.60dB
Radiated Emissions	26-40GHz	Horn	7.02dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a wide band ground radar used to monitor a specific area.

5.2. MAXIMUM OUTPUT POWER

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

Mode 1, Mode2, and Mode 3

	Channel	Mode 1 Peak power dBm	Mode 2 Peak Power dBm	Mode 3 Peak Power dBm
Baseline Amplifier	Low Channel	44.20	44.24	44.31
	Middle Channel	45.61	45.59	45.60
	High Channel	45.08	45.11	45.11
Delta Amplifier	Low Channel	42.41	42.45	42.49
	Middle Channel	43.51	43.65	43.63
	High Channel	42.51	42.50	42.50

5.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was

The EUT software installed during testing was

5.4. WORST-CASE CONFIGURATION AND MODE

The EUT operates in three specific modes. Except for radiated spurious emissions all tests were conducted in all three modes. Radiated Spurious emissions was conducted in two modes (Mode 1 and Mode 3).

Center Frequencis (GHz)
3.1484375
3.15625
3.1640625
3.171875
3.1796875
3.1875
3.1953125
3.203125
3.2109375
3.21875
3.2265625
3.234375

* frequencies in bold are frequencies that were tested.

5.5. DESCRIPTION OF TEST SETUP

CONDUCTED and RADIATED TESTS SUPPORT EQUIPMENT

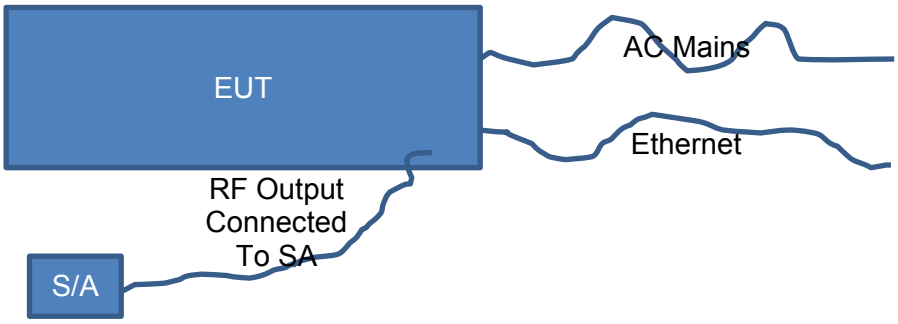
Support Equipment List			
Description	**Manufacturer**	**Model**	**Serial Number**
Laptop Computer	Generic	Generic	N/A
EUT	Dynetics	10024640	-

I/O CABLES

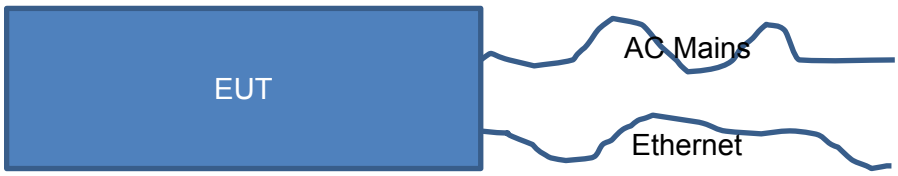
I/O CABLE LIST						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	AC	1	AC 3 Wire	16 AWG	50ft	Standard AC Power Cable
2	I/O	1	RJ-45	Cat 5	50ft	Standard Ethernet Cable

TEST SETUP

CONDUCTED SETUP



RADIATED SETUP



6. TEST AND MEASUREMENT EQUIPMENT

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

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESU	EMC4323	20141216	20151231
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC4328	20141830	20151231
BiCon Antenna (RTP)	Schaffner	VBA6106A	AT0025	20151008	20161031
Log-P Antenna	Chase	UPA6109	EMC4313	20141119	20151130
Log-P Antenna	Chase	UPA6109	EMC4313	20141119	20151130
Spectrum Analyzer	Agilent	N9030A (PXA)	EMC4360	20141219	20151219
EMI Test Receiver	Rohde & Schwarz	ESR	EMC4377	20150423	20160423
Transient Limiter	Electro-Metrics	EM7600-2	EMC4224	N/A	N/A
HighPass Filter	Solar Electronics	2803-150	885551	N/A	N/A
Attenuator	HP	8494B	2831A00838	N/A	N/A
LISN - L1	Solar	8602-50-TS-50-N	EMC4052	20150109	20160110
LISN - L2	Solar	8602-50-TS-50-N	EMC4064	20150109	20160110

7. RF POWER OUTPUT

REQUIREMENT

§2.1046 Measurements required: RF power output.

§90.205 Output Power.

(r) All other frequency bands. Requested transmitter power will be considered and authorized on a case by case basis.

(a) For transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in §2.1033(c)(8). The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.

TEST PROCEDURE

The transmitter output was connected to the input of Spectrum Analyzer via calibrated coaxial cable and attenuator.

The output power was measured with the spectrum analyzer at the low, middle and high channel for each mode.

- Set the spectrum analyzer span wide enough or greater than the modulated signal BW.
- Set a spectrum analyzer at peak detection mode with VBW ≥ RBW. The RBW was set to largest available (8MHz). It is less then overall bandwidth of individual channel but is larger then bandwidth of individual pulse within a channel.
- Set a marker to point the corresponding peak value.

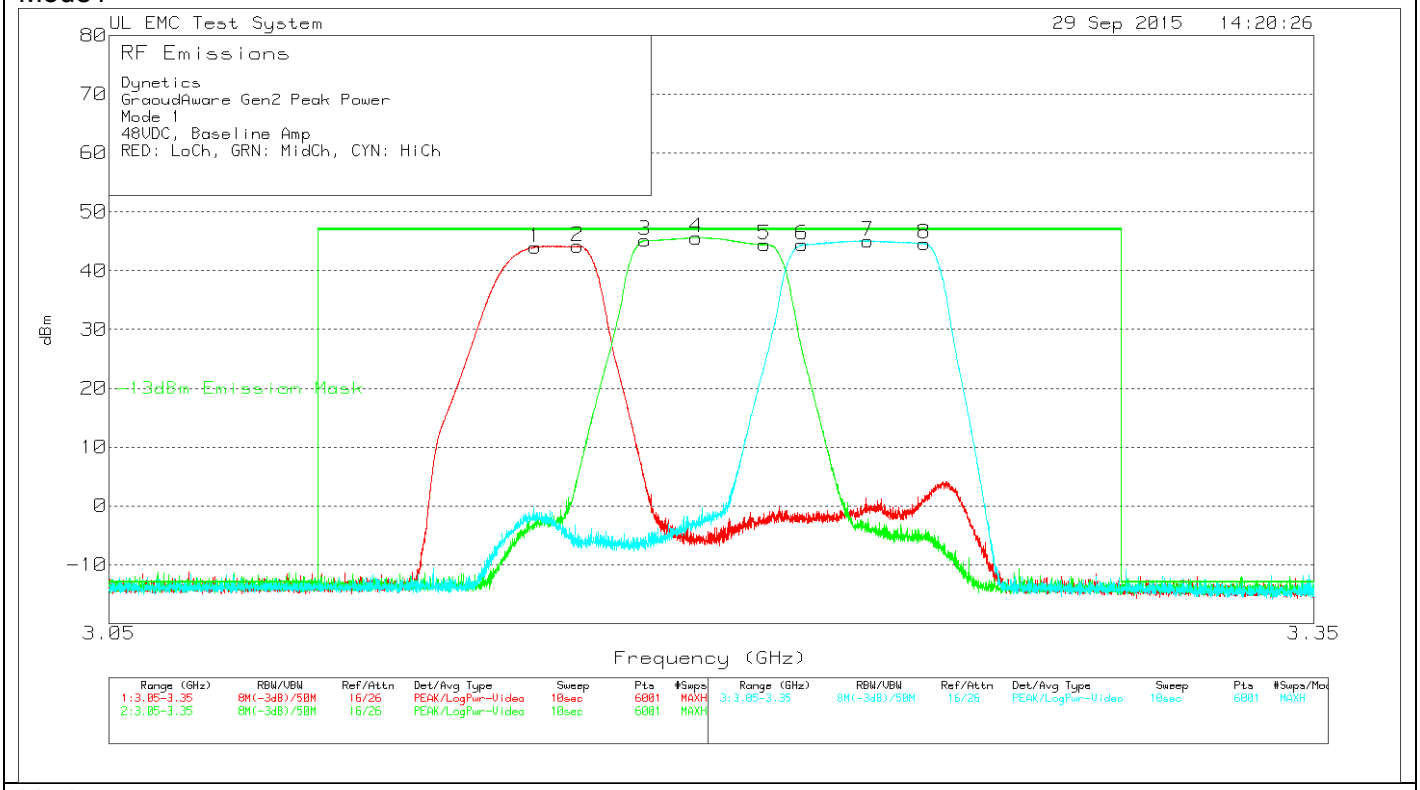
TABULAR RESULTS

	Channel	Mode 1 Peak power dBm	Mode 2 Peak Power dBm	Mode 3 Peak Power dBm
Baseline Amplifier	Low Channel	44.20	44.24	44.31
	Middle Channel	45.61	45.59	45.60
	High Channel	45.08	45.11	45.11
Delta Amplifier	Low Channel	42.41	42.45	42.49
	Middle Channel	43.51	43.65	43.63
	High Channel	42.51	42.50	42.50

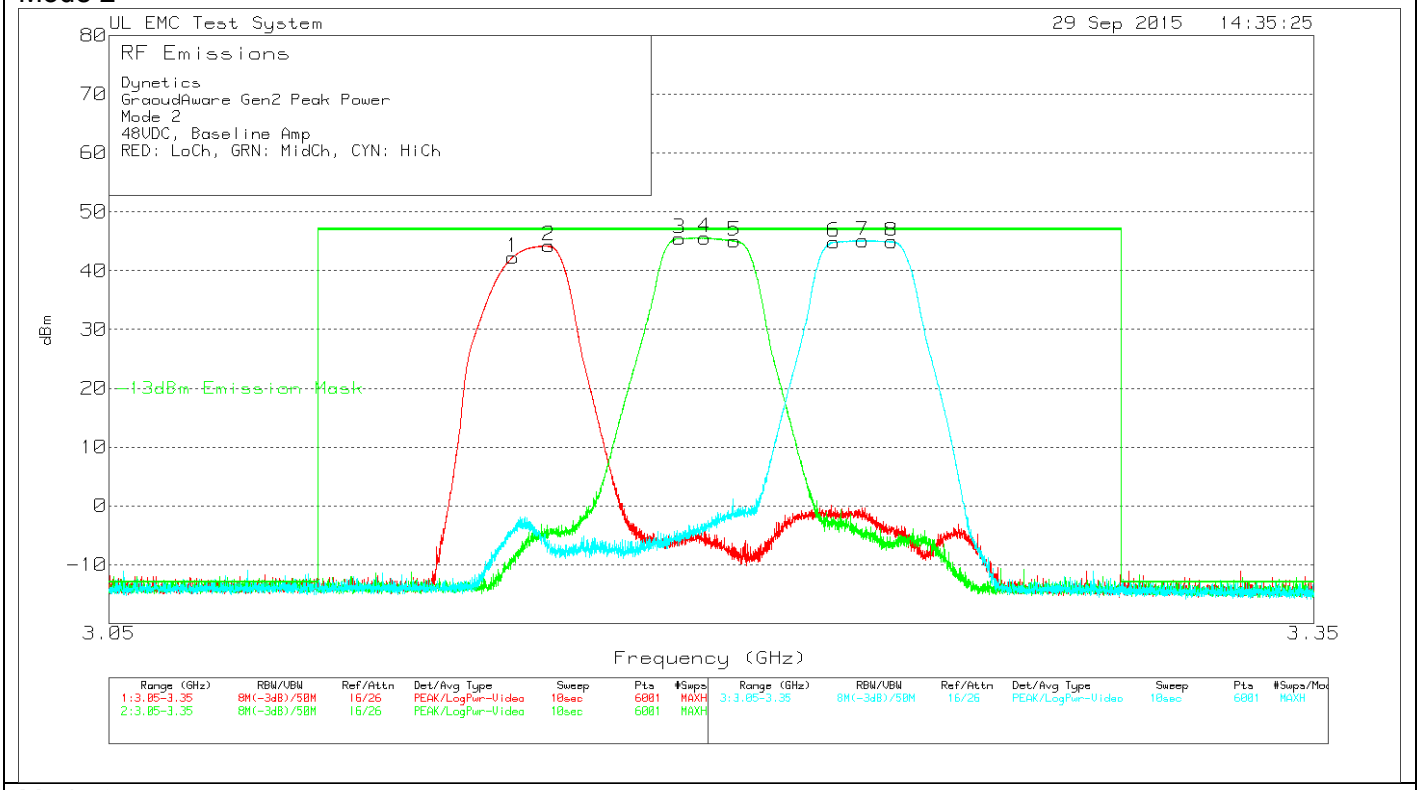
***** The maximum power was derived from exported numeric trace data.

GRAPHICAL RESULTS for Baseline Amp

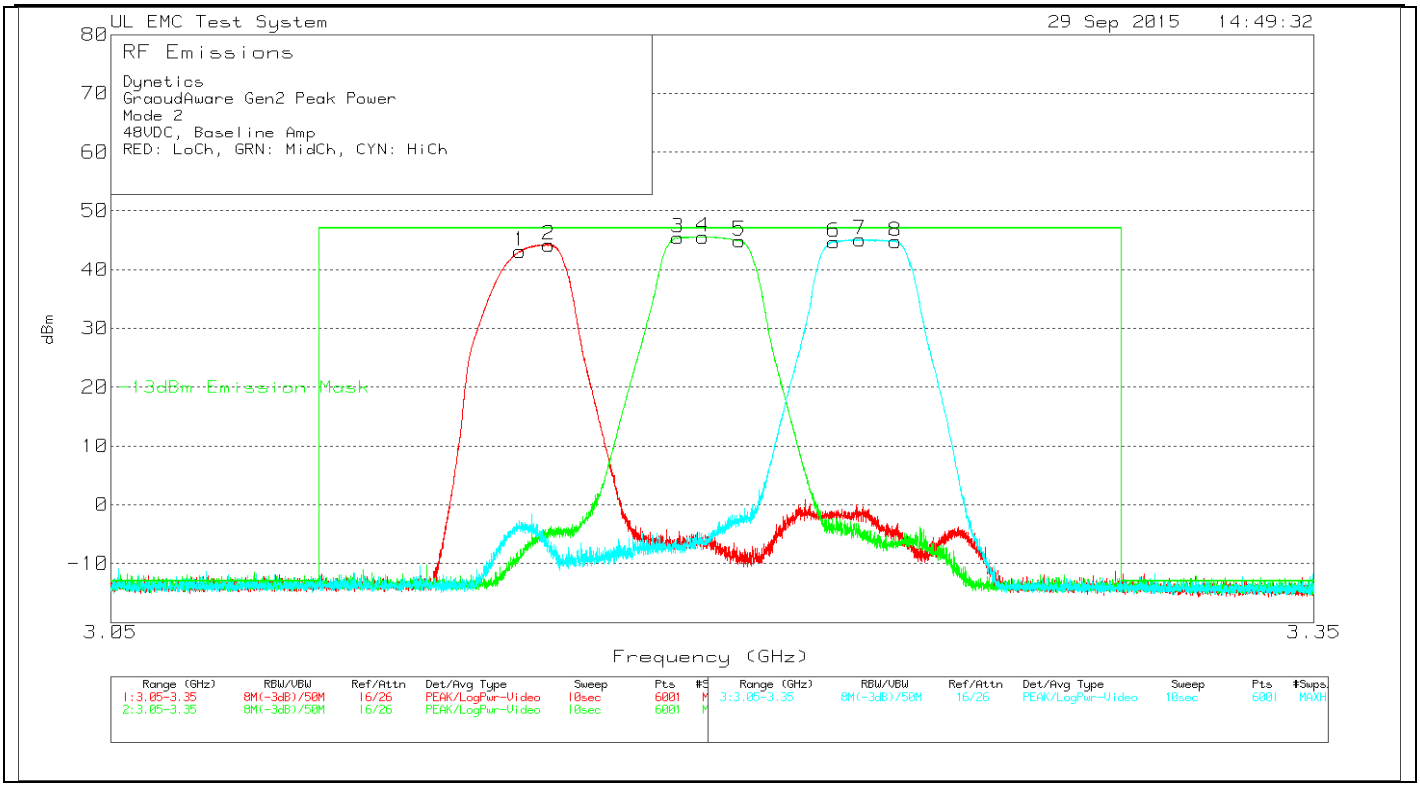
Mode1



Mode 2



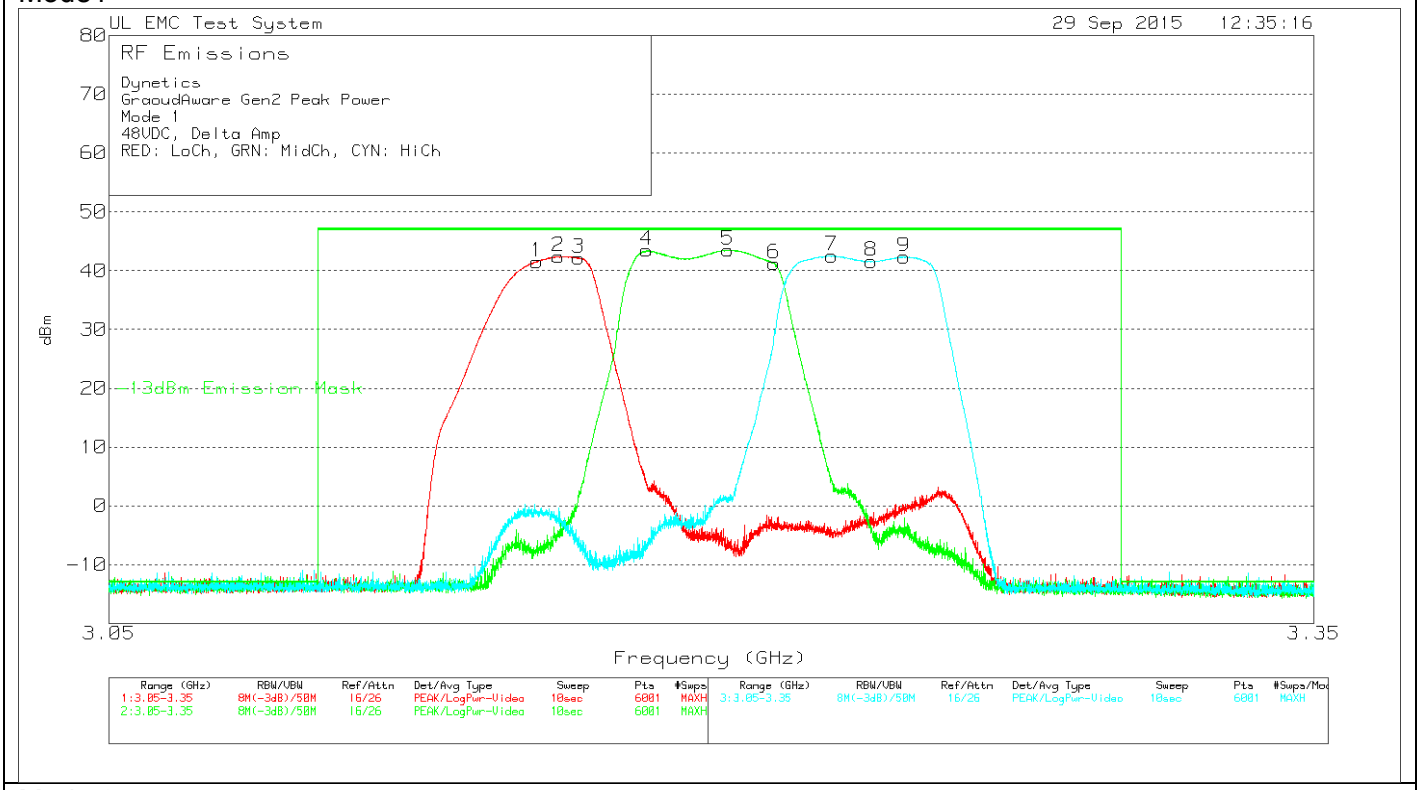
Mode 3



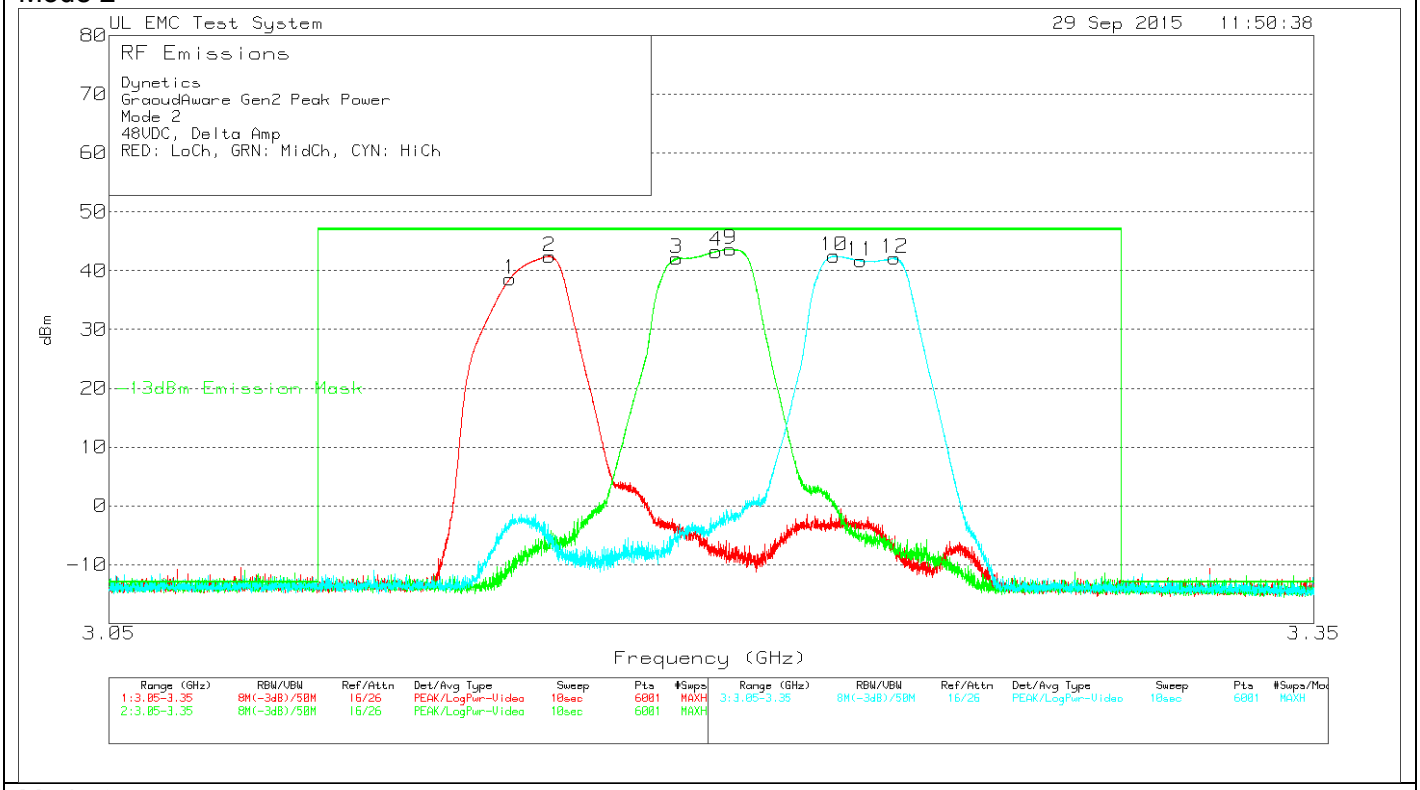
* Emission mask is not applicable for the output power measurement.

GRAPHICAL RESULTS for Delta Amp

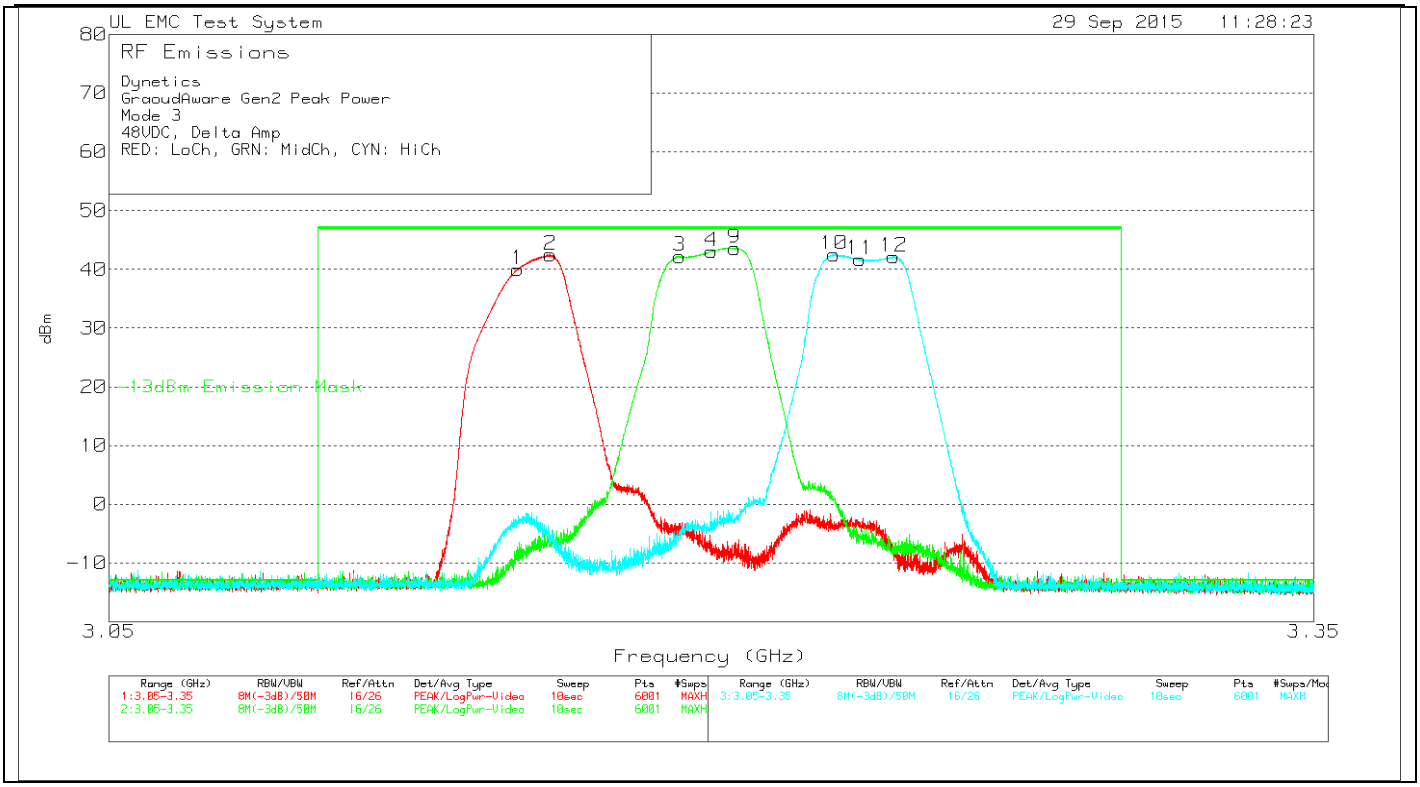
Mode1



Mode 2



Mode 3



* Emission mask is not applicable for the output power measurement.

8. CONDUCTED TEST RESULTS

8.1. OCCUPIED BANDWIDTH

RULE PART(S)

§2.1049 Measurements required: Occupied bandwidth.

§90.207 Types of emissions.

(k) For radiolocation operations as may be authorized in accordance with subpart F, unless otherwise provided for any type of emission may be authorized upon a satisfactory showing of need.

§90.209 Bandwidth Limitation.

Above 2500 MHz:
[2]Bandwidths for radiolocation stations in the 420-450 MHz band and for stations operating in bands subject to this footnote will be reviewed and authorized on a case-by-case basis. So no bandwidth limitation for certification of device, but could be a factor when licensing the device.

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the following conditions as applicable.

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band.

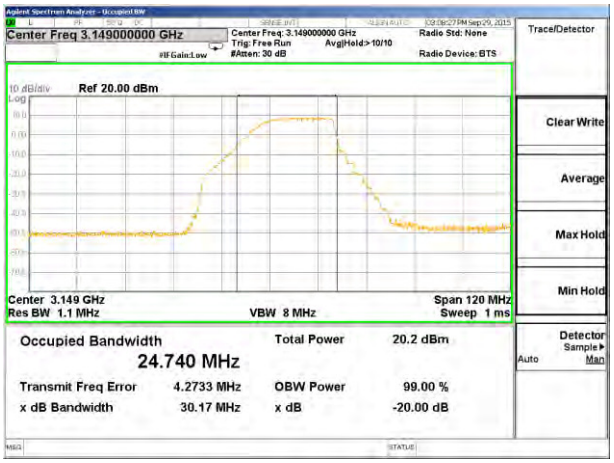
MODES TESTED

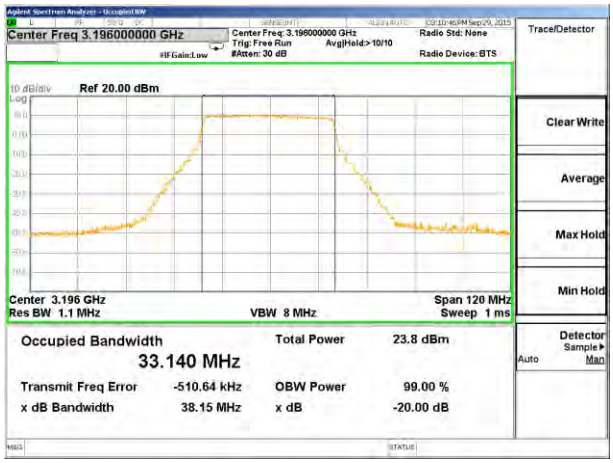
TABULAR RESULTS

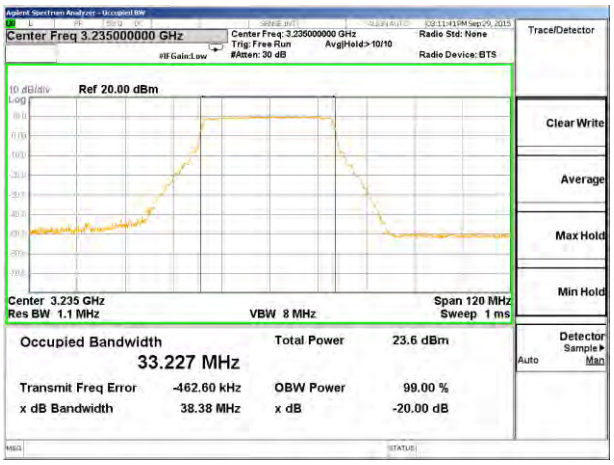
	Channel	Mode 1 99% Bandwidth MHz	Mode 2 99% Bandwidth MHz	Mode 3 99% Bandwidth MHz
Baseline Amplifier	Low Channel	24.740	16.473	16.216
	Middle Channel	33.140	17.718	17.523
	High Channel	33.227	17.664	17.446
Delta Amplifier	Low Channel	25.006	16.716	16.563
	Middle Channel	33.032	17.539	17.337
	High Channel	33.057	17.715	17.556

GRAPHICAL RESULTS for BASELINE AMP

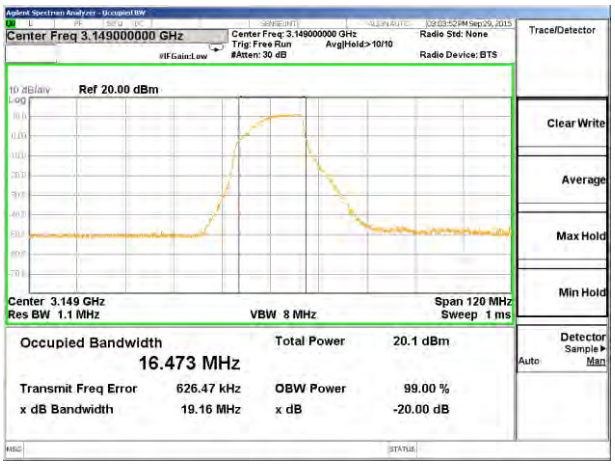
Mode 1

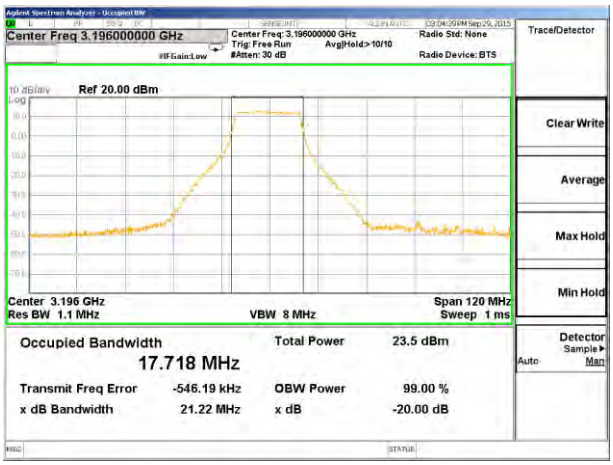


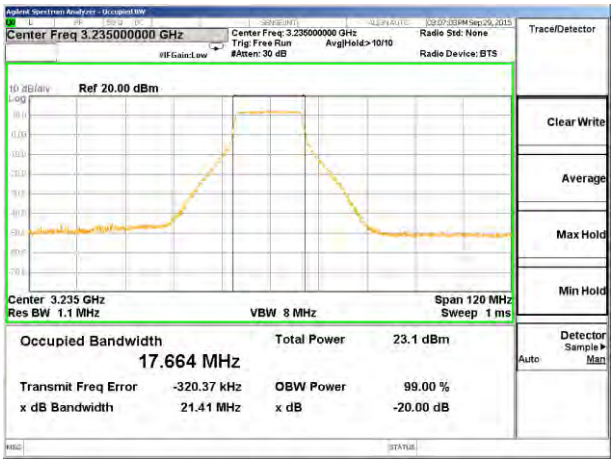




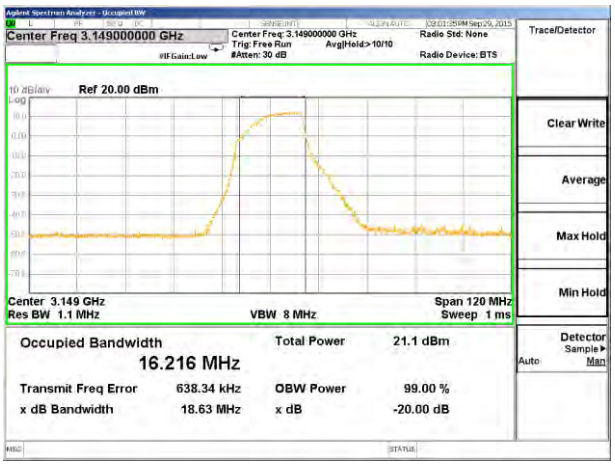
Mode 2

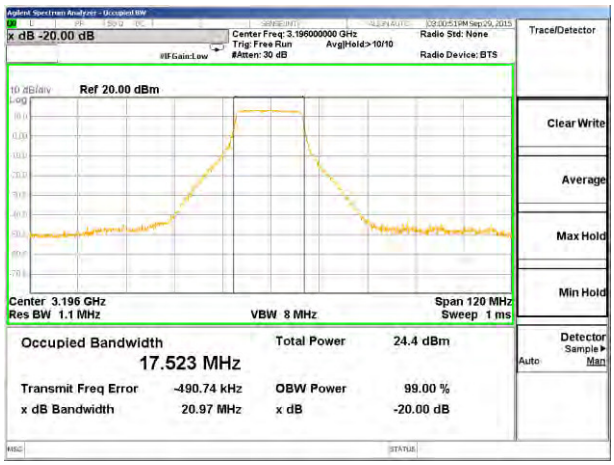


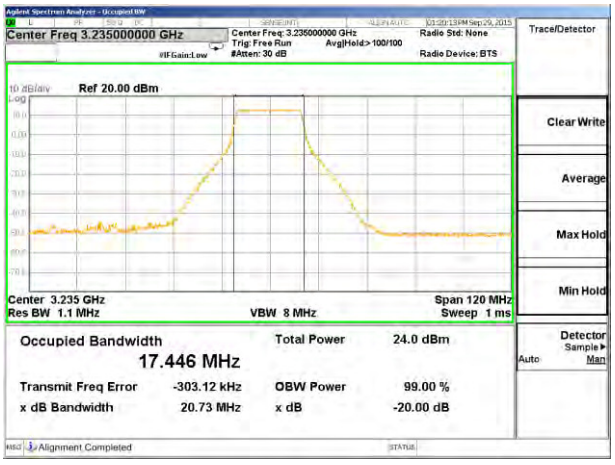




Mode 3

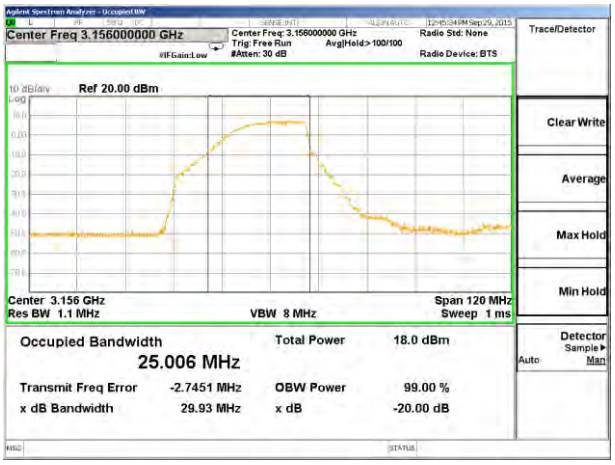


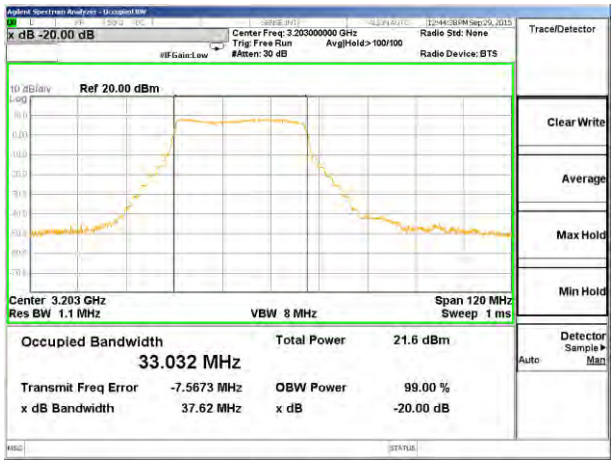


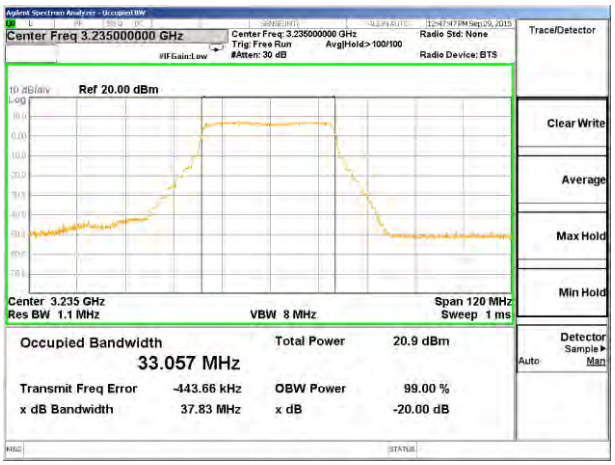


GRAPHICAL RESULTS for DELTA AMP

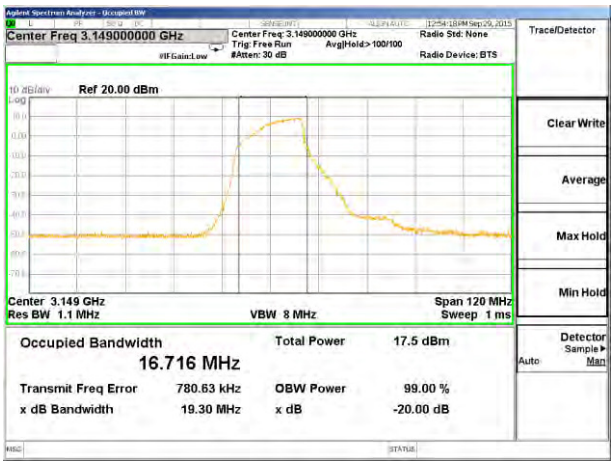
Mode 1

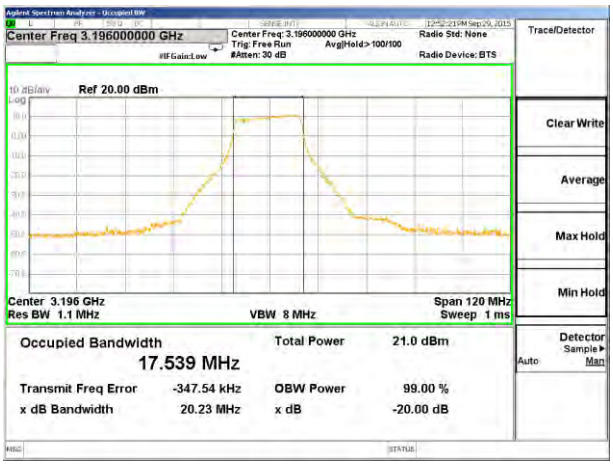


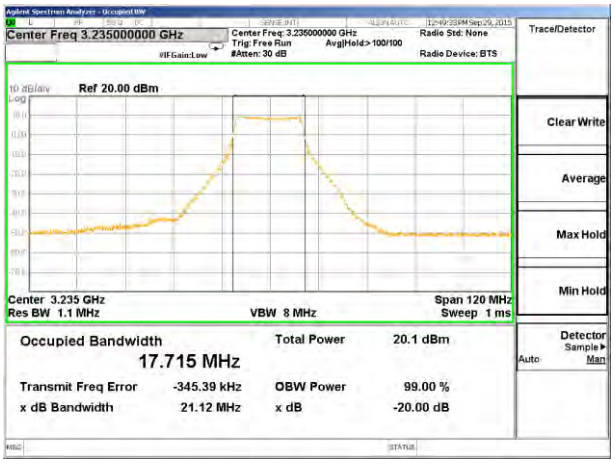




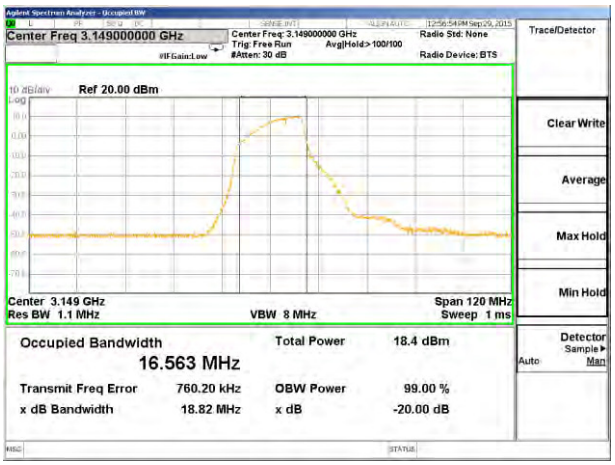
Mode 2

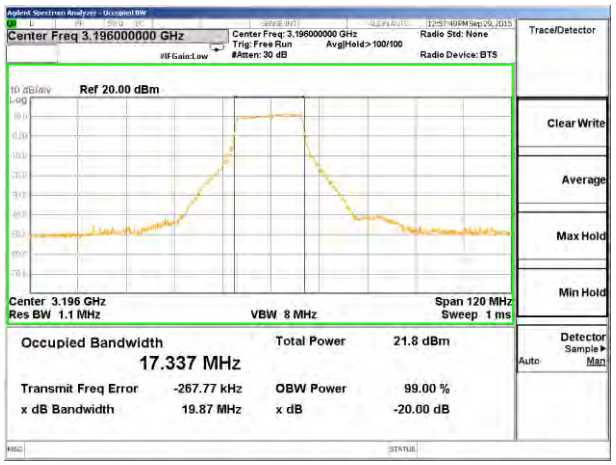


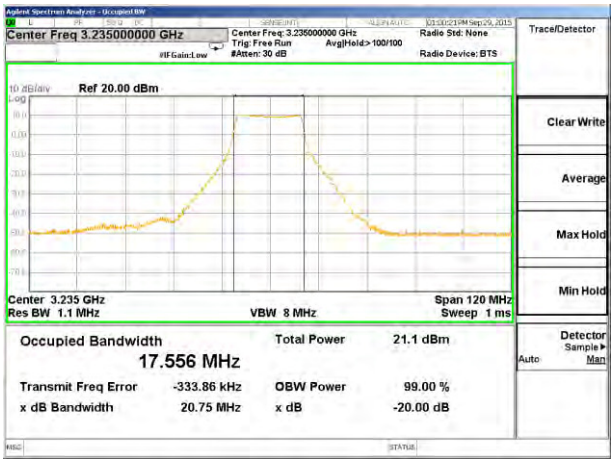




Mode 3







8.2. BAND EDGE

RULE PART(S)

§2.1051 Measurements required: Spurious emissions at antenna terminals at the band edges.

§90.210 Emission Mask

Since there is no specific mask/bandwidth limitation we apply the standard -13dBm limit outside the allocated band**.**

The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in §2.1049 as appropriate. The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified.

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB. (-13dBm)

TEST PROCEDURE

The transmitter output was connected to the input of Spectrum Analyzer via calibrated coaxial cable and attenuator.

The output power was measured with the spectrum analyzer at the low, middle and high channel for each mode.

RESULTS

RESULTS FOR BASELINE AMP

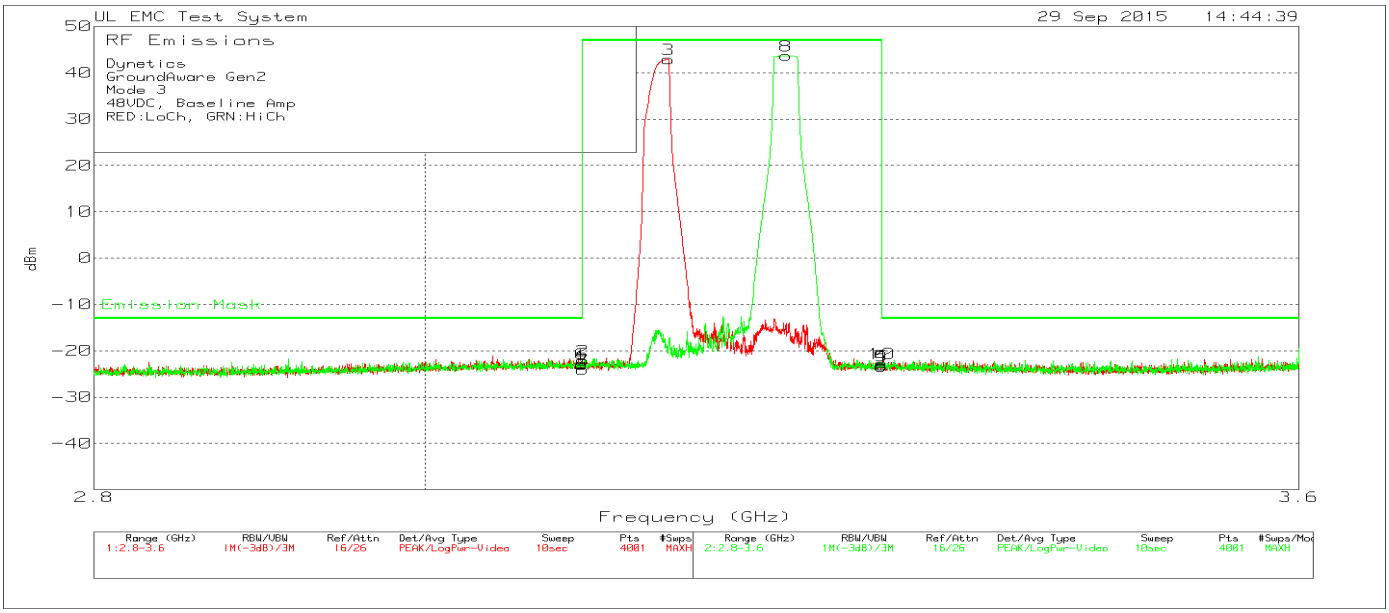
MODE 1

Dynetics							
GroundAware Gen2							
Mode1							
48VDC, Baseline Amp							
RED:LoCh, GRN:HiCh							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	Emission Mask Limit dBm	Margin (dB)
Low Channel							
1	3.1	-54.52	Pk	31.2	-23.3	-13	-10.32
2	3.1002	-53.74	Pk	31.2	-22.5	47	-69.54
3	3.1566	7.69	Pk	31.2	38.89	47	-8.11
4	3.2998	-54.95	Pk	31.2	-23.8	47	-70.75
5	3.3	-54.85	Pk	31.2	-23.7	-13	-10.65
High Channel							
6	3.1	-54.42	Pk	31.2	-23.2	-13	-10.22
7	3.1002	-53.79	Pk	31.2	-22.6	47	-69.59
8	3.2366	8.83	Pk	31.2	40.03	47	-6.97
9	3.2998	-54.51	Pk	31.2	-23.3	47	-70.31
10	3.3	-55.19	Pk	31.2	-24	-13	-10.99
Pk - Peak detector							

MODE 2

Dynetics							
GroundAware Gen2							
Mode2							
48VDC, Baseline Amp							
RED:LoCh, GRN:HiCh							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	Emission Mask Limit dBm	Margin (dB)
Low Channel							
1	3.1	-54.96	Pk	31.2	-23.76	-13	-10.76
2	3.1002	-54.79	Pk	31.2	-23.59	47	-70.59
3	3.1562	10.43	Pk	31.2	41.63	47	-5.37
4	3.2998	-55	Pk	31.2	-23.8	47	-70.8
5	3.3	-54.18	Pk	31.2	-22.98	-13	-9.98
High Channel							
6	3.1	-53	Pk	31.2	-21.8	-13	-8.8
7	3.1002	-54.11	Pk	31.2	-22.91	47	-69.91
8	3.2356	11.37	Pk	31.2	42.57	47	-4.43
9	3.2998	-53.95	Pk	31.2	-22.75	47	-69.75
10	3.3	-54.64	Pk	31.2	-23.44	-13	-10.44
Pk - Peak detector							

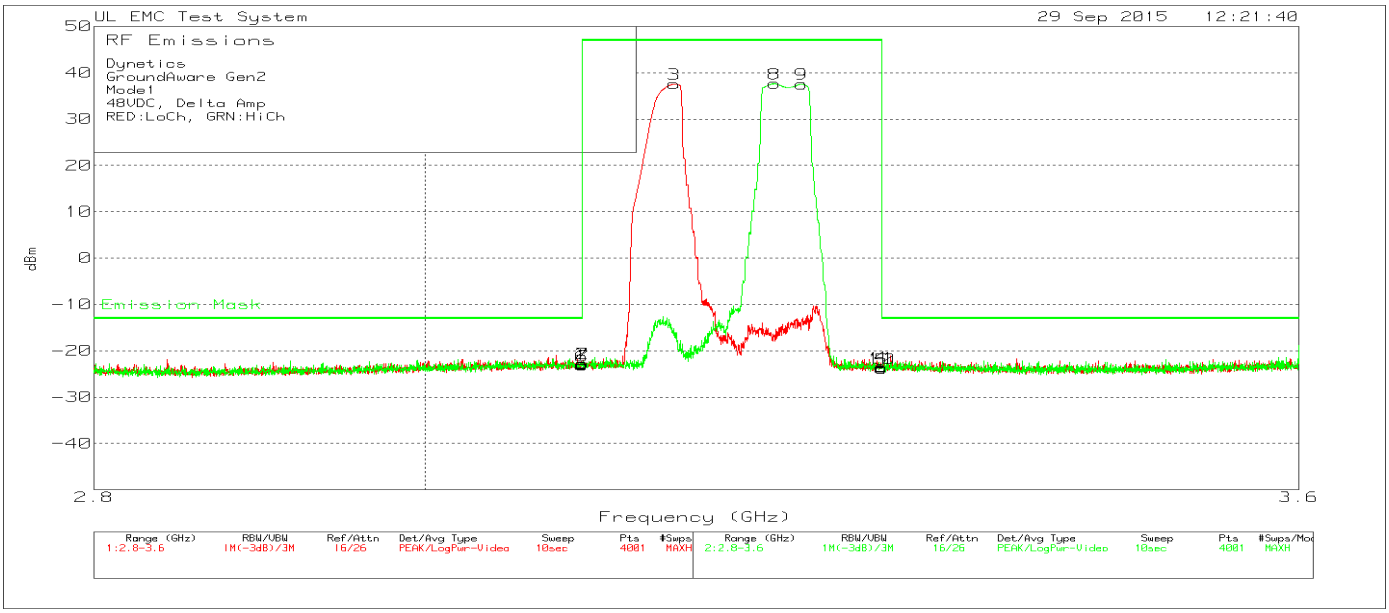
MODE 3



Dynetics							
GroundAware Gen2							
Mode 3							
48VDC, Baseline Amp							
RED:LoCh, GRN:HiCh							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	Emission Mask Limit dBm	Margin (dB)
Low Channel							
1	3.1	-54.24	Pk	31.2	-23.04	-13	-10.04
2	3.1002	-53.27	Pk	31.2	-22.07	47	-69.07
3	3.1562	11.69	Pk	31.2	42.89	47	-4.11
4	3.2998	-54.3	Pk	31.2	-23.1	47	-70.1
5	3.3	-54.41	Pk	31.2	-23.21	-13	-10.21
High Channel							
6	3.1	-53.91	Pk	31.2	-22.71	-13	-9.71
7	3.1002	-55.23	Pk	31.2	-24.03	47	-71.03
8	3.2348	12.49	Pk	31.2	43.69	47	-3.31
9	3.2998	-54.62	Pk	31.2	-23.42	47	-70.42
10	3.3	-53.89	Pk	31.2	-22.69	-13	-9.69
Pk - Peak detector							

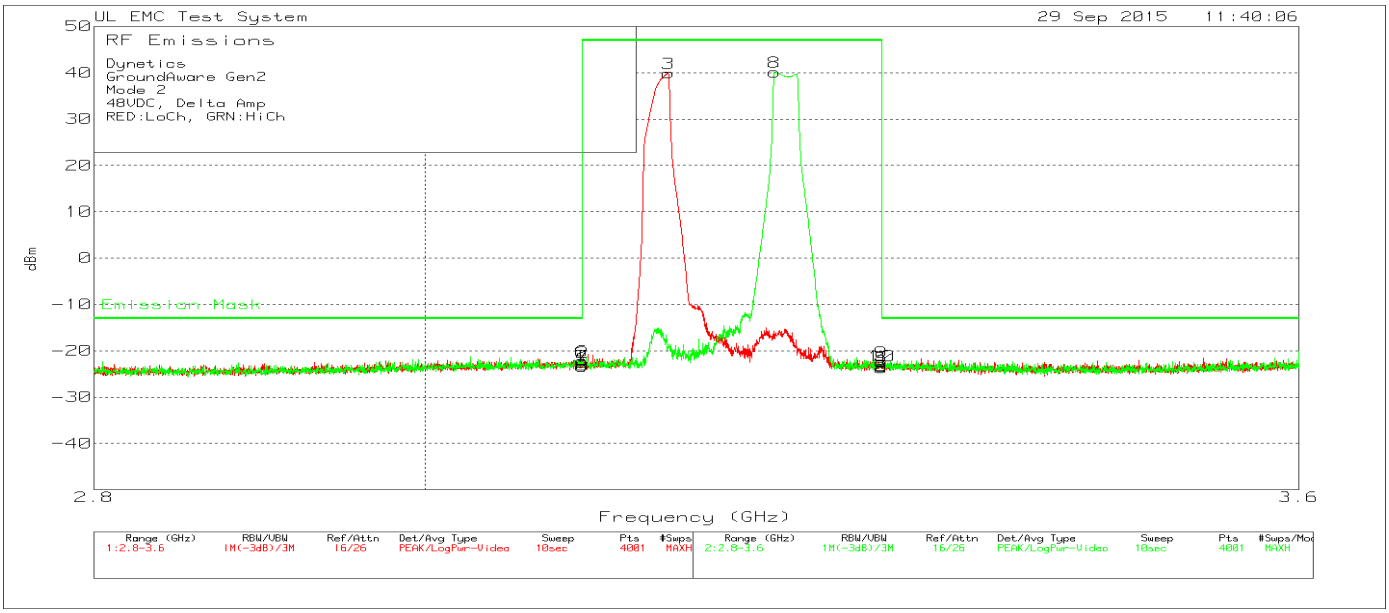
RESULTS FOR DELTA AMP

MODE 1



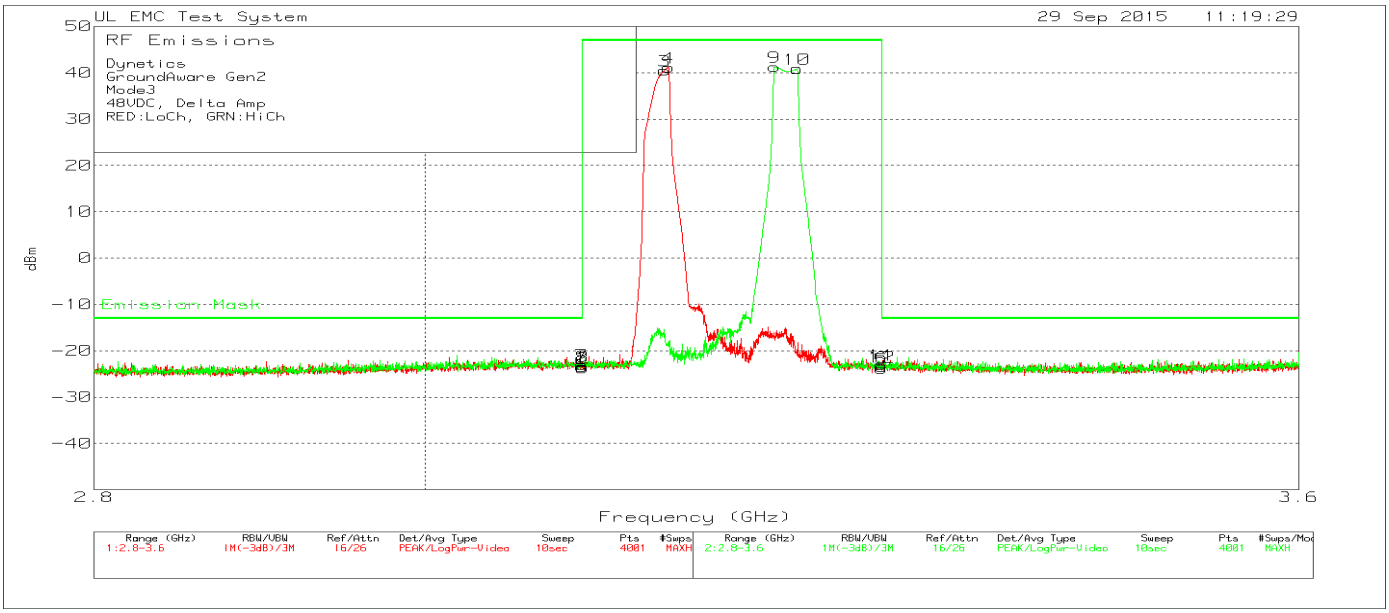
Dynetics							
GroundAware Gen2							
Mode1							
48VDC, Delta Amp							
RED:LoCh, GRN:HiCh							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	Emission Mask Limit dBm	Margin (dB)
Low Channel							
1	3.1	-54.14	Pk	31.2	-22.94	-13	-9.94
2	3.1002	-53.9	Pk	31.2	-22.7	47	-69.7
3	3.16	6.37	Pk	31.2	37.57	47	-9.43
4	3.2998	-54.69	Pk	31.2	-23.49	47	-70.49
5	3.3	-55.08	Pk	31.2	-23.88	-13	-10.88
High Channel							
6	3.1	-54.4	Pk	31.2	-23.2	-13	-10.2
7	3.1002	-53.98	Pk	31.2	-22.78	47	-69.78
8	3.2268	6.47	Pk	31.2	37.67	47	-9.33
9	3.2454	6.36	Pk	31.2	37.56	47	-9.44
10	3.2998	-55.05	Pk	31.2	-23.85	47	-70.85
11	3.3	-54.77	Pk	31.2	-23.57	-13	-10.57
Pk - Peak detector							

MODE 2



Dynetics							
GroundAware Gen2							
Mode 2							
48VDC, Delta Amp							
RED:LoCh, GRN:HiCh							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	Emission Mask Limit dBm	Margin (dB)
Low Channel							
1	3.1	-54.6	Pk	31.2	-23.4	-13	-10.4
2	3.1002	-53.67	Pk	31.2	-22.47	47	-69.47
3	3.1562	8.74	Pk	31.2	39.94	47	-7.06
4	3.2998	-54.97	Pk	31.2	-23.77	47	-70.77
5	3.3	-54.66	Pk	31.2	-23.46	-13	-10.46
High Channel							
6	3.1	-53.34	Pk	31.2	-22.14	-13	-9.14
7	3.1002	-54.4	Pk	31.2	-23.2	47	-70.2
8	3.2268	8.94	Pk	31.2	40.14	47	-6.86
9	3.2998	-53.6	Pk	31.2	-22.4	47	-69.4
10	3.3	-54.43	Pk	31.2	-23.23	-13	-10.23
Pk - Peak detector							

MODE 3



Dynetics							
GroundAware Gen2							
Mode3							
48VDC, Delta Amp							
RED:LoCh, GRN:HiCh							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	Emission Mask Limit dBm	Margin (dB)
Low Channel							
1	3.1	-54.65	Pk	31.2	-23.45	-13	-10.45
2	3.1002	-54.88	Pk	31.2	-23.68	47	-70.68
3	3.1536	9.25	Pk	31.2	40.45	47	-6.55
4	3.1562	9.93	Pk	31.2	41.13	47	-5.87
5	3.2998	-55.11	Pk	31.2	-23.91	47	-70.91
6	3.3	-54.63	Pk	31.2	-23.43	-13	-10.43
High Channel							
7	3.1	-54.2	Pk	31.2	-23	-13	-10
8	3.1002	-54.57	Pk	31.2	-23.37	47	-70.37
9	3.2269	10.06	Pk	31.2	41.26	47	-5.74
10	3.2422	9.66	Pk	31.2	40.86	47	-6.14
11	3.2998	-54.24	Pk	31.2	-23.04	47	-70.04
12	3.3	-54.62	Pk	31.2	-23.42	-13	-10.42
Pk - Peak detector							

8.3. OUT OF BAND EMISSIONS (Antenna Port and Radiated)

RULE PART(S)

§2.1051

§90.210 Emission Masks

Since there is no specific mask/bandwidth limitation we apply the standard -13dBm limit outside the allocated band.

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

TEST PROCEDURE

For antenna port the RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

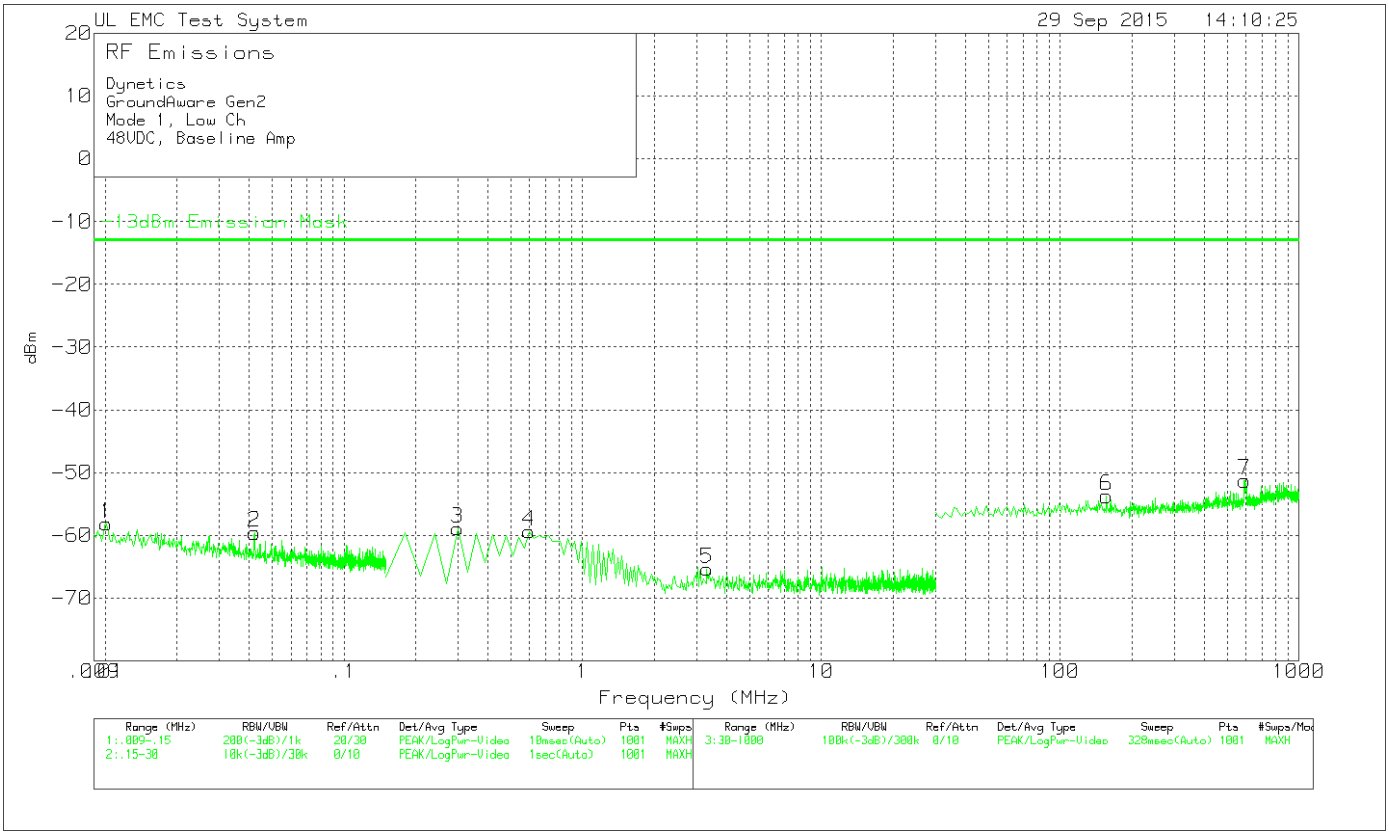
For radiated emissions the radio output was terminated with artificial antenna (50Ohm Load). The limit of -13dBm was converted to filed strength limit using equation from FCC KDB publication “971168 D01 Power Meas License Digital System V02r02”. Due to very minimal power difference (only few hundredths of a dB) only mode 1 and mode 3 Radiated testing was conducted.

E(dBuV/m) = EIRP(dBm)-20log(D)+104.8, where D is the measurement distance in meters.

RESULTS

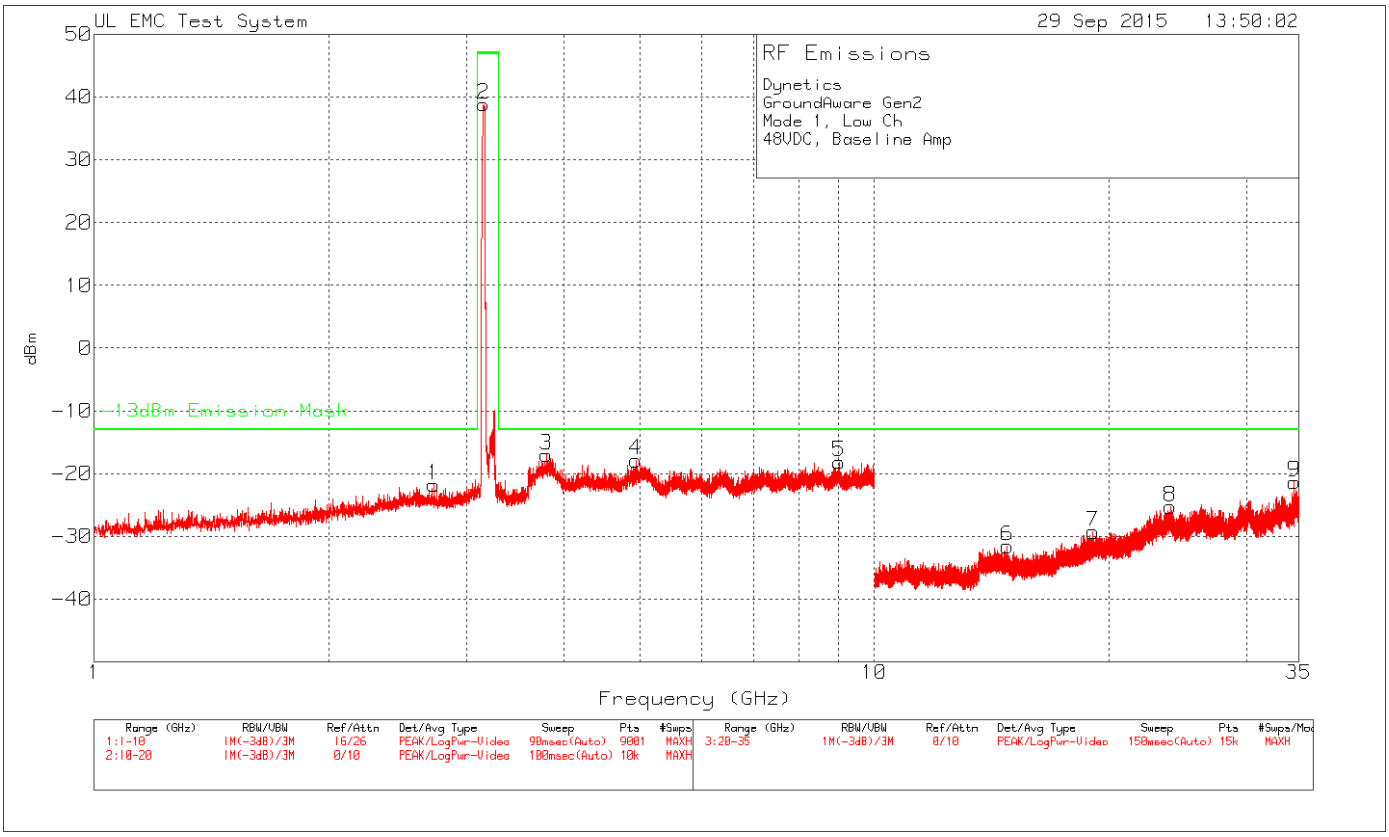
8.3.1. **Antenna Port Out of Band Emissions for Baseline Amp**

Mode 1, Low Channel, Below 1GHz - Data



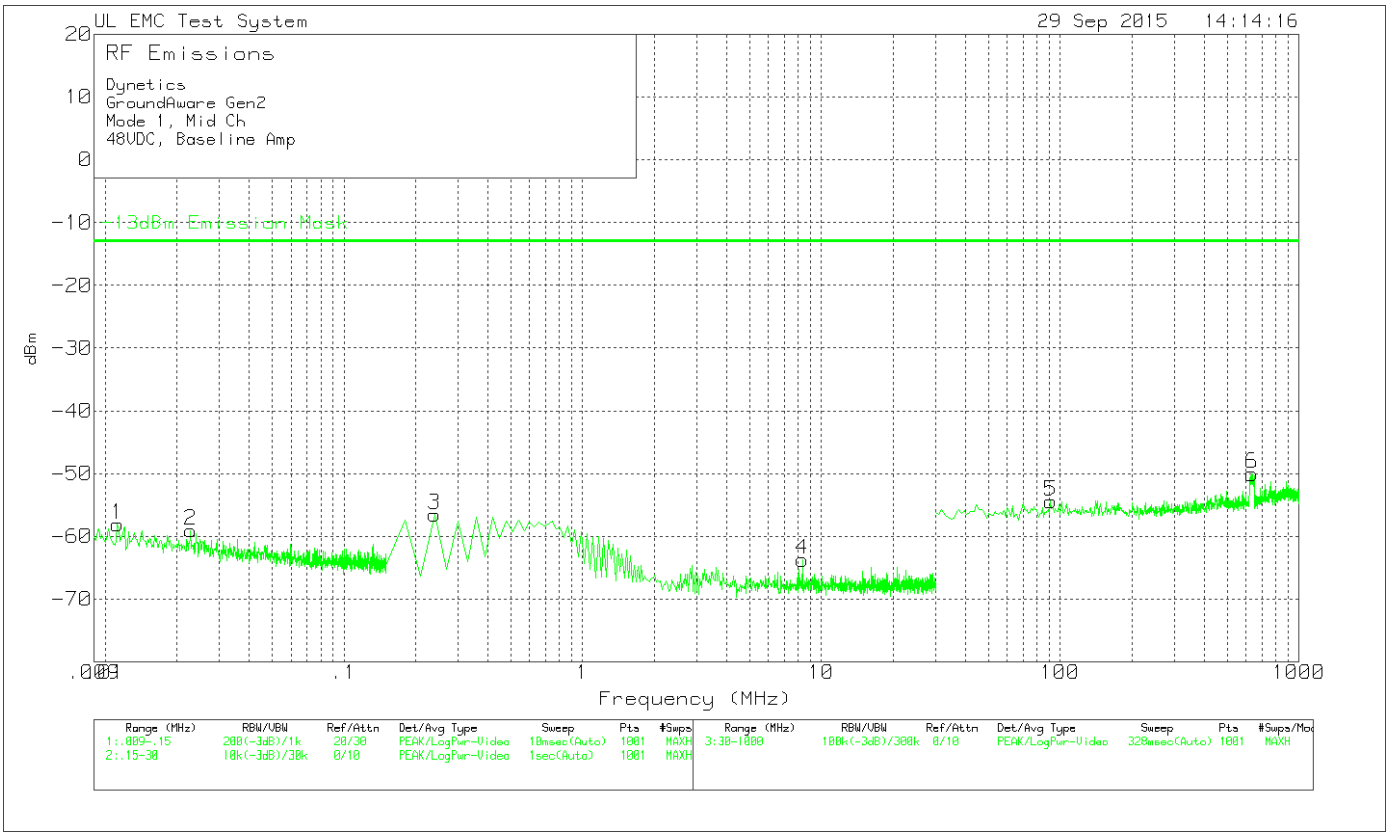
Dynetics							
GroundAware Gen2							
Mode 1, Low Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.010128	-86.84	Pk	28.7	-58.14	-13	-45.14
2	0.042276	-88.28	Pk	28.7	-59.58	-13	-46.58
3	0.29925	-87.7	Pk	28.8	-58.9	-13	-45.9
4	0.59775	-88.19	Pk	28.8	-59.39	-13	-46.39
5	3.3141	-94.35	Pk	29	-65.35	-13	-52.35
6	156.1	-83.13	Pk	29.4	-53.73	-13	-40.73
7	593.57	-81.09	Pk	29.8	-51.29	-13	-38.29
Pk - Peak detector							

Mode 1, Low Channel, Above 1GHz - Data



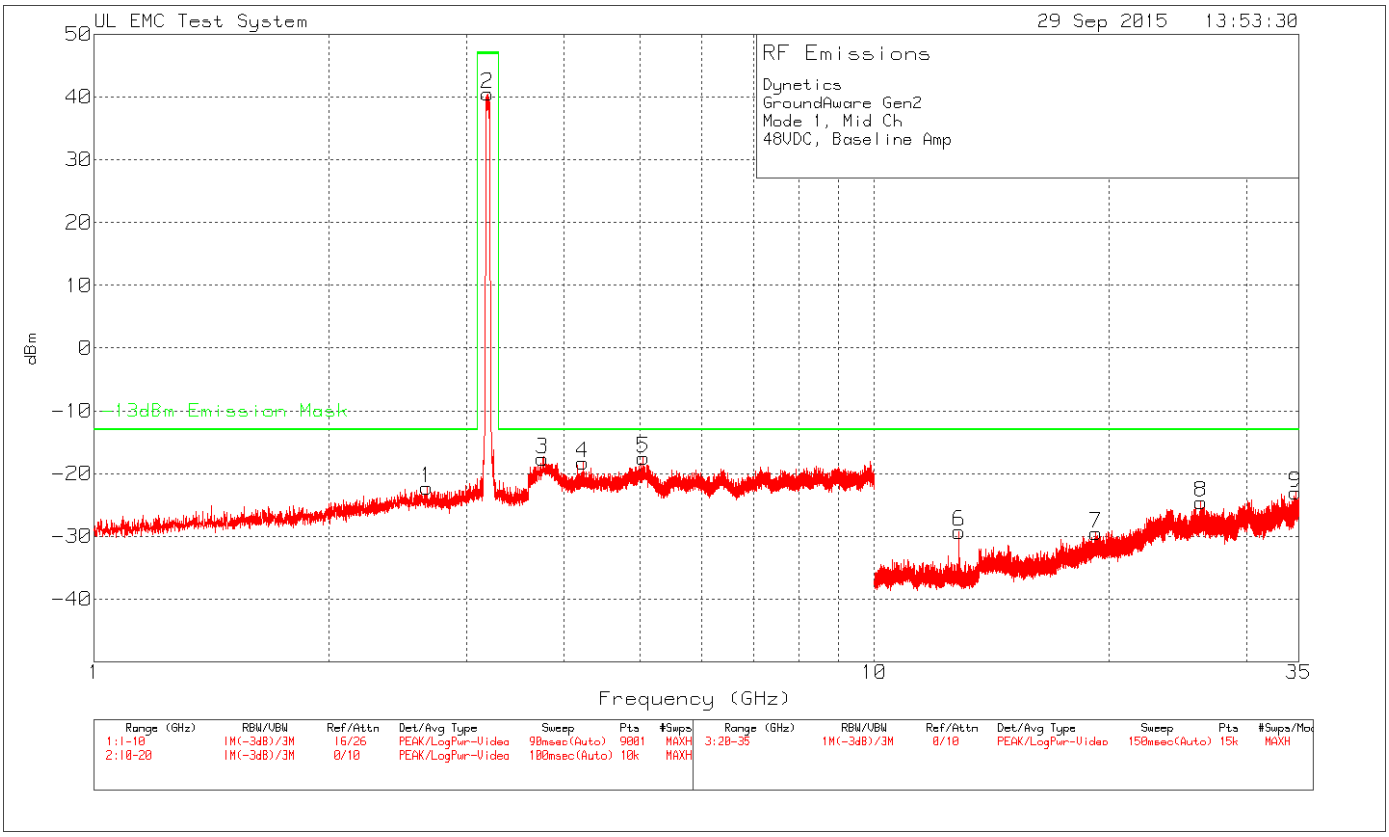
Dynetics							
GroundAware Gen2							
Mode 1, Low Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.725	-52.81	Pk	31	-21.8	-13	-8.81
2	3.155	7.66	Pk	31.2	38.86	47	-8.14
3	3.801	-48.46	Pk	31.4	-17.1	-13	-4.06
4	4.943	-49.61	Pk	31.7	-17.9	-13	-4.91
5	9.013	-51.06	Pk	32.9	-18.2	-13	-5.16
6	14.8	-66.09	Pk	34.5	-31.6	-13	-18.59
7	19.058	-64.89	Pk	35.6	-29.3	-13	-16.29
8	23.949	-62.9	Pk	37.6	-25.3	-13	-12.3
9	34.501	-59.31	Pk	38	-21.3	-13	-8.31
Pk - Peak detector							

Mode 1, Middle Channel, Below 1GHz - Data



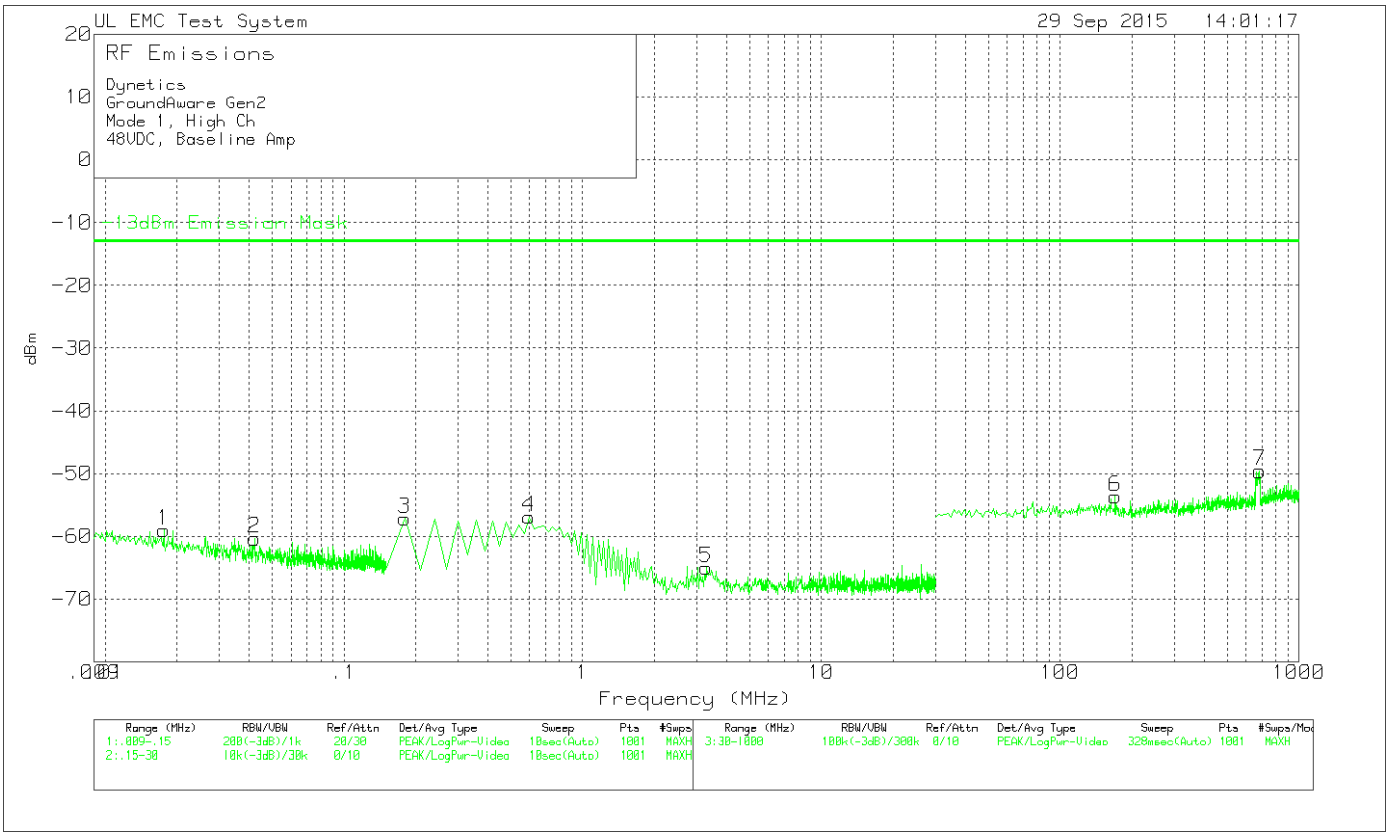
Dynetics							
GroundAware Gen2							
Mode 1, Mid Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.011256	-86.82	Pk	28.7	-58.12	-13	-45.12
2	0.022818	-87.8	Pk	28.7	-59.1	-13	-46.1
3	0.23955	-85.35	Pk	28.8	-56.55	-13	-43.55
4	8.3289	-92.74	Pk	29	-63.74	-13	-50.74
5	91.11	-83.73	Pk	29.3	-54.43	-13	-41.43
6	634.31	-79.96	Pk	29.9	-50.06	-13	-37.06
Pk - Peak detector							

Mode 1, Middle Channel, Above 1GHz - Data



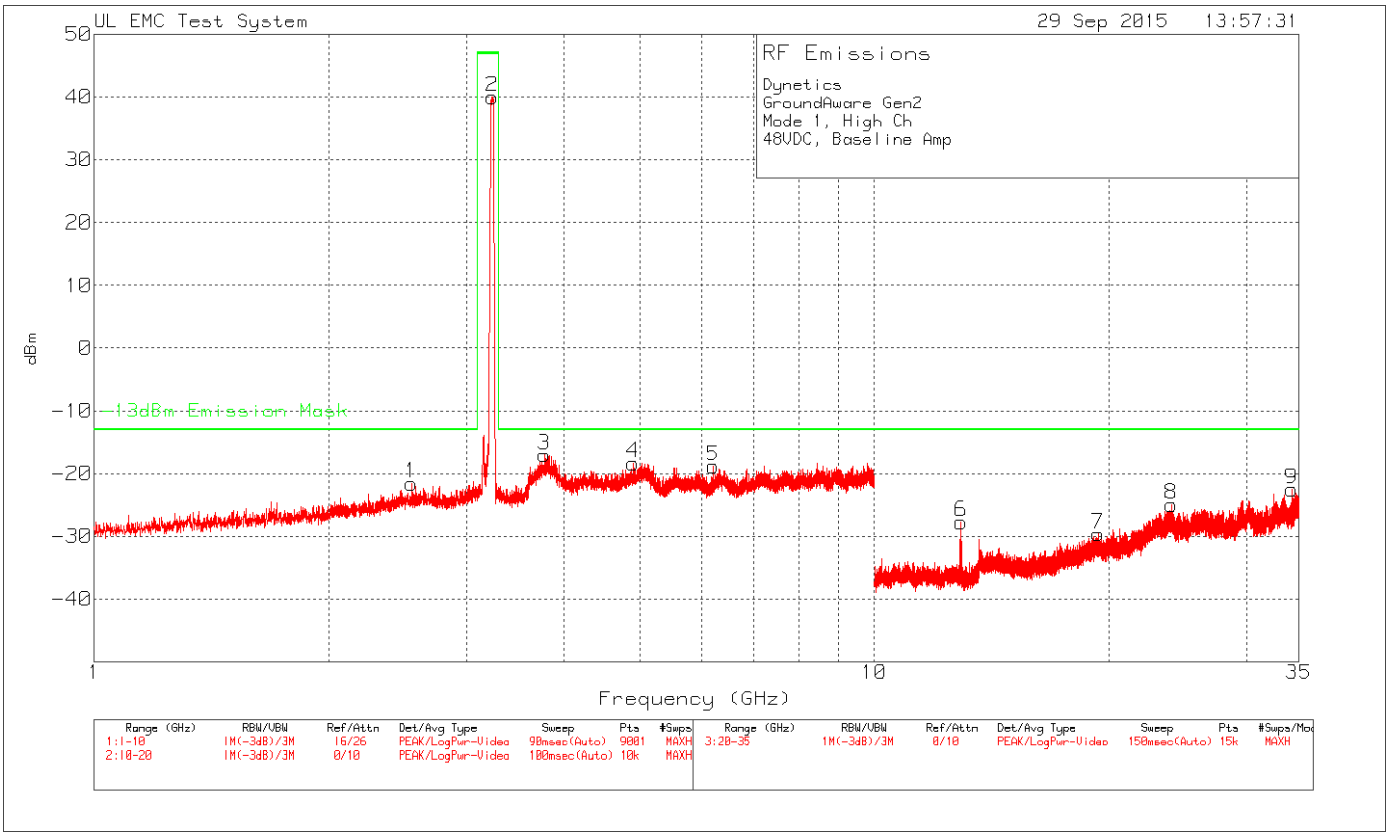
Dynetics							
GroundAware Gen2							
Mode 1, Mid Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.669	-53.27	Pk	31	-22.27	-13	-9.27
2	3.194	9.3	Pk	31.2	40.5	47	-6.5
3	3.756	-49.04	Pk	31.4	-17.64	-13	-4.64
4	4.23	-49.75	Pk	31.5	-18.25	-13	-5.25
5	5.052	-49.31	Pk	31.8	-17.51	-13	-4.51
6	12.839	-63.16	Pk	33.9	-29.26	-13	-16.26
7	19.219	-65.16	Pk	35.7	-29.46	-13	-16.46
8	26.206	-61.64	Pk	37.1	-24.54	-13	-11.54
9	34.652	-61.24	Pk	38.2	-23.04	-13	-10.04
Pk - Peak detector							

Mode 1, High Channel, Below 1GHz - Data



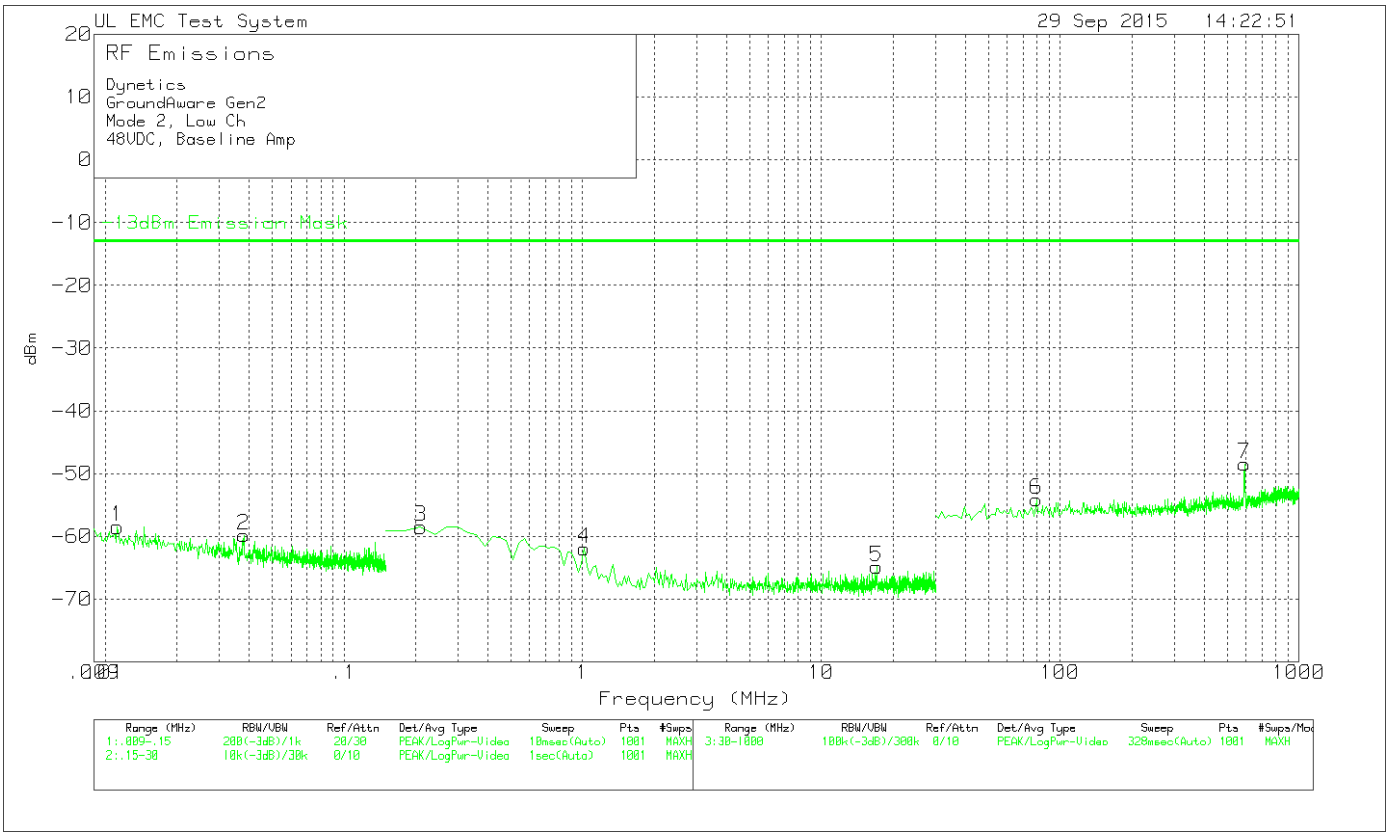
Dynetics							
GroundAware Gen2							
Mode 1, High Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.017601	-87.71	Pk	28.7	-59.01	-13	-46.01
2	0.042276	-89.03	Pk	28.7	-60.33	-13	-47.33
3	0.17985	-85.96	Pk	28.8	-57.16	-13	-44.16
4	0.59775	-85.72	Pk	28.8	-56.92	-13	-43.92
5	3.28425	-93.99	Pk	29	-64.99	-13	-51.99
6	169.68	-83.06	Pk	29.4	-53.66	-13	-40.66
7	683.78	-79.5	Pk	29.9	-49.6	-13	-36.6
Pk - Peak detector							

Mode 1, High Channel, Above 1GHz - Data



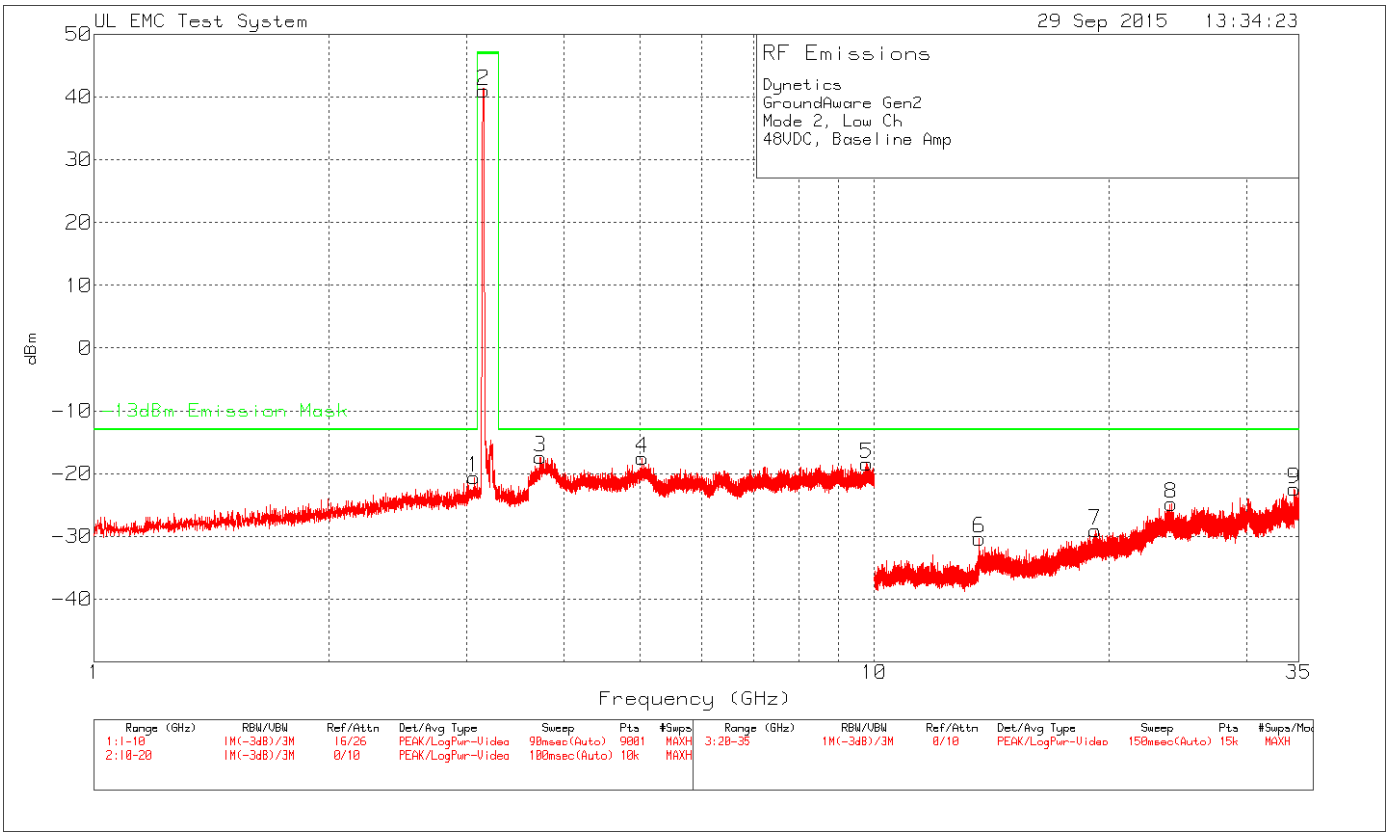
Dynetics							
GroundAware Gen2							
Mode 1, High Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.551	-52.48	Pk	30.9	-21.58	-13	-8.58
2	3.238	8.8	Pk	31.2	40	47	-7
3	3.774	-48.45	Pk	31.4	-17.05	-13	-4.05
4	4.908	-50.05	Pk	31.7	-18.35	-13	-5.35
5	6.216	-50.94	Pk	32.1	-18.84	-13	-5.84
6	12.907	-61.63	Pk	33.9	-27.73	-13	-14.73
7	19.351	-65.14	Pk	35.5	-29.64	-13	-16.64
8	24.035	-62.27	Pk	37.3	-24.97	-13	-11.97
9	34.273	-60.22	Pk	37.7	-22.52	-13	-9.52
Pk - Peak detector							

Mode 2, Low Channel, Below 1GHz Data



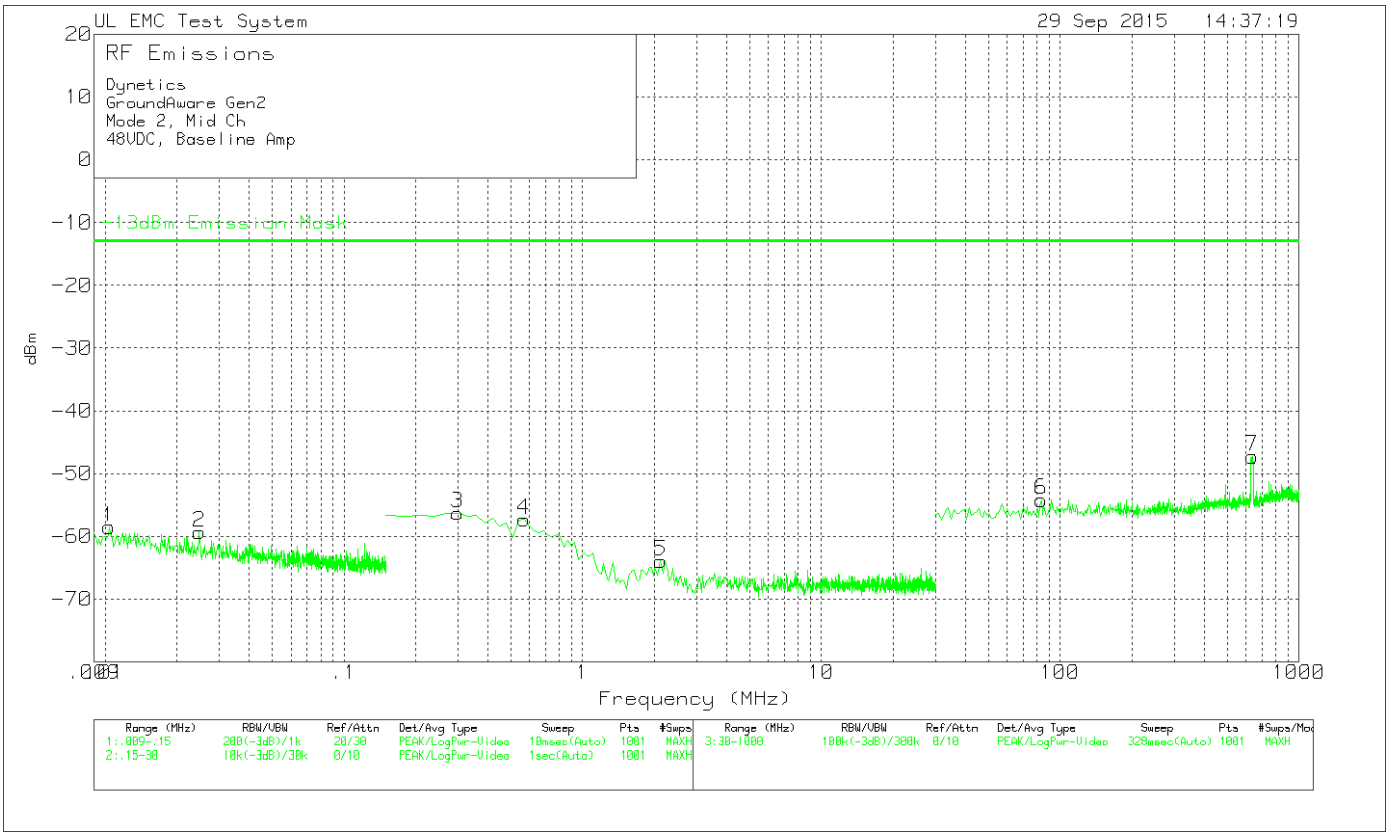
Dynetics							
GroundAware Gen2							
Mode 2, Low Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.011256	-87.21	Pk	28.7	-58.51	-13	-45.51
2	0.038046	-88.52	Pk	28.7	-59.82	-13	-46.82
3	0.2097	-87.29	Pk	28.8	-58.49	-13	-45.49
4	1.01565	-90.83	Pk	28.9	-61.93	-13	-48.93
5	17.07495	-93.97	Pk	29.1	-64.87	-13	-51.87
6	79.47	-83.33	Pk	29.2	-54.13	-13	-41.13
7	591.63	-78.29	Pk	29.8	-48.49	-13	-35.49
Pk - Peak detector							

Mode 2, Low Channel, Above 1GHz – Data



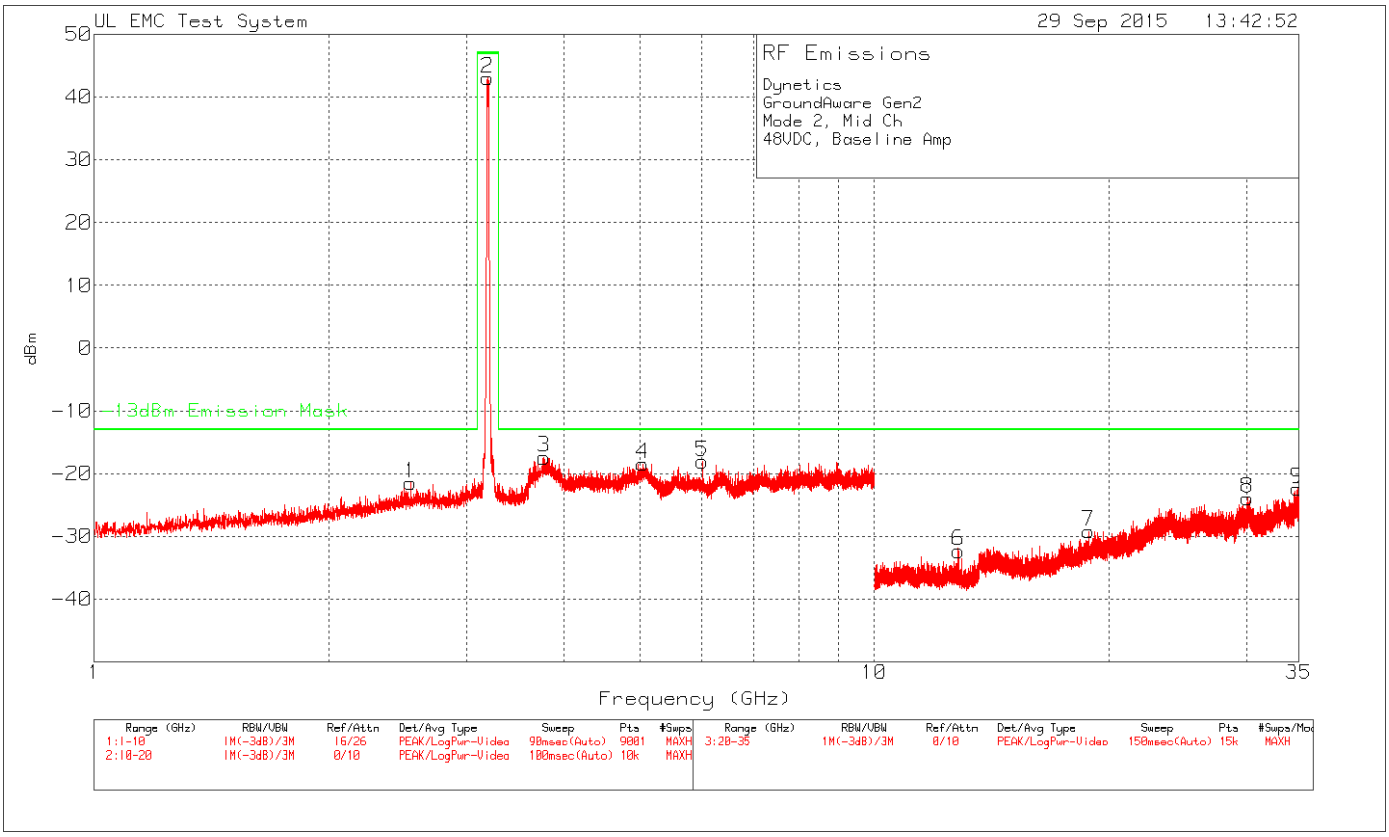
Dynetics							
GroundAware Gen2							
Mode 2, Low Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	3.067	-51.7	Pk	31.1	-20.6	-13	-7.6
2	3.152	9.83	Pk	31.2	41.03	47	-5.97
3	3.732	-48.82	Pk	31.4	-17.42	-13	-4.42
4	5.039	-49.36	Pk	31.8	-17.56	-13	-4.56
5	9.772	-51.52	Pk	33.1	-18.42	-13	-5.42
6	13.621	-64.44	Pk	34.1	-30.34	-13	-17.34
7	19.202	-64.77	Pk	35.7	-29.07	-13	-16.07
8	24.004	-62.31	Pk	37.5	-24.81	-13	-11.81
9	34.528	-60.38	Pk	37.9	-22.48	-13	-9.48
Pk - Peak detector							

Mode 2, Middle Channel, Below 1GHz – Data



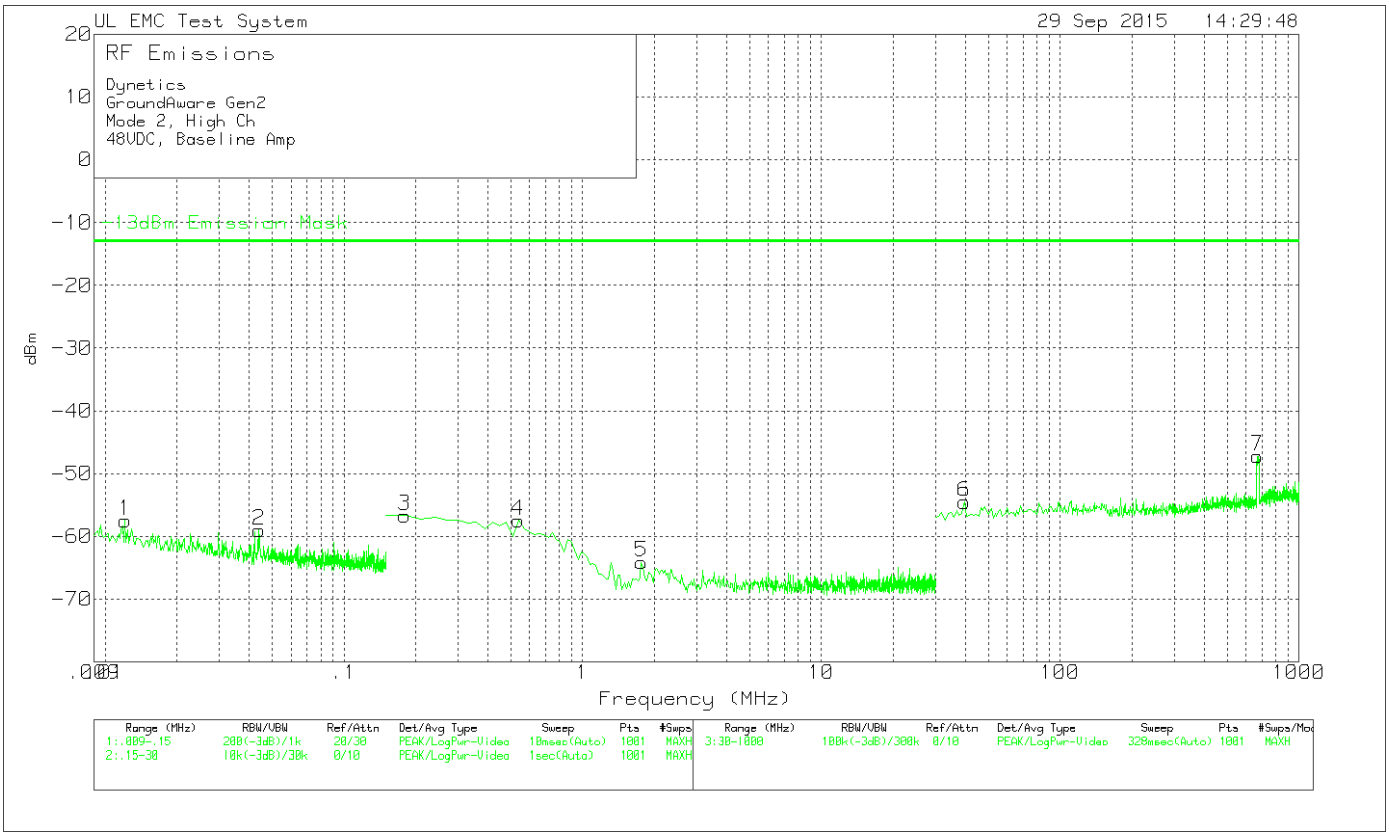
Dynetics							
GroundAware Gen2							
Mode 2, Mid Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.01041	-87.22	Pk	28.7	-58.5	-13	-45.52
2	0.024792	-88.05	Pk	28.7	-59.4	-13	-46.35
3	0.29925	-85.1	Pk	28.8	-56.3	-13	-43.3
4	0.5679	-86.13	Pk	28.8	-57.3	-13	-44.33
5	2.1201	-92.91	Pk	29	-63.9	-13	-50.91
6	83.35	-83.49	Pk	29.3	-54.2	-13	-41.19
7	639.16	-77.18	Pk	29.9	-47.3	-13	-34.28
Pk - Peak detector							

Mode 2, Middle Channel, Above 1GHz – Data



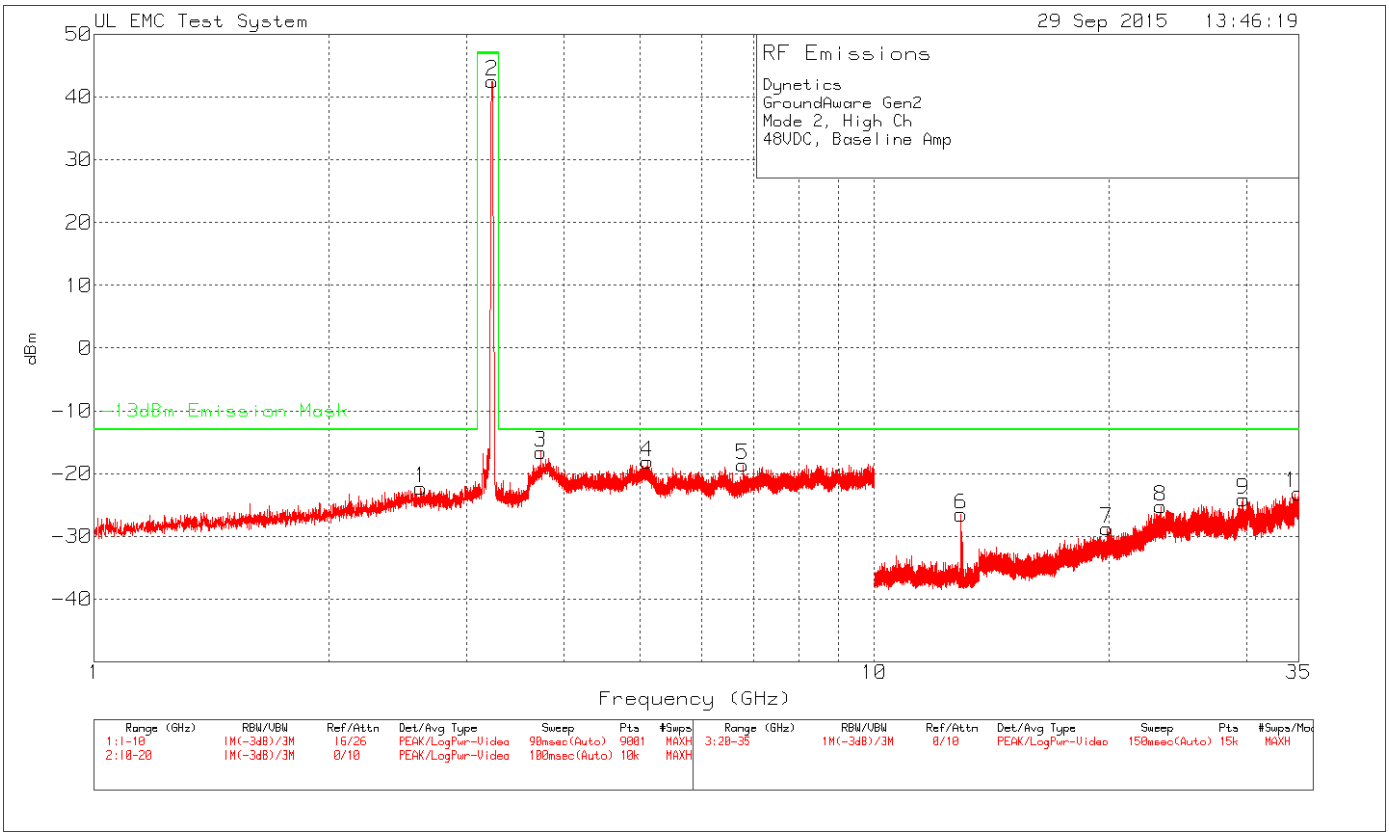
Dynetics							
GroundAware Gen2							
Mode 2, Mid Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.544	-52.48	Pk	31	-21.48	-13	-8.48
2	3.196	11.81	Pk	31.2	43.01	47	-3.99
3	3.772	-48.83	Pk	31.4	-17.43	-13	-4.43
4	5.05	-50.29	Pk	31.8	-18.49	-13	-5.49
5	6.017	-50.08	Pk	32	-18.08	-13	-5.08
6	12.809	-66.23	Pk	33.9	-32.33	-13	-19.33
7	18.818	-64.7	Pk	35.5	-29.2	-13	-16.2
8	30.09	-62.13	Pk	38.2	-23.93	-13	-10.93
9	34.841	-60.41	Pk	38	-22.41	-13	-9.41
Pk - Peak detector							

Mode 2, High Channel, Below 1GHz – Data



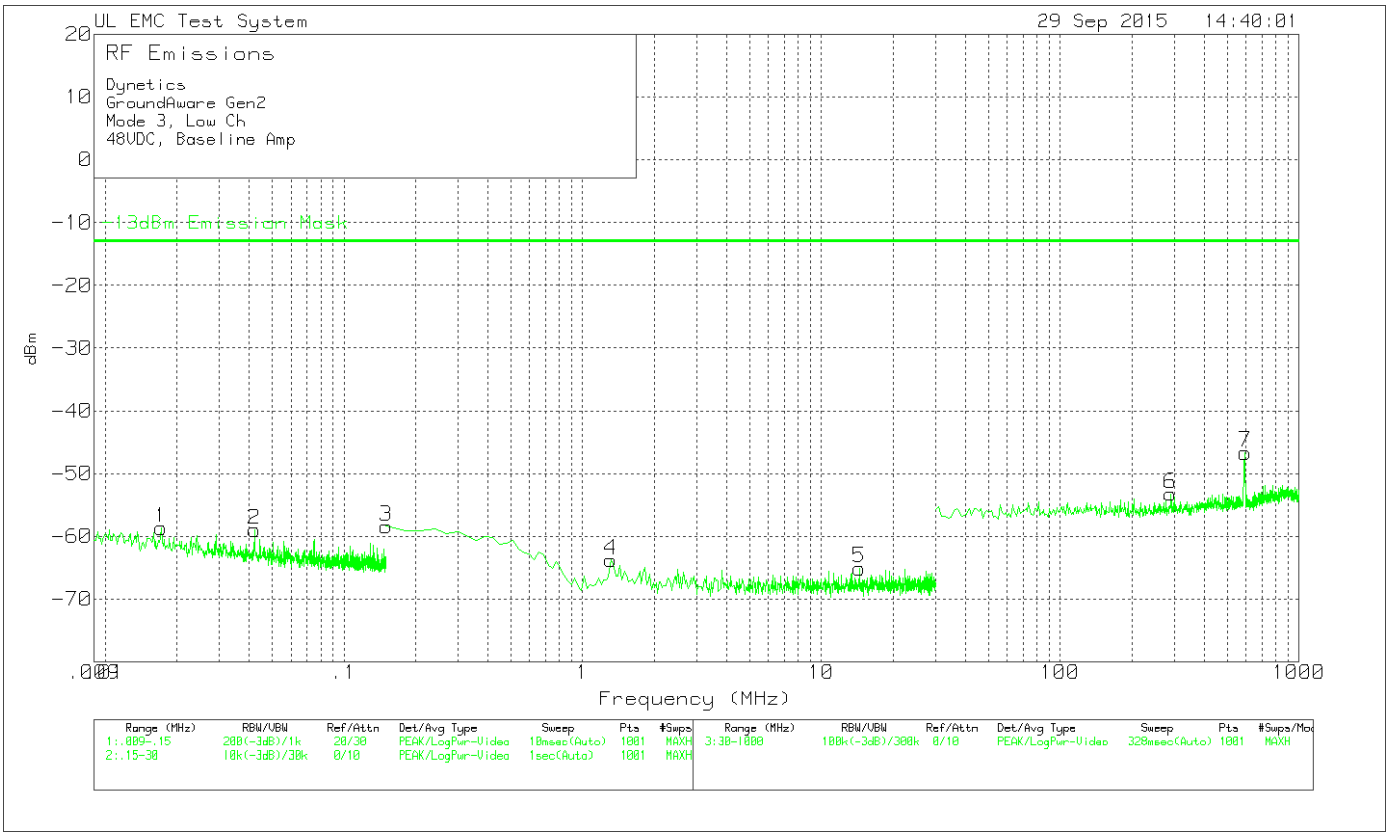
Dynetics							
GroundAware Gen2							
Mode 2, High Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.012102	-86.2	Pk	28.7	-57.5	-13	-44.5
2	0.044109	-87.73	Pk	28.7	-59.03	-13	-46.03
3	0.17985	-85.5	Pk	28.8	-56.7	-13	-43.7
4	0.53805	-86.27	Pk	28.8	-57.47	-13	-44.47
5	1.7619	-93.15	Pk	29	-64.15	-13	-51.15
6	39.7	-83.62	Pk	29.1	-54.52	-13	-41.52
7	670.2	-77.15	Pk	29.9	-47.25	-13	-34.25
Pk - Peak detector							

Mode 2, High Channel, Above 1GHz – Data



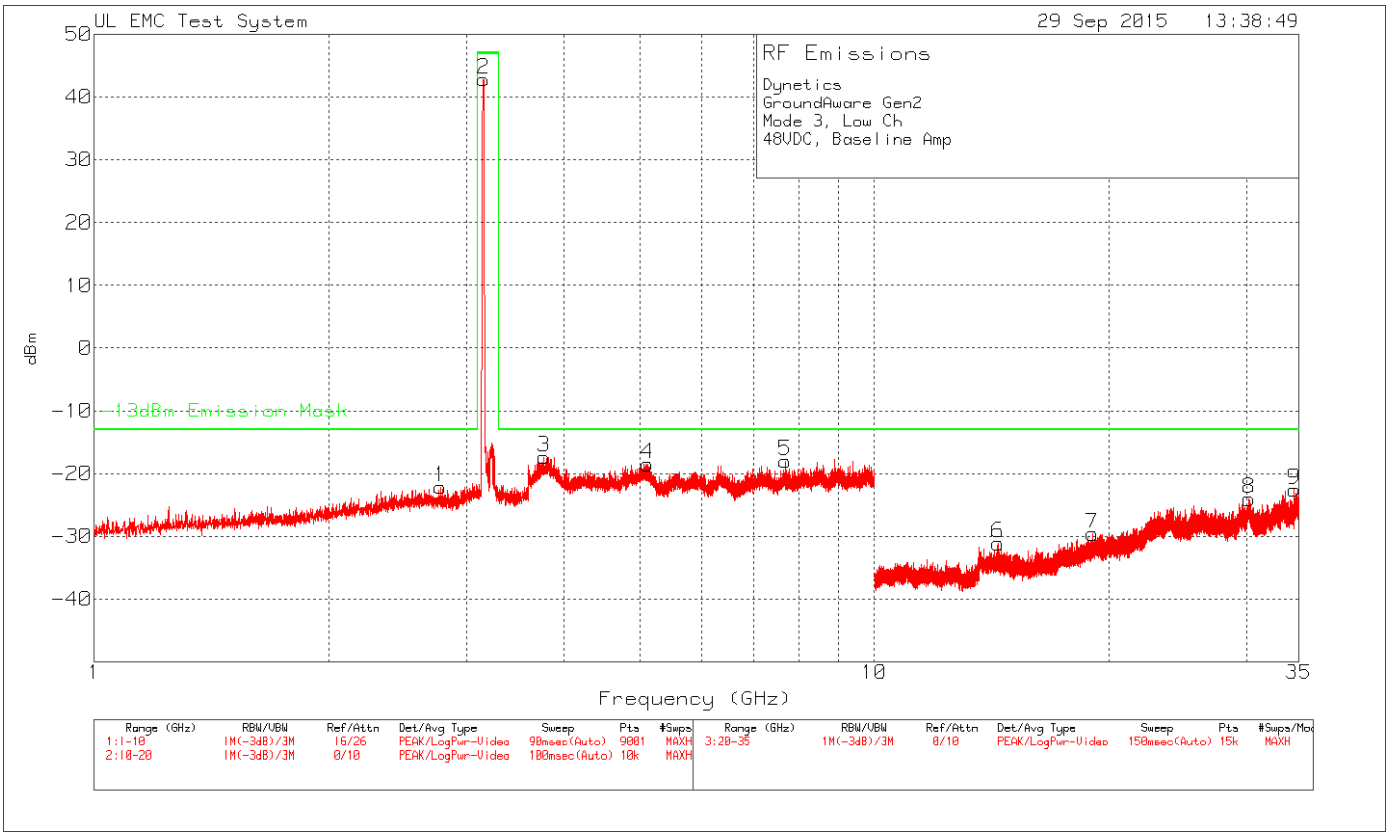
Dynetics							
GroundAware Gen2							
Mode 2, High Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.621	-53.31	Pk	31	-22.31	-13	-9.31
2	3.236	11.32	Pk	31.2	42.52	47	-4.48
3	3.737	-47.98	Pk	31.4	-16.58	-13	-3.58
4	5.118	-49.91	Pk	31.8	-18.11	-13	-5.11
5	6.782	-50.95	Pk	32.3	-18.65	-13	-5.65
6	12.912	-60.42	Pk	33.9	-26.52	-13	-13.52
7	19.862	-64.45	Pk	35.7	-28.75	-13	-15.75
8	23.292	-63.55	Pk	38.3	-25.25	-13	-12.25
9	29.681	-61.61	Pk	37.5	-24.11	-13	-11.11
10	34.982	-61.12	Pk	38	-23.12	-13	-10.12
Pk - Peak detector							

Mode 3, Low Channel, Below 1GHz – Data



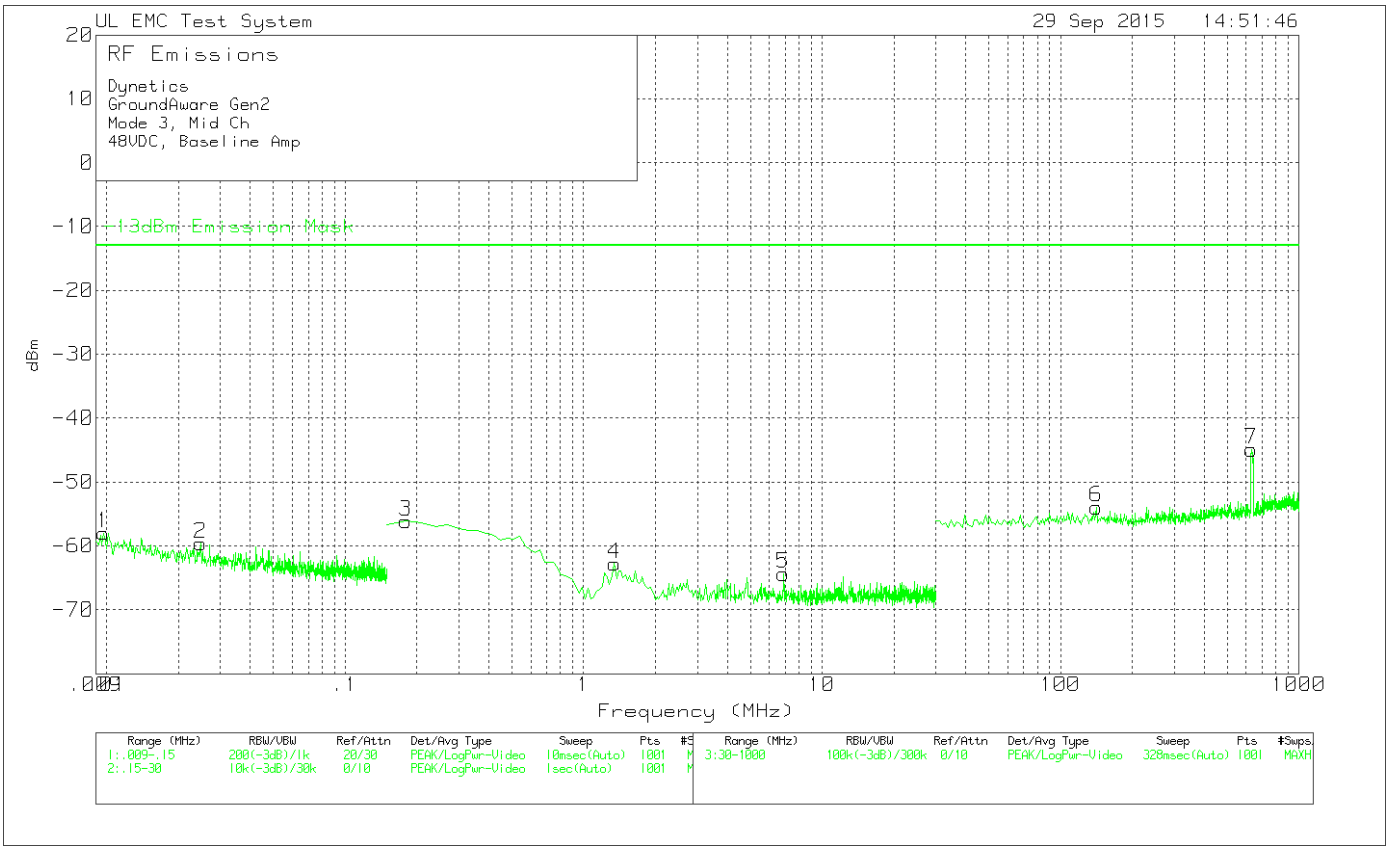
Dynetics							
GroundAware Gen2							
Mode 3, Low Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.017178	-87.37	Pk	28.7	-58.67	-13	-45.67
2	0.042276	-87.68	Pk	28.7	-58.98	-13	-45.98
3	0.15	-87.22	Pk	28.8	-58.42	-13	-45.42
4	1.31415	-92.67	Pk	28.9	-63.77	-13	-50.77
5	14.44815	-94.1	Pk	29	-65.1	-13	-52.1
6	289.96	-82.76	Pk	29.5	-53.26	-13	-40.26
7	594.54	-76.46	Pk	29.8	-46.66	-13	-33.66
Pk - Peak detector							

Mode 3, Low Channel, Above 1GHz – Data



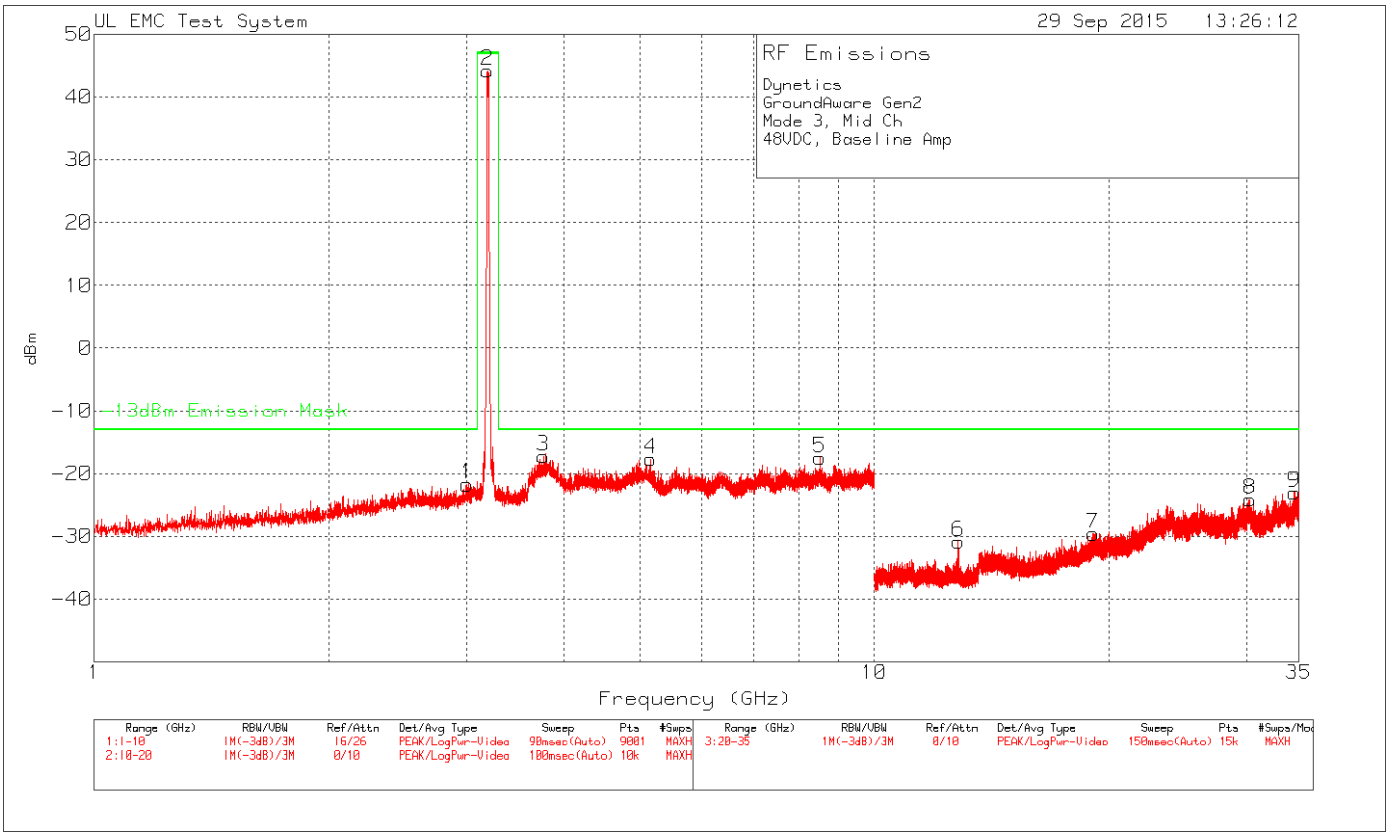
Dynetics							
GroundAware Gen2							
Mode 3, Low Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.779	-53.15	Pk	31	-22.15	-13	-9.15
2	3.156	11.63	Pk	31.2	42.83	47	-4.17
3	3.77	-48.8	Pk	31.4	-17.4	-13	-4.4
4	5.122	-50.32	Pk	31.8	-18.52	-13	-5.52
5	7.691	-50.49	Pk	32.5	-17.99	-13	-4.99
6	14.41	-65.4	Pk	34.3	-31.1	-13	-18.1
7	19.03	-65.19	Pk	35.6	-29.59	-13	-16.59
8	30.197	-62.34	Pk	38.3	-24.04	-13	-11.04
9	34.527	-60.47	Pk	37.9	-22.57	-13	-9.57
Pk - Peak detector							

Mode 3, Middle Channel, Below 1GHz – Data



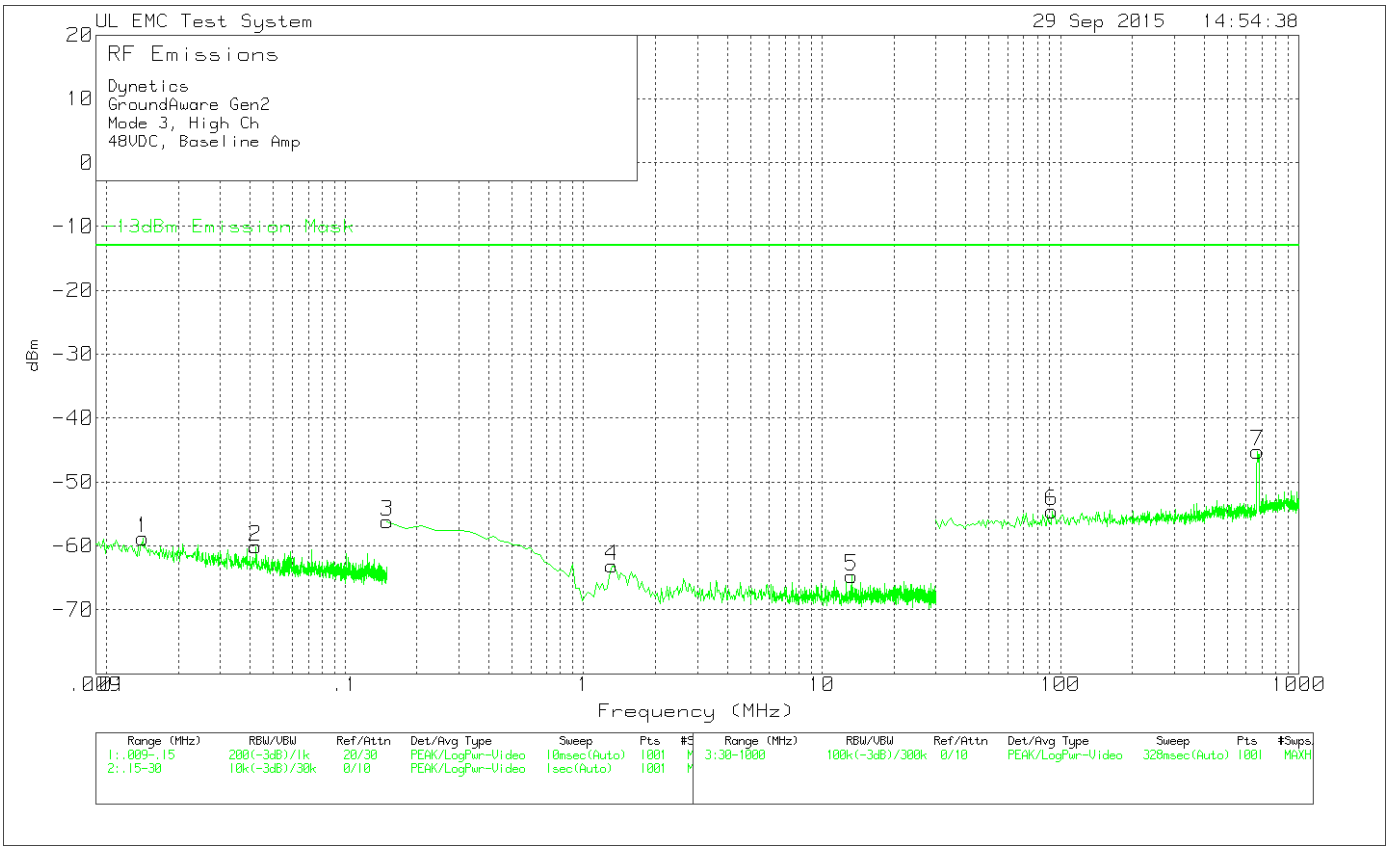
Dynetics							
GroundAware Gen2							
Mode 3, Mid Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.00971	-86.69	Pk	28.7	-58	-13	-44.99
2	0.02479	-88.32	Pk	28.7	-59.6	-13	-46.62
3	0.17985	-84.95	Pk	28.8	-56.2	-13	-43.15
4	1.344	-91.69	Pk	28.9	-62.8	-13	-49.79
5	6.8961	-93.38	Pk	29	-64.4	-13	-51.38
6	141.55	-83.35	Pk	29.4	-54	-13	-40.95
7	633.34	-74.85	Pk	29.9	-45	-13	-31.95
Pk - Peak detector							

Mode 3, Middle Channel, Above 1GHz – Data



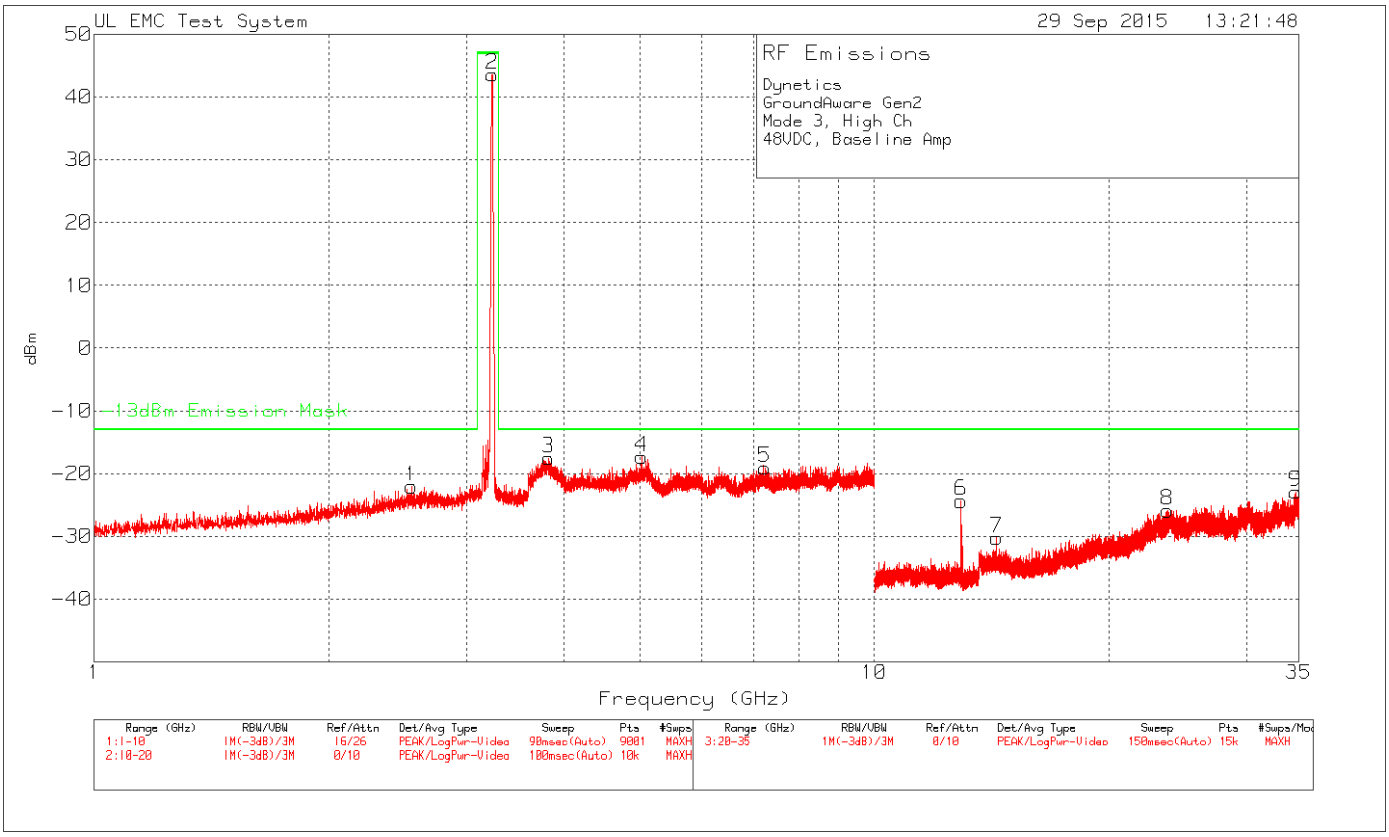
Dynetics							
GroundAware Gen2							
Mode 3, Mid Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	3.003	-52.84	Pk	31.1	-21.7	-13	-8.74
2	3.193	12.99	Pk	31.2	44.19	47	-2.81
3	3.764	-48.66	Pk	31.4	-17.3	-13	-4.26
4	5.167	-49.49	Pk	31.8	-17.7	-13	-4.69
5	8.514	-50.32	Pk	32.8	-17.5	-13	-4.52
6	12.806	-64.75	Pk	33.9	-30.9	-13	-17.85
7	19.076	-65.19	Pk	35.6	-29.6	-13	-16.59
8	30.274	-62.35	Pk	38.2	-24.2	-13	-11.15
9	34.508	-61.01	Pk	38	-23	-13	-10.01
Pk - Peak detector							

Mode 3, High Channel, Below 1GHz – Data



Dynetics							
GroundAware Gen2							
Mode 3, High Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.014217	-87.52	Pk	28.7	-58.82	-13	-45.82
2	0.042135	-88.8	Pk	28.7	-60.1	-13	-47.1
3	0.15	-84.97	Pk	28.8	-56.17	-13	-43.17
4	1.31415	-92.02	Pk	28.9	-63.12	-13	-50.12
5	13.3437	-93.74	Pk	29	-64.74	-13	-51.74
6	92.08	-83.86	Pk	29.3	-54.56	-13	-41.56
7	670.2	-75.11	Pk	29.9	-45.21	-13	-32.21
Pk - Peak detector							

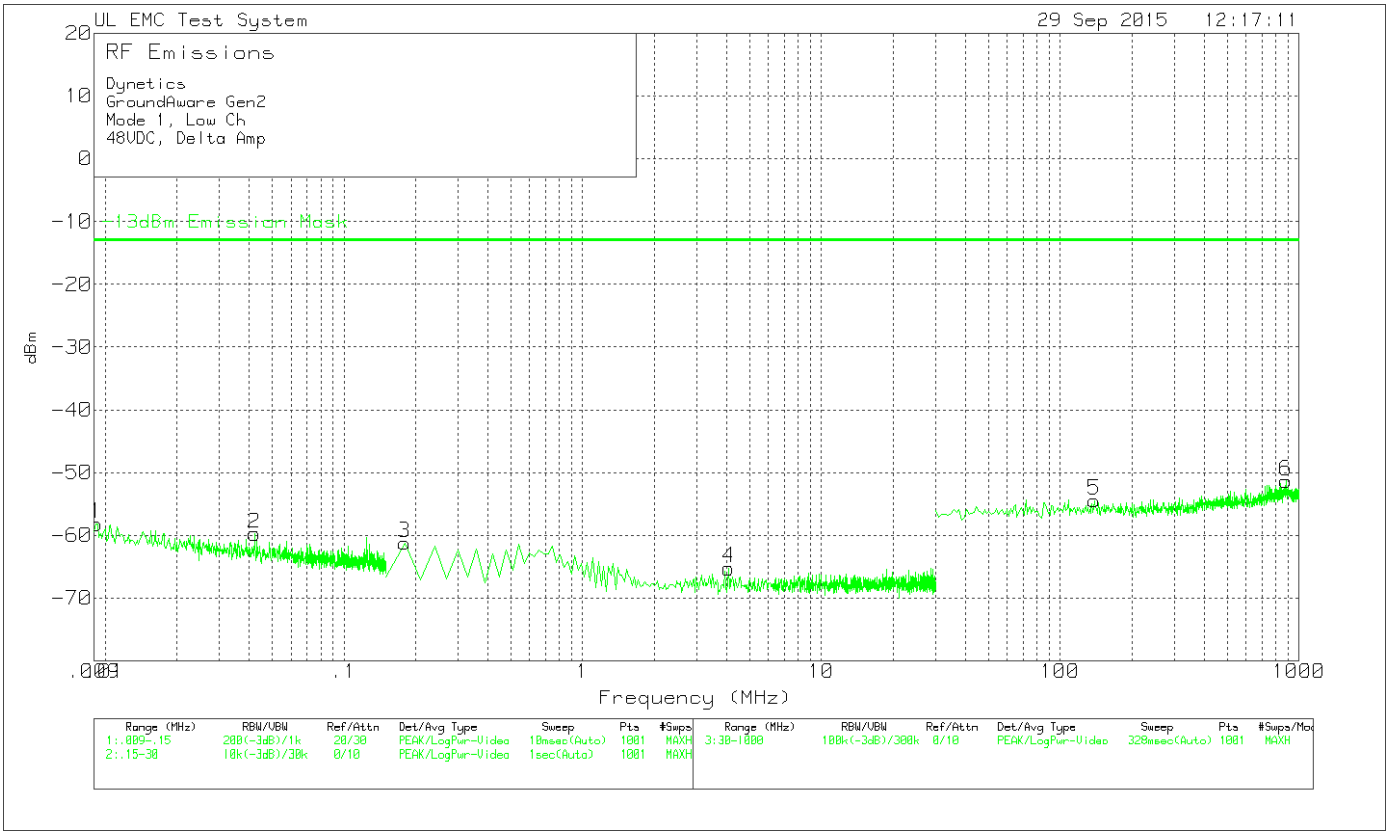
Mode 3, High Channel, Above 1GHz – Data



Dynetics							
GroundAware Gen2							
Mode 3, High Ch							
48VDC, Baseline Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.552	-52.96	Pk	30.9	-22.06	-13	-9.06
2	3.24	12.38	Pk	31.2	43.58	47	-3.42
3	3.823	-48.97	Pk	31.4	-17.57	-13	-4.57
4	5.036	-49.15	Pk	31.8	-17.35	-13	-4.35
5	7.237	-51.51	Pk	32.4	-19.11	-13	-6.11
6	12.907	-58.26	Pk	33.9	-24.36	-13	-11.36
7	14.337	-64.55	Pk	34.3	-30.25	-13	-17.25
8	23.732	-63.79	Pk	37.9	-25.89	-13	-12.89
9	34.668	-61.21	Pk	38.3	-22.91	-13	-9.91
Pk - Peak detector							

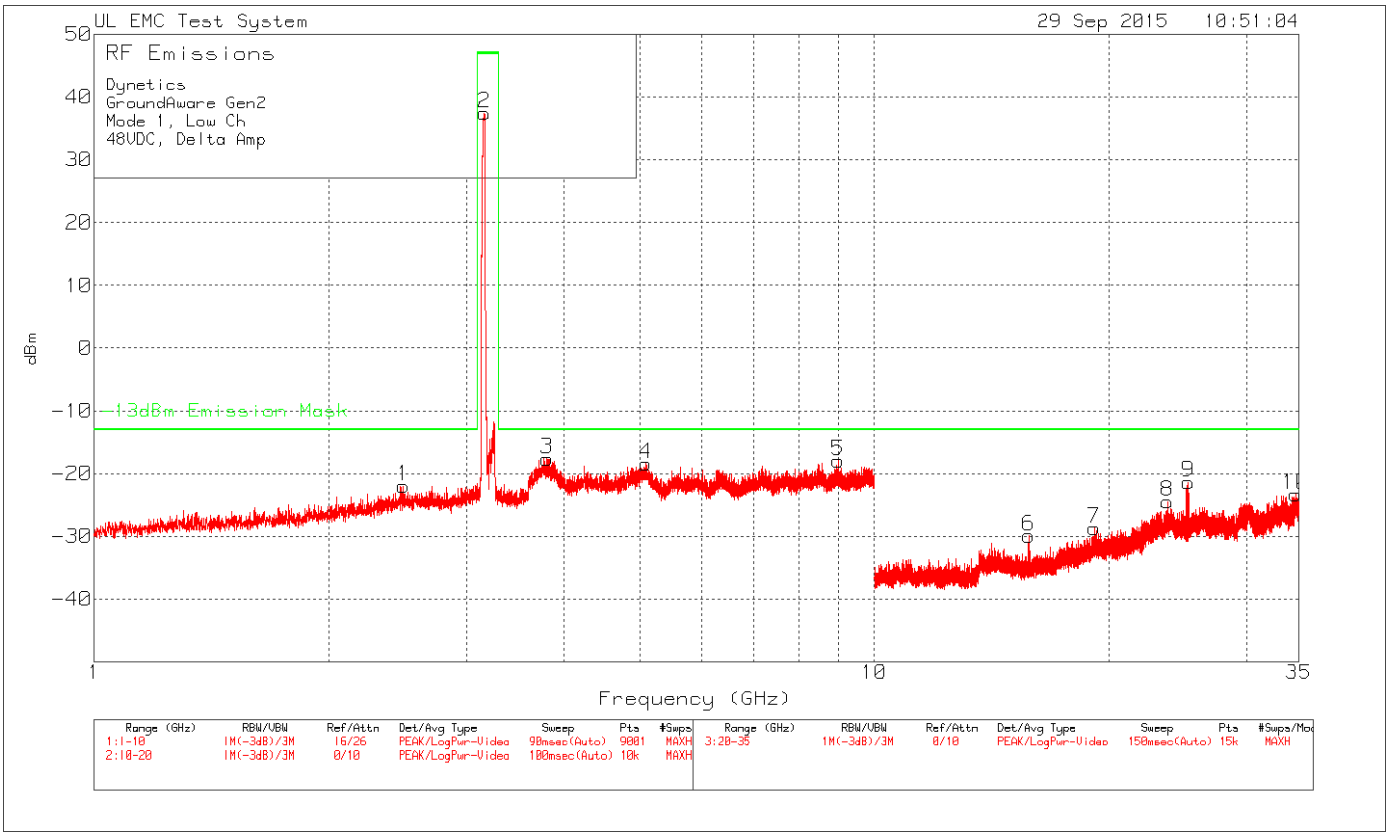
8.3.1. **Antenna Port Out of Band Emissions for Delta Amp**

Mode 1, Low Channel, Below 1GHz – Data



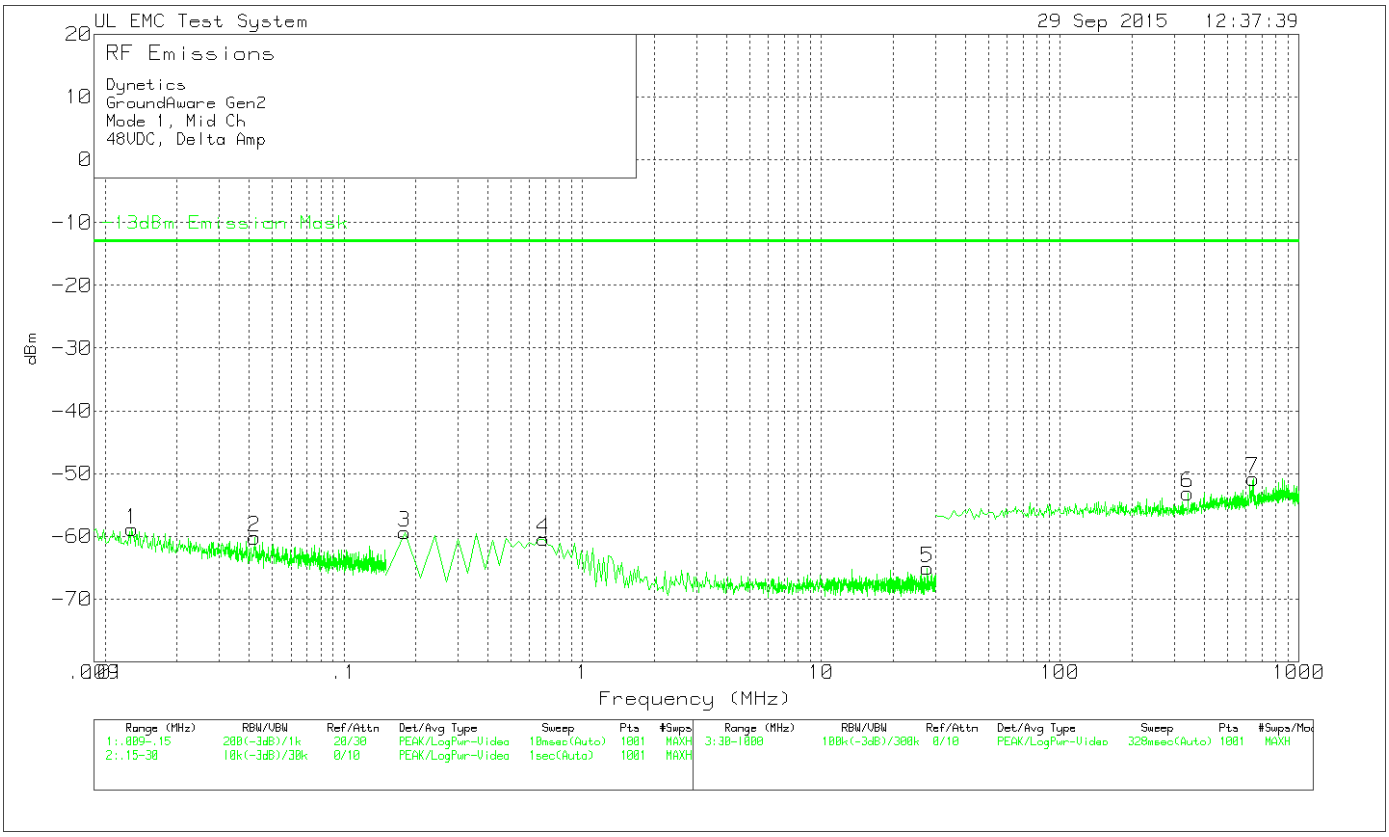
Dynetics							
GroundAware Gen2							
Mode 1, Low Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.00921	-86.89	Pk	28.7	-58.19	-13	-45.19
2	0.042276	-88.45	Pk	28.7	-59.75	-13	-46.75
3	0.17985	-90.04	Pk	28.8	-61.24	-13	-48.24
4	4.0902	-94.27	Pk	29	-65.27	-13	-52.27
5	138.64	-83.85	Pk	29.4	-54.45	-13	-41.45
6	880.69	-81.32	Pk	30	-51.32	-13	-38.32
Pk - Peak detector							

Mode 1, Low Channel, Above 1GHz – Data



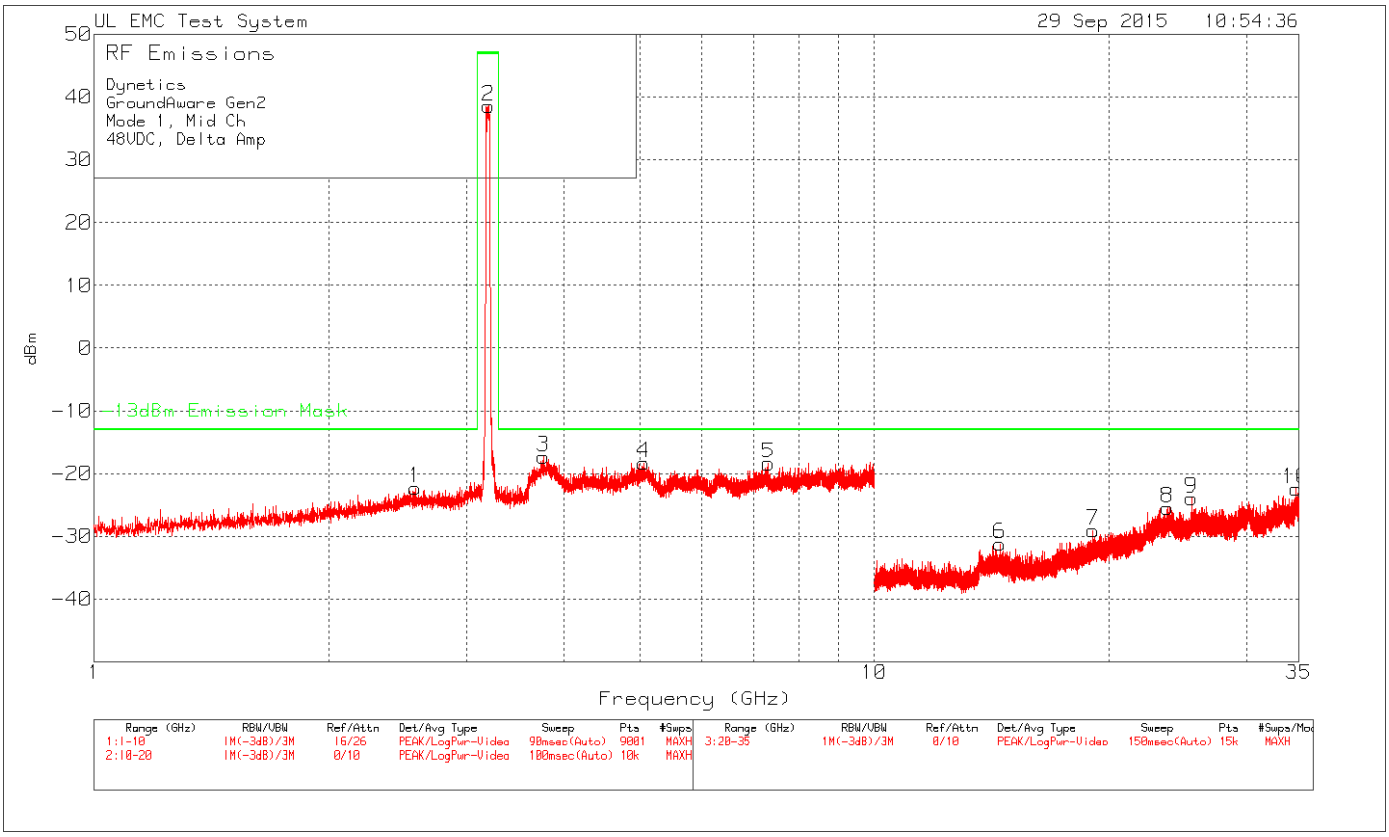
Dynetics							
GroundAware Gen2							
Mode 1, Low Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.49	-52.88	Pk	30.9	-21.98	-13	-8.98
2	3.161	6.27	Pk	31.2	37.47	47	-9.53
3	3.804	-49.04	Pk	31.4	-17.64	-13	-4.64
4	5.094	-50.21	Pk	31.8	-18.41	-13	-5.41
5	8.986	-50.87	Pk	32.9	-17.97	-13	-4.97
6	15.766	-64.61	Pk	34.7	-29.91	-13	-16.91
7	19.12	-64.22	Pk	35.5	-28.72	-13	-15.72
8	23.734	-62.35	Pk	37.9	-24.45	-13	-11.45
9	25.252	-58.3	Pk	36.9	-21.4	-13	-8.4
10	34.657	-61.61	Pk	38.3	-23.31	-13	-10.31
Pk - Peak detector							

Mode 1, Middle Channel, Below 1GHz – Data



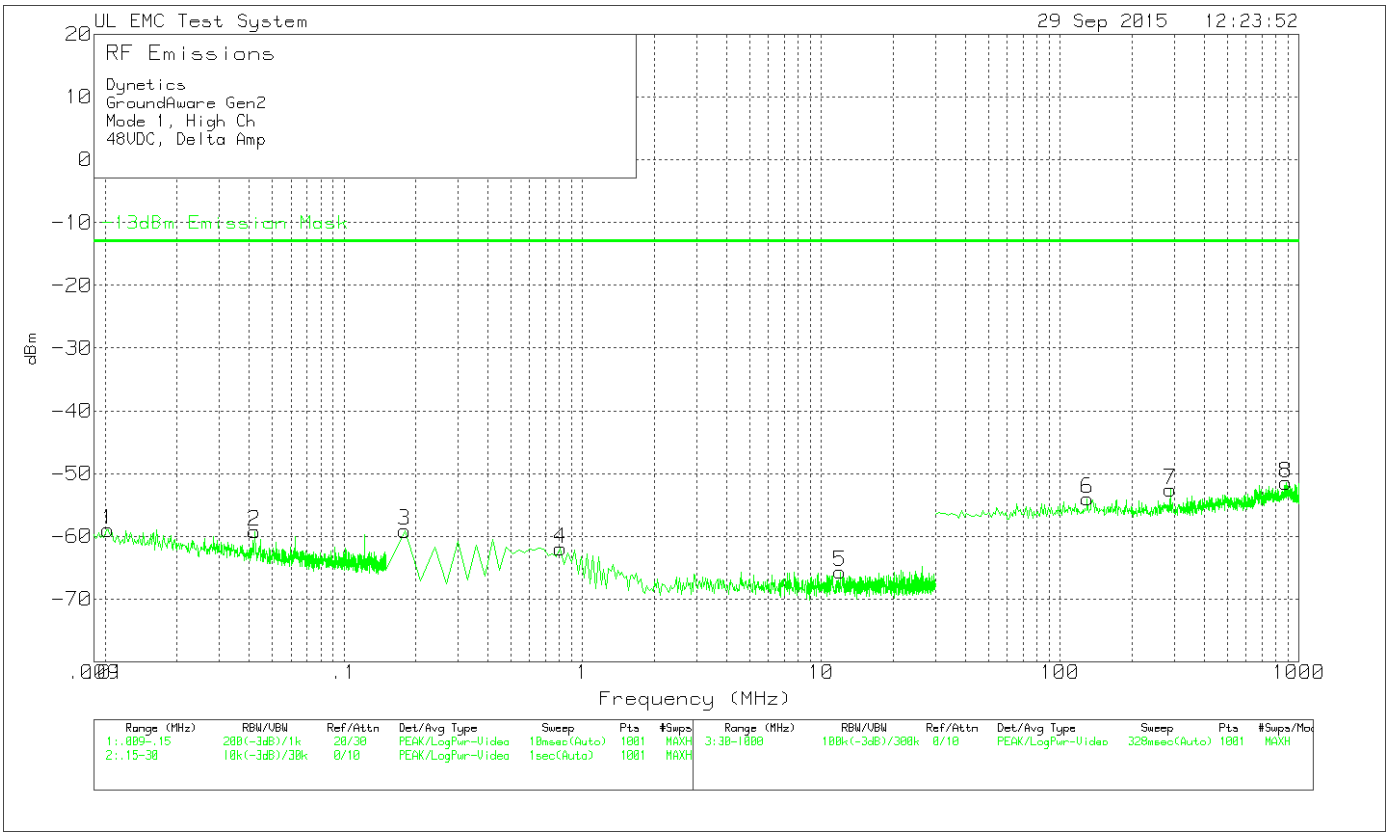
Dynetics							
GroundAware Gen2							
Mode 1, Mid Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.012948	-87.54	Pk	28.7	-58.84	-13	-45.84
2	0.042135	-88.88	Pk	28.7	-60.18	-13	-47.18
3	0.17985	-88.16	Pk	28.8	-59.36	-13	-46.36
4	0.6873	-89.23	Pk	28.8	-60.43	-13	-47.43
5	27.76125	-94.16	Pk	29.1	-65.06	-13	-52.06
6	342.34	-82.71	Pk	29.6	-53.11	-13	-40.11
7	642.07	-80.72	Pk	29.9	-50.82	-13	-37.82
Pk - Peak detector							

Mode 1, Middle Channel, Above 1GHz – Data



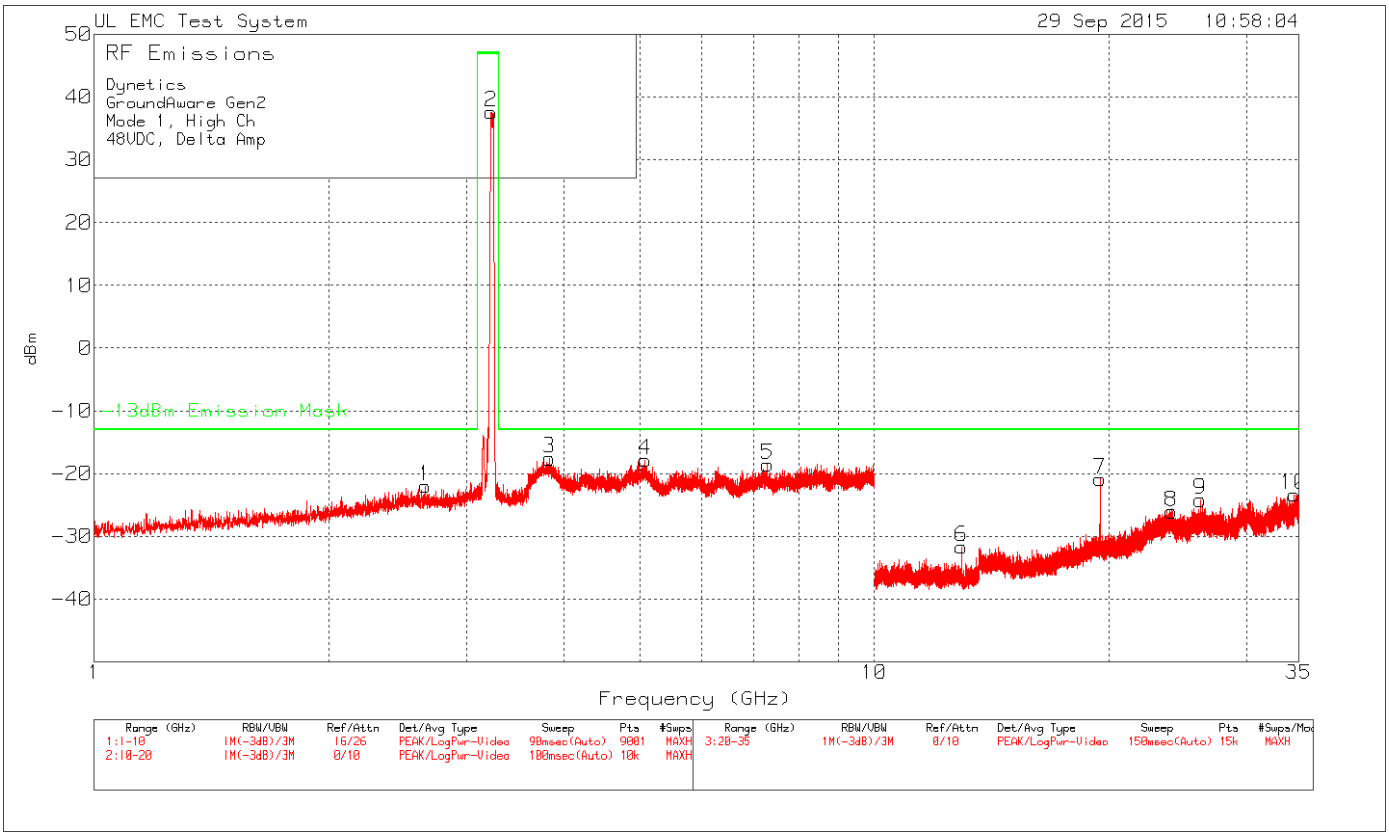
Dynetics							
GroundAware Gen2							
Mode 1, Mid Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.578	-53.29	Pk	31	-22.29	-13	-9.29
2	3.203	7.36	Pk	31.2	38.56	47	-8.44
3	3.764	-48.72	Pk	31.4	-17.32	-13	-4.32
4	5.065	-50.1	Pk	31.8	-18.3	-13	-5.3
5	7.31	-50.78	Pk	32.4	-18.38	-13	-5.38
6	14.478	-65.5	Pk	34.3	-31.2	-13	-18.2
7	19.056	-64.68	Pk	35.6	-29.08	-13	-16.08
8	23.745	-63.36	Pk	37.9	-25.46	-13	-12.46
9	25.478	-60.95	Pk	37	-23.95	-13	-10.95
10	34.701	-60.32	Pk	37.9	-22.42	-13	-9.42
Pk - Peak detector							

Mode 1, High Channel, Below 1GHz – Data



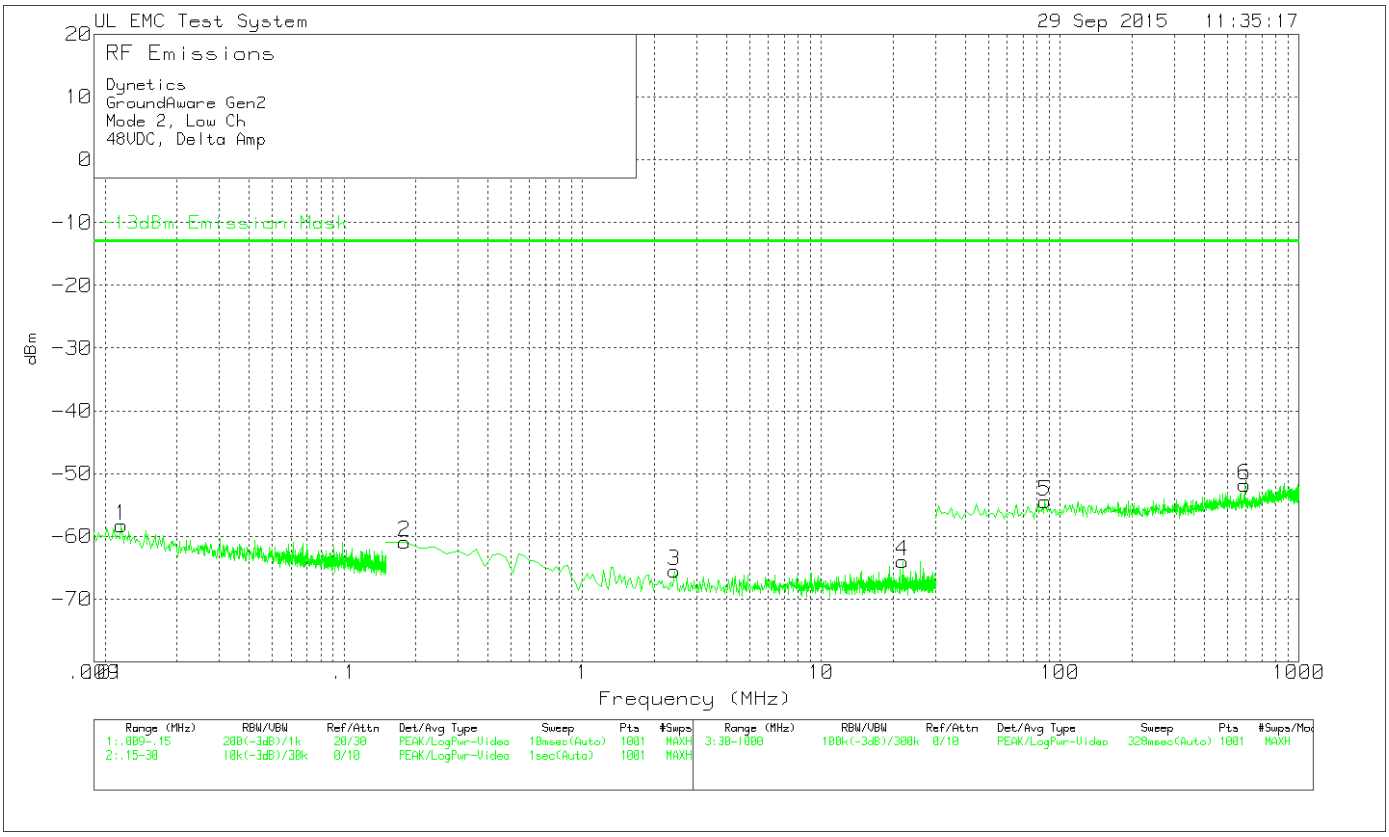
Dynetics							
GroundAware Gen2							
Mode 1, High Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.010269	-87.68	Pk	28.7	-58.98	-13	-45.98
2	0.042276	-87.91	Pk	28.7	-59.21	-13	-46.21
3	0.17985	-87.91	Pk	28.8	-59.11	-13	-46.11
4	0.8067	-90.84	Pk	28.9	-61.94	-13	-48.94
5	11.94075	-94.65	Pk	29	-65.65	-13	-52.65
6	129.91	-83.32	Pk	29.3	-54.02	-13	-41.02
7	288.99	-82.05	Pk	29.5	-52.55	-13	-39.55
8	880.69	-81.46	Pk	30	-51.46	-13	-38.46
Pk - Peak detector							

Mode 1, High Channel, Above 1GHz – Data



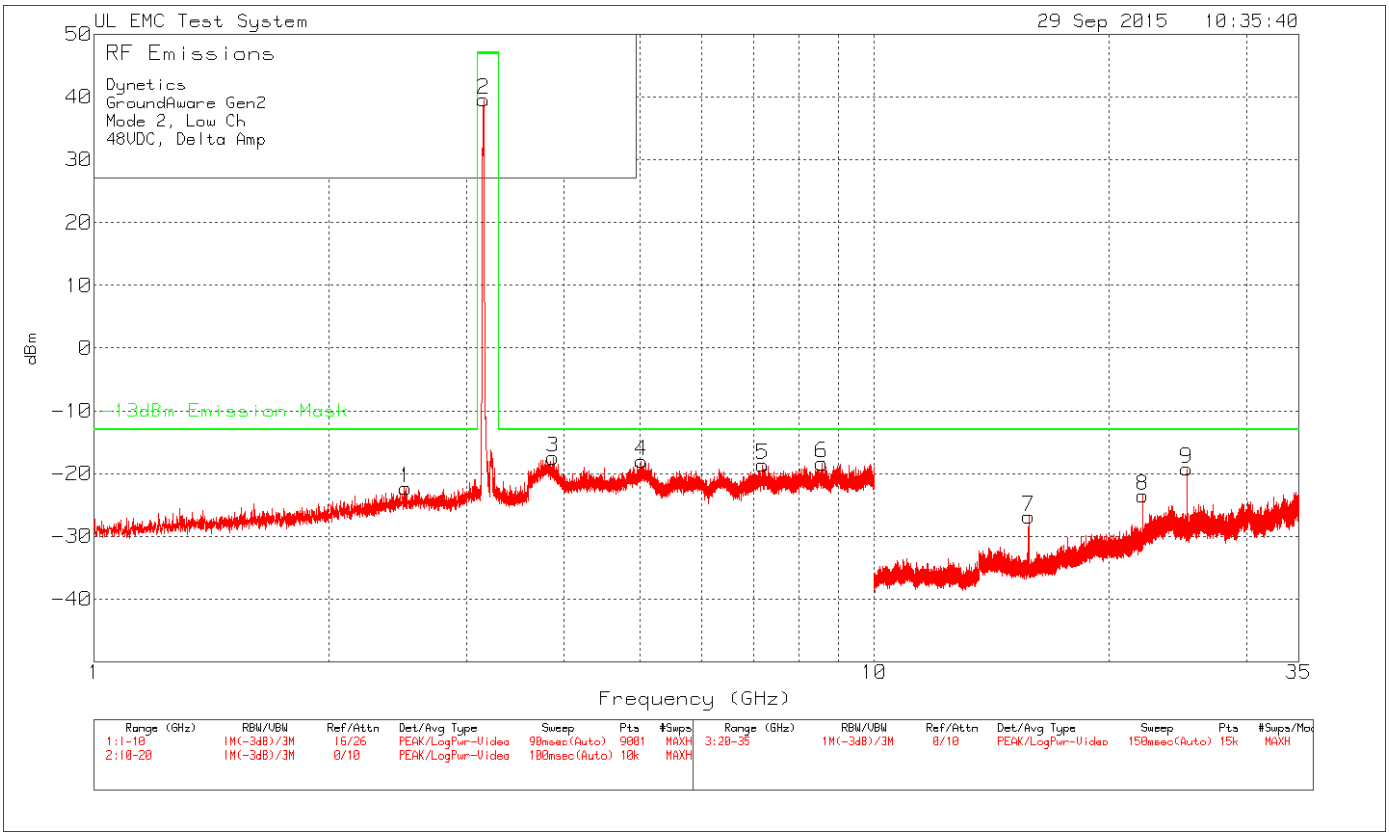
Dynetics							
GroundAware Gen2							
Mode 1, High Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.657	-53.03	Pk	31	-22.03	-13	-9.03
2	3.226	6.41	Pk	31.2	37.61	47	-9.39
3	3.834	-48.98	Pk	31.4	-17.58	-13	-4.58
4	5.082	-49.64	Pk	31.8	-17.84	-13	-4.84
5	7.293	-50.97	Pk	32.4	-18.57	-13	-5.57
6	12.93	-65.59	Pk	33.9	-31.69	-13	-18.69
7	19.478	-56.55	Pk	35.7	-20.85	-13	-7.85
8	24.028	-63.37	Pk	37.3	-26.07	-13	-13.07
9	26.164	-61.19	Pk	37	-24.19	-13	-11.19
10	34.506	-61.37	Pk	38	-23.37	-13	-10.37
Pk - Peak detector							

Mode 2, Low Channel, Below 1GHz – Data



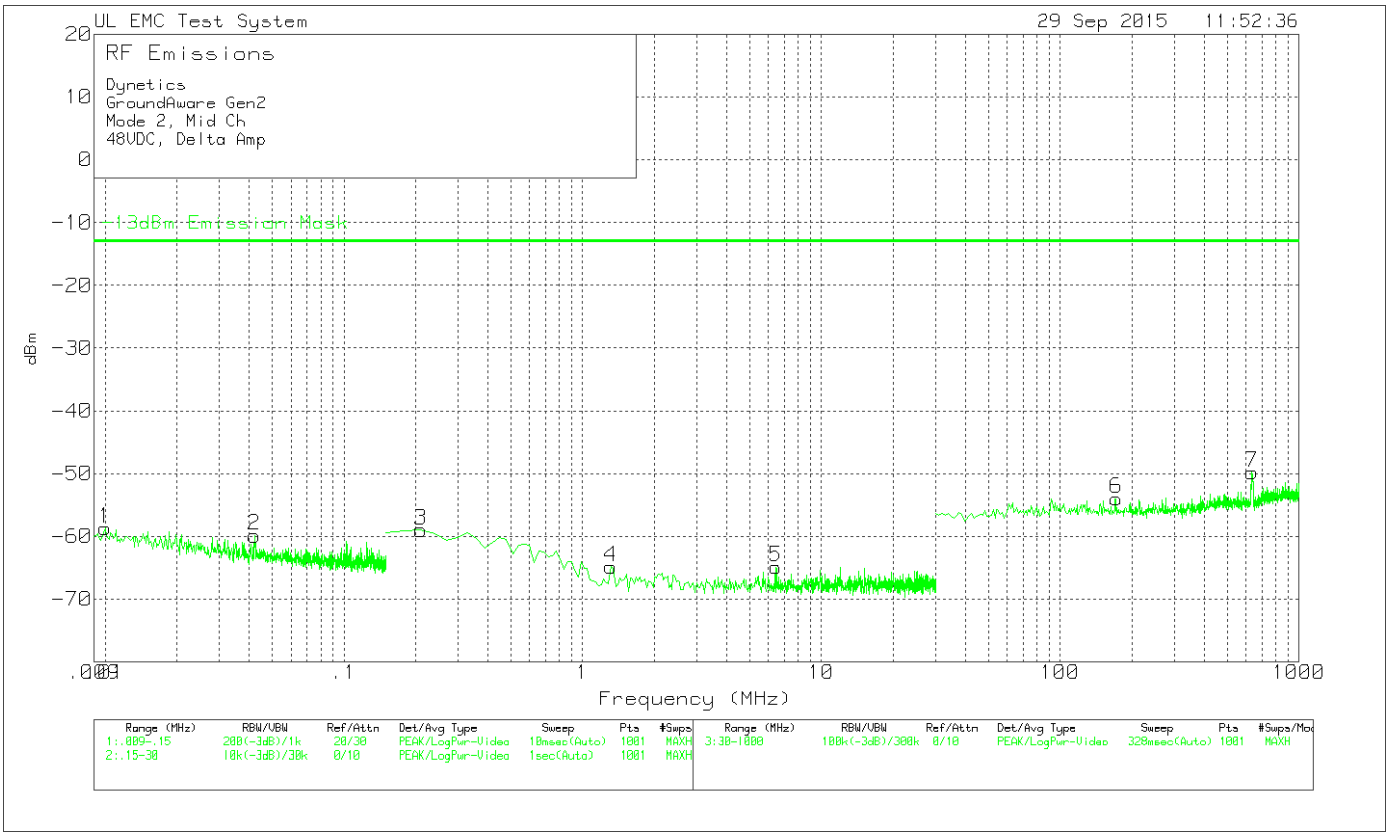
Dynetics							
GroundAware Gen2							
Mode 2, Low Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.011679	-86.94	Pk	28.7	-58.24	-13	-45.24
2	0.17985	-89.74	Pk	28.8	-60.94	-13	-47.94
3	2.4186	-94.5	Pk	29	-65.5	-13	-52.5
4	21.85095	-93.08	Pk	29.1	-63.98	-13	-50.98
5	86.26	-83.71	Pk	29.3	-54.41	-13	-41.41
6	592.6	-81.58	Pk	29.8	-51.78	-13	-38.78
Pk - Peak detector							

Mode 2, Low Channel, Above 1GHz – Data



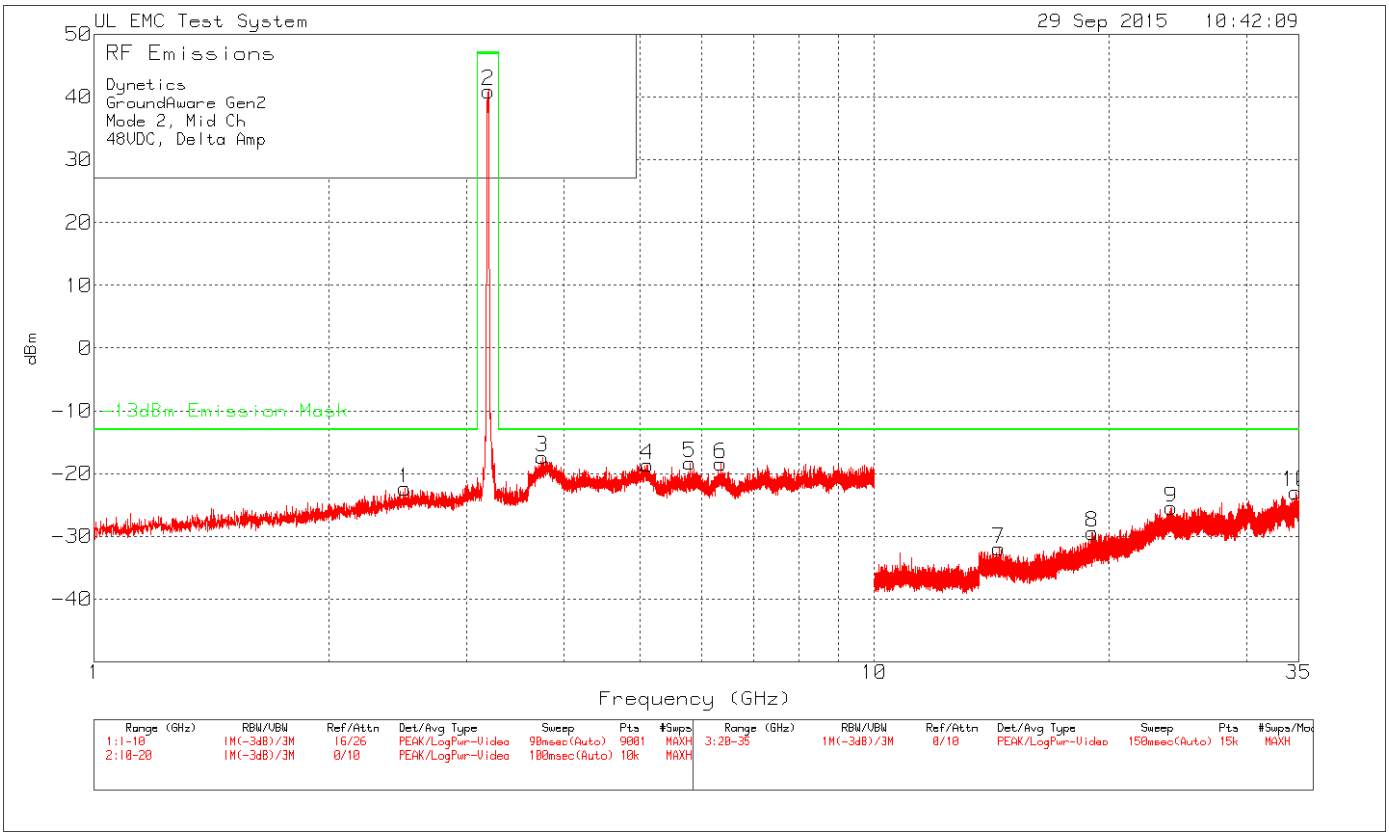
Dynetics							
GroundAware Gen2							
Mode 2, Low Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.509	-53.33	Pk	31	-22.33	-13	-9.33
2	3.156	8.39	Pk	31.2	39.59	47	-7.41
3	3.873	-48.86	Pk	31.4	-17.46	-13	-4.46
4	5.027	-49.83	Pk	31.8	-18.03	-13	-5.03
5	7.187	-51.02	Pk	32.4	-18.62	-13	-5.62
6	8.565	-51.17	Pk	32.8	-18.37	-13	-5.37
7	15.766	-61.54	Pk	34.7	-26.84	-13	-13.84
8	22.081	-60.21	Pk	36.7	-23.51	-13	-10.51
9	25.132	-56.12	Pk	36.9	-19.22	-13	-6.22
Pk - Peak detector							

Mode 2, Middle Channel, Below 1GHz – Data



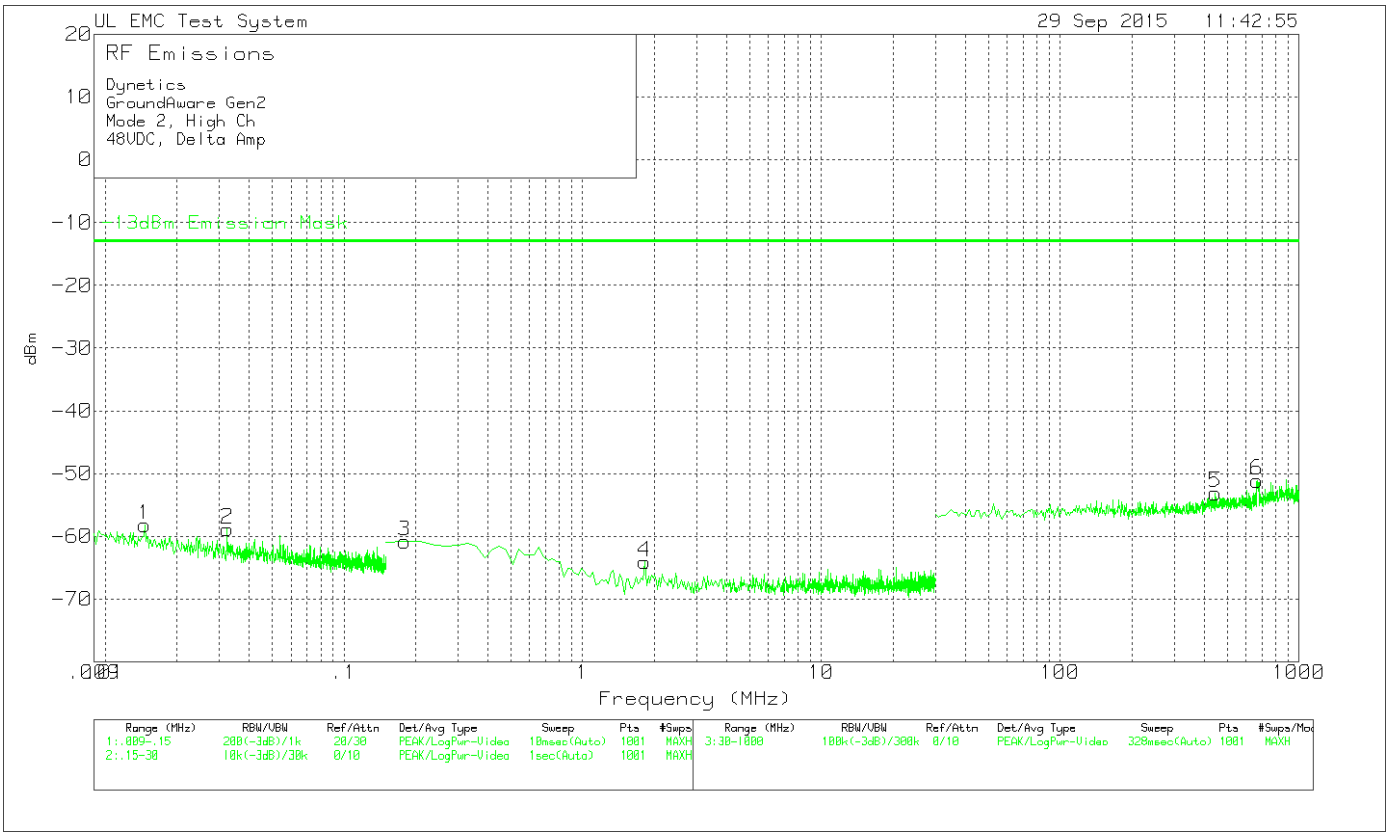
Dynetics							
GroundAware Gen2							
Mode 2, Mid Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.009987	-87.43	Pk	28.7	-58.73	-13	-45.73
2	0.042135	-88.58	Pk	28.7	-59.88	-13	-46.88
3	0.2097	-87.79	Pk	28.8	-58.99	-13	-45.99
4	1.31415	-93.74	Pk	28.9	-64.84	-13	-51.84
5	6.44835	-93.91	Pk	29	-64.91	-13	-51.91
6	171.62	-83.38	Pk	29.4	-53.98	-13	-40.98
7	634.31	-79.69	Pk	29.9	-49.79	-13	-36.79
Pk - Peak detector							

Mode 2, Middle Channel, Above 1GHz – Data



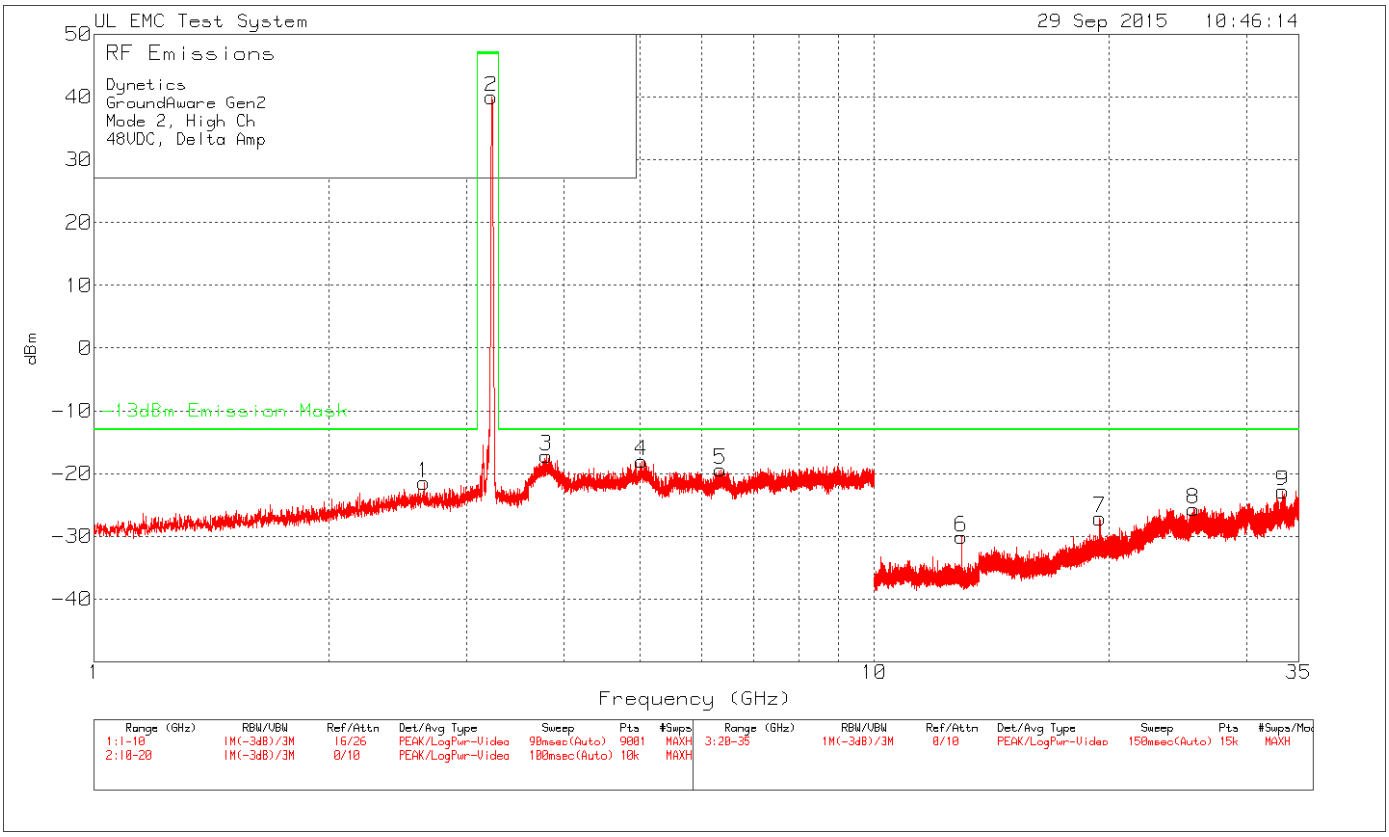
Dynetics							
GroundAware Gen2							
Mode 2, Mid Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.501	-53.37	Pk	31	-22.37	-13	-9.37
2	3.202	9.75	Pk	31.2	40.95	47	-6.05
3	3.753	-48.8	Pk	31.4	-17.4	-13	-4.4
4	5.122	-50.41	Pk	31.8	-18.61	-13	-5.61
5	5.805	-50.3	Pk	32	-18.3	-13	-5.3
6	6.358	-50.51	Pk	32.1	-18.41	-13	-5.41
7	14.446	-66.21	Pk	34.3	-31.91	-13	-18.91
8	19.036	-65.03	Pk	35.6	-29.43	-13	-16.43
9	24.016	-62.85	Pk	37.4	-25.45	-13	-12.45
10	34.657	-61.28	Pk	38.3	-22.98	-13	-9.98
Pk - Peak detector							

Mode 2, High Channel, Below 1GHz – Data



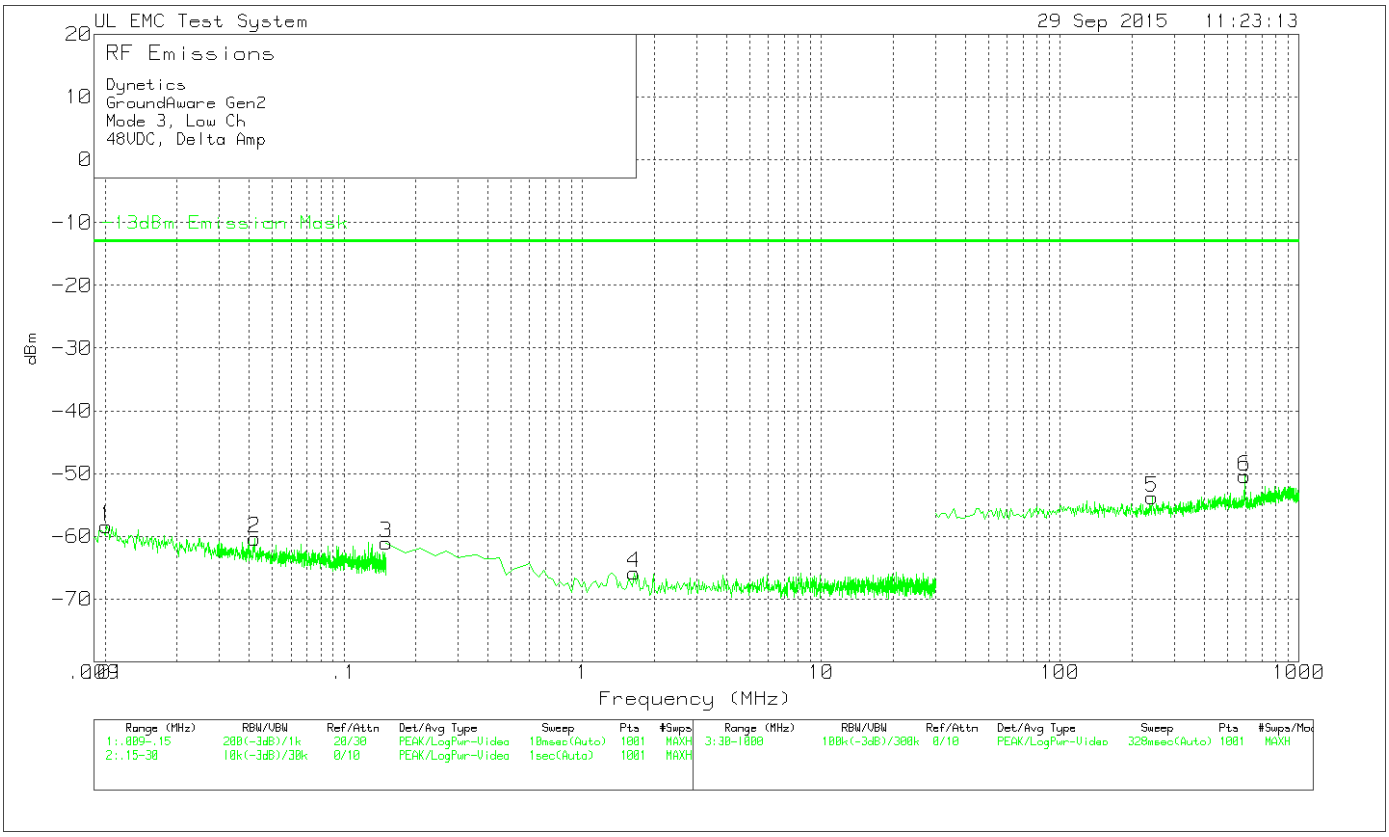
Dynetics							
GroundAware Gen2							
Mode 2, High Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.01464	-86.91	Pk	28.7	-58.21	-13	-45.21
2	0.032406	-87.56	Pk	28.7	-58.86	-13	-45.86
3	0.17985	-89.62	Pk	28.8	-60.82	-13	-47.82
4	1.8216	-93.08	Pk	29	-64.08	-13	-51.08
5	446.13	-82.82	Pk	29.7	-53.12	-13	-40.12
6	668.26	-81.03	Pk	29.9	-51.13	-13	-38.13
Pk - Peak detector							

Mode 2, High Channel, Above 1GHz – Data



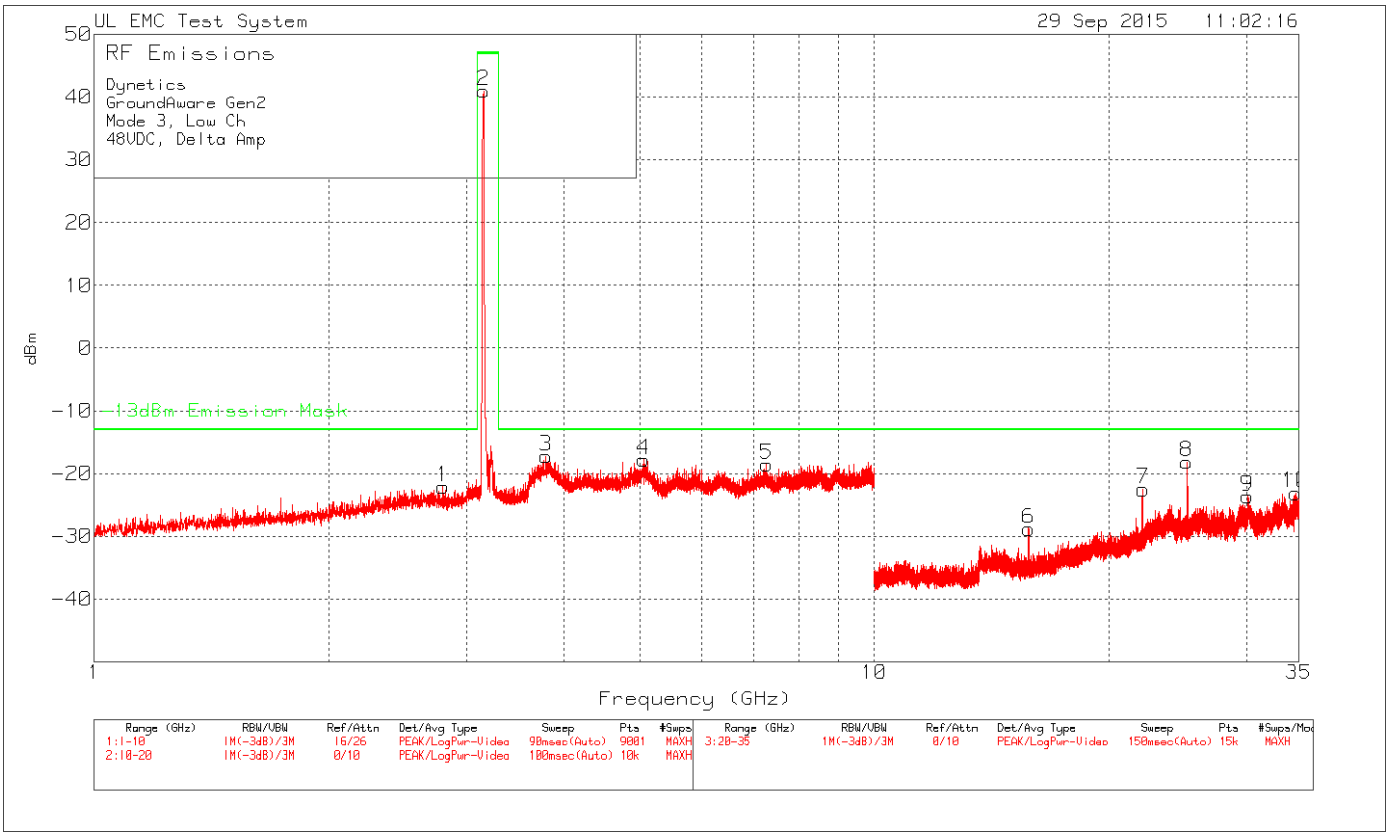
Dynetics							
GroundAware Gen2							
Mode 2, High Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.645	-52.46	Pk	31	-21.46	-13	-8.46
2	3.227	8.8	Pk	31.2	40	47	-7
3	3.797	-48.58	Pk	31.4	-17.18	-13	-4.18
4	5.029	-49.8	Pk	31.8	-18	-13	-5
5	6.35	-51.51	Pk	32.1	-19.41	-13	-6.41
6	12.926	-64	Pk	33.9	-30.1	-13	-17.1
7	19.433	-62.92	Pk	35.8	-27.12	-13	-14.12
8	25.644	-62.79	Pk	37.1	-25.69	-13	-12.69
9	33.37	-60.83	Pk	38	-22.83	-13	-9.83
Pk - Peak detector							

Mode 3, Low Channel, Below 1GHz – Data



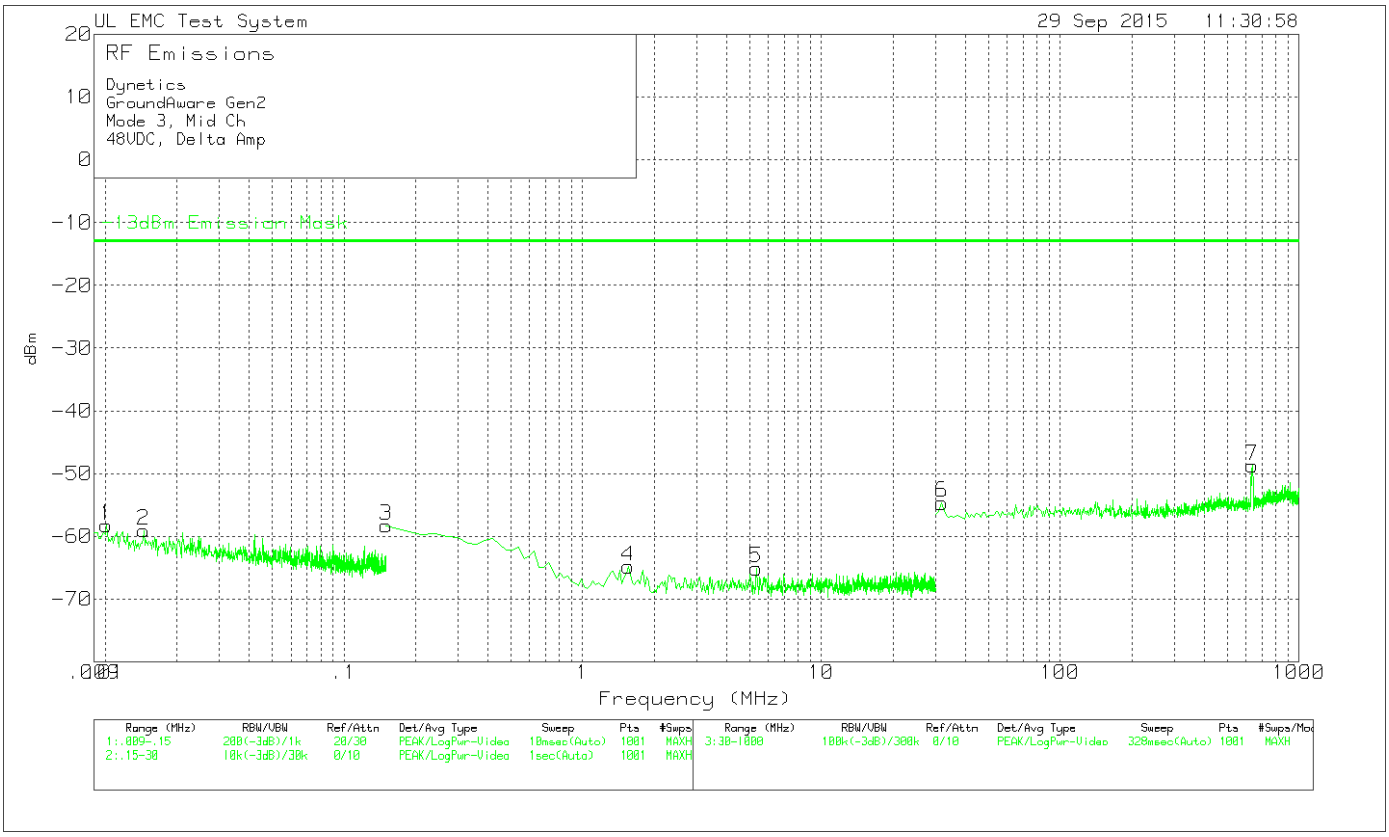
Dynetics							
GroundAware Gen2							
Mode 3, Low Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.010128	-87.08	Pk	28.7	-58.38	-13	-45.38
2	0.042276	-89.03	Pk	28.7	-60.33	-13	-47.33
3	0.15	-89.87	Pk	28.8	-61.07	-13	-48.07
4	1.6425	-94.73	Pk	28.9	-65.83	-13	-52.83
5	242.43	-83.31	Pk	29.5	-53.81	-13	-40.81
6	593.57	-80.21	Pk	29.8	-50.41	-13	-37.41
Pk - Peak detector							

Mode 3, Low Channel, Above 1GHz – Data



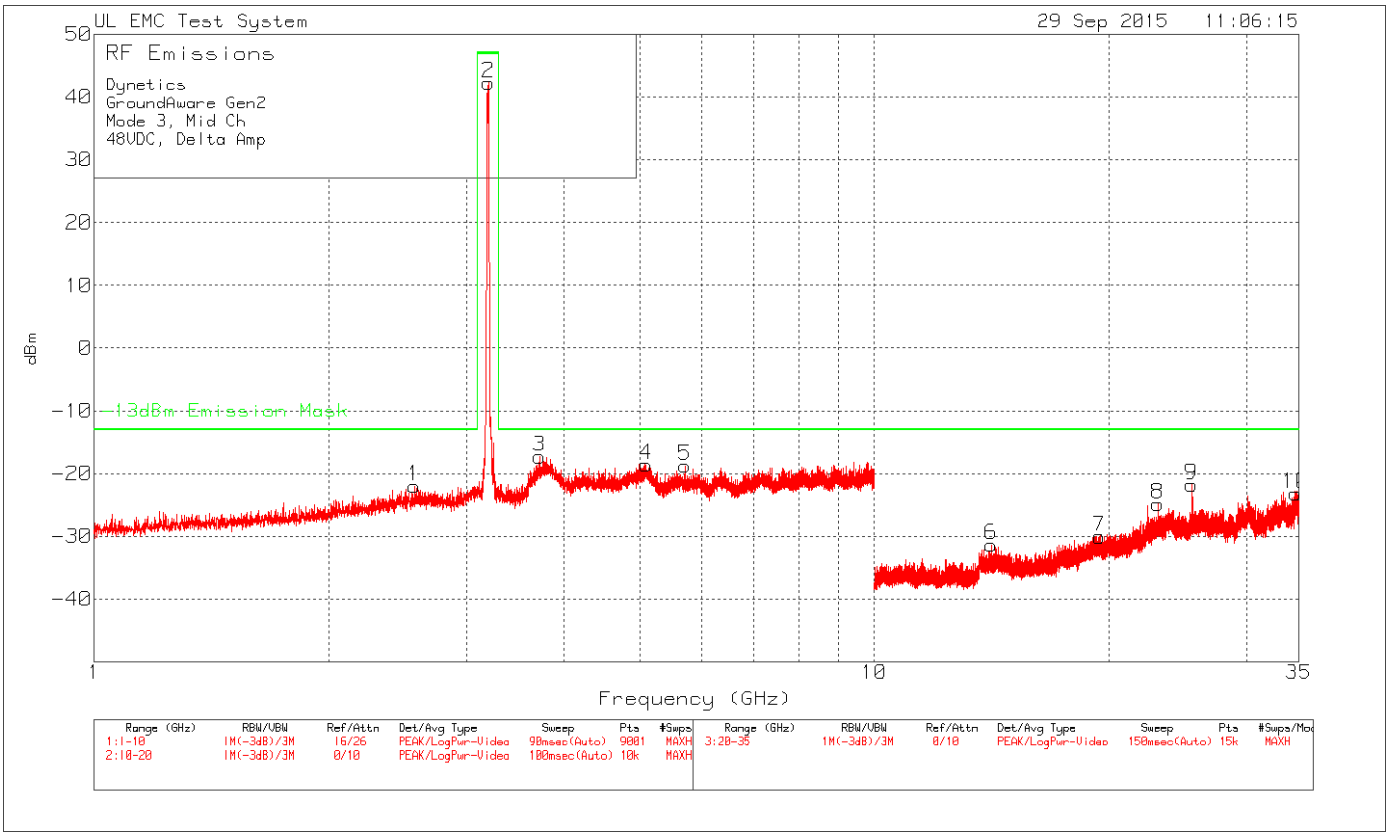
Dynetics							
GroundAware Gen2							
Mode 3, Low Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.797	-53.21	Pk	31.1	-22.11	-13	-9.11
2	3.156	9.77	Pk	31.2	40.97	47	-6.03
3	3.791	-48.67	Pk	31.4	-17.27	-13	-4.27
4	5.061	-49.62	Pk	31.8	-17.82	-13	-4.82
5	7.274	-50.98	Pk	32.4	-18.58	-13	-5.58
6	15.768	-63.53	Pk	34.7	-28.83	-13	-15.83
7	22.082	-59.21	Pk	36.7	-22.51	-13	-9.51
8	25.131	-55.07	Pk	36.9	-18.17	-13	-5.17
9	30.092	-61.84	Pk	38.2	-23.64	-13	-10.64
10	34.659	-61.42	Pk	38.3	-23.12	-13	-10.12
Pk - Peak detector							

Mode 3, Middle Channel, Below 1GHz – Data



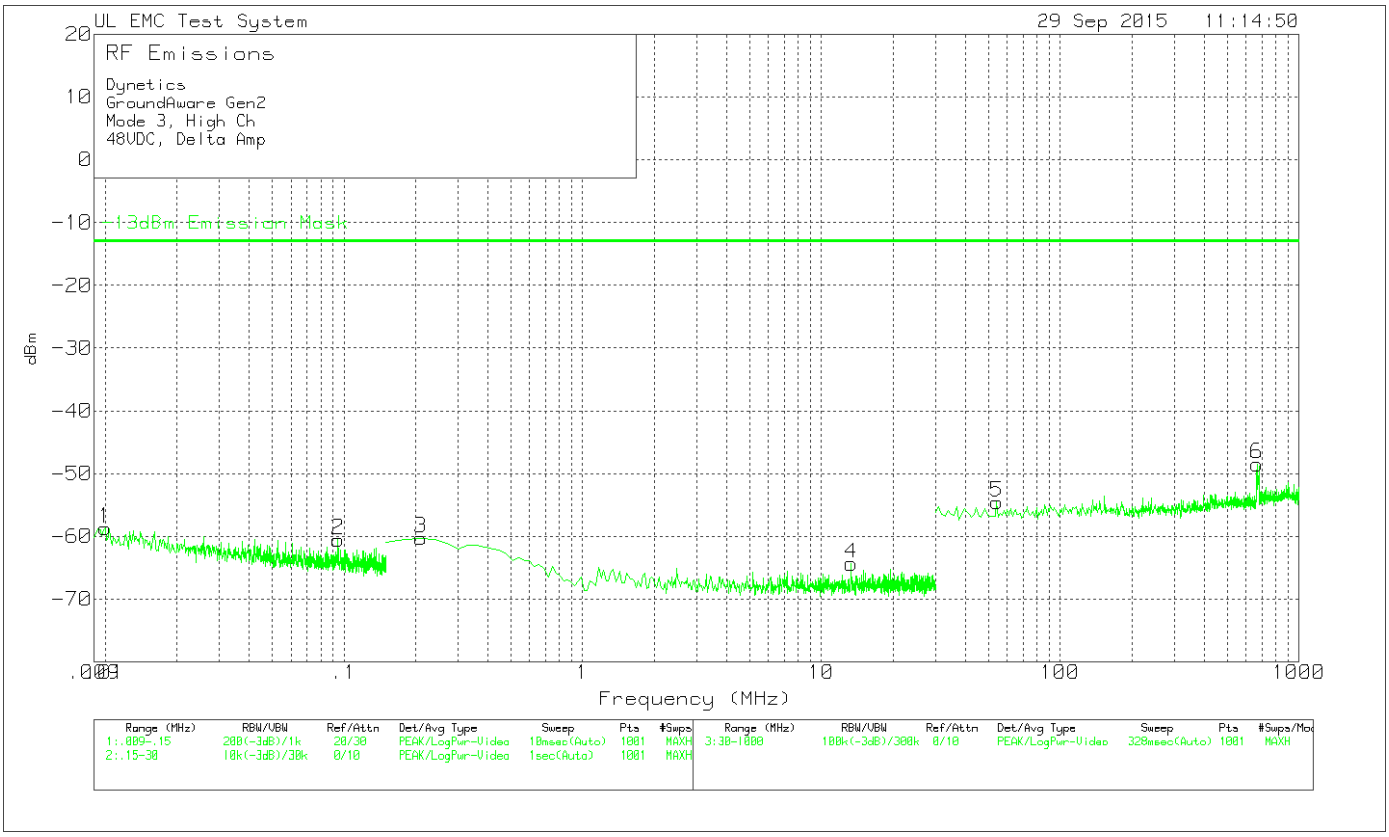
Dynetics							
GroundAware Gen2							
Mode 3, Mid Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.010128	-86.95	Pk	28.7	-58.25	-13	-45.25
2	0.014499	-87.8	Pk	28.7	-59.1	-13	-46.1
3	0.15	-87.11	Pk	28.8	-58.31	-13	-45.31
4	1.55295	-93.72	Pk	28.9	-64.82	-13	-51.82
5	5.3439	-94.1	Pk	29	-65.1	-13	-52.1
6	31.94	-83.76	Pk	29.1	-54.66	-13	-41.66
7	639.16	-78.64	Pk	29.9	-48.74	-13	-35.74
Pk - Peak detector							

Mode 3, Middle Channel, Above 1GHz – Data



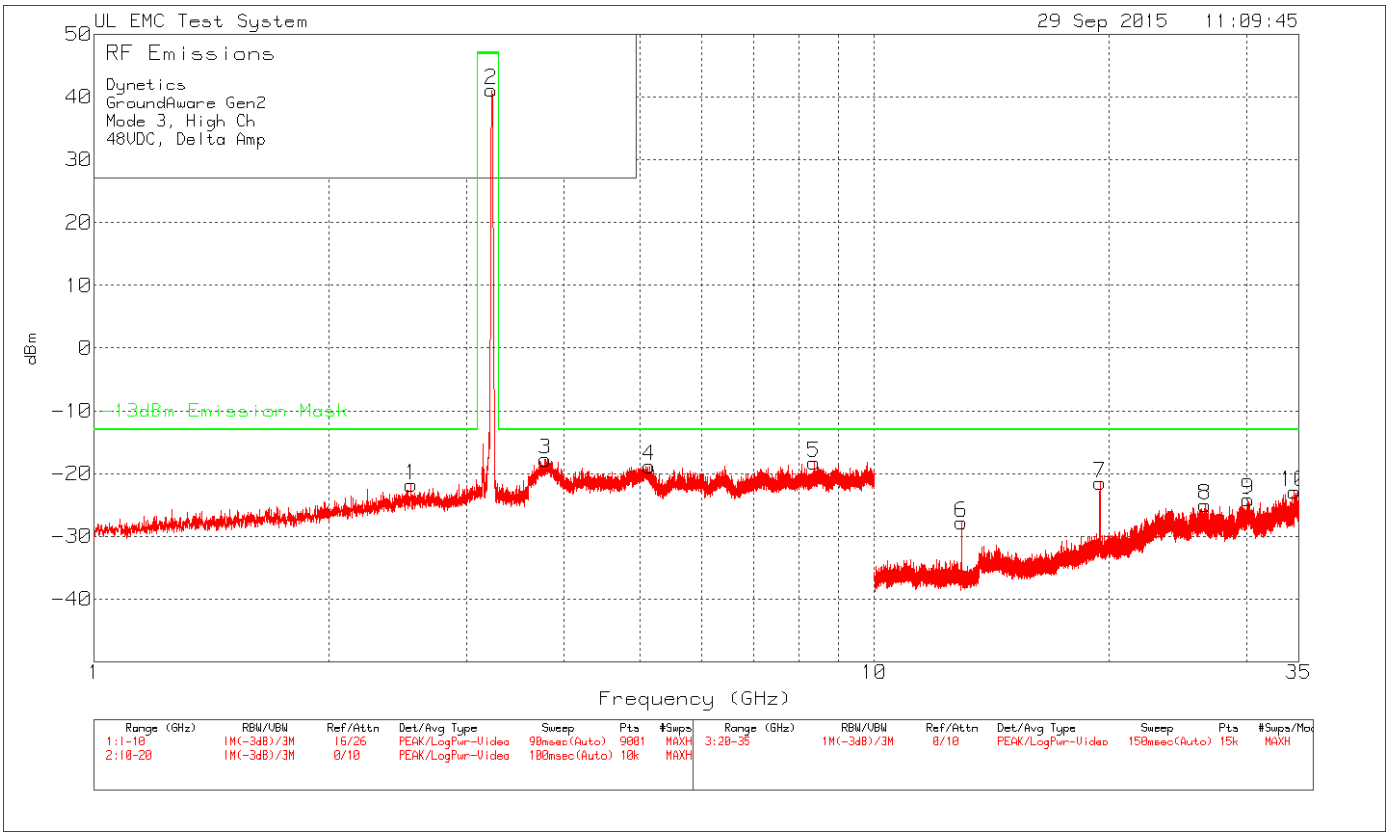
Dynetics							
GroundAware Gen2							
Mode 3, Mid Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.572	-53.03	Pk	31	-22.03	-13	-9.03
2	3.201	11.09	Pk	31.2	42.29	47	-4.71
3	3.72	-48.71	Pk	31.4	-17.31	-13	-4.31
4	5.095	-50.45	Pk	31.8	-18.65	-13	-5.65
5	5.714	-50.75	Pk	32	-18.75	-13	-5.75
6	14.107	-65.67	Pk	34.3	-31.37	-13	-18.37
7	19.428	-65.85	Pk	35.8	-30.05	-13	-17.05
8	23.081	-63.16	Pk	38.3	-24.86	-13	-11.86
9	25.504	-58.79	Pk	37	-21.79	-13	-8.79
10	34.668	-61.49	Pk	38.3	-23.19	-13	-10.19
Pk - Peak detector							

Mode 3, High Channel, Below 1GHz – Data



Dynetics							
GroundAware Gen2							
Mode 3, High Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	0.009987	-87.43	Pk	28.7	-58.73	-13	-45.73
2	0.094446	-89.26	Pk	28.7	-60.56	-13	-47.56
3	0.2097	-89.09	Pk	28.8	-60.29	-13	-47.29
4	13.31385	-93.35	Pk	29	-64.35	-13	-51.35
5	54.25	-83.78	Pk	29.2	-54.58	-13	-41.58
6	666.32	-78.42	Pk	29.9	-48.52	-13	-35.52
Pk - Peak detector							

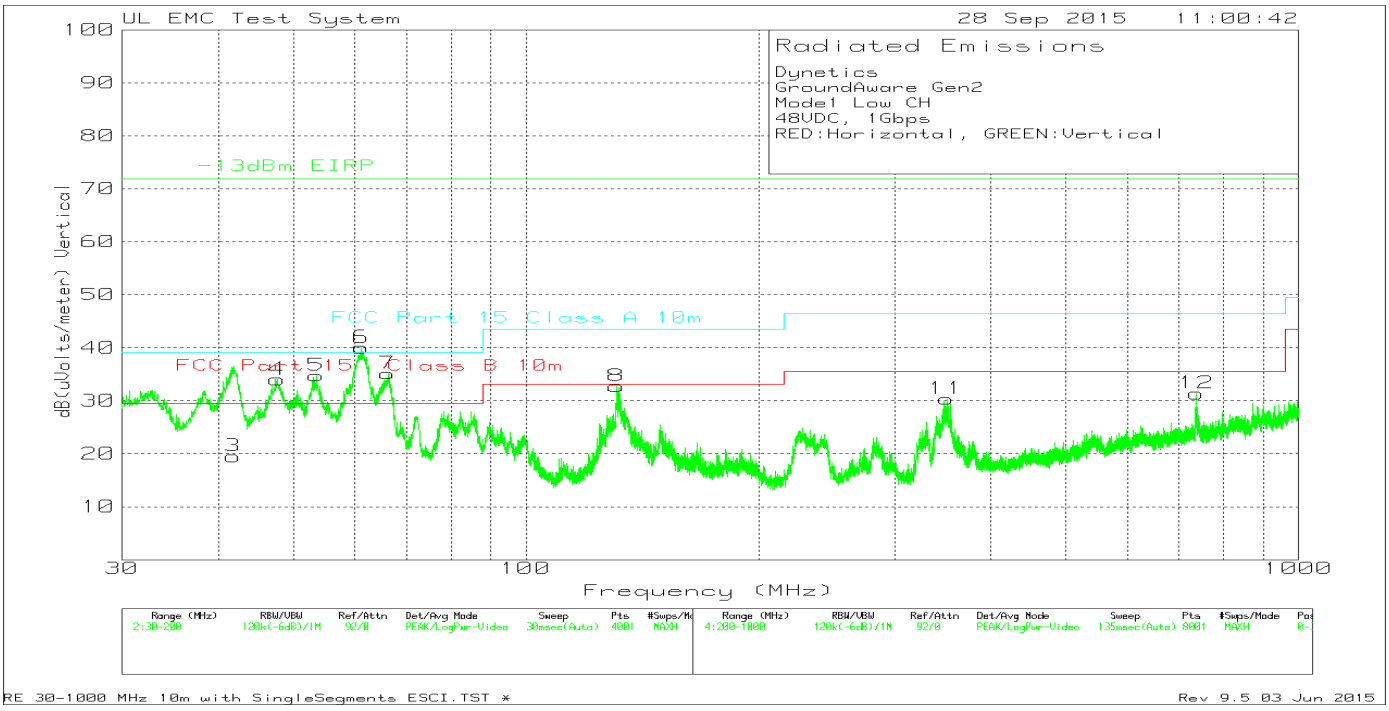
Mode 3, High Channel, Above 1GHz – Data

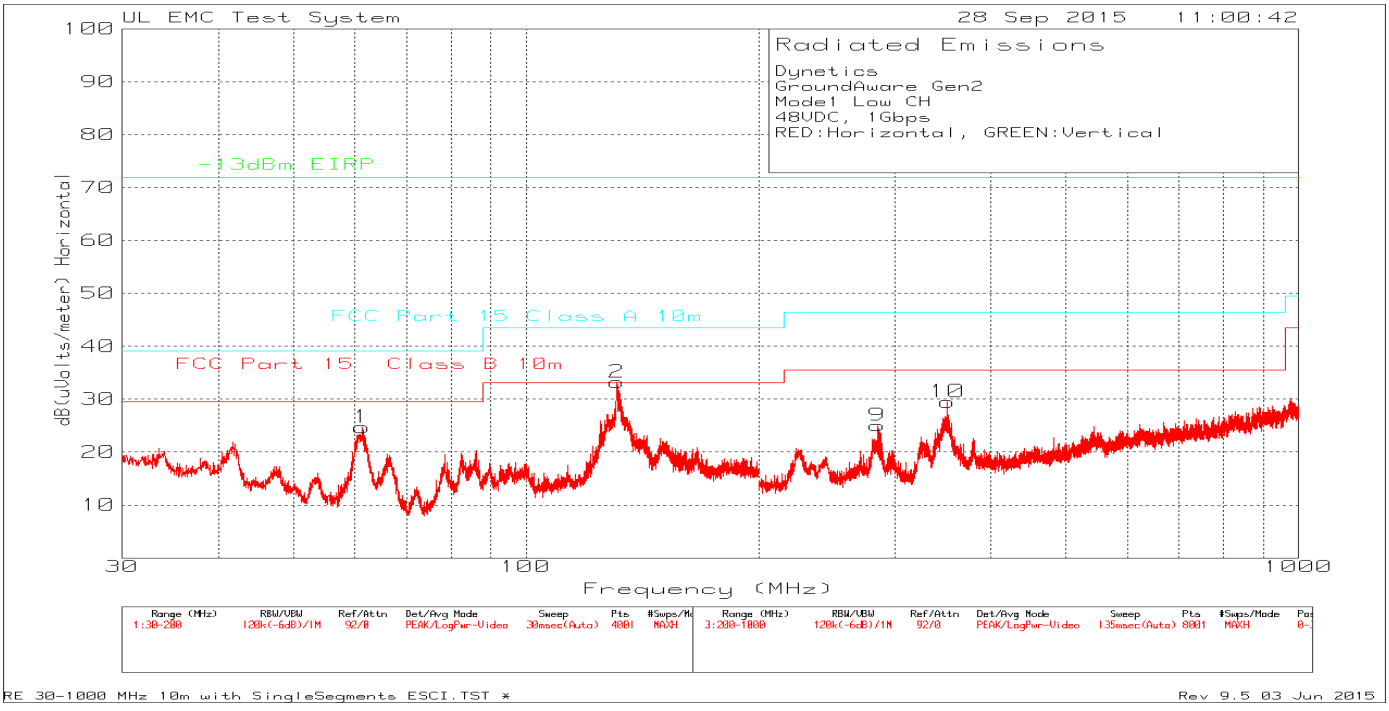


Dynetics							
GroundAware Gen2							
Mode 3, High Ch							
48VDC, Delta Amp							
Trace Markers							
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	-13dBm Emission Mask	Margin (dB)
1	2.548	-52.68	Pk	30.9	-21.78	-13	-8.78
2	3.228	9.94	Pk	31.2	41.14	47	-5.86
3	3.786	-49.17	Pk	31.4	-17.77	-13	-4.77
4	5.144	-50.63	Pk	31.8	-18.83	-13	-5.83
5	8.364	-50.97	Pk	32.7	-18.27	-13	-5.27
6	12.93	-61.71	Pk	33.9	-27.81	-13	-14.81
7	19.452	-57.4	Pk	35.9	-21.5	-13	-8.5
8	26.541	-62.02	Pk	37	-25.02	-13	-12.02
9	30.112	-62.45	Pk	38.3	-24.15	-13	-11.15
10	34.507	-60.89	Pk	38	-22.89	-13	-9.89
Pk - Peak detector							

8.3.2. **Radiated Enclosure Port Out of Band Emissions for Baseline Amp**

Mode 1, Low Channel, Below 1GHz – Data





Mode 1, Low Channel, Below 1GHz, Tabular Data

Dynetics
GroundAware Gen2
Mode1 Low CH
48VDC, 1Gbps
RED:Horizontal, GREEN:Vertical
Trace Markers

Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	61.4075	48.59	Pk	6.1	-30	24.69	71.8	-47.11	39.08	-14.39	0-360	398	H
2	131.15	48.51	Pk	14.5	-29.8	33.21	71.8	-38.59	43.52	-10.31	0-360	398	H
3	41.815	36.51	Pk	13.1	-30.1	19.51	71.8	-52.29	39.08	-19.57	0-360	251	V
4	47.6375	53.62	Pk	10.5	-30.1	34.02	71.8	-37.78	39.08	-5.06	0-360	102	V
5	53.545	57.05	Pk	7.8	-30.1	34.75	71.8	-37.05	39.08	-4.33	0-360	251	V
6	61.2375	63.91	Pk	6.1	-30	40.01	71.8	-31.79	39.08	0.93	0-360	251	V
7	66.2525	59.13	Pk	6.1	-30.1	35.13	71.8	-36.67	39.08	-3.95	0-360	251	V
8	131.0225	48.04	Pk	14.5	-29.8	32.74	71.8	-39.06	43.52	-10.78	0-360	102	V
9	285.1	40.34	Pk	13.2	-28.5	25.04	71.8	-46.76	46.44	-21.4	0-360	299	H
10	351.4	42.38	Pk	15	-27.9	29.48	71.8	-42.32	46.44	-16.96	0-360	199	H
11	350.4	43.37	Pk	15	-28	30.37	71.8	-41.43	46.44	-16.07	0-360	302	V
12	737.8	37.28	Pk	20.8	-26.7	31.38	71.8	-40.42	46.44	-15.06	0-360	202	V

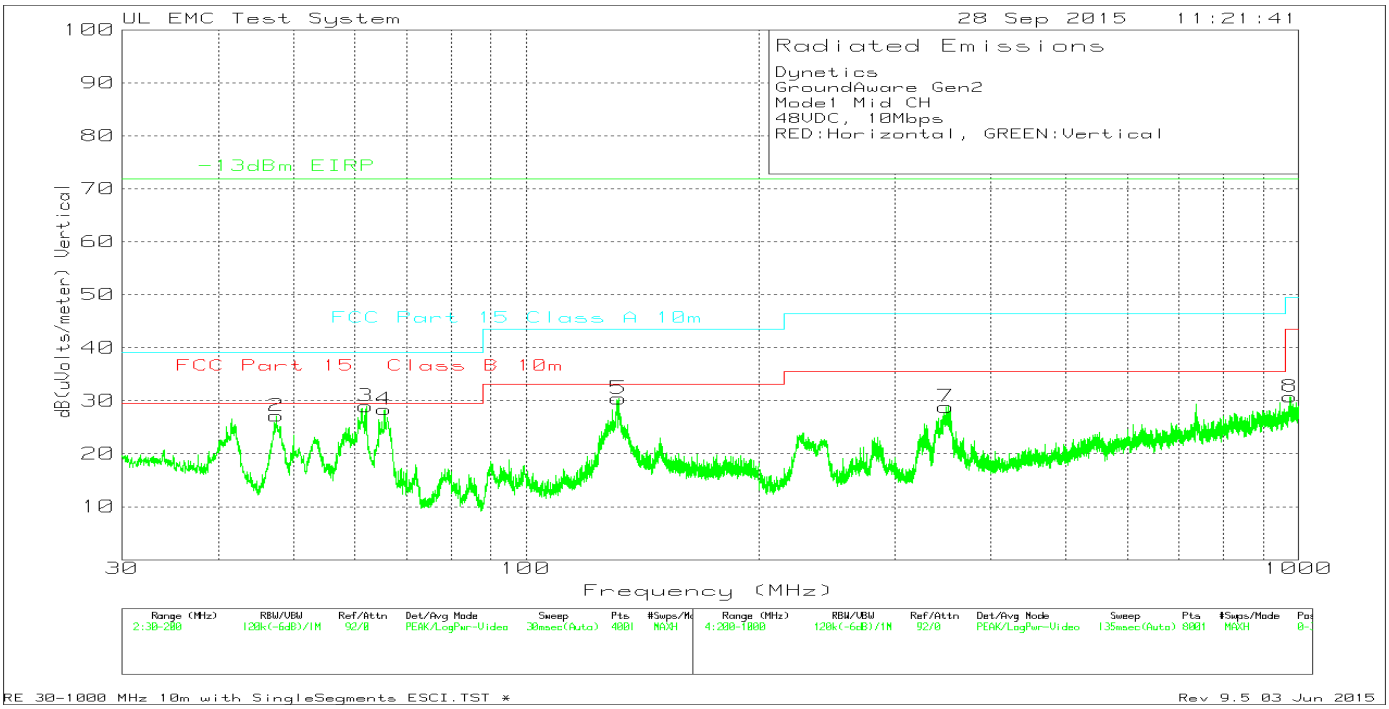
Pk - Peak detector

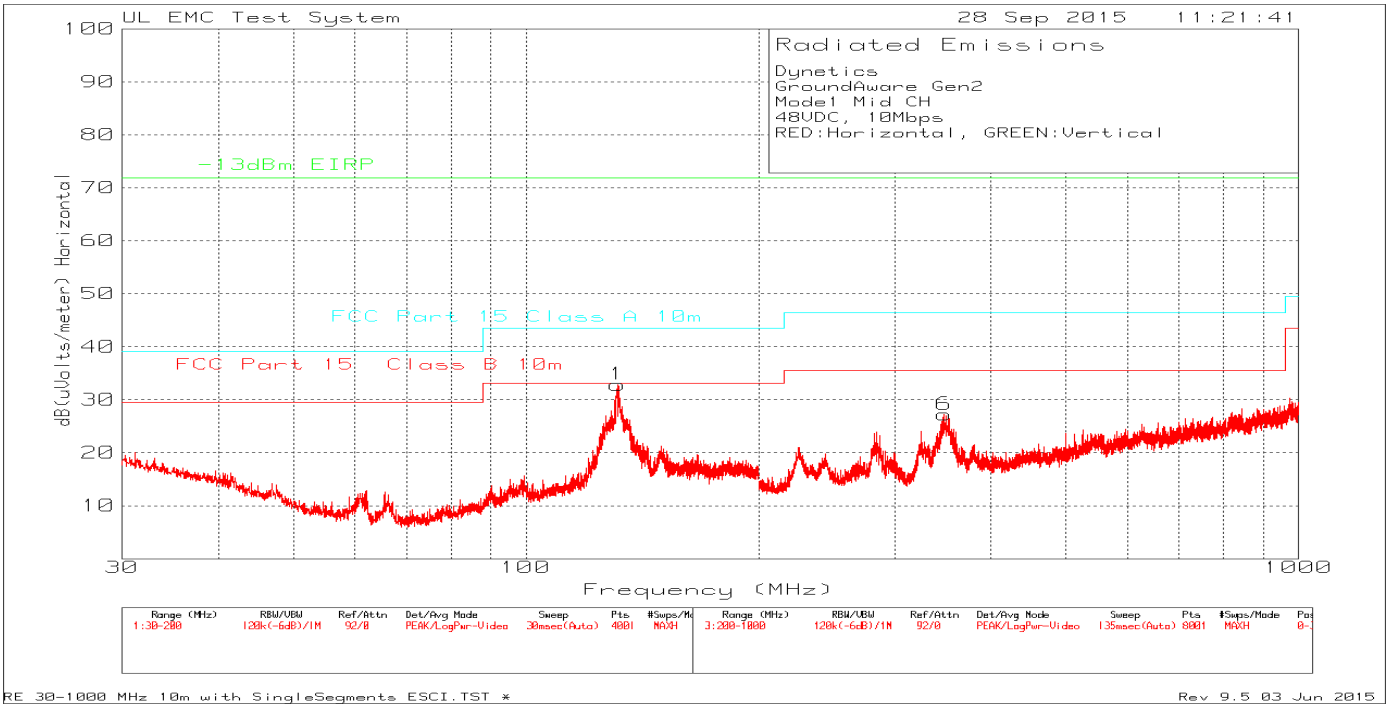
Radiated Emission Data

	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
	61.383	59.68	Qp	6.1	-30	35.78	71.8	-36.02	39.08	-3.3	224	239	V

Qp - Quasi-Peak detector

Mode 1, Middle Channel, Below 1GHz – Data

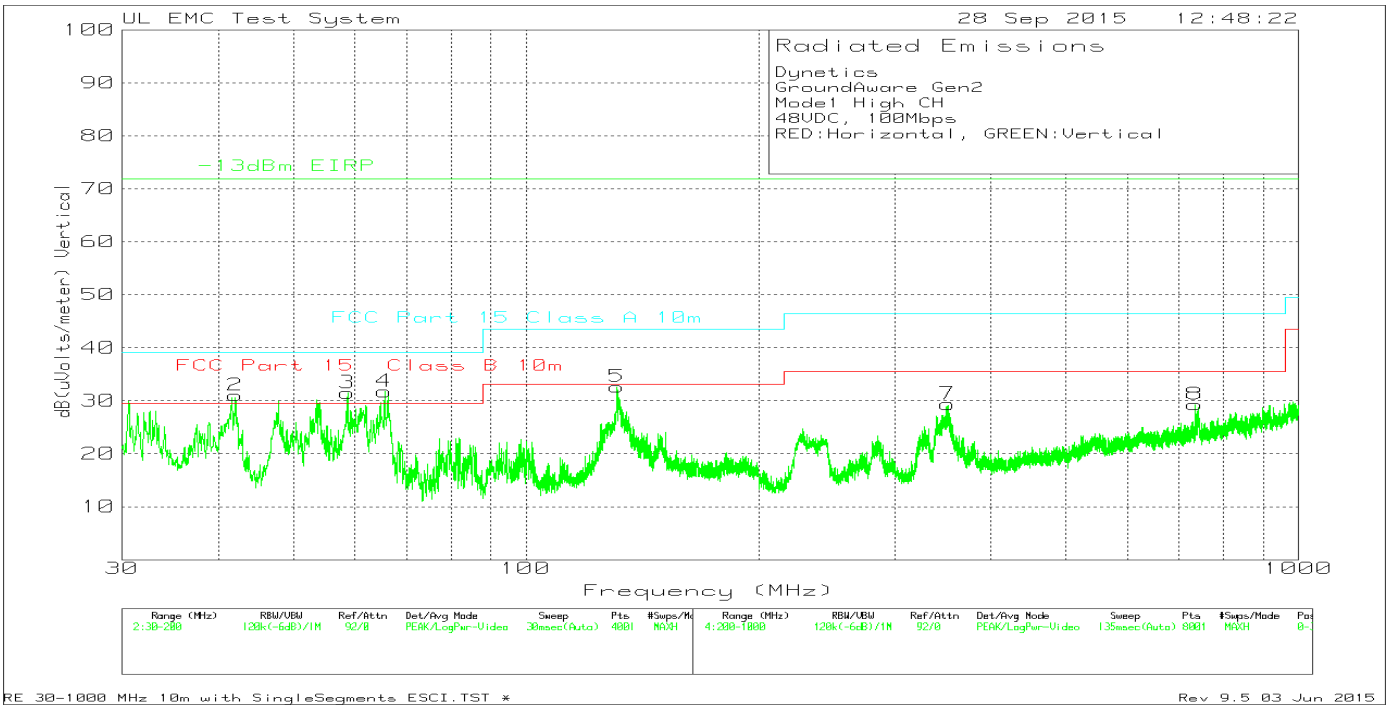


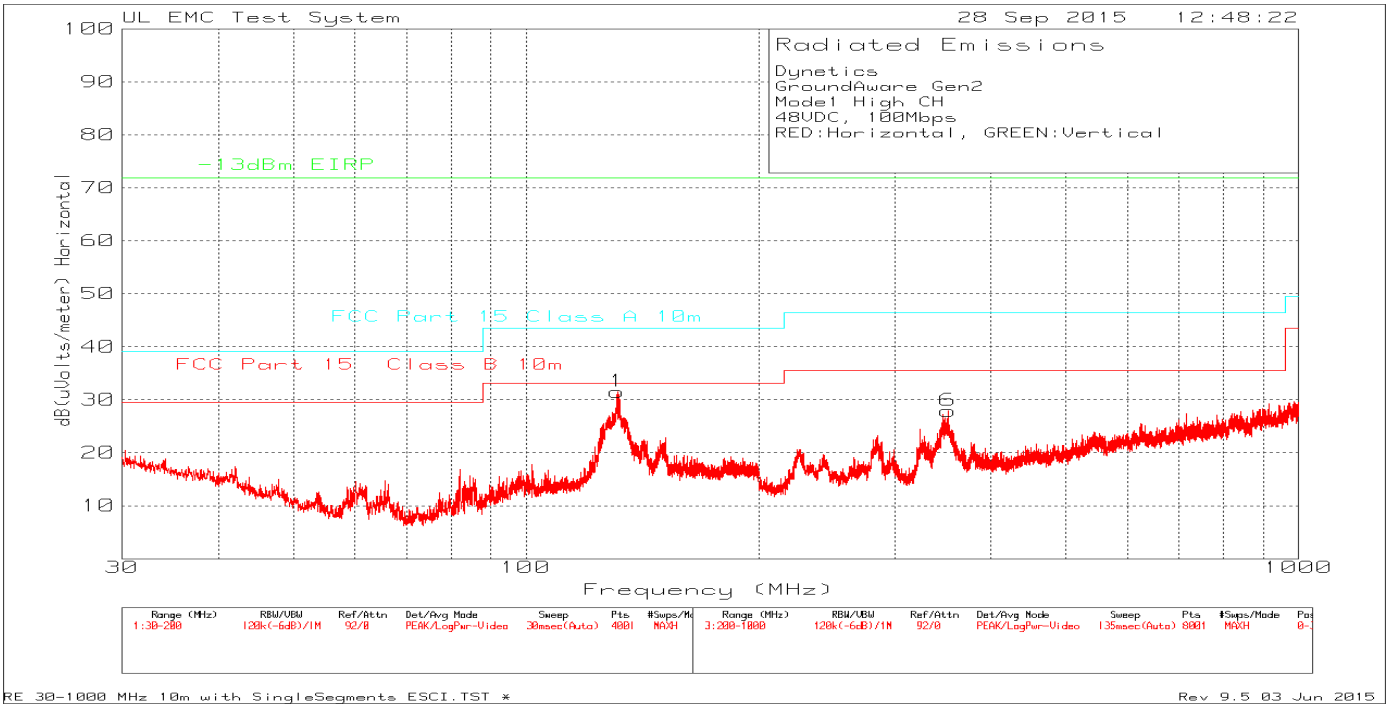


Mode 1, Middle Channel, Below 1GHz, Tabular Data

Dynetics													
GroundAware Gen2													
Mode1 Mid CH													
48VDC, 10Mbps													
RED:Horizontal, GREEN:Vertical													
Trace Markers													
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	131.49	48.14	Pk	14.5	-29.8	32.84	71.8	-38.96	43.52	-10.68	0-360	398	H
2	47.5525	46.76	Pk	10.5	-30.1	27.16	71.8	-44.64	39.08	-11.92	0-360	101	V
3	62.0875	53.1	Pk	6	-30.1	29	71.8	-42.8	39.08	-10.08	0-360	398	V
4	65.615	52.48	Pk	6	-30.1	28.38	71.8	-43.42	39.08	-10.7	0-360	398	V
5	131.83	45.61	Pk	14.6	-29.8	30.41	71.8	-41.39	43.52	-13.11	0-360	101	V
6	347.9	40.32	Pk	15	-28.1	27.22	71.8	-44.58	46.44	-19.22	0-360	199	H
7	349.8	41.84	Pk	15	-28	28.84	71.8	-42.96	46.44	-17.6	0-360	299	V
8	975.4	31.96	Pk	24.2	-25.4	30.76	71.8	-41.04	49.54	-18.78	0-360	102	V
Pk - Peak detector													

Mode 1, High Channel, Below 1GHz – Data

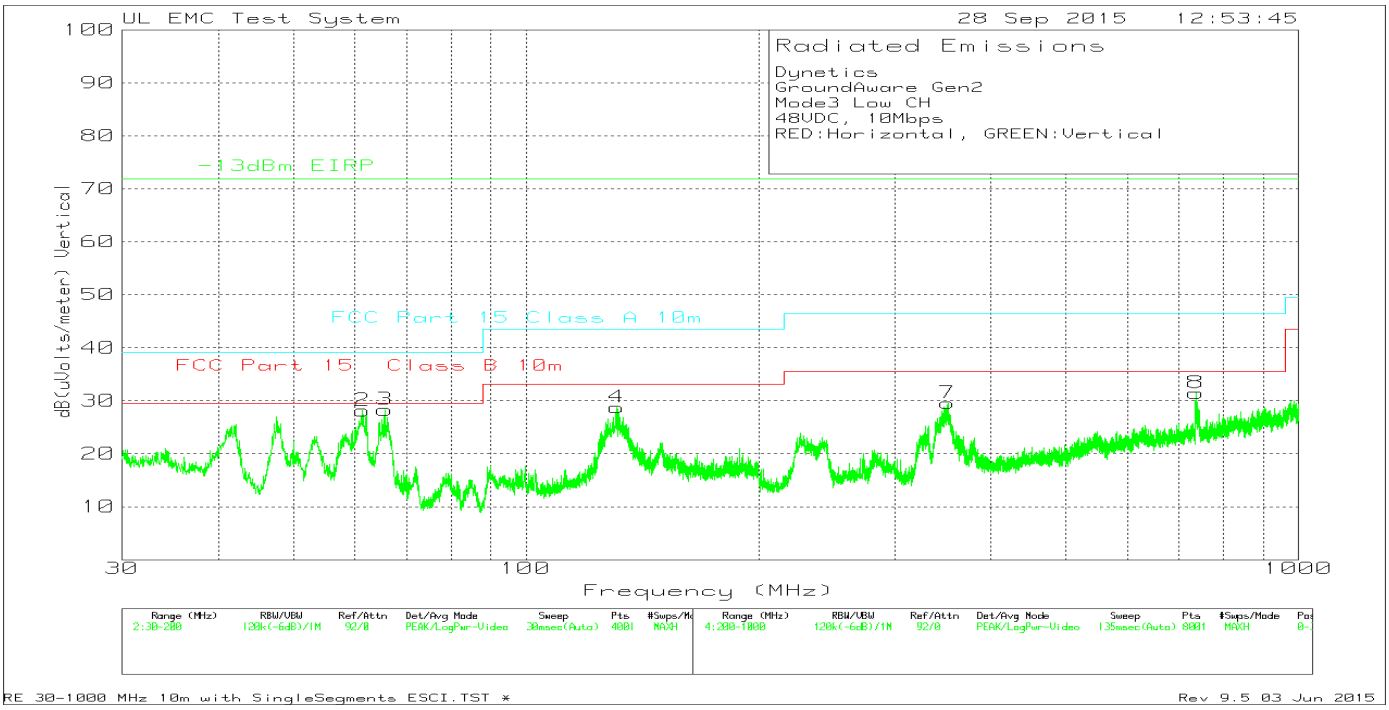


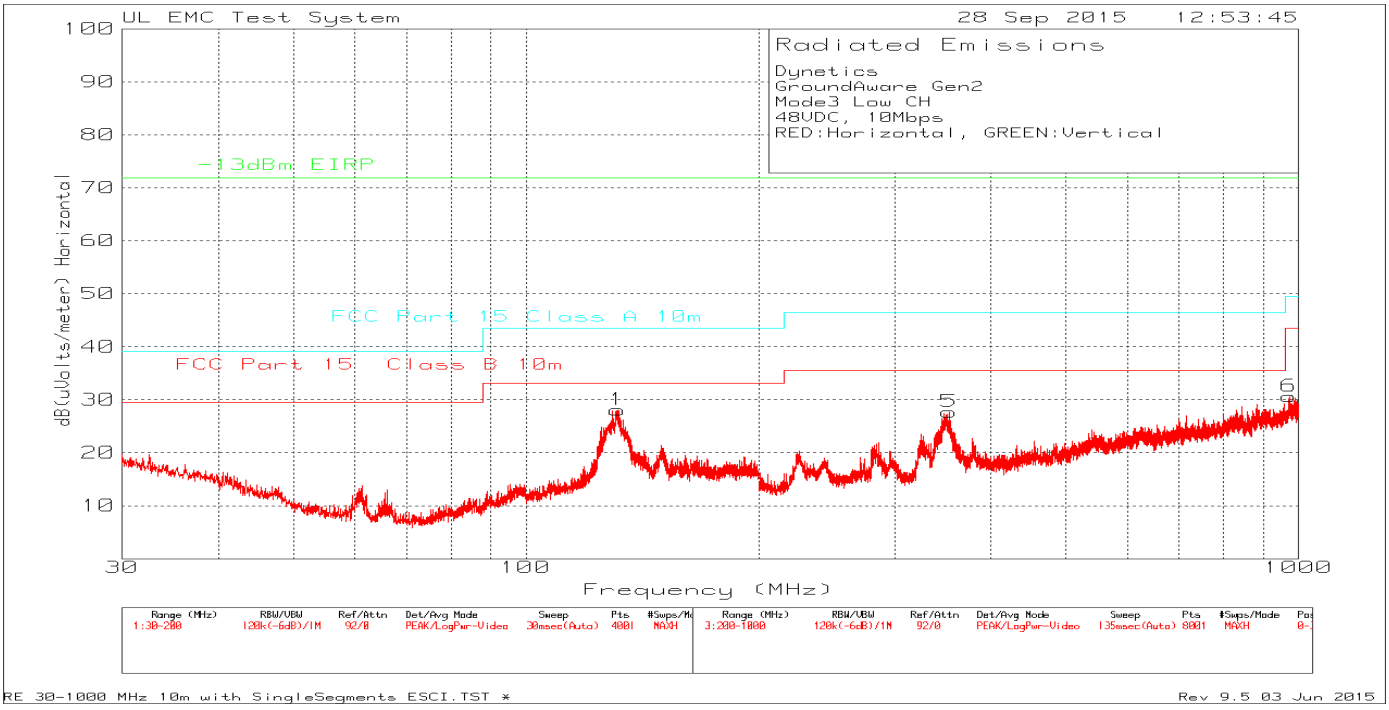


Mode 1, High Channel, Below 1GHz, Tabular Data

Dynetics													
GroundAware Gen2													
Mode1 High CH													
48VDC, 100Mbps													
RED:Horizontal, GREEN:Vertical													
Trace Markers													
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	131.2775	46.83	Pk	14.5	-29.8	31.53	71.8	-40.27	43.52	-11.99	0-360	398	H
2	42.07	30.64	Pk	13	-30.1	13.54	71.8	-58.26	39.08	-25.54	0-360	102	V
3	58.7725	55.28	Pk	6.3	-30.1	31.48	71.8	-40.32	39.08	-7.6	0-360	249	V
4	65.615	55.85	Pk	6	-30.1	31.75	71.8	-40.05	39.08	-7.33	0-360	249	V
5	131.235	47.93	Pk	14.5	-29.8	32.63	71.8	-39.17	43.52	-10.89	0-360	102	V
6	351.8	40.81	Pk	15	-27.9	27.91	71.8	-43.89	46.44	-18.53	0-360	199	H
7	351.6	29.07	Pk	15	-27.9	16.17	71.8	-55.63	46.44	-30.27	0-360	302	V
8	734.8	35.19	Pk	20.8	-26.7	29.29	71.8	-42.51	46.44	-17.15	0-360	103	V
Pk - Peak detector													

Mode 3, Low Channel, Below 1GHz – Data

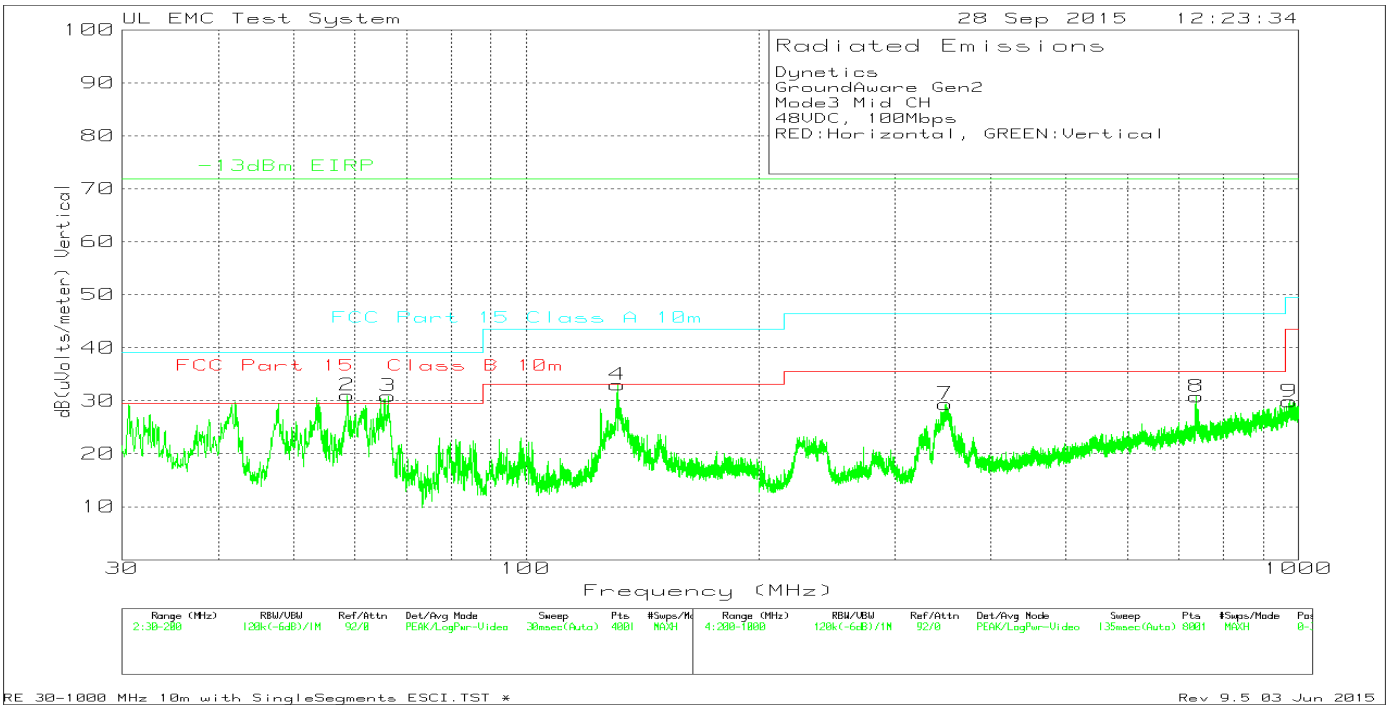


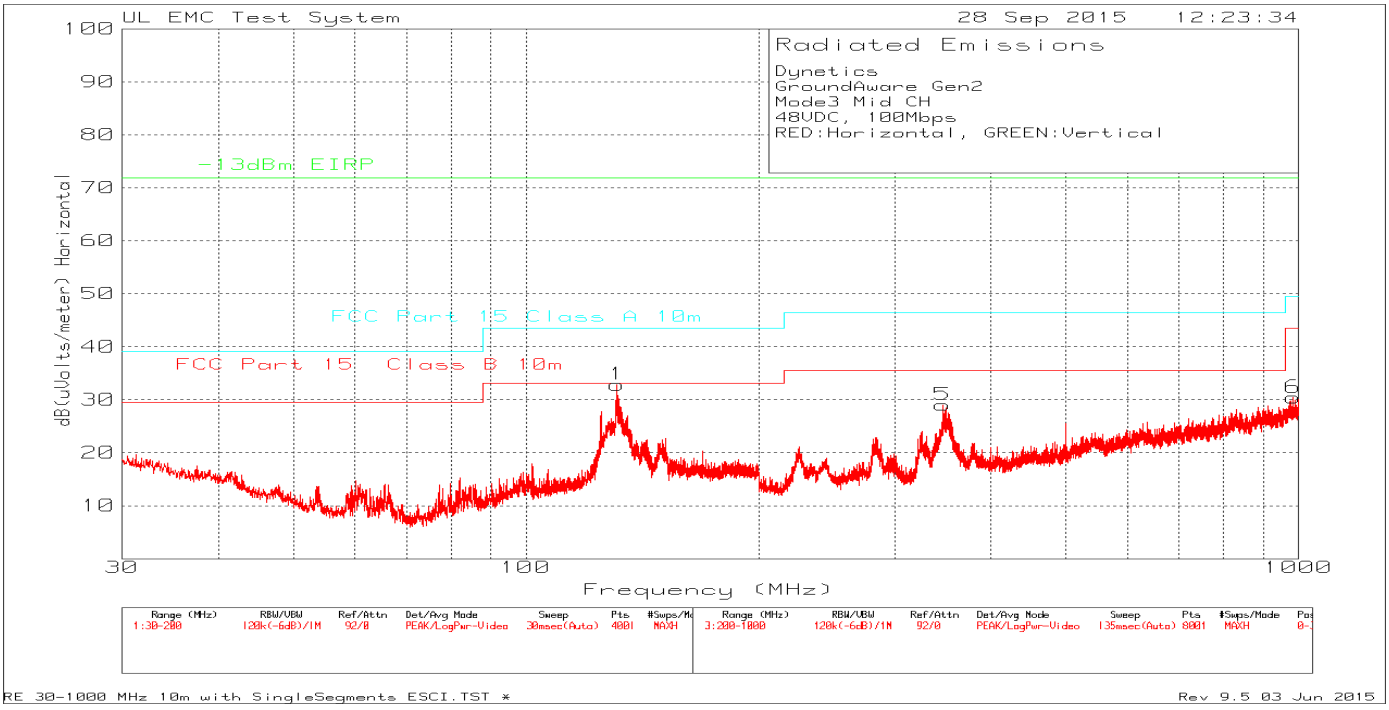


Mode 3, Low Channel, Below 1GHz, Tabular Data

Dynetics													
GroundAware Gen2													
Mode3 Low CH													
48VDC, 10Mbps													
RED:Horizontal, GREEN:Vertical													
Trace Markers													
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	131.4475	43.38	Pk	14.5	-29.8	28.08	71.8	-43.72	43.52	-15.44	0-360	398	H
2	61.45	52.04	Pk	6.1	-30	28.14	71.8	-43.66	39.08	-10.94	0-360	398	V
3	65.6575	52.43	Pk	6	-30.1	28.33	71.8	-43.47	39.08	-10.75	0-360	398	V
4	131.1075	44.04	Pk	14.5	-29.8	28.74	71.8	-43.06	43.52	-14.78	0-360	101	V
5	352.8	40.61	Pk	15	-27.9	27.71	71.8	-44.09	46.44	-18.73	0-360	199	H
6	972.6	31.53	Pk	24.1	-25	30.63	71.8	-41.17	49.54	-18.91	0-360	399	H
7	351.5	42.47	Pk	15	-27.9	29.57	71.8	-42.23	46.44	-16.87	0-360	399	V
8	737	37.45	Pk	20.8	-26.8	31.45	71.8	-40.35	46.44	-14.99	0-360	103	V
Pk - Peak detector													

Mode 3, Middle Channel, Below 1GHz – Data

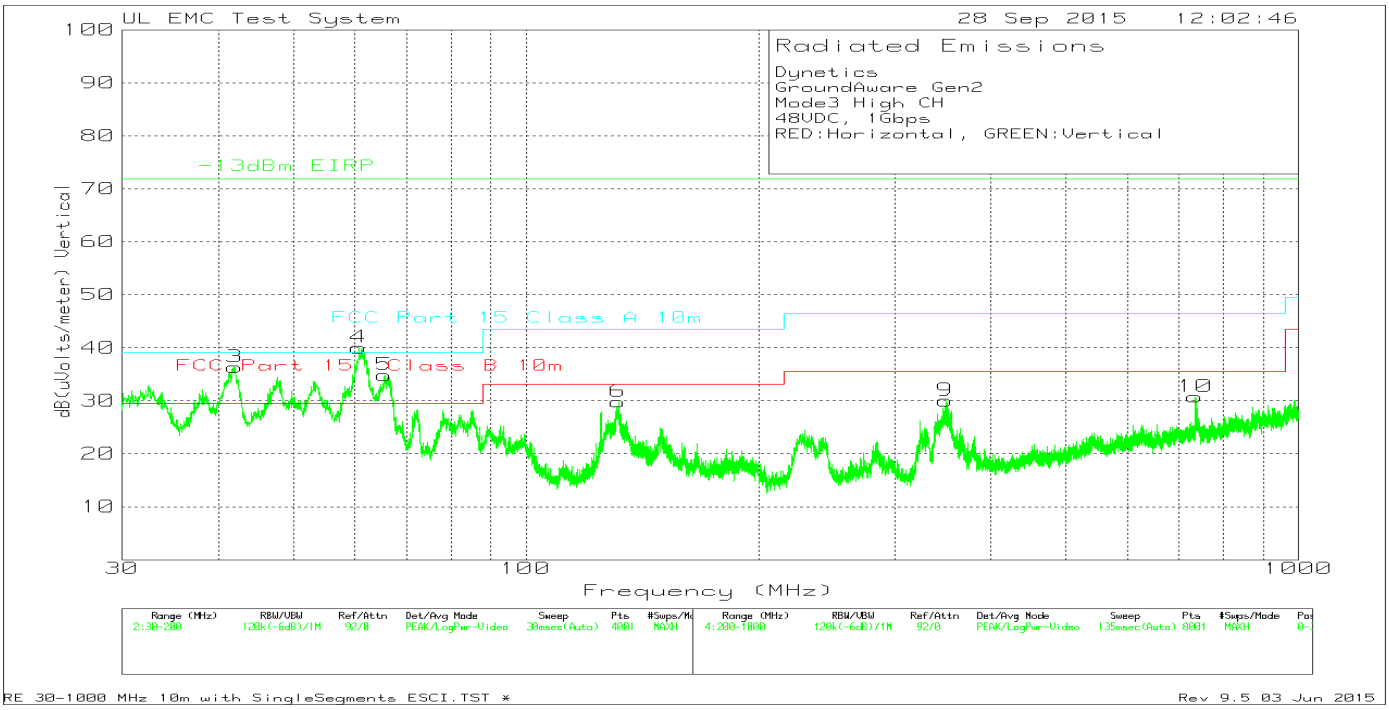


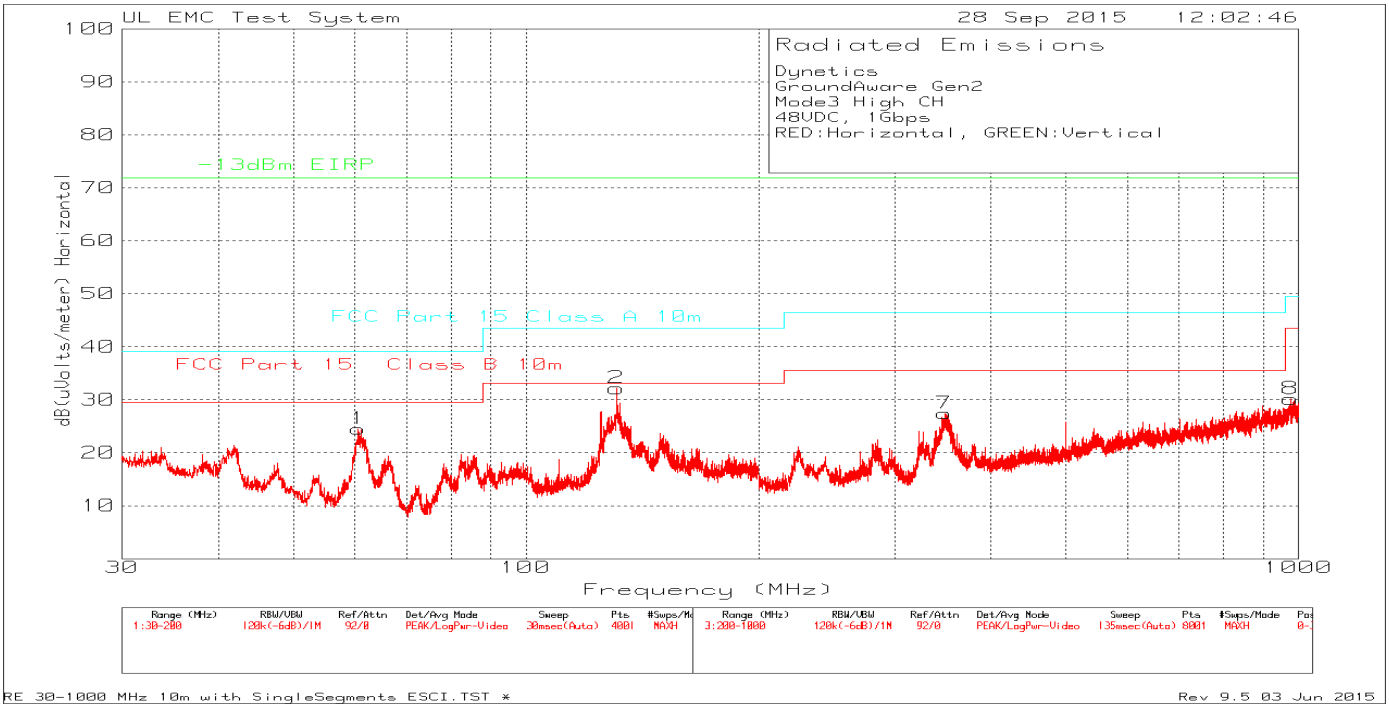


Mode 3, Middle Channel, Below 1GHz, Tabular Data

Dynetics													
GroundAware Gen2													
Mode3 Mid CH													
48VDC, 100Mbps													
RED:Horizontal, GREEN:Vertical													
Trace Markers													
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated - 13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	131.235	48.16	Pk	14.5	-29.8	32.86	71.8	-38.94	43.52	-10.66	0-360	398	H
2	58.73	54.72	Pk	6.4	-30.1	31.02	71.8	-40.78	39.08	-8.06	0-360	251	V
3	66.295	54.87	Pk	6.1	-30.1	30.87	71.8	-40.93	39.08	-8.21	0-360	251	V
4	131.32	48.3	Pk	14.5	-29.8	33	71.8	-38.8	43.52	-10.52	0-360	102	V
5	346.5	42.33	Pk	14.9	-28.2	29.03	71.8	-42.77	46.44	-17.41	0-360	199	H
6	984.6	31.5	Pk	23.8	-24.9	30.4	71.8	-41.4	49.54	-19.14	0-360	299	H
7	349.2	42.44	Pk	15	-28.1	29.34	71.8	-42.46	46.44	-17.1	0-360	399	V
8	737.7	36.69	Pk	20.8	-26.7	30.79	71.8	-41.01	46.44	-15.65	0-360	103	V
9	974.2	30.86	Pk	24.2	-25.2	29.86	71.8	-41.94	49.54	-19.68	0-360	199	V
Pk - Peak detector													

Mode 3, High Channel, Below 1GHz – Data

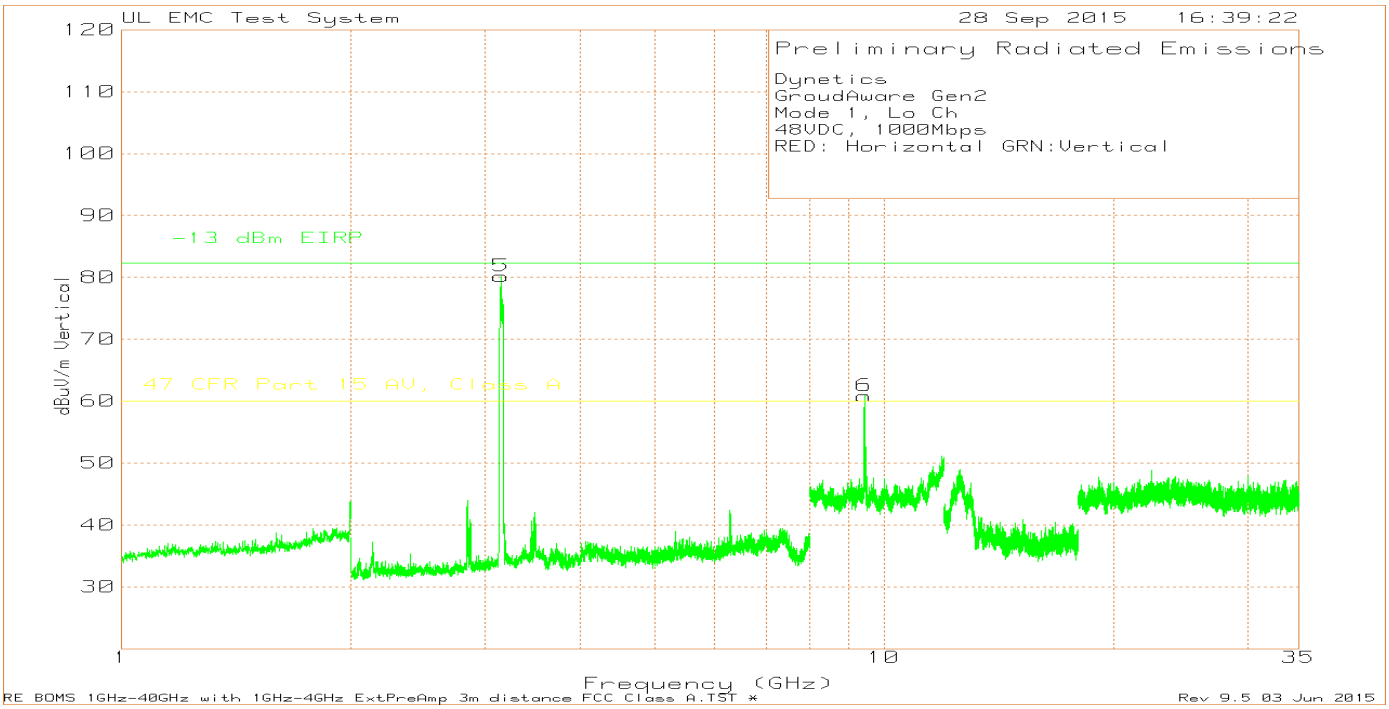


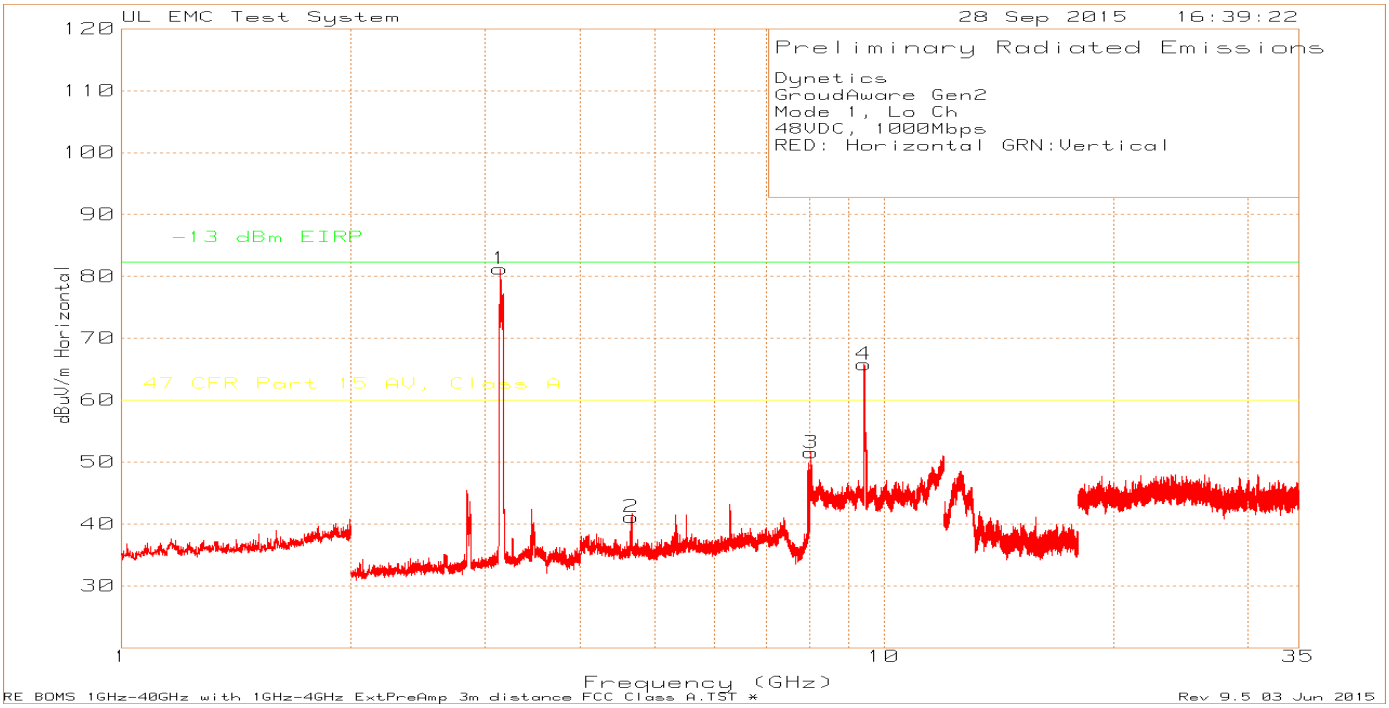


Mode 3, High Channel, Below 1GHz, Tabular Data

Dynetics													
GroundAware Gen2													
Mode3 High CH													
48VDC, 1Gbps													
RED:Horizontal, GREEN:Vertical													
Trace Markers													
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	60.685	48.42	Pk	6.1	-30	24.52	71.8	-47.28	39.08	-14.56	0-360	398	H
2	131.0225	47.47	Pk	14.5	-29.8	32.17	71.8	-39.63	43.52	-11.35	0-360	398	H
3	41.985	53.44	Pk	13	-30.1	36.34	71.8	-35.46	39.08	-2.74	0-360	101	V
4	60.77	63.92	Pk	6.1	-30	40.02	71.8	-31.78	39.08	0.94	0-360	251	V
5	65.615	58.95	Pk	6	-30.1	34.85	71.8	-36.95	39.08	-4.23	0-360	251	V
6	131.7025	45.01	Pk	14.6	-29.8	29.81	71.8	-41.99	43.52	-13.71	0-360	101	V
7	348.2	40.53	Pk	15	-28.1	27.43	71.8	-44.37	46.44	-19.01	0-360	199	H
8	976	31.44	Pk	24.2	-25.5	30.14	71.8	-41.66	49.54	-19.4	0-360	102	H
9	349.2	43.11	Pk	15	-28.1	30.01	71.8	-41.79	46.44	-16.43	0-360	302	V
10	734.8	36.65	Pk	20.8	-26.7	30.75	71.8	-41.05	46.44	-15.69	0-360	102	V
Pk - Peak detector													
Radiated Emission Data													
	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
	61.2155	59.4	Qp	6.1	-30	35.5	71.8	-36.3	39.08	-3.58	359	249	V
Qp - Quasi-Peak detector													

Mode 1, Low Channel, Above 1GHz – Data

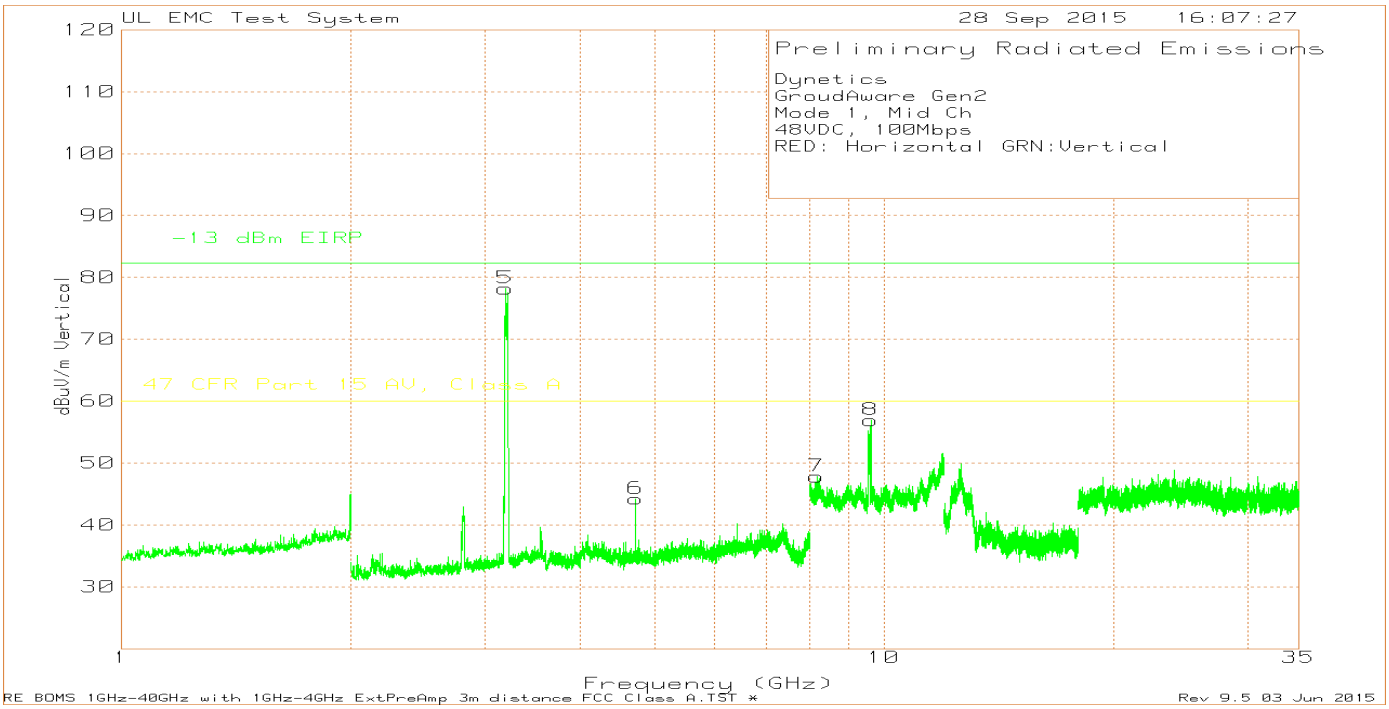


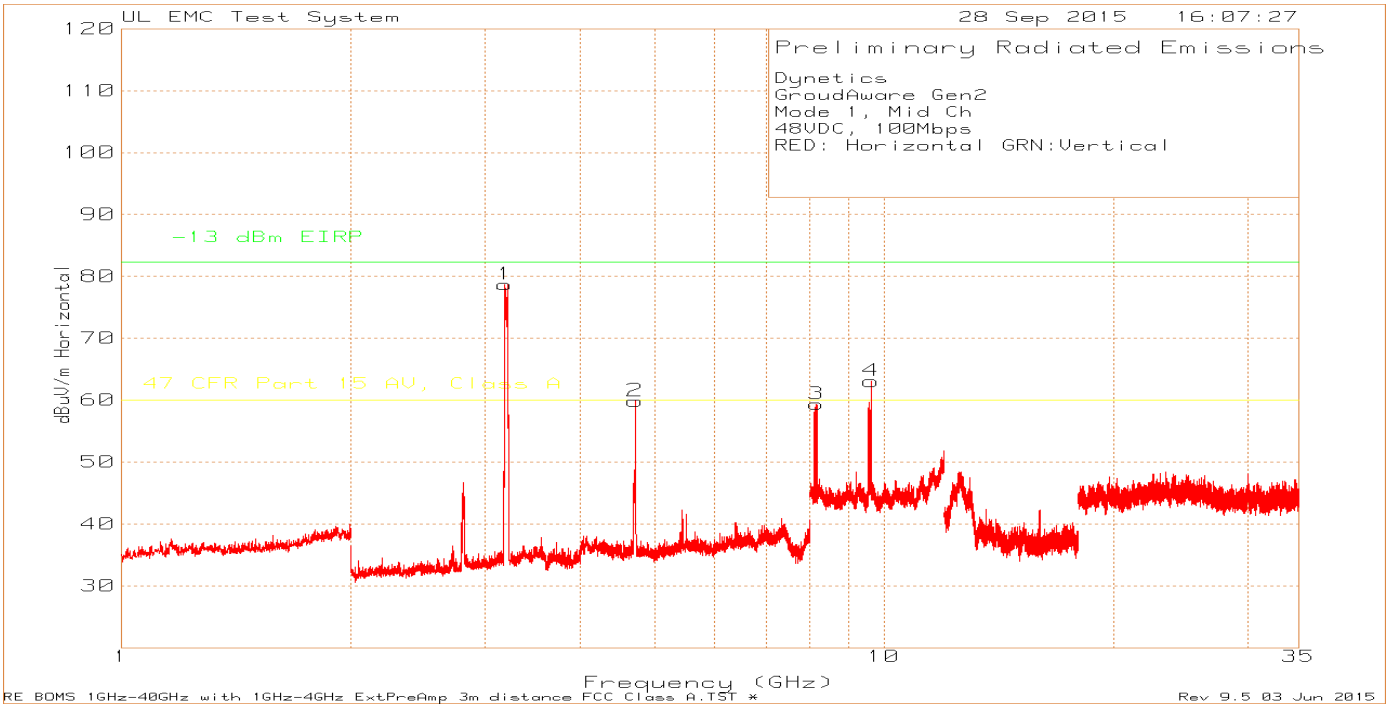


Mode 1, Low Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 1, Lo Ch													
48VDC, 1000Mbps													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.135	109.01	Pk	22.8	-50.61	81.2	60	21.2	82.34	-1.14	0-360	99	H
2	4.664	65.18	Pk	27.7	-51.75	41.13	60	-18.87	82.34	-41.21	0-360	101	H
3	8.024	62.48	Pk	36.1	-47.05	51.53	60	-8.47	82.34	-30.81	0-360	150	H
4	9.422	79.08	Pk	36.4	-49.7	65.78	60	5.78	82.34	-16.56	0-360	99	H
5	3.145	107.9	Pk	22.9	-50.63	80.17	60	20.17	82.34	-2.17	0-360	150	V
6	9.429	74.28	Pk	36.4	-49.85	60.83	60	0.83	82.34	-21.51	0-360	150	V
Pk - Peak detector													

Mode 1, Middle Channel, Above 1GHz – Data

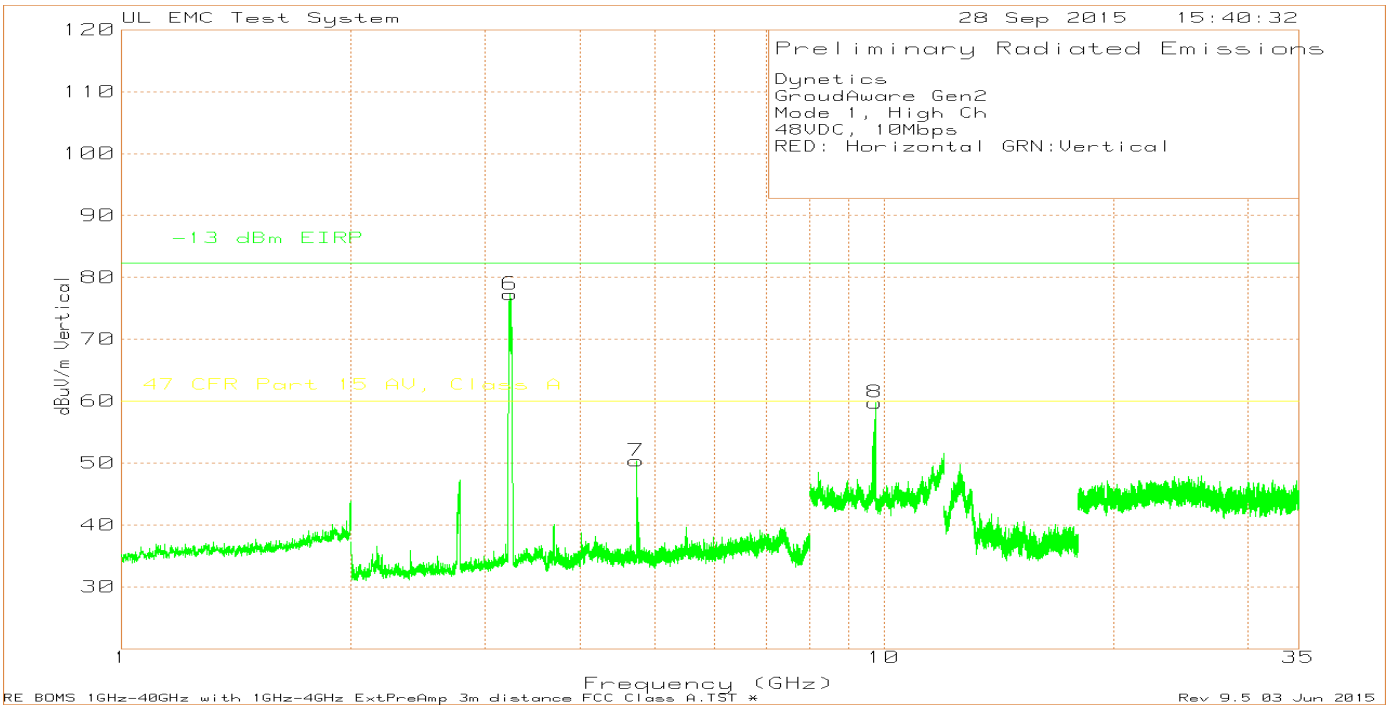


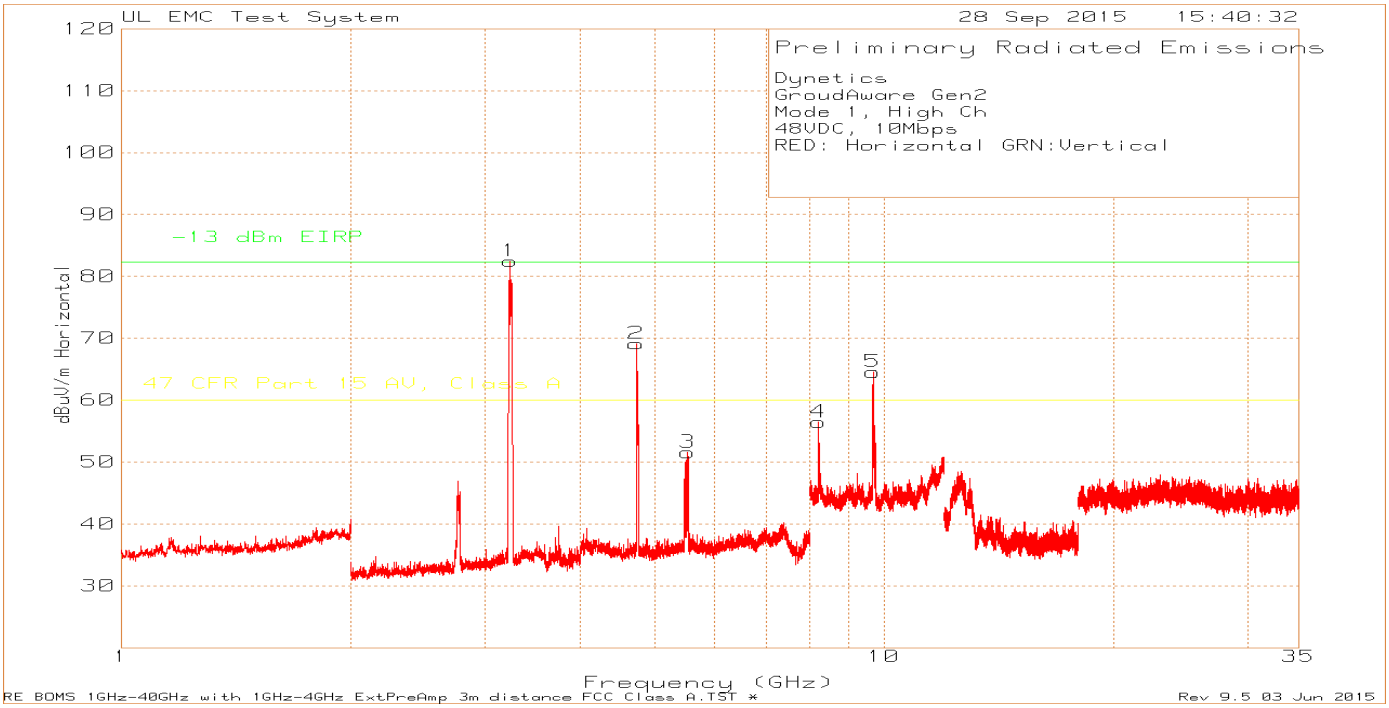


Mode 1, Middle Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 1, Mid Ch													
48VDC, 100Mbps													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.183	106.55	Pk	23.1	-50.96	78.69	60	18.69	82.34	-3.65	0-360	99	H
2	4.722	83.81	Pk	27.7	-51.67	59.84	60	-0.16	82.34	-22.5	0-360	100	H
3	8.161	71.47	Pk	36.3	-48.4	59.37	60	-0.63	82.34	-22.97	0-360	150	H
4	9.623	74.97	Pk	36.4	-48.28	63.09	60	3.09	82.34	-19.25	0-360	150	H
5	3.186	106.03	Pk	23.1	-50.91	78.22	60	18.22	82.34	-4.12	0-360	150	V
6	4.726	68.13	Pk	27.7	-51.6	44.23	60	-15.77	82.34	-38.11	0-360	150	V
7	8.164	59.9	Pk	36.3	-48.38	47.82	60	-12.18	82.34	-34.52	0-360	150	V
8	9.614	68.99	Pk	36.4	-48.44	56.95	60	-3.05	82.34	-25.39	0-360	150	V
Pk - Peak detector													

Mode 1, High Channel, Above 1GHz – Data

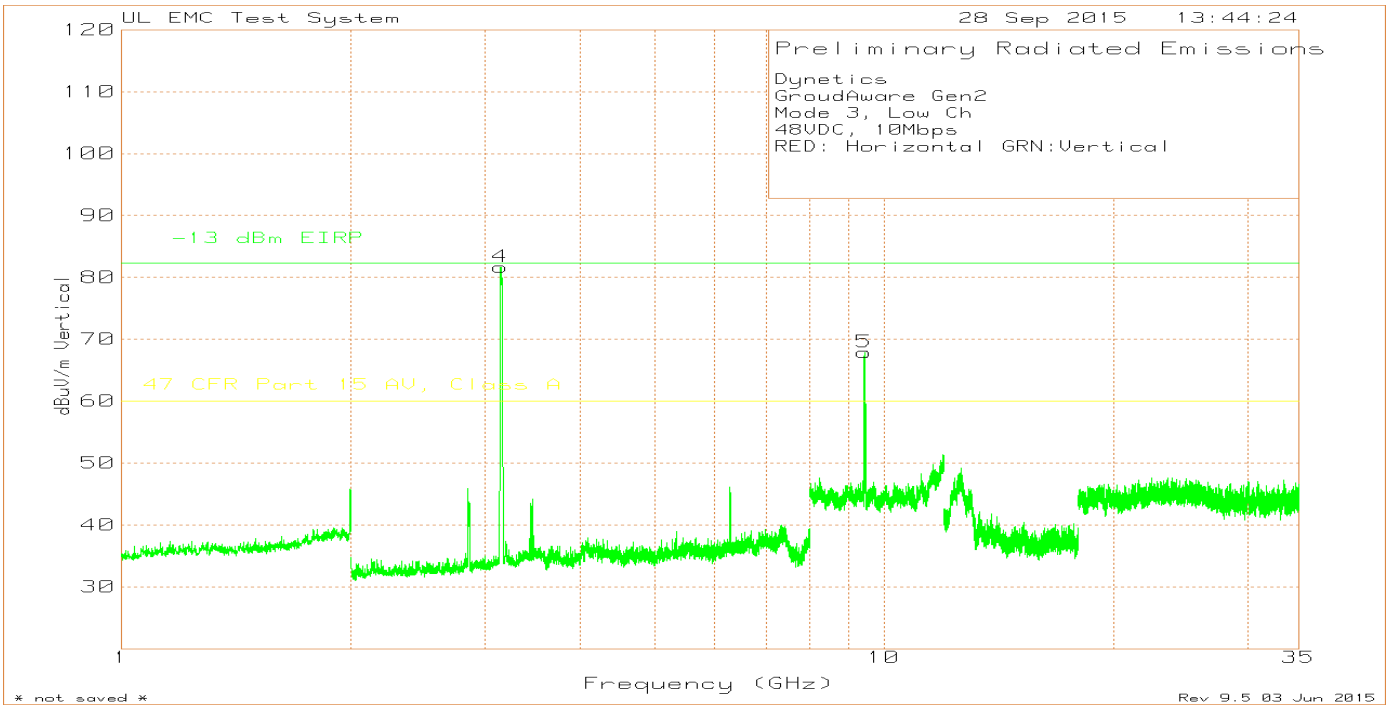


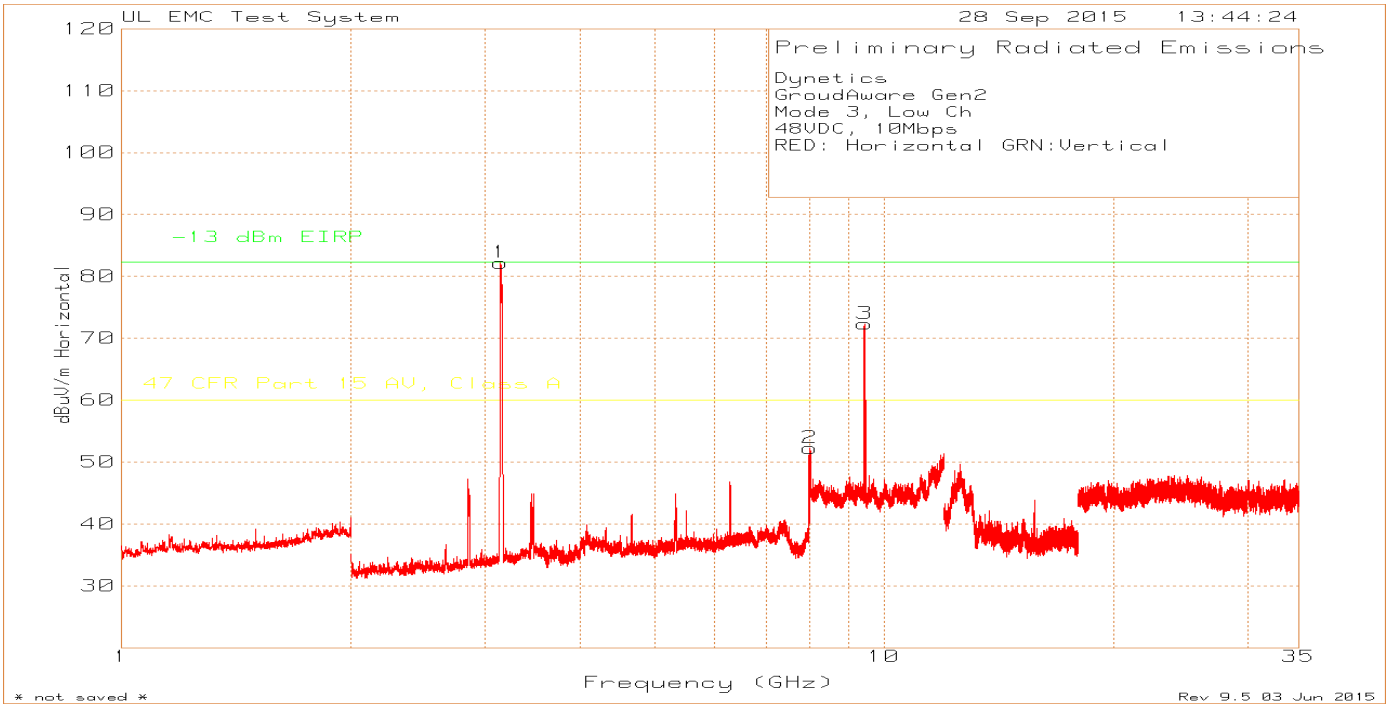


Mode 1, High Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 1, High Ch													
48VDC, 10Mbps													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.234	110.35	Pk	23	-50.88	82.47	60	22.47	82.34	0.13	0-360	99	H
2	4.737	92.8	Pk	27.7	-51.37	69.13	60	9.13	82.34	-13.21	0-360	100	H
3	5.531	73.05	Pk	28.2	-49.7	51.55	60	-8.45	82.34	-30.79	0-360	100	H
4	8.211	67.39	Pk	36.4	-47.36	56.43	60	-3.57	82.34	-25.91	0-360	99	H
5	9.679	75.84	Pk	36.4	-47.7	64.54	60	4.54	82.34	-17.8	0-360	99	H
6	3.234	105.13	Pk	23	-50.88	77.25	60	17.25	82.34	-5.09	0-360	150	V
7	4.737	74.05	Pk	27.7	-51.37	50.38	60	-9.62	82.34	-31.96	0-360	99	V
8	9.743	71.65	Pk	36.4	-48.28	59.77	60	-0.23	82.34	-22.57	0-360	150	V
Pk - Peak detector													

Mode 3, Low Channel, Above 1GHz – Data

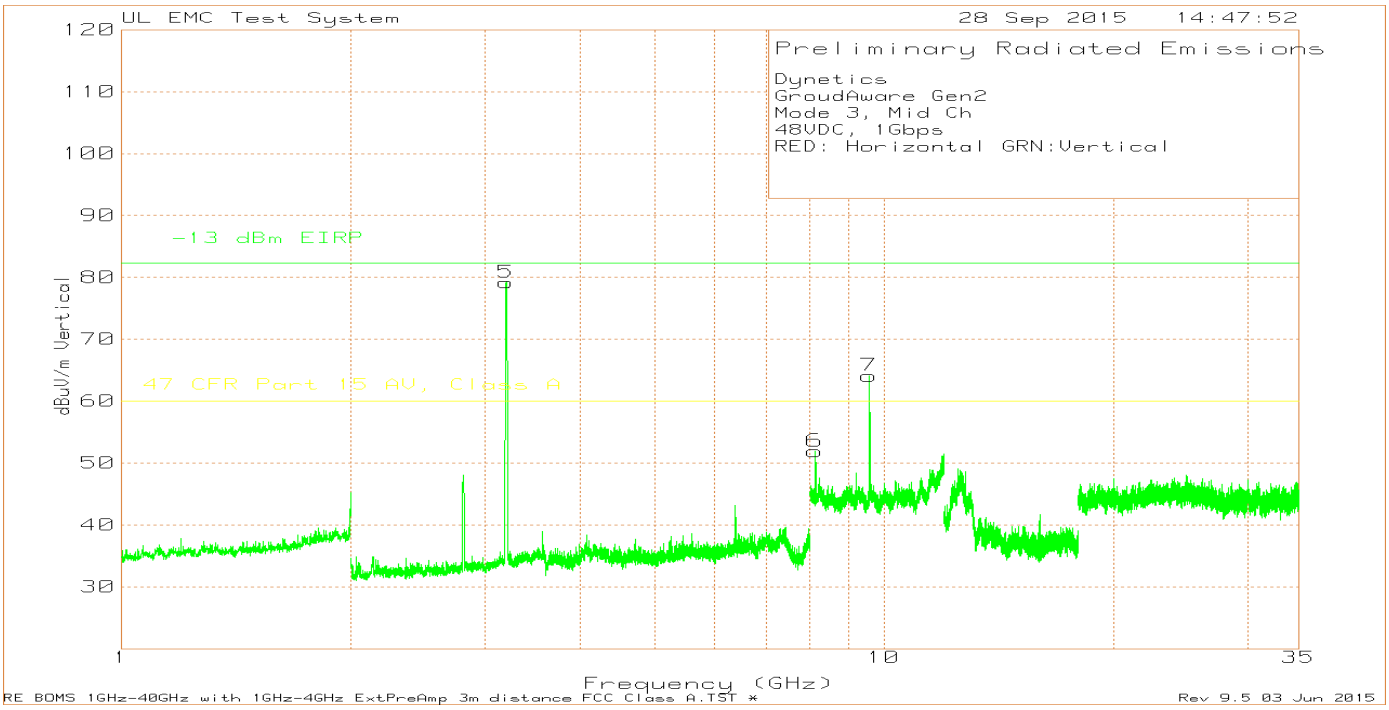


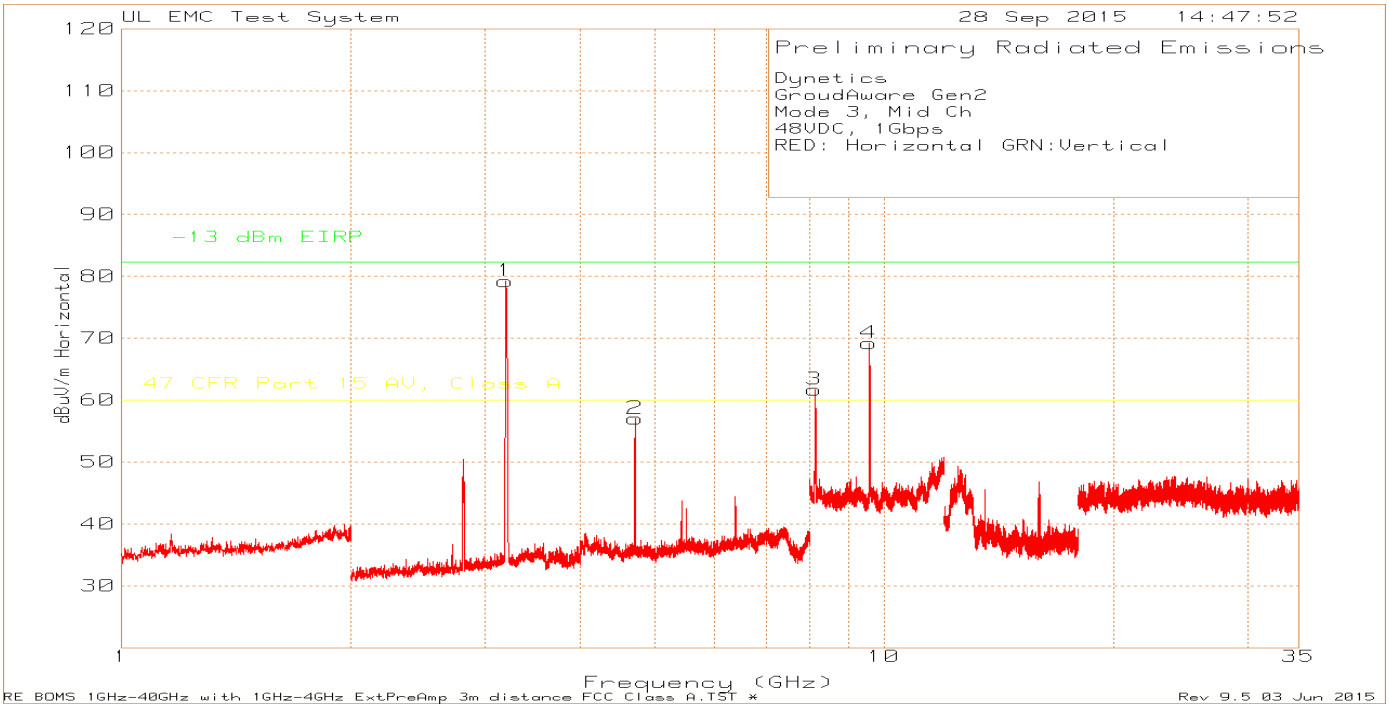


Mode 3, Low Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 3, Low Ch													
48VDC, 10Mbps													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.141	109.97	Pk	22.8	-50.58	82.19	60	22.19	82.34	-0.15	0-360	150	H
2	8	63.14	Pk	36.1	-46.96	52.28	60	-7.72	82.34	-30.06	0-360	150	H
3	9.431	85.84	Pk	36.4	-49.89	72.35	60	12.35	82.34	-9.99	0-360	150	H
4	3.142	109.34	Pk	22.9	-50.58	81.66	60	21.66	82.34	-0.68	0-360	150	V
5	9.428	81.33	Pk	36.4	-49.83	67.9	60	7.9	82.34	-14.44	0-360	99	V
Pk - Peak detector													

Mode 3, Middle Channel, Above 1GHz – Data

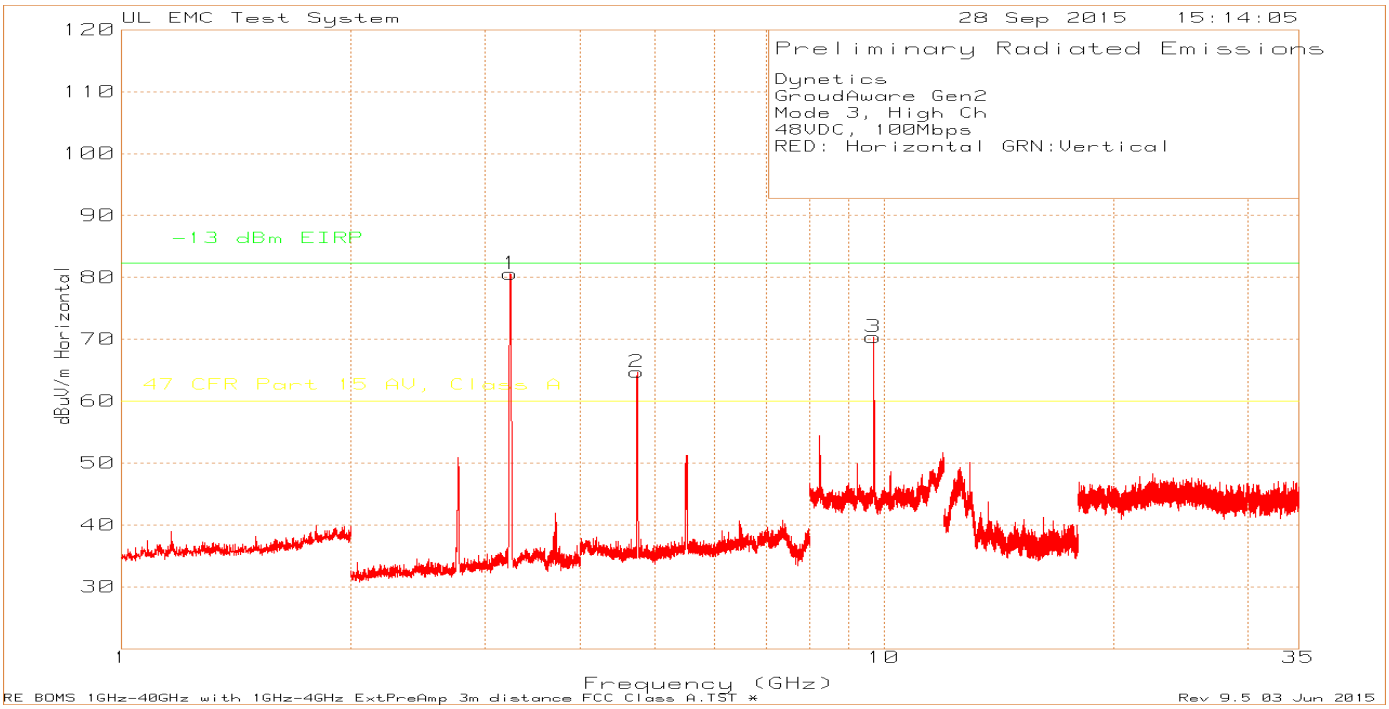


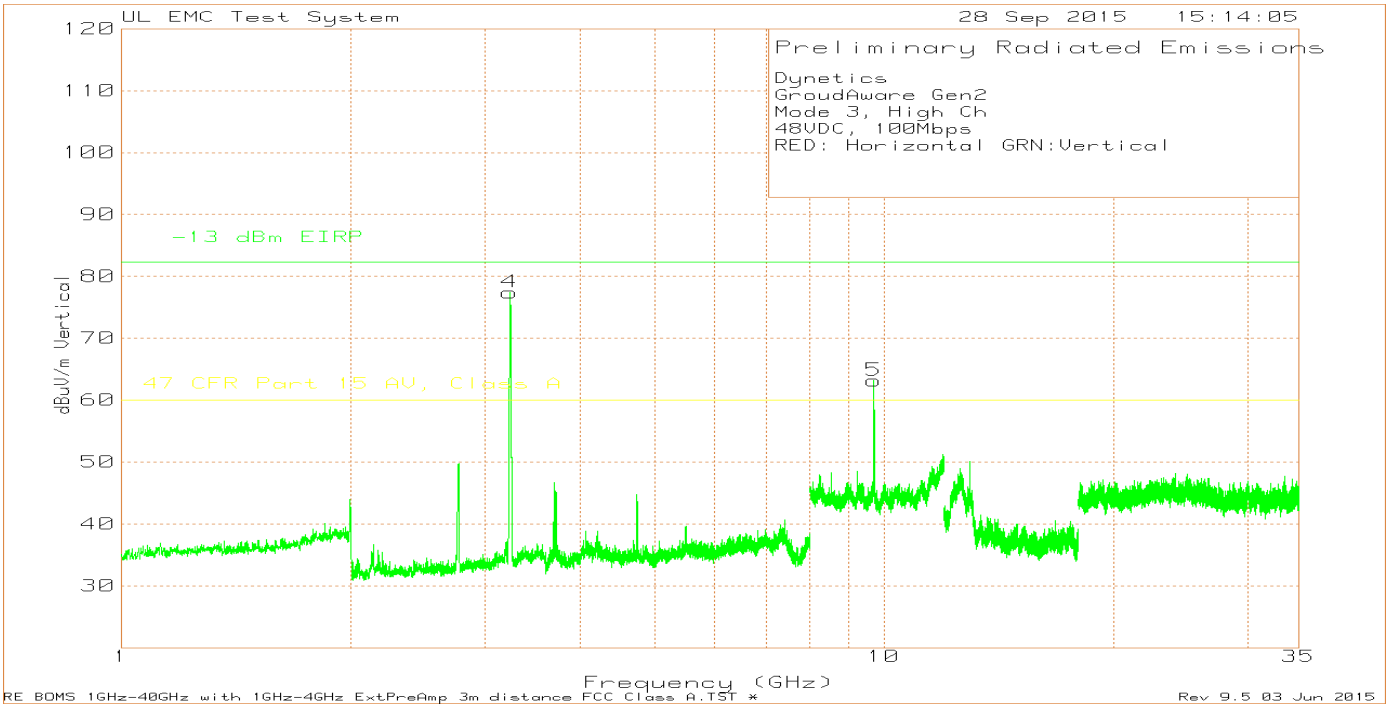


Mode 3, Middle Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 3, Mid Ch													
48VDC, 1Gbps													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.19	107.1	Pk	23.1	-50.95	79.25	60	19.25	82.34	-3.09	0-360	150	H
2	4.719	81.01	Pk	27.7	-51.71	57	60	-3	82.34	-25.34	0-360	101	H
3	8.111	74.2	Pk	36.2	-48.68	61.72	60	1.72	82.34	-20.62	0-360	99	H
4	9.567	81.54	Pk	36.4	-48.72	69.22	60	9.22	82.34	-13.12	0-360	150	H
5	3.195	106.99	Pk	23.2	-51.01	79.18	60	19.18	82.34	-3.16	0-360	150	V
6	8.124	64.33	Pk	36.2	-48.63	51.9	60	-8.1	82.34	-30.44	0-360	150	V
7	9.565	76.48	Pk	36.4	-48.76	64.12	60	4.12	82.34	-18.22	0-360	150	V
Pk - Peak detector													

Mode 3, High Channel, Above 1GHz – Data



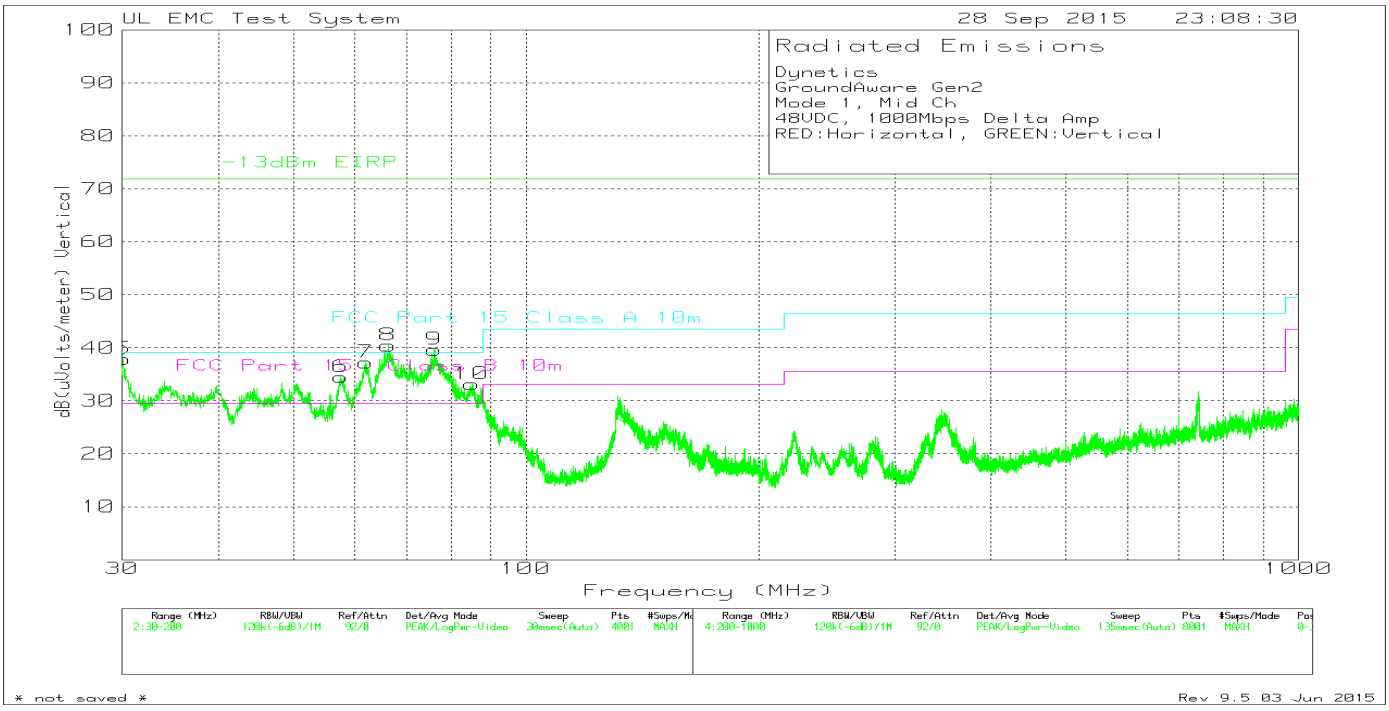


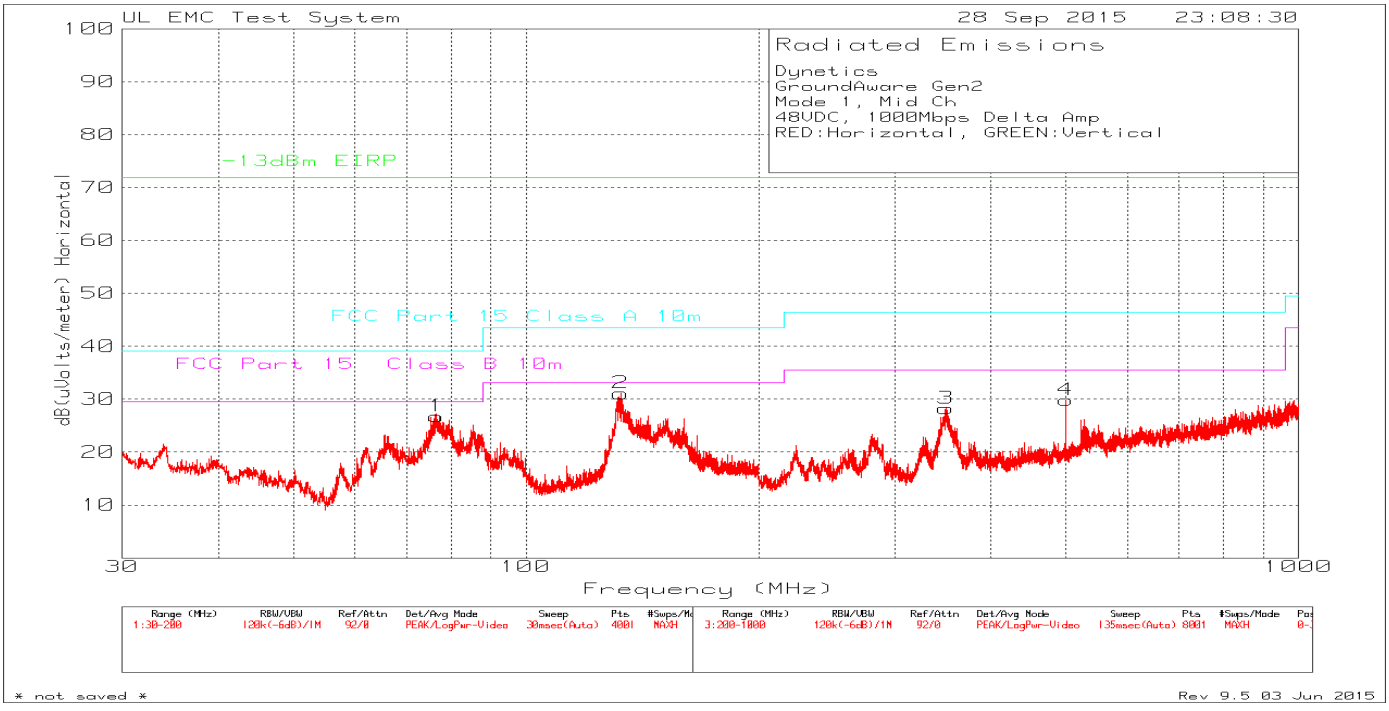
Mode 3, High Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 3, High Ch													
48VDC, 100Mbps													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.236	108.43	Pk	23	-50.86	80.57	60	20.57	82.34	-1.77	0-360	150	H
2	4.744	88.2	Pk	27.7	-51.19	64.71	60	4.71	82.34	-17.63	0-360	100	H
3	9.694	81.45	Pk	36.4	-47.49	70.36	60	10.36	82.34	-11.98	0-360	150	H
4	3.2305	105.32	Pk	23	-50.89	77.43	60	17.43	82.34	-4.91	0-360	150	V
5	9.702	74.14	Pk	36.4	-47.37	63.17	60	3.17	82.34	-19.17	0-360	99	V
Pk - Peak detector													

8.3.1. **Radiated Enclosure Port Out of Band Emissions for Delta Amp**

Mode 1, Middle Channel, Below 1GHz – Data

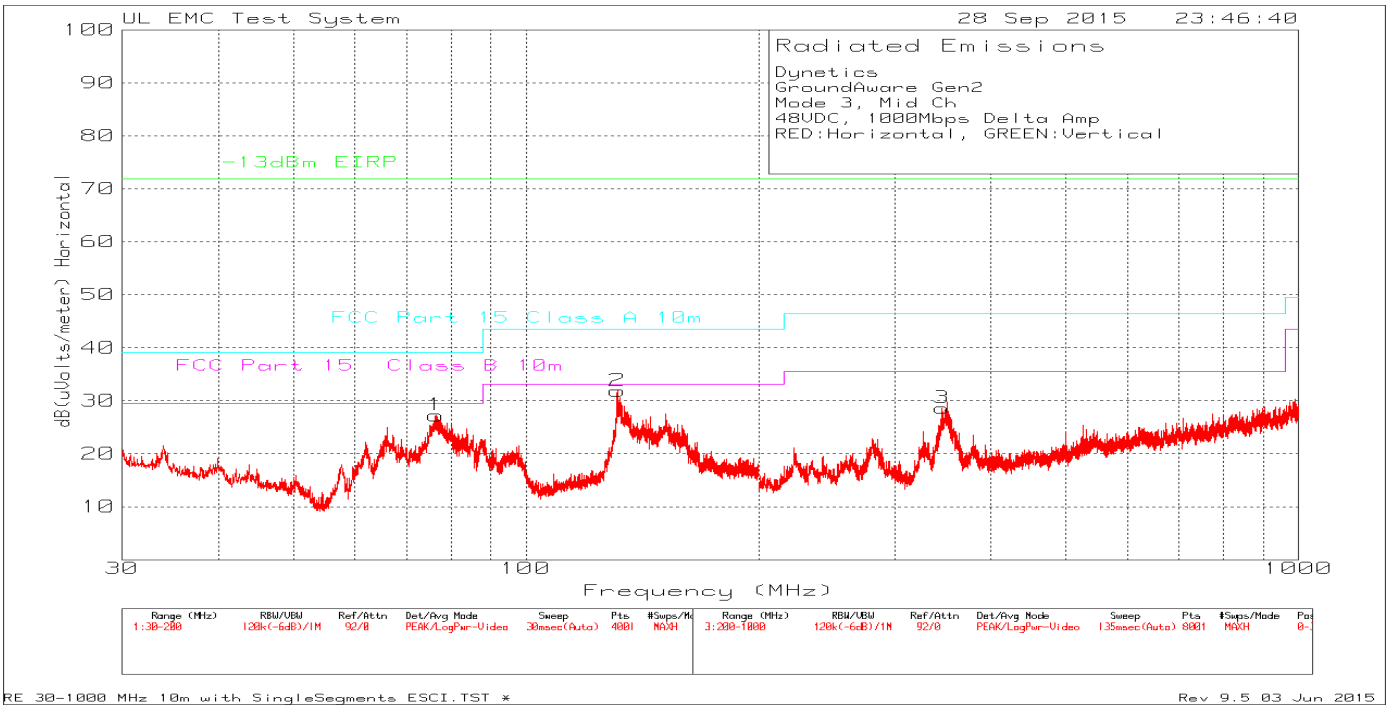


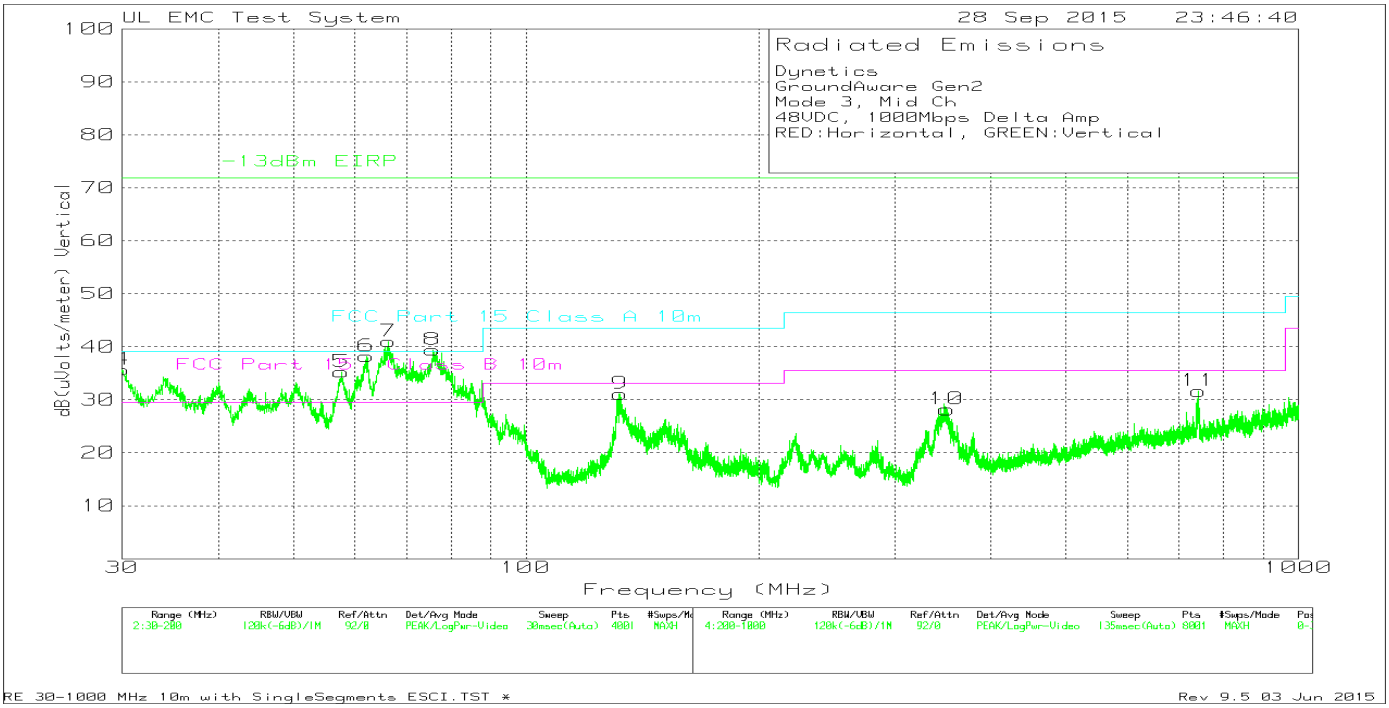


Mode 1, Middle Channel, Below 1GHz, Tabular Data

Dynetics													
GroundAware Gen2													
Mode 1, Mid Ch													
48VDC, 1000Mbps Delta Amp													
RED:Horizontal, GREEN:Vertical													
Trace Markers													
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	76.6225	49.45	Pk	7.3	-30	26.75	71.8	-45.05	39.08	-12.33	0-360	249	H
2	132.765	46.32	Pk	14.6	-29.8	31.12	71.8	-40.68	43.52	-12.4	0-360	398	H
5	30.085	49.86	Pk	18.2	-30.2	37.86	71.8	-33.94	39.08	-1.22	0-360	102	V
6	57.625	58	Pk	6.6	-30.1	34.5	71.8	-37.3	39.08	-4.58	0-360	252	V
7	62.045	61.35	Pk	6	-30.1	37.25	71.8	-34.55	39.08	-1.83	0-360	252	V
8	66.38	64.43	Pk	6.1	-30.1	40.43	71.8	-31.37	39.08	1.35	0-360	398	V
9	76.155	62.43	Pk	7.2	-30	39.63	71.8	-32.17	39.08	0.55	0-360	102	V
10	85.08	54.36	Pk	8.8	-30	33.16	71.8	-38.64	39.08	-5.92	0-360	102	V
3	349.8	41.26	Pk	15	-28	28.26	71.8	-43.54	46.44	-18.18	0-360	199	H
4	500.1	39.74	Pk	17.3	-27.2	29.84	71.8	-41.96	46.44	-16.6	0-360	103	H
Pk - Peak detector													
Radiated Emission Data													
	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
	30.0898	44.2	Qp	18.2	-30.2	32.2	71.8	-39.6	39.08	-6.88	113	101	V
	57.79	54.73	Qp	6.6	-30.1	31.23	71.8	-40.57	39.08	-7.85	246	286	V
	62.08	58.35	Qp	6	-30.1	34.25	71.8	-37.55	39.08	-4.83	224	217	V
	66.39	59.72	Qp	6.1	-30.1	35.72	71.8	-36.08	39.08	-3.36	184	226	V
	76.16	57.94	Qp	7.2	-30	35.14	71.8	-36.66	39.08	-3.94	189	170	V
Qp - Quasi-Peak detector													

Mode 3, Middle Channel, Below 1GHz – Data

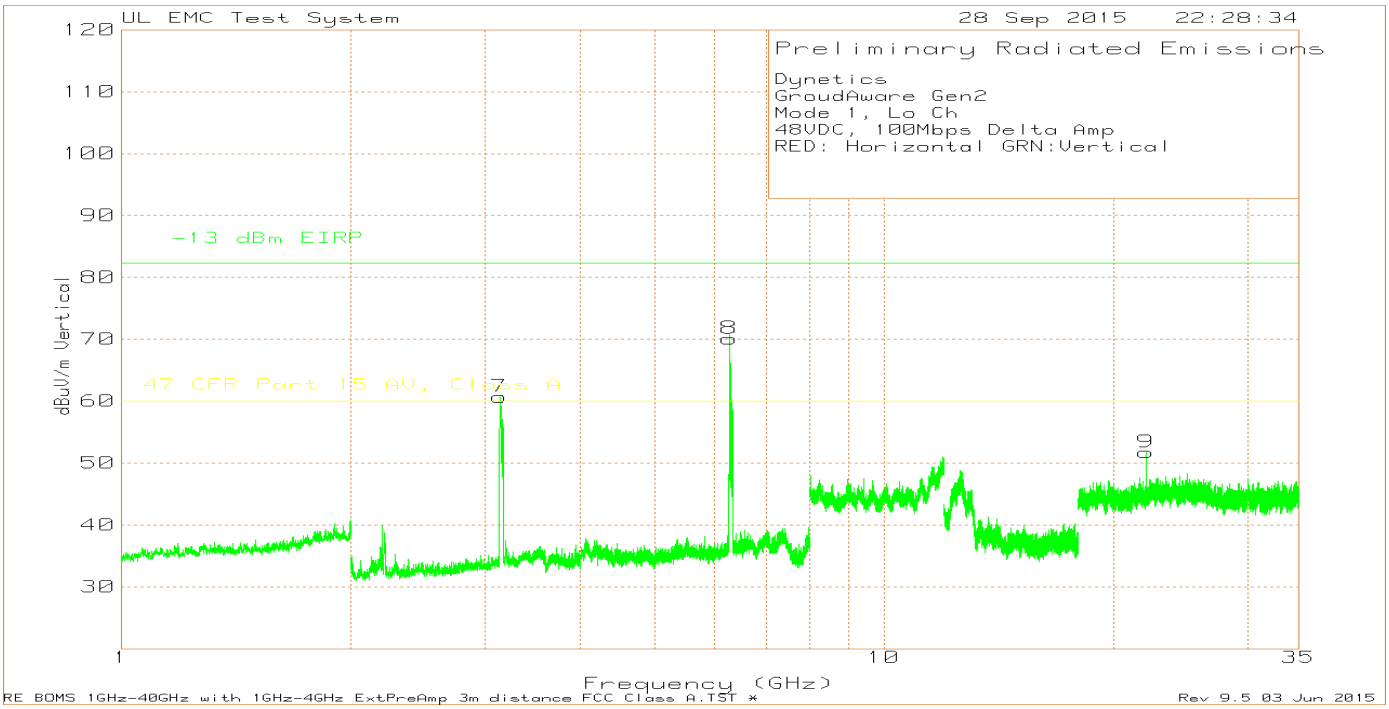


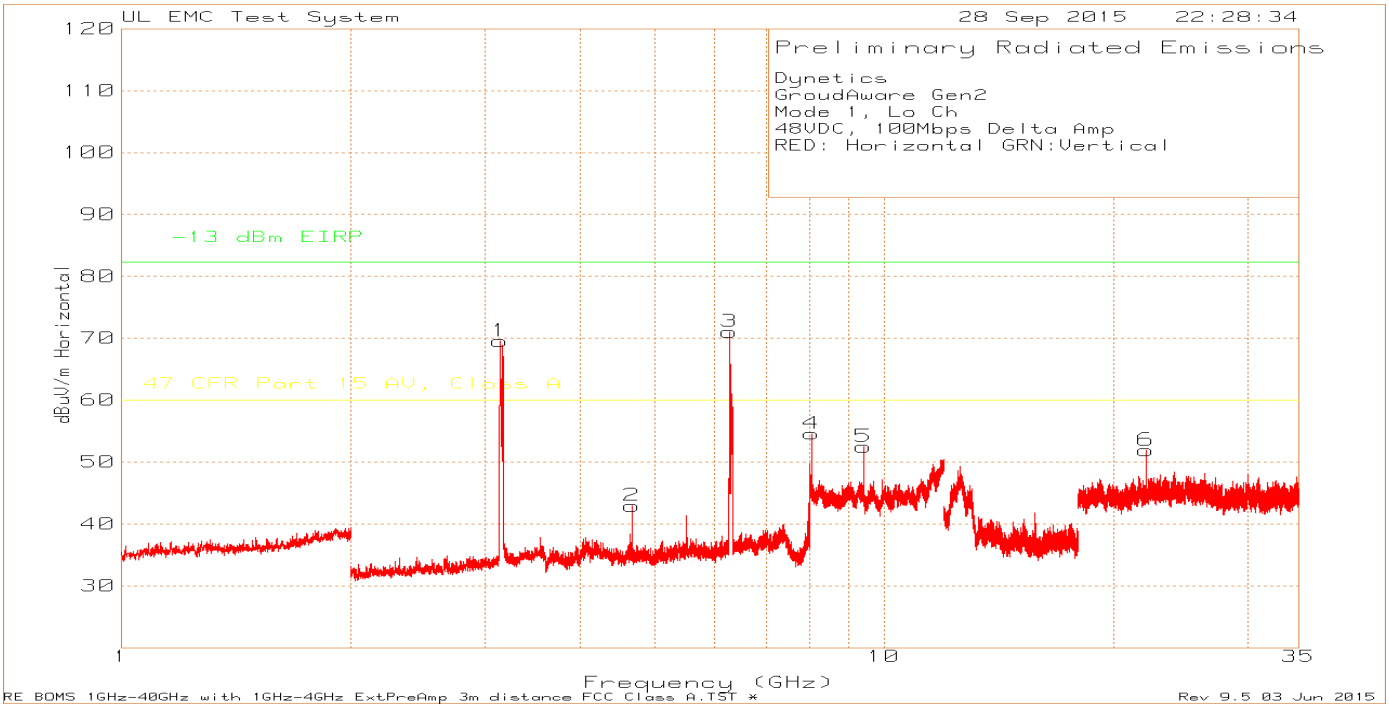


Mode 3, Middle Channel, Below 1GHz, Tabular Data

Dynetics													
GroundAware Gen2													
Mode 3, Mid Ch													
48VDC, 1000Mbps Delta Amp													
RED:Horizontal, GREEN:Vertical													
Trace Markers													
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	76.495	50.03	Pk	7.2	-30	27.23	71.8	-44.57	39.08	-11.85	0-360	248	H
2	131.3625	47.15	Pk	14.5	-29.8	31.85	71.8	-39.95	43.52	-11.67	0-360	398	H
4	30.0425	47.6	Pk	18.3	-30.2	35.7	71.8	-36.1	39.08	-3.38	0-360	102	V
5	57.71	58.77	Pk	6.6	-30.1	35.27	71.8	-36.53	39.08	-3.81	0-360	251	V
6	62.13	62.31	Pk	6	-30.1	38.21	71.8	-33.59	39.08	-0.87	0-360	251	V
7	66.4225	65.02	Pk	6.1	-30.1	41.02	71.8	-30.78	39.08	1.94	0-360	251	V
8	75.815	62.31	Pk	7.2	-30.1	39.41	71.8	-32.39	39.08	0.33	0-360	102	V
9	132.51	46.3	Pk	14.6	-29.8	31.1	71.8	-40.7	43.52	-12.42	0-360	102	V
3	345.6	41.92	Pk	14.9	-28.2	28.62	71.8	-43.18	46.44	-17.82	0-360	199	H
10	350.7	41.19	Pk	15	-28	28.19	71.8	-43.61	46.44	-18.25	0-360	399	V
11	742.5	36.75	Pk	20.9	-26	31.65	71.8	-40.15	46.44	-14.79	0-360	102	V
Pk - Peak detector													
Radiated Emission Data													
	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Calculated -13dBm EIRP into dBuV/m @ 10m	Margin (dB)	FCC Part 15 Class A 10m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
	30.0488	44.53	Qp	18.3	-30.2	32.63	71.8	-39.17	39.08	-6.45	93	102	V
	57.685	54.62	Qp	6.6	-30.1	31.12	71.8	-40.68	39.08	-7.96	248	247	V
	62.105	58.52	Qp	6	-30.1	34.42	71.8	-37.38	39.08	-4.66	251	250	V
	66.44	59.2	Qp	6.1	-30.1	35.2	71.8	-36.6	39.08	-3.88	180	190	V
	76.18	56.82	Qp	7.2	-30	34.02	71.8	-37.78	39.08	-5.06	170	165	V
Qp - Quasi-Peak detector													

Mode 1, Low Channel, Above 1GHz – Data

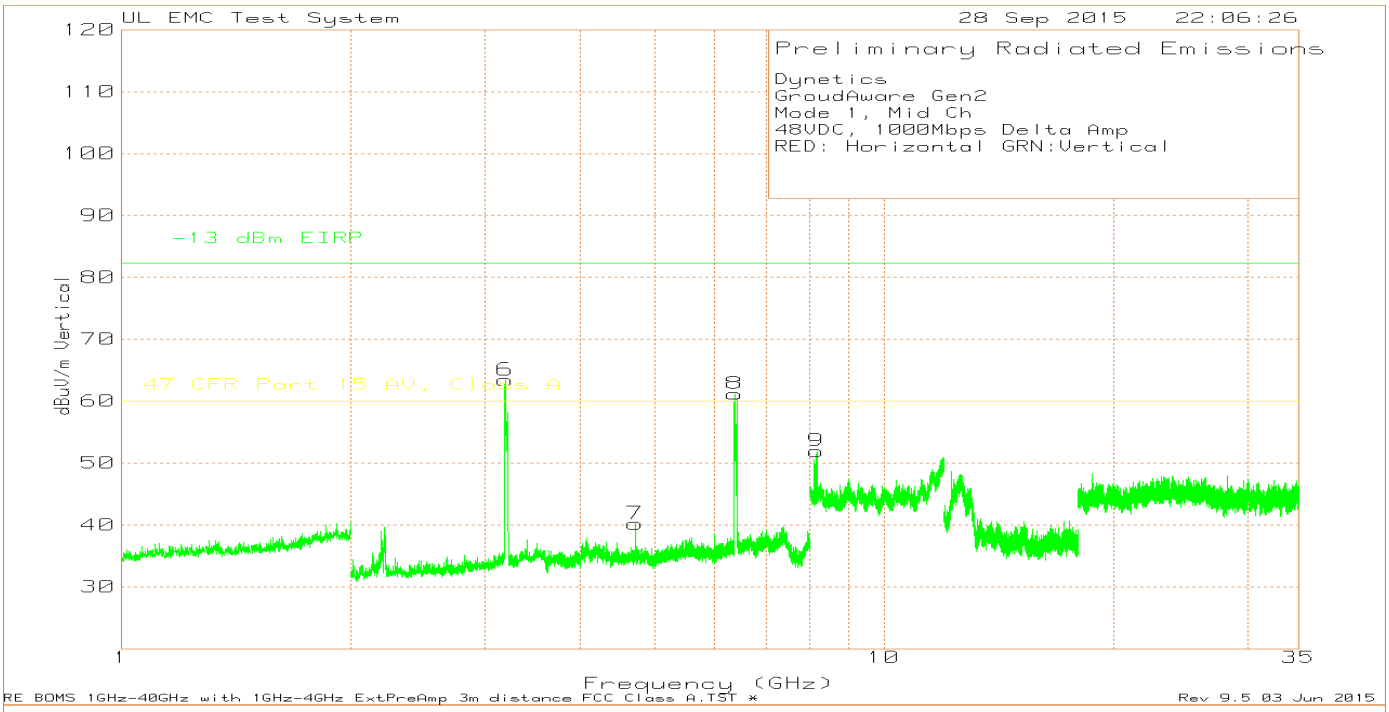


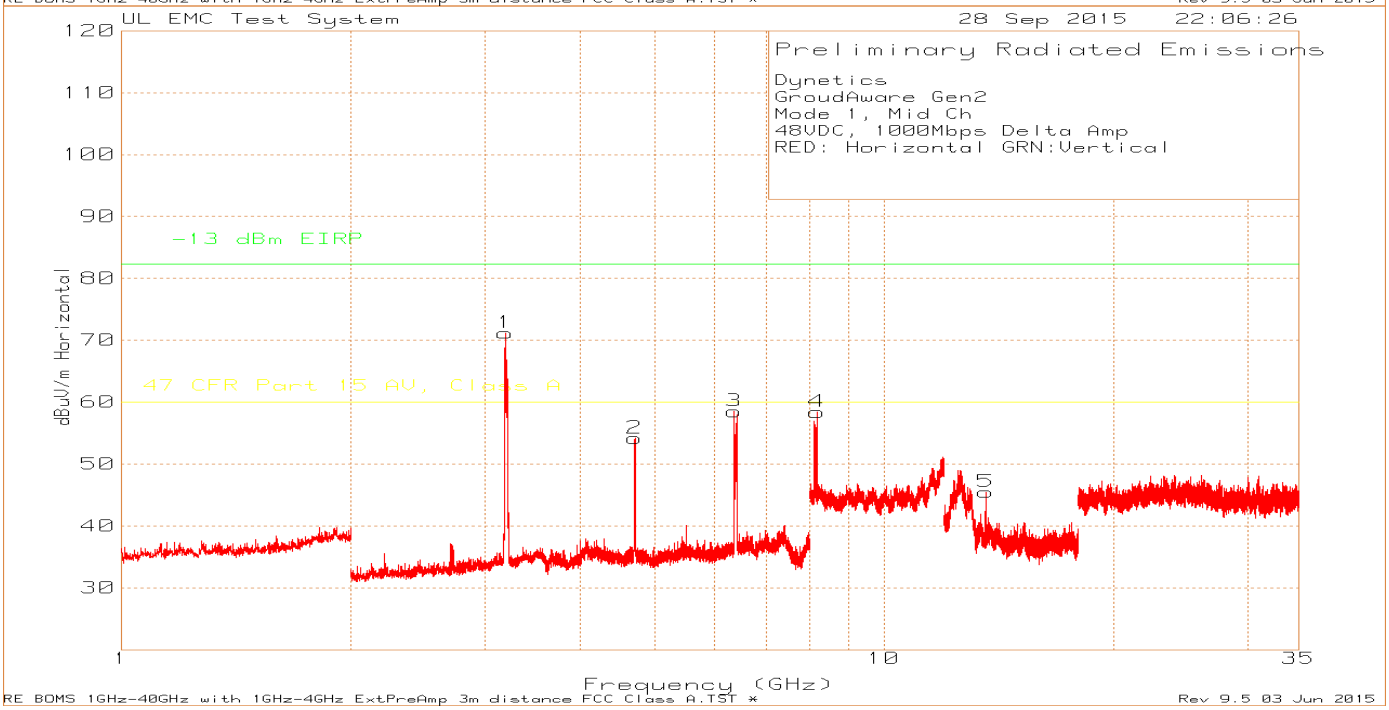


Mode 1, Low Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 1, Lo Ch													
48VDC, 100Mbps Delta Amp													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.137	97.33	Pk	22.8	-50.6	69.53	60	9.53	82.34	-12.81	0-360	99	H
2	4.675	66.99	Pk	27.7	-51.75	42.94	60	-17.06	82.34	-39.4	0-360	99	H
3	6.276	89.18	Pk	29.2	-47.32	71.06	60	11.06	82.34	-11.28	0-360	99	H
4	8.039	65.86	Pk	36.1	-47.38	54.58	60	-5.42	82.34	-27.76	0-360	150	H
5	9.405	65.24	Pk	36.4	-49.19	52.45	60	-7.55	82.34	-29.89	0-360	150	H
6	22.082	57.65	Pk	40.4	-46.15	51.9	60	-8.1	82.34	-30.44	0-360	100	H
7	3.133	88.52	Pk	22.8	-50.62	60.7	60	0.7	82.34	-21.64	0-360	150	V
8	6.267	88.05	Pk	29.2	-47.17	70.08	60	10.08	82.34	-12.26	0-360	150	V
9	22.078	57.22	Pk	40.4	-45.88	51.74	60	-8.26	82.34	-30.6	0-360	100	V
Pk - Peak detector													

Mode 1, Middle Channel, Above 1GHz – Data

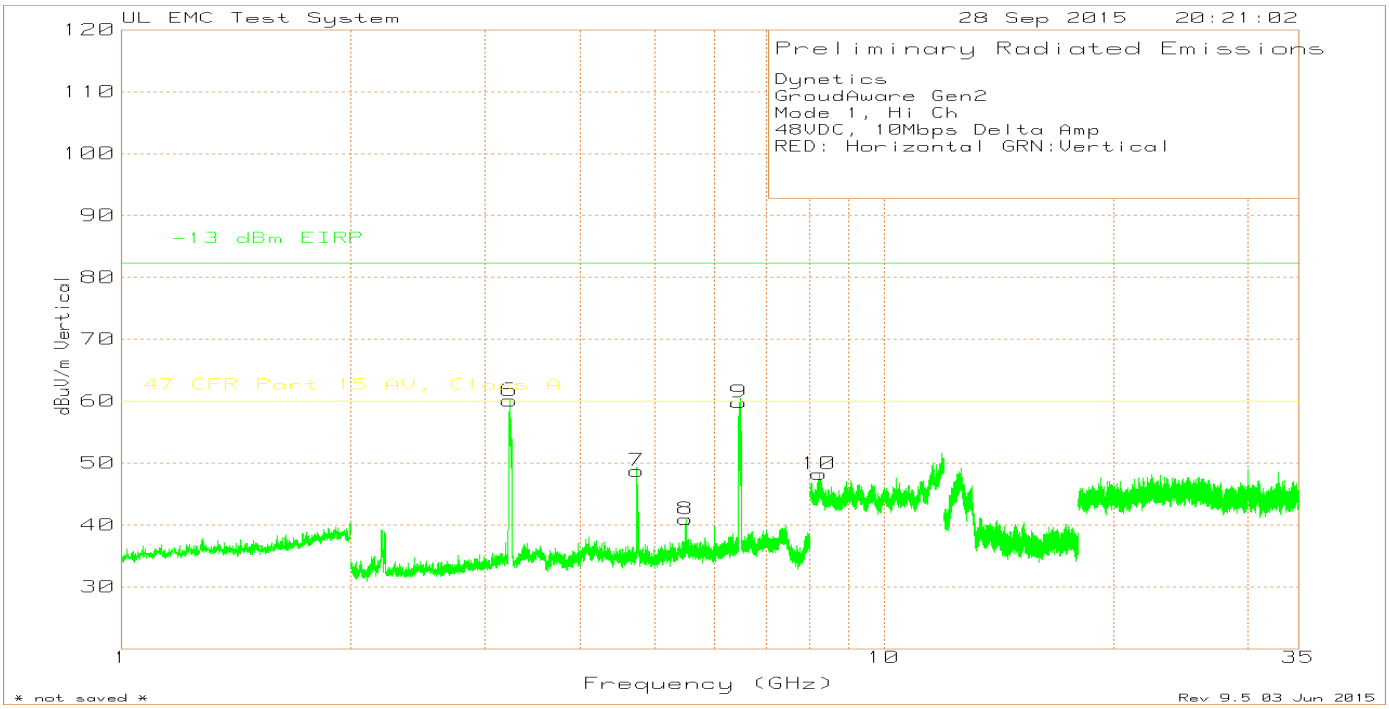


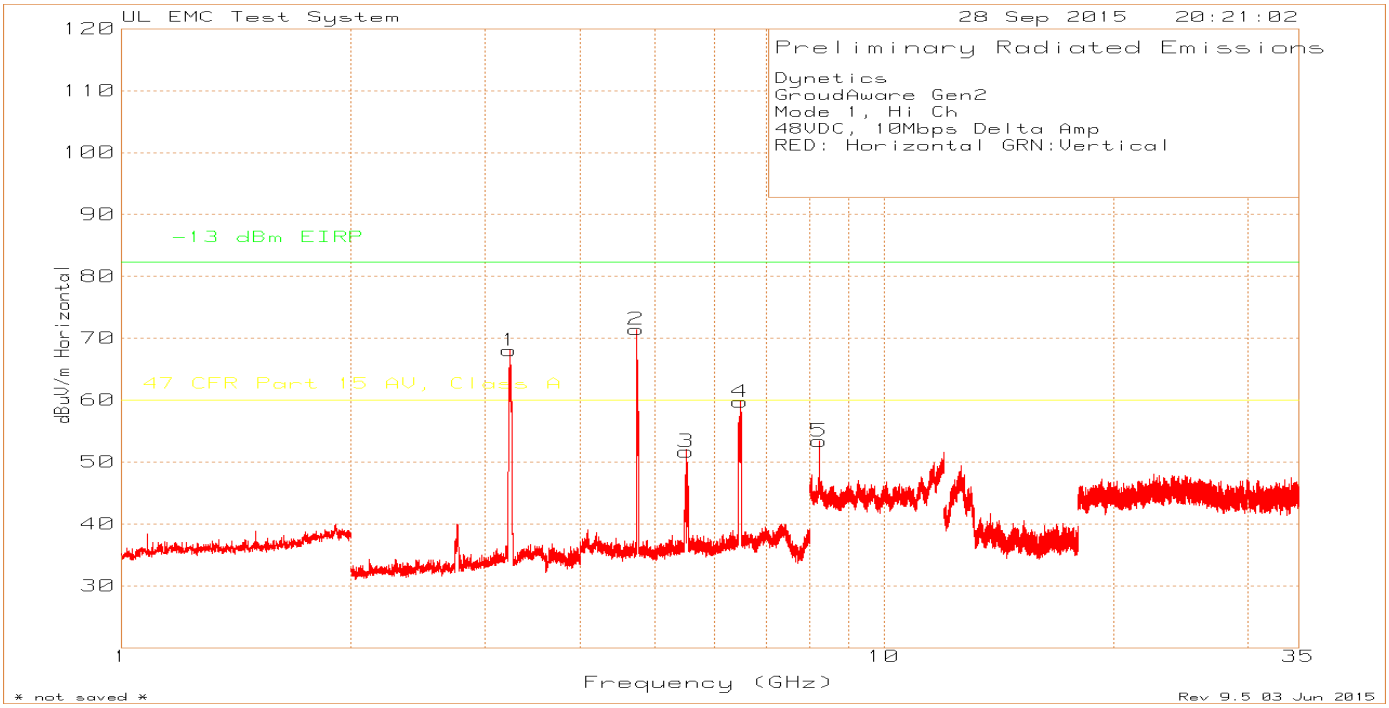


Mode 1, Middle Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 1, Mid Ch													
48VDC, 1000Mbps Delta Amp													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.186	98.99	Pk	23.1	-50.9	71.18	60	11.18	82.34	-11.16	0-360	99	H
2	4.714	78.26	Pk	27.7	-51.8	54.18	60	-5.82	82.34	-28.16	0-360	99	H
3	6.363	76.38	Pk	29.2	-47.1	58.51	60	-1.49	82.34	-23.83	0-360	99	H
4	8.177	70.29	Pk	36.3	-48.2	58.4	60	-1.6	82.34	-23.94	0-360	99	H
5	13.607	46.93	Pk	39.8	-41.2	45.49	60	-14.51	82.34	-36.85	0-360	150	H
6	3.188	91.21	Pk	23.1	-50.9	63.39	60	3.39	82.34	-18.95	0-360	99	V
7	4.722	64.15	Pk	27.7	-51.7	40.18	60	-19.82	82.34	-42.16	0-360	99	V
8	6.377	79.26	Pk	29.2	-47.3	61.17	60	1.17	82.34	-21.17	0-360	99	V
9	8.163	64.03	Pk	36.3	-48.4	51.94	60	-8.06	82.34	-30.4	0-360	150	V
Pk - Peak detector													

Mode 1, High Channel, Above 1GHz – Data

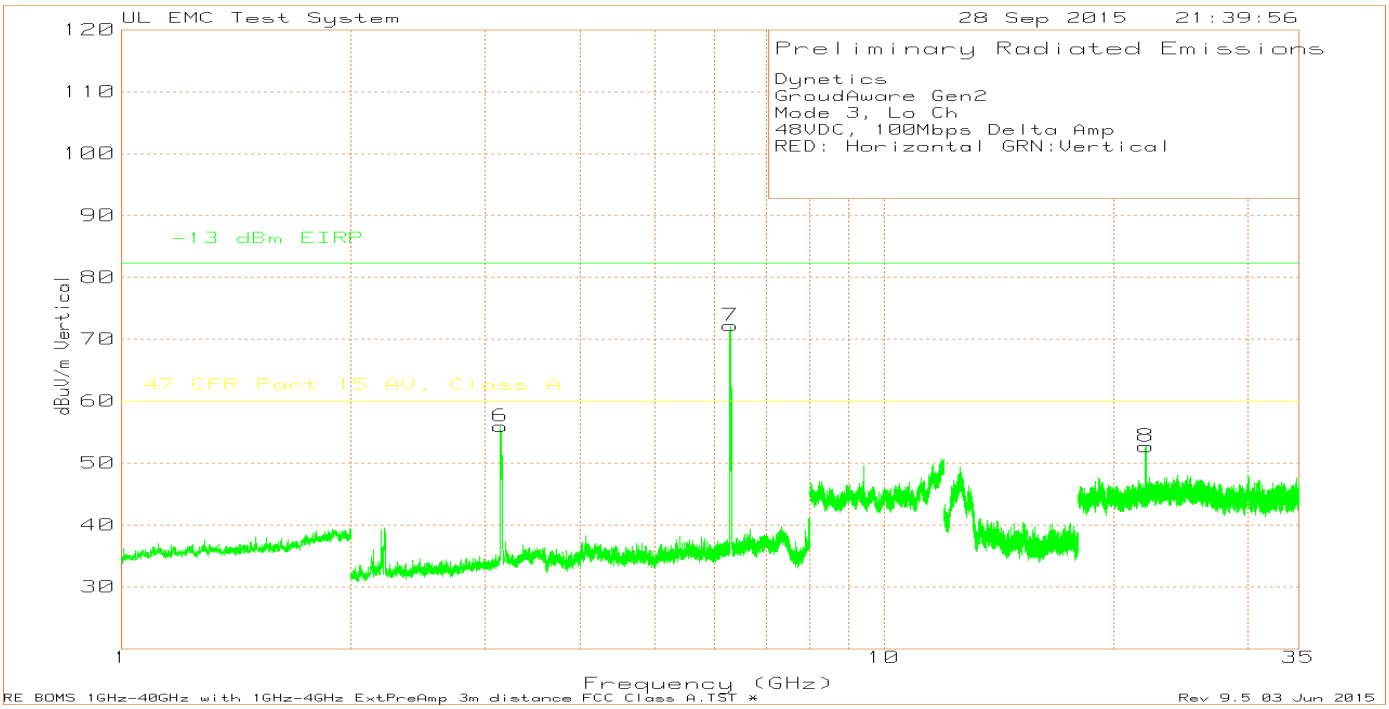


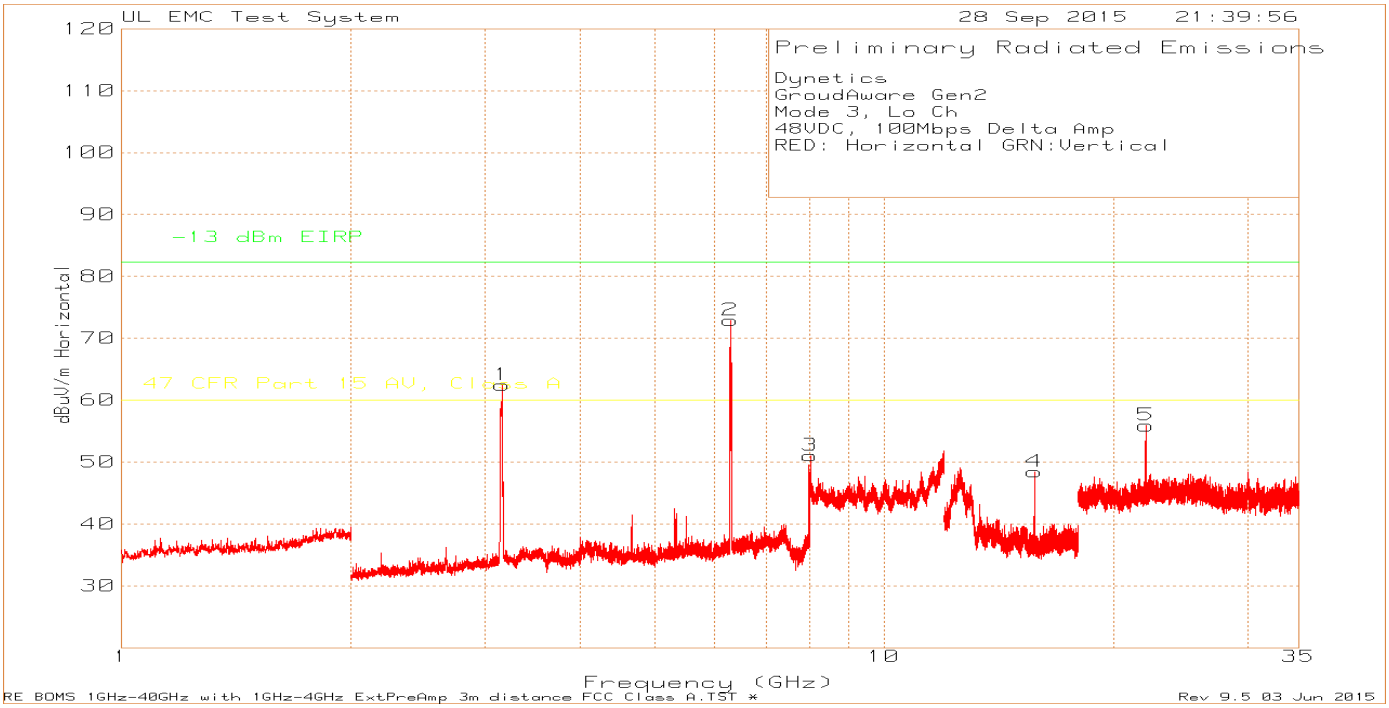


Mode 1, High Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 1, Hi Ch													
48VDC, 10Mbps Delta Amp													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.227	95.83	Pk	23.1	-50.9	68.03	60	8.03	82.34	-14.31	0-360	99	H
2	4.738	95.06	Pk	27.7	-51.34	71.42	60	11.42	82.34	-10.92	0-360	99	H
3	5.507	73.01	Pk	28.2	-49.54	51.67	60	-8.33	82.34	-30.67	0-360	99	H
4	6.486	78.35	Pk	29.1	-47.73	59.72	60	-0.28	82.34	-22.62	0-360	99	H
5	8.231	63.97	Pk	36.4	-46.99	53.38	60	-6.62	82.34	-28.96	0-360	150	H
6	3.228	87.89	Pk	23.1	-50.9	60.09	60	0.09	82.34	-22.25	0-360	99	V
7	4.741	72.31	Pk	27.7	-51.27	48.74	60	-11.26	82.34	-33.6	0-360	150	V
8	5.498	62.22	Pk	28.1	-49.38	40.94	60	-19.06	82.34	-41.4	0-360	150	V
9	6.458	78.17	Pk	29.1	-47.47	59.8	60	-0.2	82.34	-22.54	0-360	99	V
10	8.227	58.87	Pk	36.4	-47.04	48.23	60	-11.77	82.34	-34.11	0-360	150	V
Pk - Peak detector													

Mode 3, Low Channel, Above 1GHz – Data

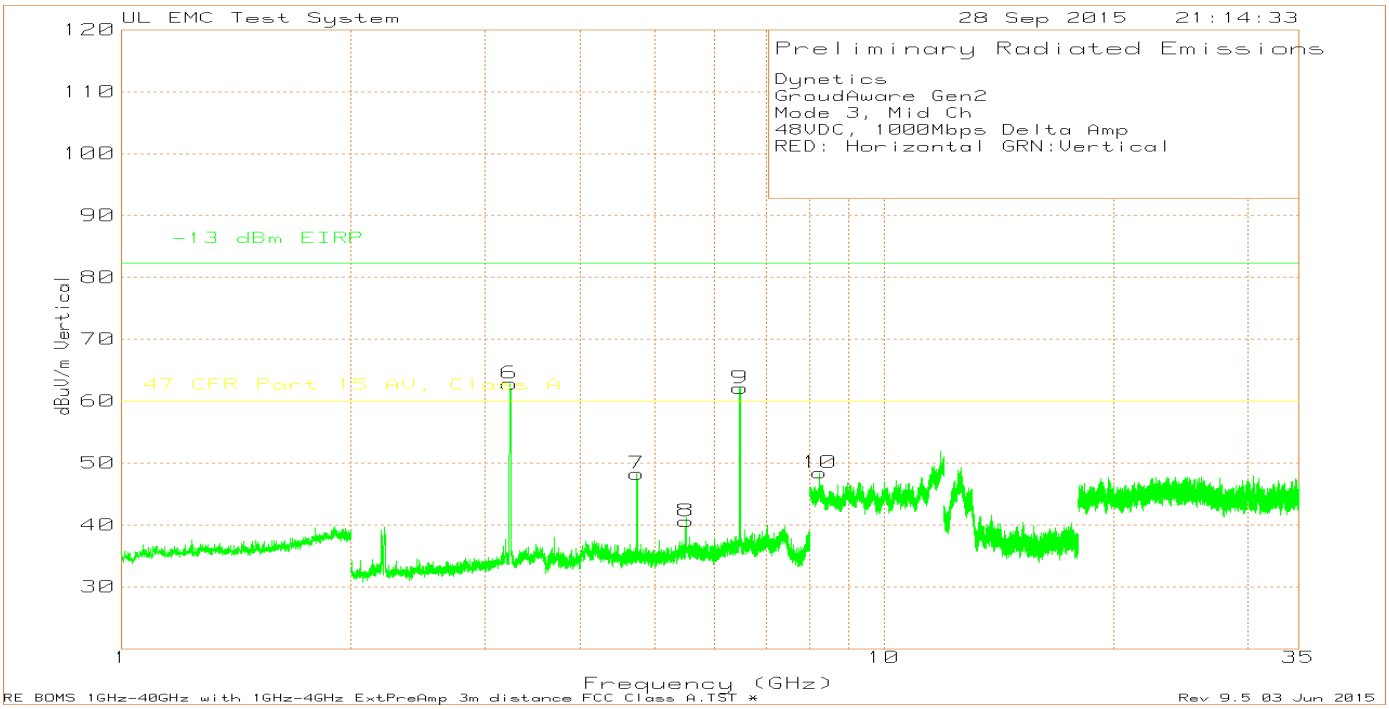


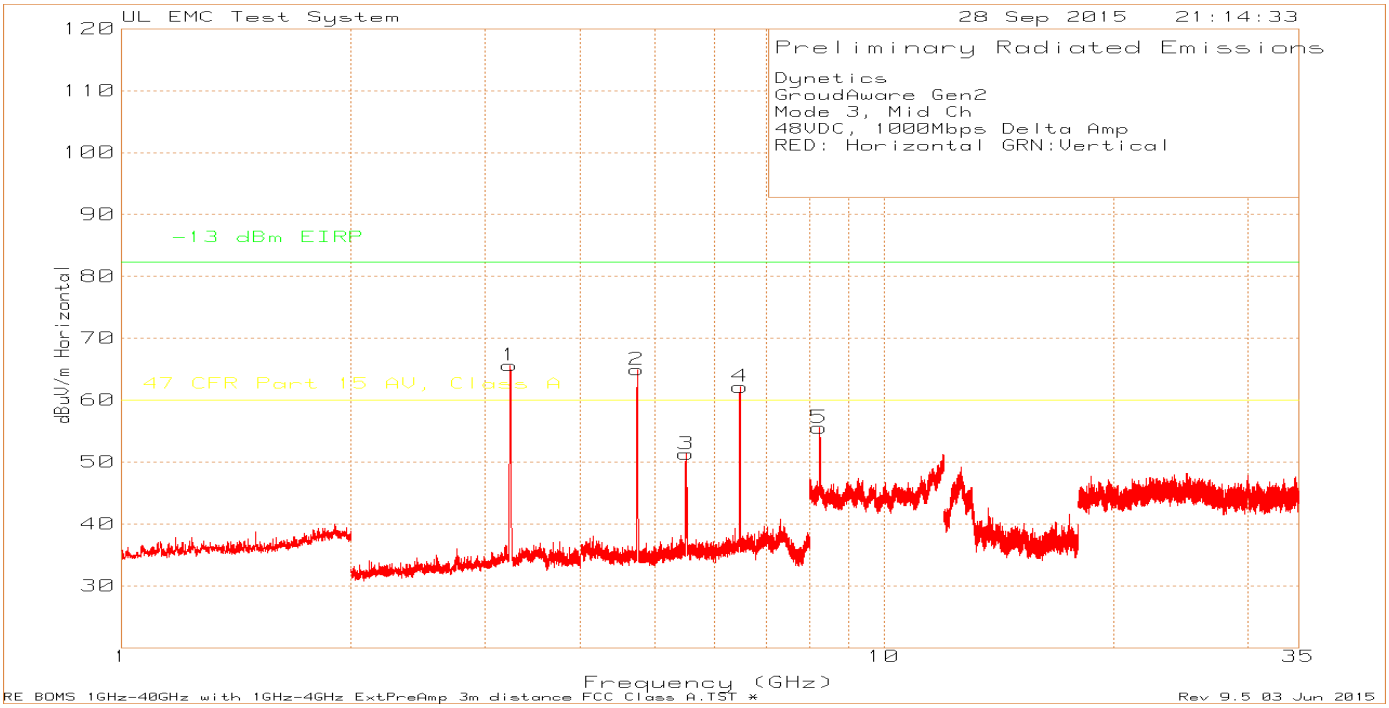


Mode 3, Low Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 3, Lo Ch													
48VDC, 100Mbps Delta Amp													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.156	90.49	Pk	22.9	-50.95	62.44	60	2.44	82.34	-19.9	0-360	99	H
2	6.291	90.89	Pk	29.2	-47.19	72.9	60	12.9	82.34	-9.44	0-360	99	H
3	8.008	61.93	Pk	36.1	-46.99	51.04	60	-8.96	82.34	-31.3	0-360	150	H
4	15.765	48.83	Pk	40	-40.39	48.44	60	-11.56	82.34	-33.9	0-360	99	H
5	22.087	61.67	Pk	40.4	-46.15	55.92	60	-4.08	82.34	-26.42	0-360	100	H
6	3.141	83.71	Pk	22.8	-50.58	55.93	60	-4.07	82.34	-26.41	0-360	150	V
7	6.289	90.24	Pk	29.2	-47.22	72.22	60	12.22	82.34	-10.12	0-360	150	V
8	22.075	57.9	Pk	40.4	-45.63	52.67	60	-7.33	82.34	-29.67	0-360	100	V
Pk - Peak detector													

Mode 3, Middle Channel, Above 1GHz – Data

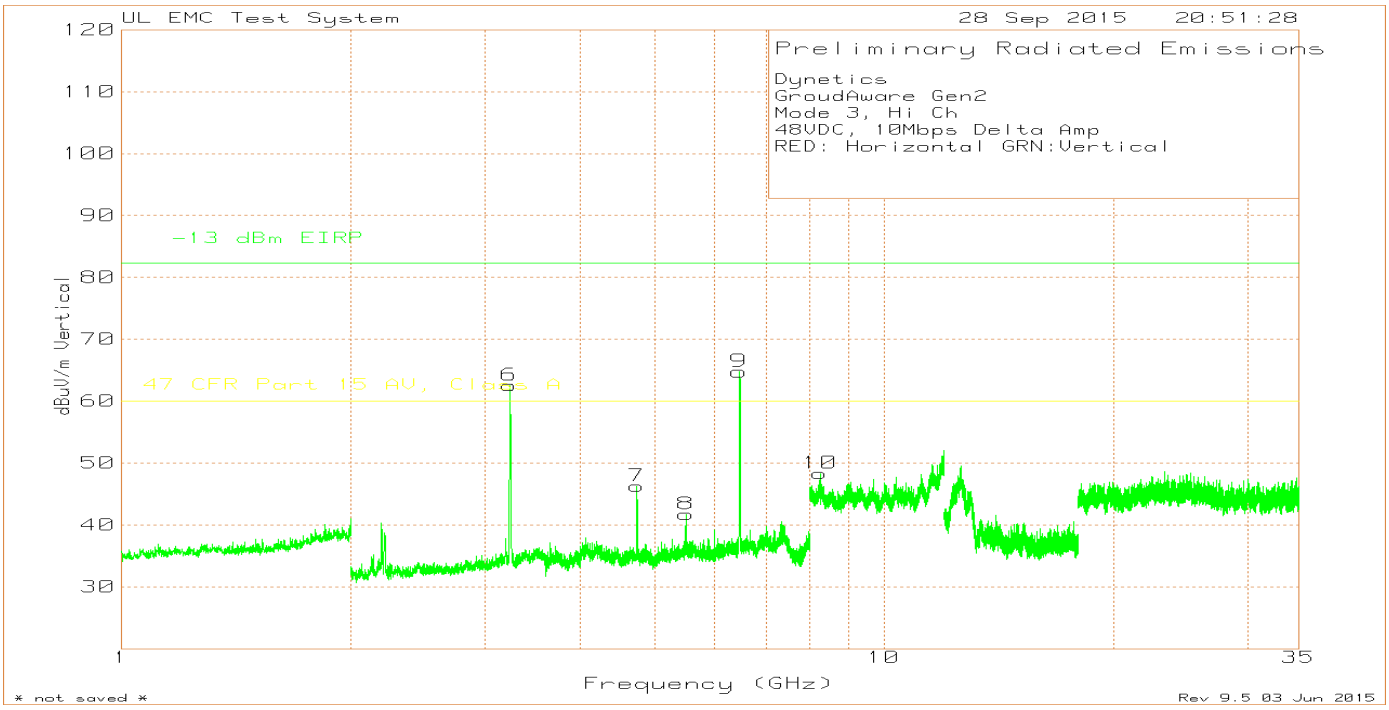


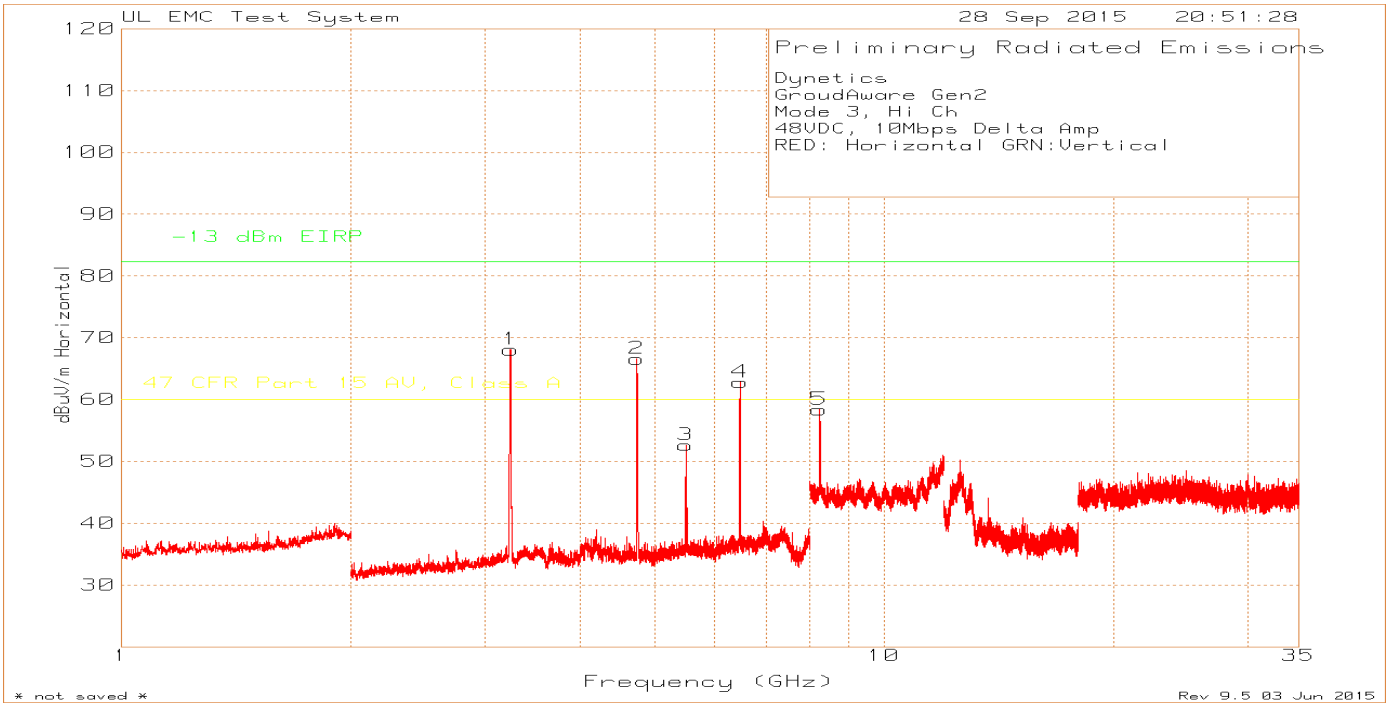


Mode 3, Middle Channel, Above 1GHz, Tabular Data

Dynetics													
GroudAware Gen2													
Mode 3, Mid Ch													
48VDC, 1000Mbps Delta Amp													
RED: Horizontal GRN:Vertical													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.229	93.41	Pk	23.1	-50.9	65.61	60	5.61	82.34	-16.73	0-360	99	H
2	4.744	88.43	Pk	27.7	-51.2	64.94	60	4.94	82.34	-17.4	0-360	99	H
3	5.504	72.59	Pk	28.2	-49.5	51.3	60	-8.7	82.34	-31.04	0-360	99	H
4	6.484	80.82	Pk	29.1	-47.7	62.18	60	2.18	82.34	-20.16	0-360	99	H
5	8.23	66.13	Pk	36.4	-47	55.53	60	-4.47	82.34	-26.81	0-360	99	H
6	3.232	90.74	Pk	23	-50.9	62.85	60	2.85	82.34	-19.49	0-360	150	V
7	4.743	71.82	Pk	27.7	-51.2	48.3	60	-11.7	82.34	-34.04	0-360	99	V
8	5.507	61.94	Pk	28.2	-49.5	40.6	60	-19.4	82.34	-41.74	0-360	150	V
9	6.481	80.75	Pk	29.1	-47.7	62.11	60	2.11	82.34	-20.23	0-360	99	V
10	8.237	58.96	Pk	36.4	-46.9	48.44	60	-11.56	82.34	-33.9	0-360	150	V
Pk - Peak detector													

Mode 3, High Channel, Above 1GHz – Data





Mode 3, High Channel, Above 1GHz, Tabular Data

Dynetics
GroudAware Gen2
Mode 3, Hi Ch
48VDC, 10Mbps Delta Amp
RED: Horizontal GRN:Vertical
Trace Markers

Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	47 CFR Part 15 AV, Class A	Margin (dB)	Calculated Limit -13 dBm EIRP in dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	3.238	95.95	Pk	23	-50.85	68.1	60	8.1	82.34	-14.24	0-360	99	H
2	4.743	90.12	Pk	27.7	-51.22	66.6	60	6.6	82.34	-15.74	0-360	99	H
3	5.497	73.91	Pk	28.1	-49.38	52.63	60	-7.37	82.34	-29.71	0-360	99	H
4	6.482	81.44	Pk	29.1	-47.74	62.8	60	2.8	82.34	-19.54	0-360	99	H
5	8.228	68.99	Pk	36.4	-47.03	58.36	60	-1.64	82.34	-23.98	0-360	150	H
6	3.227	90.34	Pk	23.1	-50.9	62.54	60	2.54	82.34	-19.8	0-360	99	V
7	4.743	69.79	Pk	27.7	-51.22	46.27	60	-13.73	82.34	-36.07	0-360	99	V
8	5.499	63.02	Pk	28.1	-49.4	41.72	60	-18.28	82.34	-40.62	0-360	150	V
9	6.456	83.12	Pk	29.1	-47.46	64.76	60	4.76	82.34	-17.58	0-360	150	V
10	8.244	58.97	Pk	36.4	-47.03	48.34	60	-11.66	82.34	-34	0-360	150	V

Pk - Peak detector

9. FREQUENCY STABILITY

RULE PART(S)

§2.1055

§90.213 Frequency stability

Above 2450 MHz [10]

[10]Except for DSRCS equipment in the 5850-5925 MHz band, frequency stability is to be specified in the station authorization. Frequency stability for DSRCS equipment in the 5850-5925 MHz band is specified in subpart M of this part.

LIMITS

Device must remain operating in between 3100MHz to 3300MHz.

TEST PROCEDURE

Use spectrum analyzer to measure -6dBc points

- Temp. = −30° to +50°C
- Voltage = Normal, 120VAC, Low, 102VAC and High, 138VAC.

Frequency Stability vs Temperature:
The EUT is place inside a temperature chamber. The temperature is set to 25ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by changed to either +30°C or +20°C degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC and -30°C is reached in 10° steps.

Frequency Stability vs Voltage:
The peak frequency error is recorded (worst-case).

RESULTS

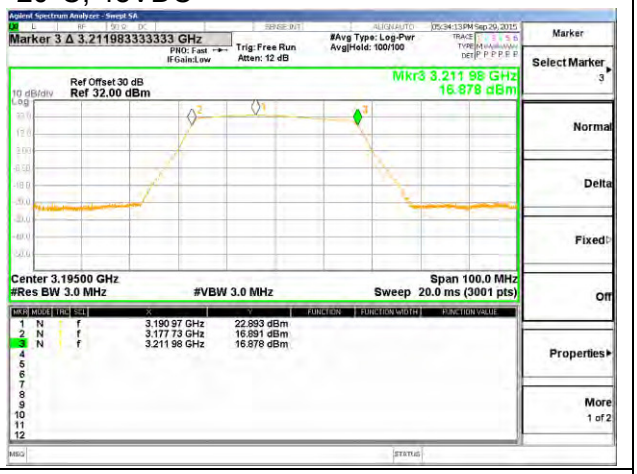
* Based on the band edge measurements and the frequency error data the device will operate in between the frequency range of 3100MHz - 3300MHz under all temperature and voltage variations.

See the following pages for data.

Programmed Frequency:			3.195313		
Temp °C	Freq. GHz - 6dBc Low Side	Freq. GHz - 6dBc Upper Side	Freq. GHz Center Fl+((Fu-Fl)/2)	Freq Error GHz	PPM Error from Nominal
-30	3.17763	3.21192	3.194775	-0.00054	-168.22
-20	3.17773	3.21198	3.194855	-0.00046	-143.18
-10	3.1778	3.21205	3.194925	-0.00039	-121.27
0	3.177867	3.212167	3.195017	-0.0003	-92.48
10	3.1779	3.212217	3.195059	-0.00025	-79.49
20	3.177933	3.21225	3.195092	-0.00022	-69.16
Nominal / 25	3.177933	3.212267	3.1951	-0.00021	-66.50
30	3.1779	3.212283	3.195092	-0.00022	-69.16
40	3.177883	3.212267	3.195075	-0.00024	-74.33
50	3.177867	3.21225	3.195059	-0.00025	-79.49
Voltage @ 25°C	Freq. GHz - 6dBc Low Side	Freq. GHz - 6dBc Upper Side	Center Freq Fl+((Fu-Fl)/2)	Freq Error GHz	PPM Error from Nominal
35.1	3.177917	3.212267	3.195092	-0.00022	-69.01
Nominal / 48	3.177933	3.212267	3.1951	-0.00021	-66.50
55.2	3.177917	3.212283	3.1951	-0.00021	-66.50

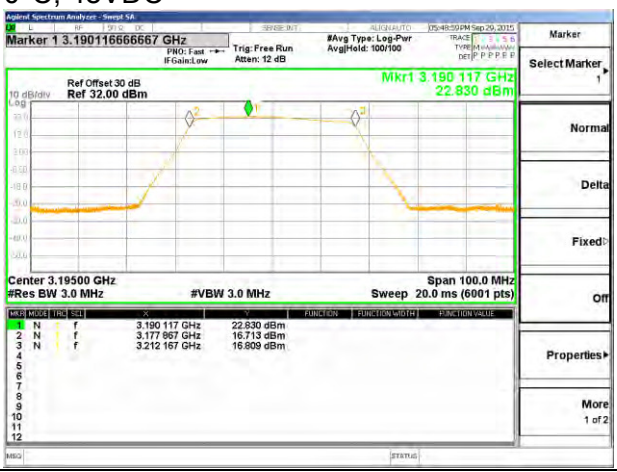
-30°C, 48VDC

-20°C, 48VDC



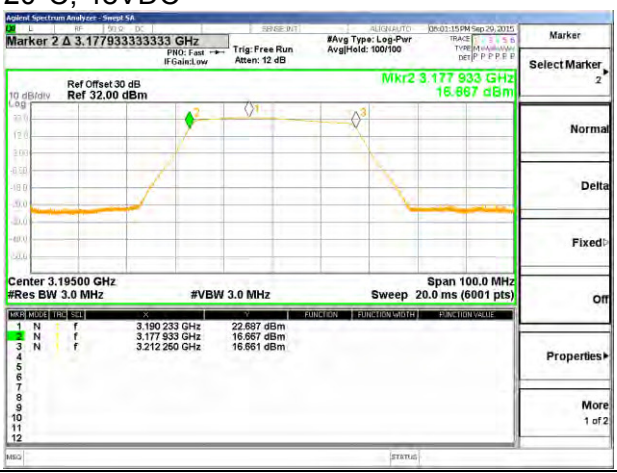
-10°C, 48VDC

0°C, 48VDC



10°C, 48VDC

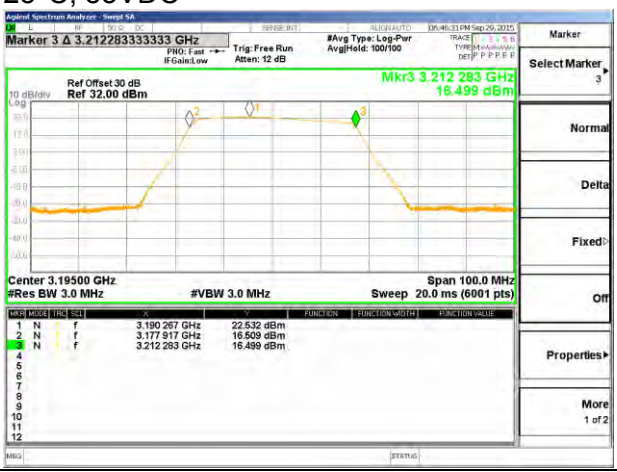
20°C, 48VDC



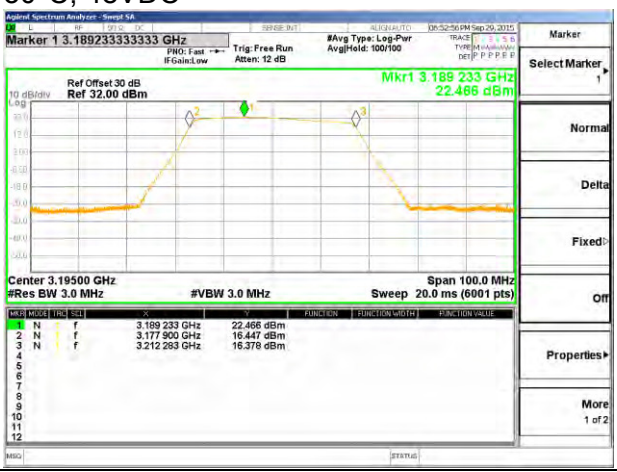
25°C, 35VDC

25°C, 48VDC

25°C, 55VDC



30°C, 48VDC



40°C, 48VDC

50°C, 48VDC

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

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 C63.4.

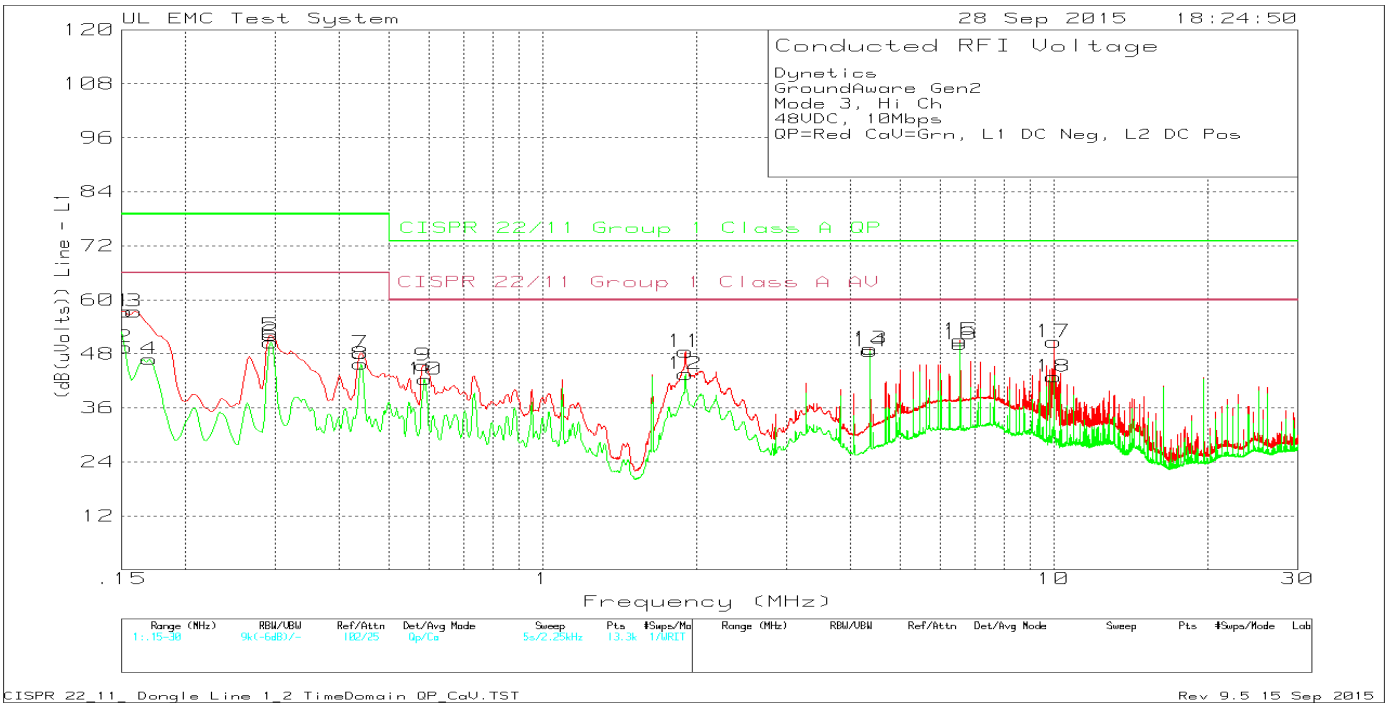
The receiver is set to a resolution bandwidth of 9 kHz. Quasi-Peak and CISPR Average detection is used unless otherwise noted.

Line conducted data is recorded for both +48VDC (line 2) and Return (line 1) lines for both amplifiers at all Ethernet data rates.

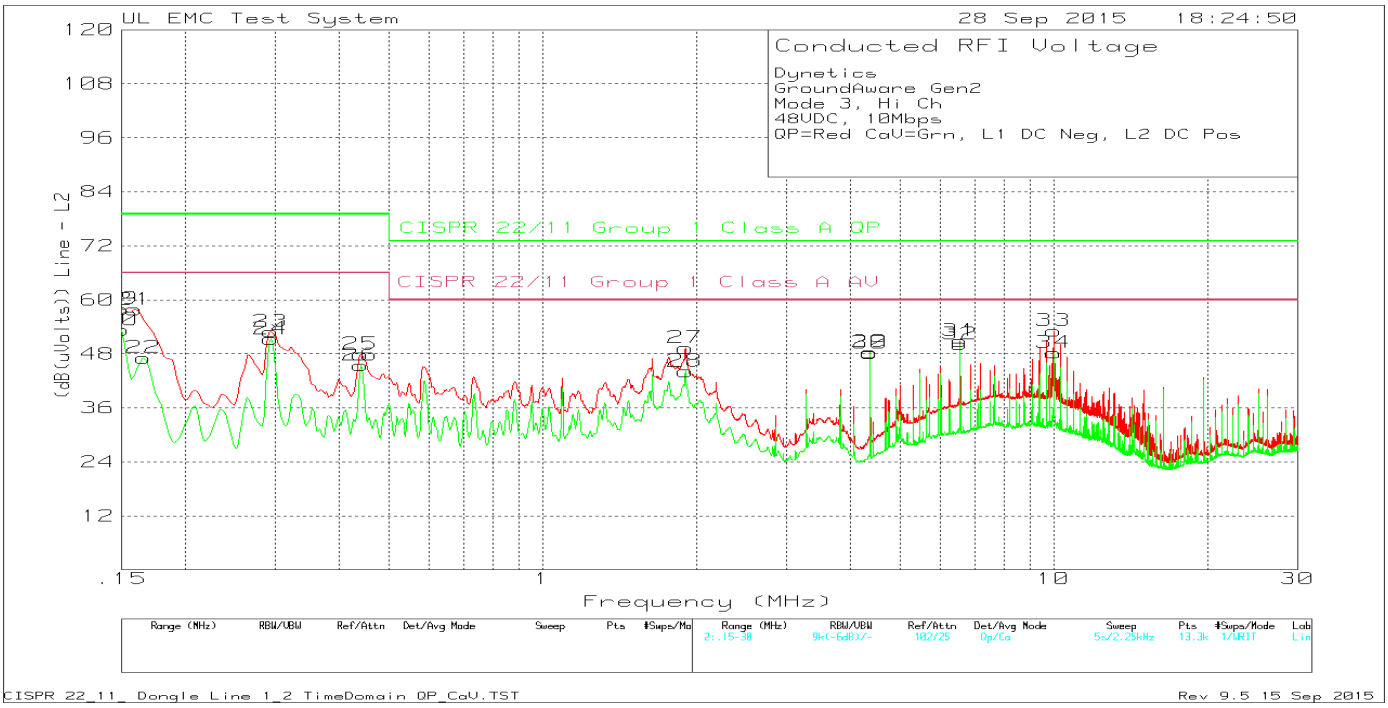
RESULTS

Baseline Amplifier 10Mbps

LINE 1 RESULTS



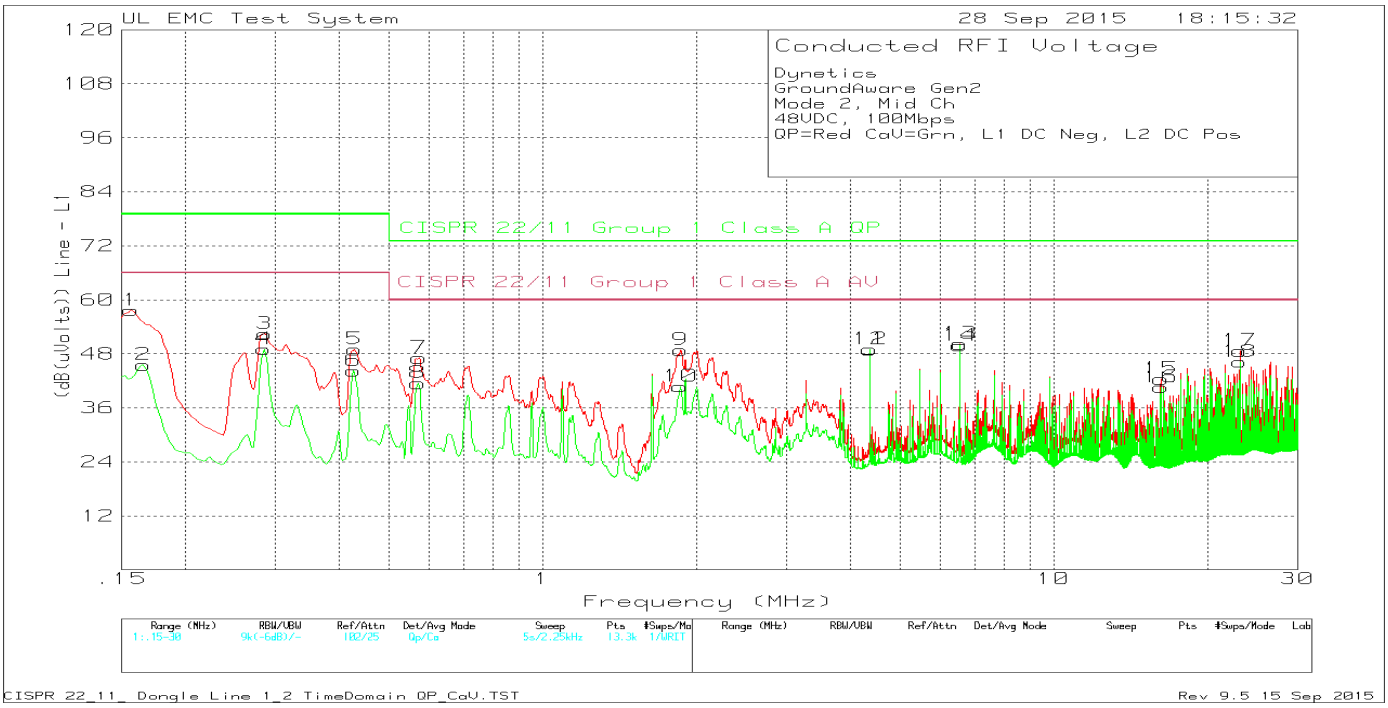
LINE 2 RESULTS



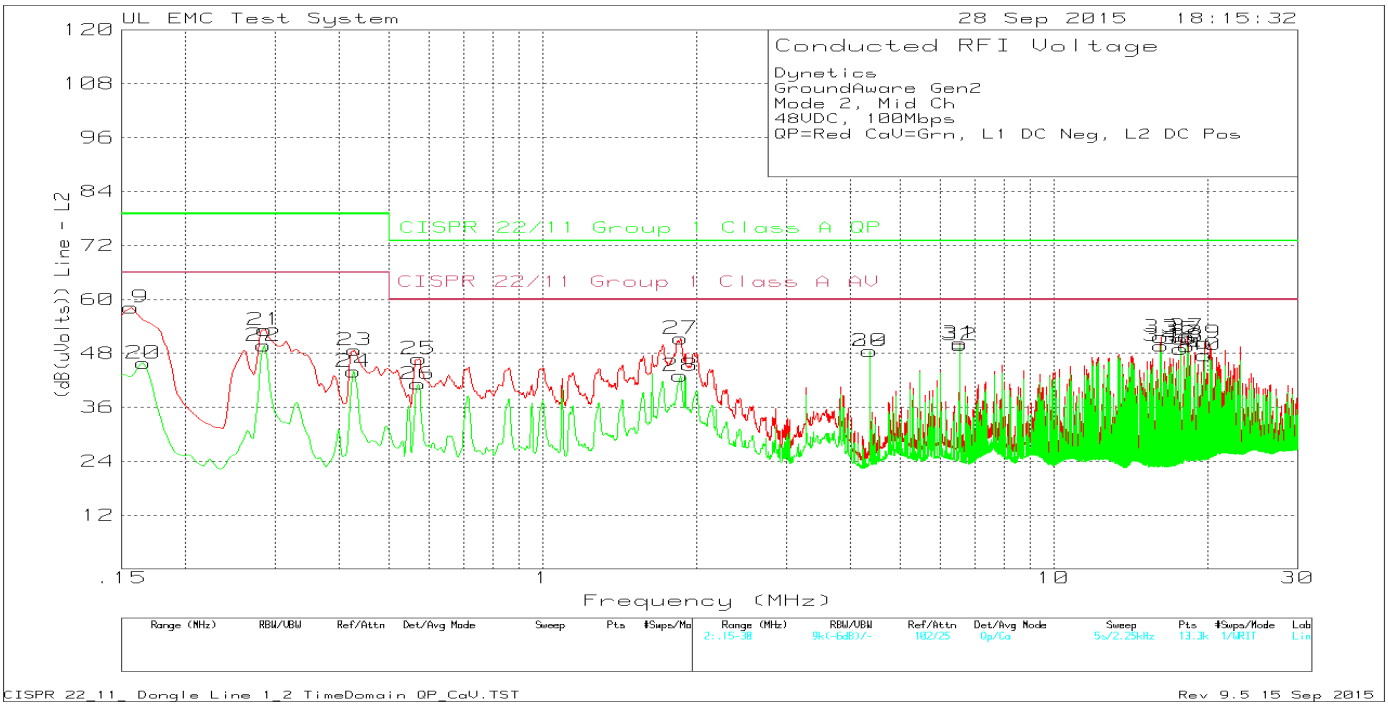
Dynetics										
GroundAware Gen2										
Mode 3, Hi Ch										
48VDC, 10Mbps										
QP=Red CaV=Grn, L1 DC Neg, L2 DC Pos										
Trace Markers										
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	LISN Factor dB	Path Factor dB	Level dBuV	Limit CISPR 22/11 Group 1 Class A QP dBuV	QP Margin (dB)	Limit CISPR 22/11 Group 1 Class A AV dBuV	Margin (dB)
Line 1										
1	0.15225	44.62	Qp	0.1	12.7	57.42	79	-21.58	-	-
2	0.15225	36.68	Ca	0.1	12.7	49.48	-	-	66	-16.52
3	0.159	44.81	Qp	0.1	12.5	57.41	79	-21.59	-	-
4	0.17025	34.54	Ca	0.1	12.2	46.84	-	-	66	-19.16
5	0.294	41.15	Qp	0.1	10.9	52.15	79	-26.85	-	-
6	0.294	39.53	Ca	0.1	10.9	50.53	-	-	66	-15.47
7	0.44025	37.38	Qp	0.1	10.7	48.18	79	-30.82	-	-
8	0.44025	34.96	Ca	0.1	10.7	45.76	-	-	66	-20.24
9	0.58425	34.77	Qp	0.1	10.6	45.47	73	-27.53	-	-
10	0.58875	31.64	Ca	0.1	10.6	42.34	-	-	60	-17.66
11	1.90275	37.79	Qp	0.1	10.6	48.49	73	-24.51	-	-
12	1.90275	32.82	Ca	0.1	10.6	43.52	-	-	60	-16.48
13	4.371	38.37	Qp	0.1	10.7	49.17	73	-23.83	-	-
14	4.36875	37.84	Ca	0.1	10.7	48.64	-	-	60	-11.36
15	6.5535	40.02	Qp	0.2	10.8	51.02	73	-21.98	-	-
16	6.5535	39.17	Ca	0.2	10.8	50.17	-	-	60	-9.83
17	10.0005	39.36	Qp	0.3	11	50.66	73	-22.34	-	-
18	10.0005	31.63	Ca	0.3	11	42.93	-	-	60	-17.07
Line 2										
19	0.15	44.98	Qp	0.1	12.9	57.98	79	-21.02	-	-
20	0.15	40.32	Ca	0.1	12.9	53.32	-	-	66	-12.68
21	0.159	45.14	Qp	0.1	12.6	57.84	79	-21.16	-	-
22	0.16575	34.64	Ca	0.1	12.4	47.14	-	-	66	-18.86
23	0.294	41.85	Qp	0.1	11	52.95	79	-26.05	-	-
24	0.294	40.18	Ca	0.1	11	51.28	-	-	66	-14.72
25	0.44025	36.95	Qp	0.1	10.8	47.85	79	-31.15	-	-
26	0.44025	34.56	Ca	0.1	10.8	45.46	-	-	66	-20.54
27	1.90275	38.53	Qp	0.1	10.7	49.33	73	-23.67	-	-
28	1.90275	33.32	Ca	0.1	10.7	44.12	-	-	60	-15.88
29	4.36875	37.45	Qp	0.1	10.8	48.35	73	-24.65	-	-
30	4.36875	37.27	Ca	0.1	10.8	48.17	-	-	60	-11.83
31	6.5535	39.77	Qp	0.2	10.9	50.87	73	-22.13	-	-
32	6.5535	39.03	Ca	0.2	10.9	50.13	-	-	60	-9.87
33	10.0005	41.72	Qp	0.3	11.1	53.12	73	-19.88	-	-
34	10.0005	36.84	Ca	0.3	11.1	48.24	-	-	60	-11.76
Qp - Quasi-Peak detector										
Ca - CISPR Average detection										

Baseline Amplifier 100Mbps

LINE 1 RESULTS



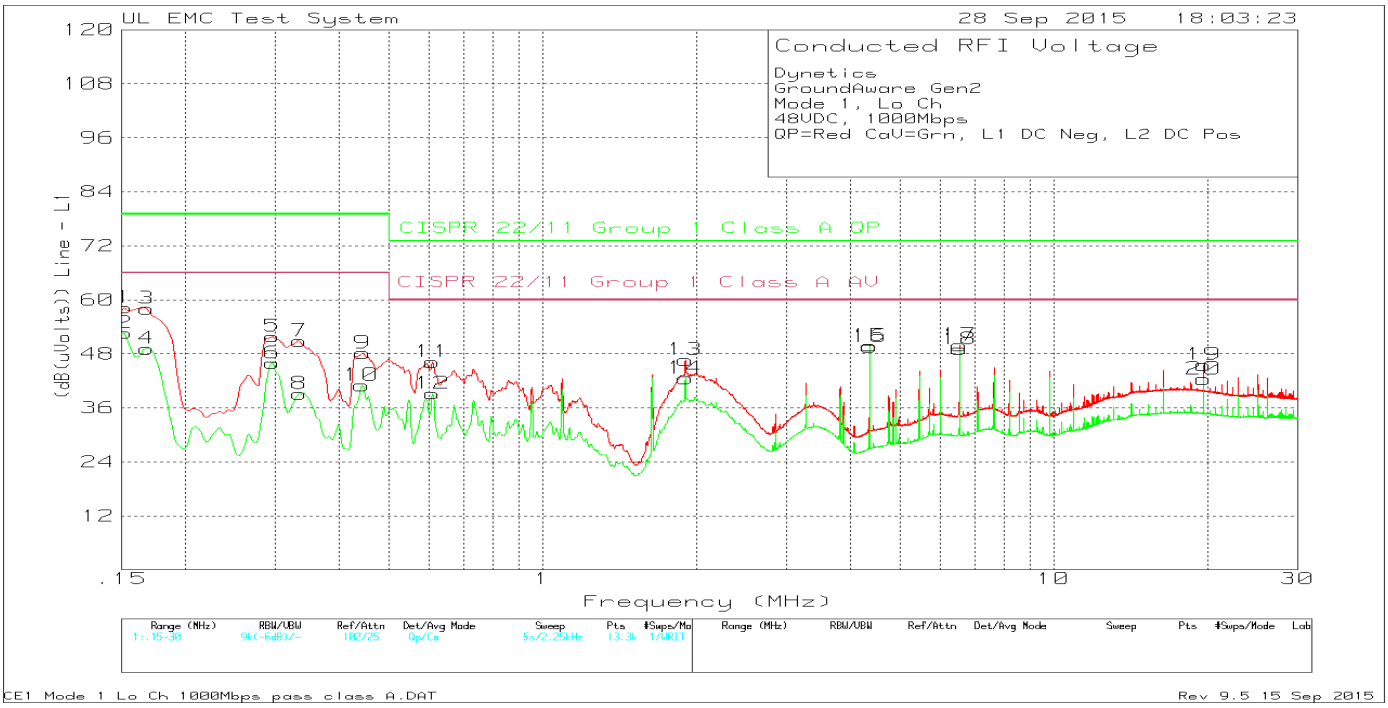
LINE 2 RESULTS



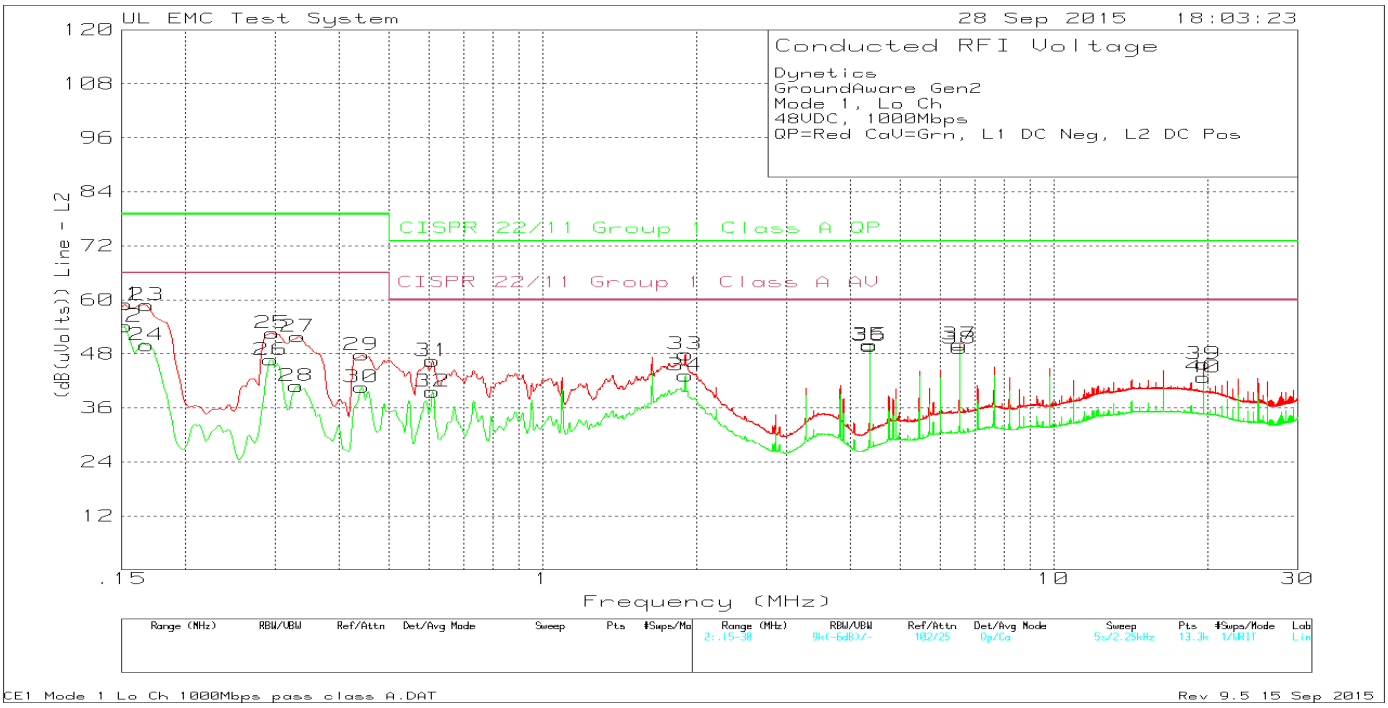
Dynetics										
GroundAware Gen2										
Mode 2, Mid Ch										
48VDC, 100Mbps										
QP=Red CaV=Grn, L1 DC Neg, L2 DC Pos										
Trace Markers										
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	LISN Factor dB	Path Factor dB	Level dBuV	Limit CISPR 22/11 Group 1 Class A QP dBuV	QP Margin (dB)	Limit CISPR 22/11 Group 1 Class A AV dBuV	Margin (dB)
Line 1										
1	0.15675	44.98	Qp	0.1	12.6	57.68	79	-21.32	-	-
2	0.16575	33.15	Ca	0.1	12.3	45.55	-	-	66	-20.45
3	0.28613	41.46	Qp	0.1	10.9	52.46	79	-26.54	-	-
4	0.285	38.04	Ca	0.1	10.9	49.04	-	-	66	-16.96
5	0.429	38.19	Qp	0.1	10.7	48.99	79	-30.01	-	-
6	0.42675	33.43	Ca	0.1	10.7	44.23	-	-	66	-21.77
7	0.573	36.36	Qp	0.1	10.6	47.06	73	-25.94	-	-
8	0.57075	30.81	Ca	0.1	10.6	41.51	-	-	60	-18.49
9	1.86225	38.16	Qp	0.1	10.6	48.86	73	-24.14	-	-
10	1.86	30.04	Ca	0.1	10.6	40.74	-	-	60	-19.26
11	4.36875	38.23	Qp	0.1	10.7	49.03	73	-23.97	-	-
12	4.36875	38.22	Ca	0.1	10.7	49.02	-	-	60	-10.98
13	6.5535	39.23	Qp	0.2	10.8	50.23	73	-22.77	-	-
14	6.55238	38.86	Ca	0.2	10.8	49.86	-	-	60	-10.14
15	16.2285	30.64	Qp	0.6	11.2	42.44	73	-30.56	-	-
16	16.2285	28.8	Ca	0.6	11.2	40.6	-	-	60	-19.4
17	23.12925	36	Qp	1.1	11.6	48.7	73	-24.3	-	-
18	23.12925	33.56	Ca	1.1	11.6	46.26	-	-	60	-13.74
Line 2										
19	0.15675	45.43	Qp	0.1	12.7	58.23	79	-20.77	-	-
20	0.16575	33.31	Ca	0.1	12.4	45.81	-	-	66	-20.19
21	0.28613	42.14	Qp	0.1	11	53.24	79	-25.76	-	-
22	0.285	38.54	Ca	0.1	11.1	49.74	-	-	66	-16.26
23	0.429	37.81	Qp	0.1	10.8	48.71	79	-30.29	-	-
24	0.42675	33.04	Ca	0.1	10.8	43.94	-	-	66	-22.06
25	0.573	35.98	Qp	0.1	10.7	46.78	73	-26.22	-	-
26	0.57075	30.41	Ca	0.1	10.7	41.21	-	-	60	-18.79
27	1.86225	40.48	Qp	0.1	10.7	51.28	73	-21.72	-	-
28	1.86	32.23	Ca	0.1	10.7	43.03	-	-	60	-16.97
29	4.36875	37.65	Qp	0.1	10.8	48.55	73	-24.45	-	-
30	4.36875	37.64	Ca	0.1	10.8	48.54	-	-	60	-11.46
31	6.5535	39.16	Qp	0.2	10.9	50.26	73	-22.74	-	-
32	6.5535	38.74	Ca	0.2	10.9	49.84	-	-	60	-10.16
33	16.2285	39.76	Qp	0.6	11.3	51.66	73	-21.34	-	-
34	16.2285	37.77	Ca	0.6	11.3	49.67	-	-	60	-10.33
35	17.69325	39.23	Qp	0.6	11.4	51.23	73	-21.77	-	-
36	17.69325	36.98	Ca	0.6	11.4	48.98	-	-	60	-11.02
37	18.2445	39.73	Qp	0.6	11.5	51.83	73	-21.17	-	-
38	18.2445	37.46	Ca	0.6	11.5	49.56	-	-	60	-10.44
39	19.70925	38.04	Qp	0.8	11.5	50.34	73	-22.66	-	-
40	19.70925	35.3	Ca	0.8	11.5	47.6	-	-	60	-12.4
Qp - Quasi-Peak detector										
Ca - CISPR Average detection										

Baseline Amplifier 1000Mbps

LINE 1 RESULTS



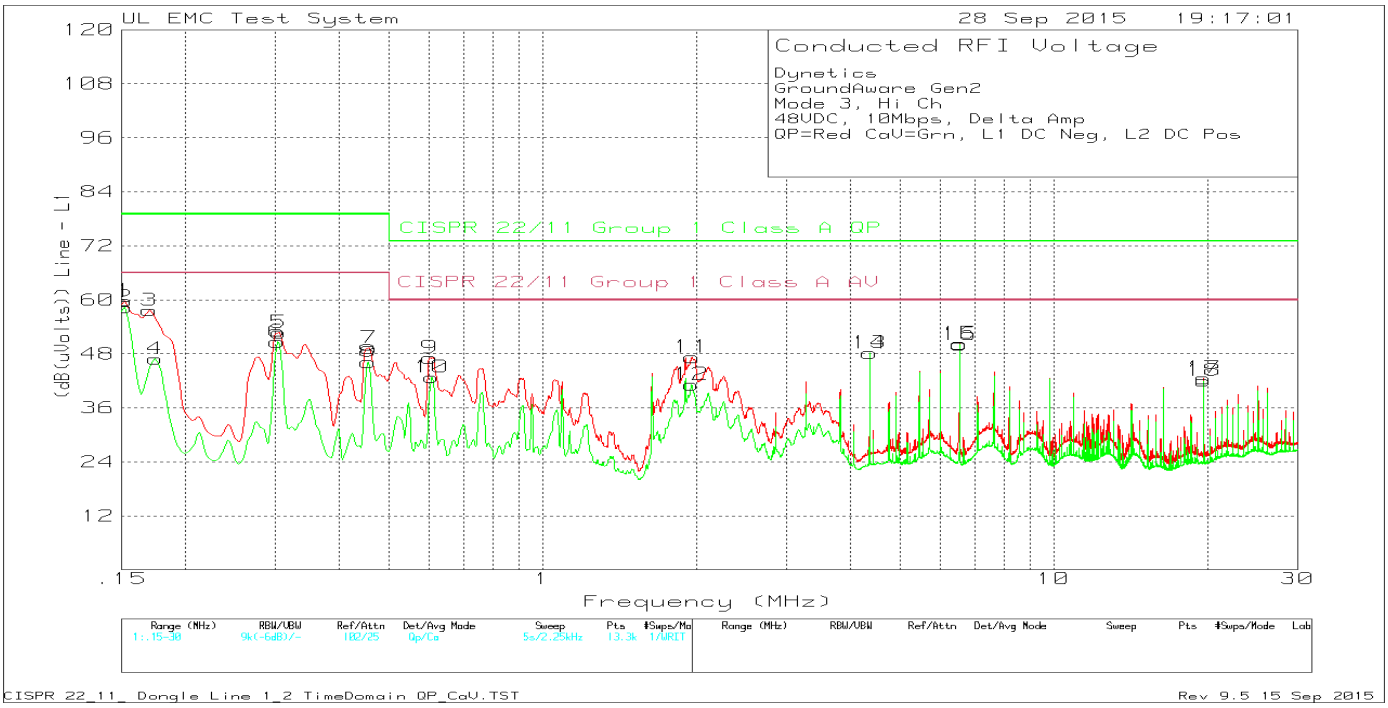
LINE 2 RESULTS



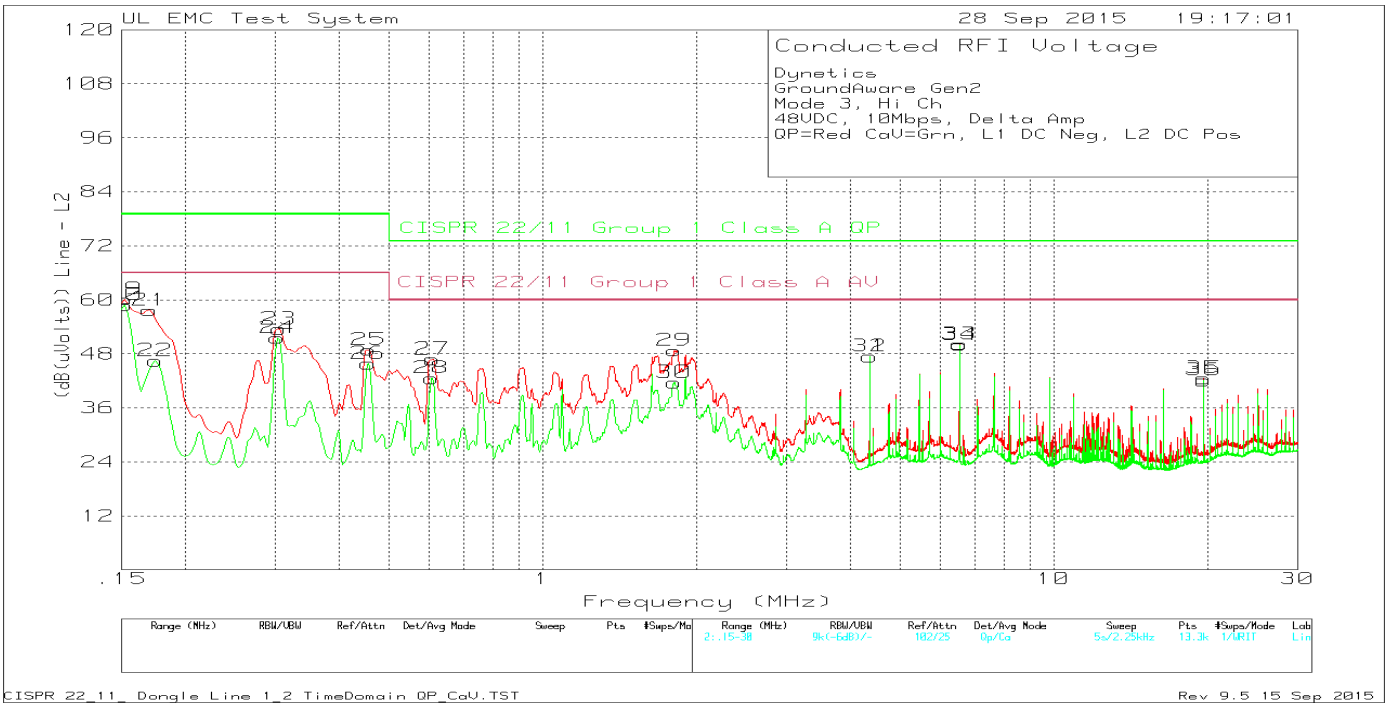
Dynetics										
GroundAware Gen2										
Mode 1, Lo Ch										
48VDC, 1000Mbps										
QP=Red CaV=Grn, L1 DC Neg, L2 DC Pos										
Trace Markers										
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	LISN Factor dB	Path Factor dB	Level dBuV	Limit CISPR 22/11 Group 1 Class A QP dBuV	QP Margin (dB)	Limit CISPR 22/11 Group 1 Class A AV dBuV	Margin (dB)
Line 1										
1	0.15225	45.46	Qp	0.1	12.7	58.26	79	-20.74	-	-
2	0.15225	39.83	Ca	0.1	12.7	52.63	-	-	66	-13.37
3	0.168	45.64	Qp	0.1	12.3	58.04	79	-20.96	-	-
4	0.168	36.77	Ca	0.1	12.3	49.17	-	-	66	-16.83
5	0.29625	40.87	Qp	0.1	10.9	51.87	79	-27.13	-	-
6	0.29625	34.95	Ca	0.1	10.9	45.95	-	-	66	-20.05
7	0.3345	39.94	Qp	0.1	10.8	50.84	79	-28.16	-	-
8	0.3345	28.22	Ca	0.1	10.8	39.12	-	-	66	-26.88
9	0.44475	37.37	Qp	0.1	10.7	48.17	79	-30.83	-	-
10	0.4425	30.17	Ca	0.1	10.7	40.97	-	-	66	-25.03
11	0.609	35.47	Qp	0.1	10.6	46.17	73	-26.83	-	-
12	0.609	28.48	Ca	0.1	10.6	39.18	-	-	60	-20.82
13	1.90275	35.96	Qp	0.1	10.6	46.66	73	-26.34	-	-
14	1.90275	31.83	Ca	0.1	10.6	42.53	-	-	60	-17.47
15	4.3665	39.03	Qp	0.1	10.7	49.83	73	-23.17	-	-
16	4.3665	38.76	Ca	0.1	10.7	49.56	-	-	60	-10.44
17	6.549	38.89	Qp	0.2	10.8	49.89	73	-23.11	-	-
18	6.549	38.03	Ca	0.2	10.8	49.03	-	-	60	-10.97
19	19.644	33.44	Qp	0.7	11.4	45.54	73	-27.46	-	-
20	19.644	30.28	Ca	0.7	11.4	42.38	-	-	60	-17.62
Line 2										
21	0.15225	46.14	Qp	0.1	12.8	59.04	79	-19.96	-	-
22	0.15225	41.19	Ca	0.1	12.8	54.09	-	-	66	-11.91
23	0.168	46.32	Qp	0.1	12.4	58.82	79	-20.18	-	-
24	0.168	37.43	Ca	0.1	12.4	49.93	-	-	66	-16.07
25	0.29625	41.52	Qp	0.1	11	52.62	79	-26.38	-	-
26	0.294	35.59	Ca	0.1	11	46.69	-	-	66	-19.31
27	0.33225	40.87	Qp	0.1	10.9	51.87	79	-27.13	-	-
28	0.33	29.88	Ca	0.1	10.9	40.88	-	-	66	-25.12
29	0.4425	36.92	Qp	0.1	10.8	47.82	79	-31.18	-	-
30	0.4425	29.7	Ca	0.1	10.8	40.6	-	-	66	-25.4
31	0.609	35.66	Qp	0.1	10.7	46.46	73	-26.54	-	-
32	0.609	28.8	Ca	0.1	10.7	39.6	-	-	60	-20.4
33	1.90275	37.11	Qp	0.1	10.7	47.91	73	-25.09	-	-
34	1.90275	32.4	Ca	0.1	10.7	43.2	-	-	60	-16.8
35	4.3665	39.12	Qp	0.1	10.8	50.02	73	-22.98	-	-
36	4.3665	38.88	Ca	0.1	10.8	49.78	-	-	60	-10.22
37	6.549	38.97	Qp	0.2	10.9	50.07	73	-22.93	-	-
38	6.549	38.1	Ca	0.2	10.9	49.2	-	-	60	-10.8
39	19.6485	33.45	Qp	0.8	11.5	45.75	73	-27.25	-	-
40	19.6485	30.48	Ca	0.8	11.5	42.78	-	-	60	-17.22
Qp - Quasi-Peak detector										
Ca - CISPR Average detection										

Delta Amplifier 10Mbps

LINE 1 RESULTS



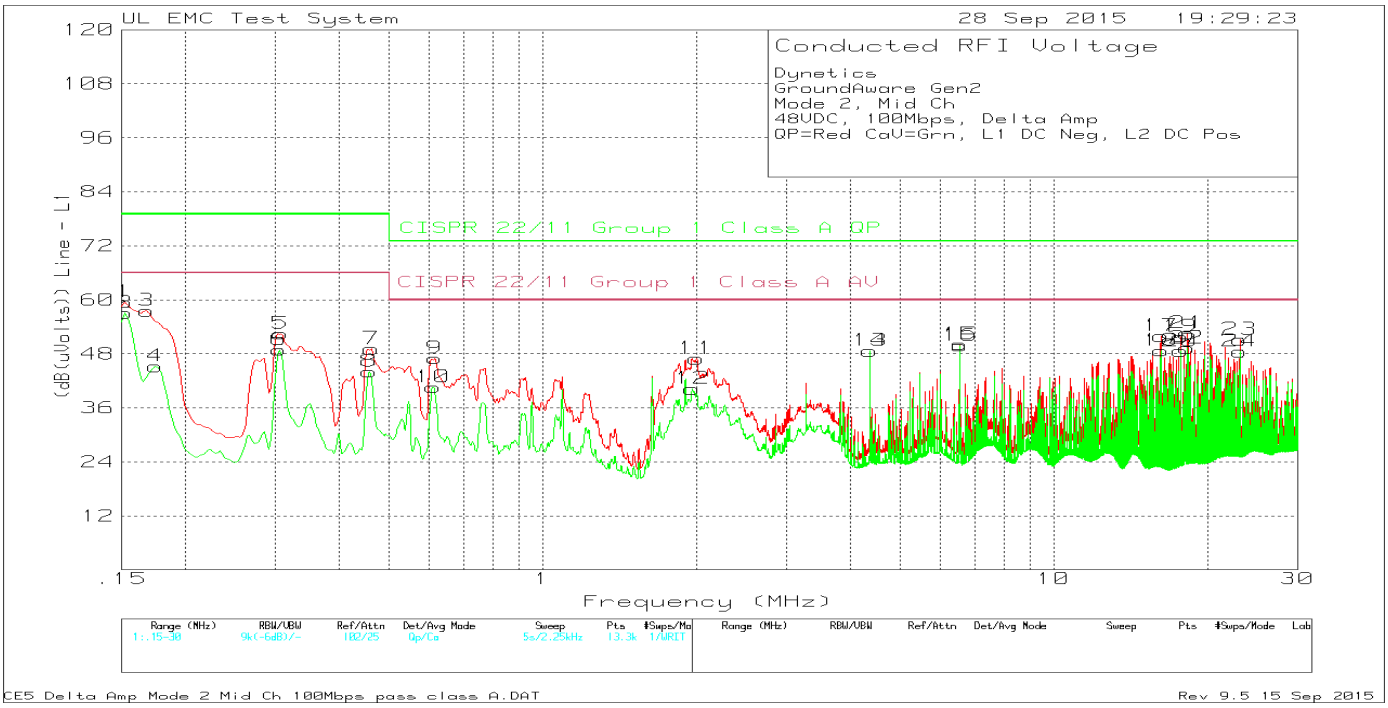
LINE 2 RESULTS



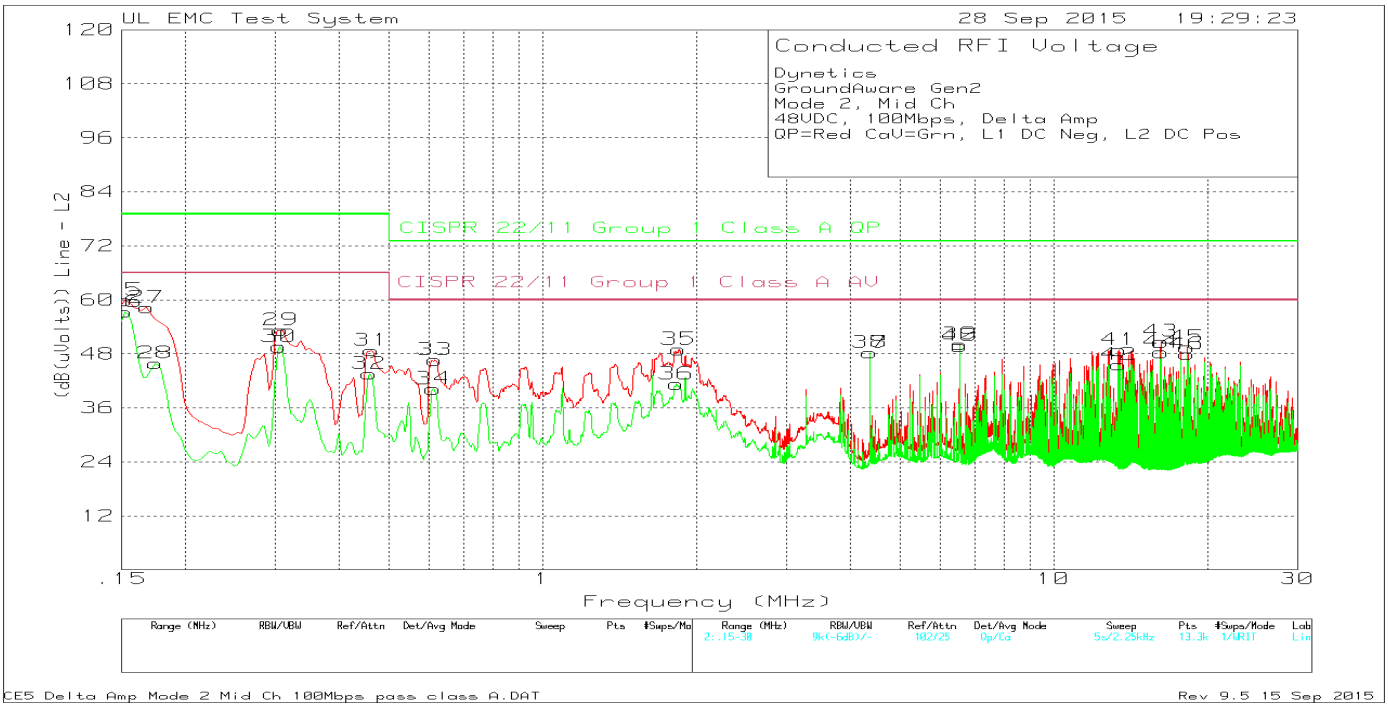
Dynetics										
GroundAware Gen2										
Mode 3, Hi Ch										
48VDC, 10Mbps, Delta Amp										
QP=Red CaV=Grn, L1 DC Neg, L2 DC Pos										
Trace Markers										
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	LISN Factor dB	Path Factor dB	Level dBuV	Limit CISPR 22/11 Group 1 Class A QP dBuV	QP Margin (dB)	Limit CISPR 22/11 Group 1 Class A AV dBuV	Margin (dB)
Line 1										
1	0.15225	46.94	Qp	0.1	12.7	59.74	79	-19.26	-	-
2	0.15225	45.59	Ca	0.1	12.7	58.39	-	-	66	-7.61
3	0.17025	45.37	Qp	0.1	12.2	57.67	79	-21.33	-	-
4	0.17475	34.69	Ca	0.1	12.1	46.89	-	-	66	-19.11
5	0.30525	41.81	Qp	0.1	10.8	52.71	79	-26.29	-	-
6	0.303	39.81	Ca	0.1	10.8	50.71	-	-	66	-15.29
7	0.45825	38.51	Qp	0.1	10.7	49.31	79	-29.69	-	-
8	0.456	35.39	Ca	0.1	10.7	46.19	-	-	66	-19.81
9	0.60225	36.37	Qp	0.1	10.6	47.07	73	-25.93	-	-
10	0.60675	32.09	Ca	0.1	10.6	42.79	-	-	60	-17.21
11	1.96125	36.54	Qp	0.1	10.6	47.24	73	-25.76	-	-
12	1.95675	30.44	Ca	0.1	10.6	41.14	-	-	60	-18.86
13	4.3665	37.42	Qp	0.1	10.7	48.22	73	-24.78	-	-
14	4.3665	37.38	Ca	0.1	10.7	48.18	-	-	60	-11.82
15	6.549	39.25	Qp	0.2	10.8	50.25	73	-22.75	-	-
16	6.549	39.03	Ca	0.2	10.8	50.03	-	-	60	-9.97
17	19.64625	30.47	Qp	0.7	11.4	42.57	73	-30.43	-	-
18	19.64625	29.91	Ca	0.7	11.4	42.01	-	-	60	-17.99
Line 2										
19	0.15225	47.23	Qp	0.1	12.8	60.13	79	-18.87	-	-
20	0.15225	45.94	Ca	0.1	12.8	58.84	-	-	66	-7.16
21	0.17025	45.28	Qp	0.1	12.3	57.68	79	-21.32	-	-
22	0.17475	34.15	Ca	0.1	12.2	46.45	-	-	66	-19.55
23	0.30525	42.49	Qp	0.1	10.9	53.49	79	-25.51	-	-
24	0.303	40.45	Ca	0.1	11	51.55	-	-	66	-14.45
25	0.45712	37.98	Qp	0.1	10.8	48.88	79	-30.12	-	-
26	0.456	34.93	Ca	0.1	10.8	45.83	-	-	66	-20.17
27	0.609	35.96	Qp	0.1	10.7	46.76	73	-26.24	-	-
28	0.60675	31.79	Ca	0.1	10.7	42.59	-	-	60	-17.41
29	1.8105	37.93	Qp	0.1	10.7	48.73	73	-24.27	-	-
30	1.80825	30.8	Ca	0.1	10.7	41.6	-	-	60	-18.4
31	4.3665	36.54	Qp	0.1	10.8	47.44	73	-25.56	-	-
32	4.3665	36.54	Ca	0.1	10.8	47.44	-	-	60	-12.56
33	6.549	39.07	Qp	0.2	10.9	50.17	73	-22.83	-	-
34	6.549	38.88	Ca	0.2	10.9	49.98	-	-	60	-10.02
35	19.64625	30.27	Qp	0.8	11.5	42.57	73	-30.43	-	-
36	19.64625	29.82	Ca	0.8	11.5	42.12	-	-	60	-17.88
Qp - Quasi-Peak detector										
Ca - CISPR Average detection										

Delta Amplifier 100Mbps

LINE 1 RESULTS



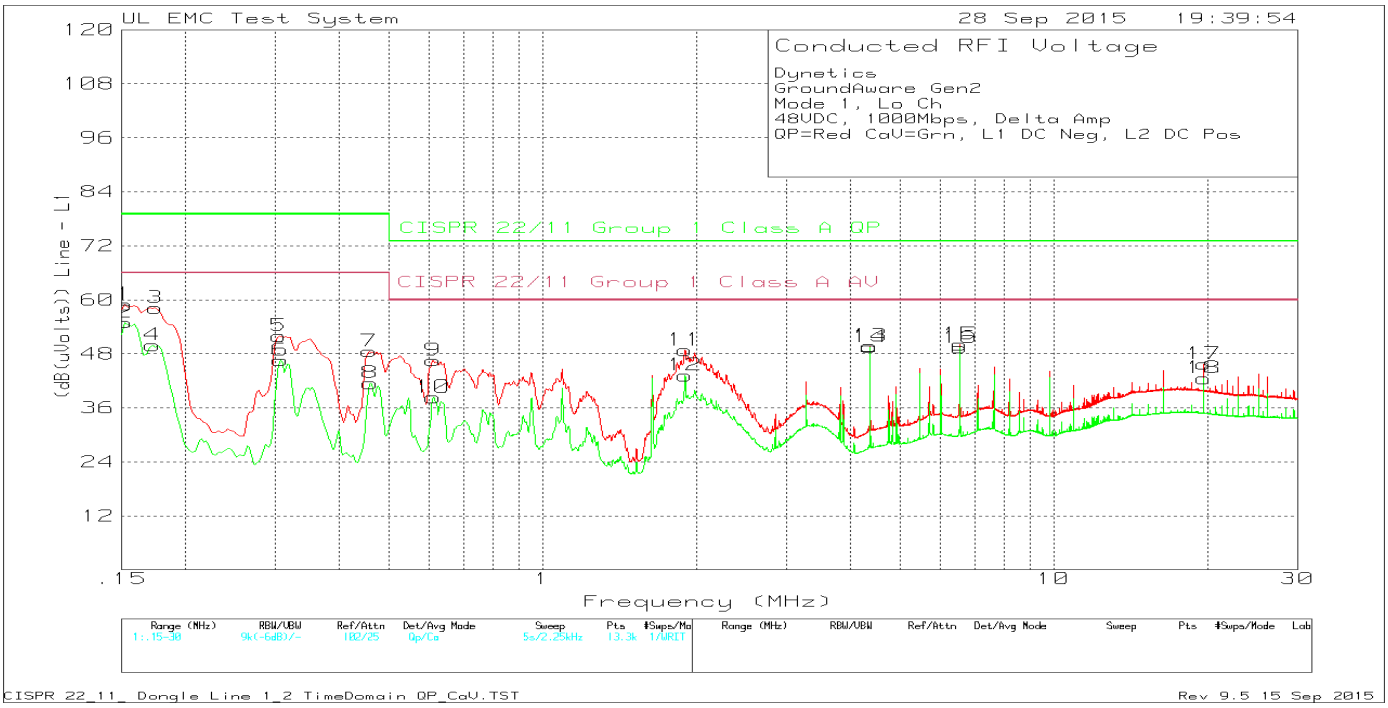
LINE 2 RESULTS



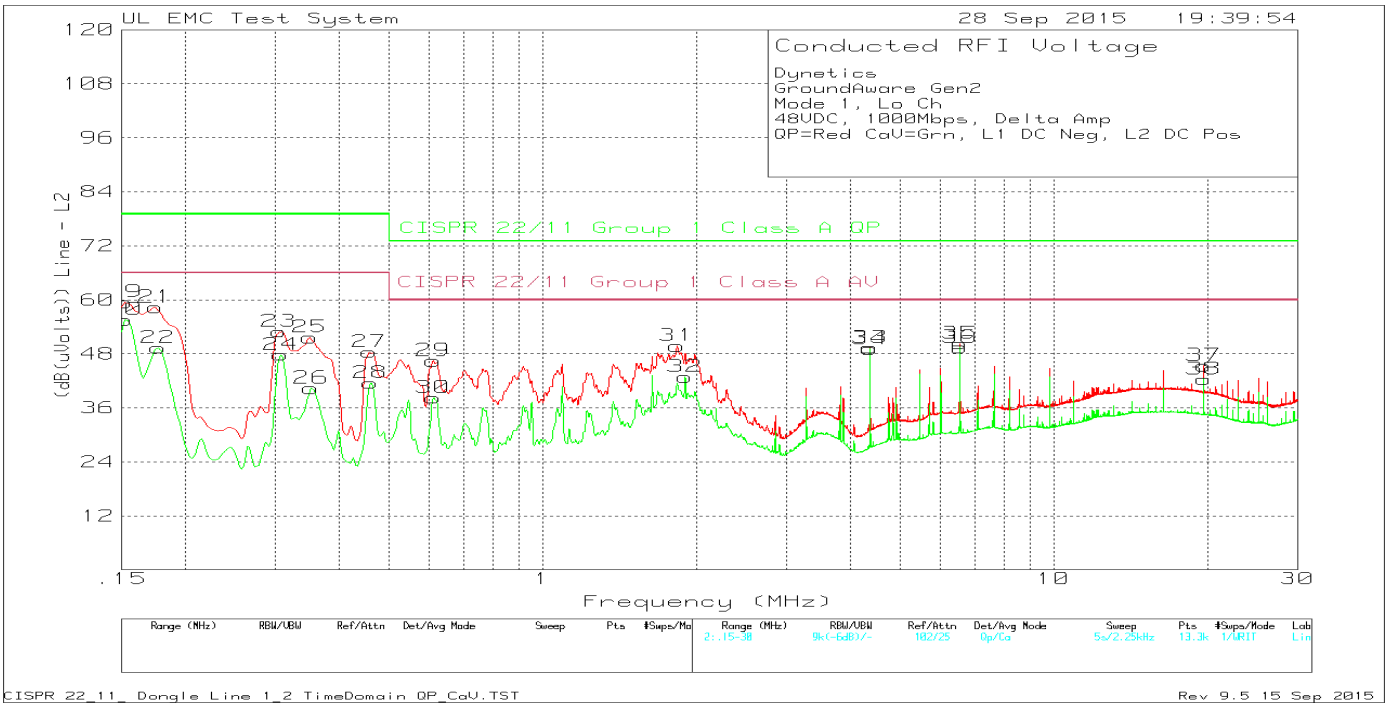
Dynetics										
GroundAware Gen2										
Mode 2, Mid Ch										
48VDC, 100Mbps, Delta Amp										
QP=Red CaV=Grn, L1 DC Neg, L2 DC Pos										
Trace Markers										
Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	LISN Factor dB	Path Factor dB	Level dBuV	Limit CISPR 22/11 Group 1 Class A QP dBuV	QP Margin (dB)	Limit CISPR 22/11 Group 1 Class A AV dBuV	Margin (dB)
Line 1										
1	0.15225	46.73	Qp	0.1	12.7	59.53	79	-19.47	-	-
2	0.15225	44.3	Ca	0.1	12.7	57.1	-	-	66	-8.9
3	0.168	45.17	Qp	0.1	12.3	57.57	79	-21.43	-	-
4	0.17475	33.02	Ca	0.1	12.1	45.22	-	-	66	-20.78
5	0.3075	41.6	Qp	0.1	10.8	52.5	79	-26.5	-	-
6	0.30525	38	Ca	0.1	10.8	48.9	-	-	66	-17.1
7	0.46275	38.3	Qp	0.1	10.7	49.1	79	-29.9	-	-
8	0.45825	33.26	Ca	0.1	10.7	44.06	-	-	66	-21.94
9	0.61575	36.31	Qp	0.1	10.6	47.01	73	-25.99	-	-
10	0.61125	29.9	Ca	0.1	10.6	40.6	-	-	60	-19.4
11	1.9995	36.23	Qp	0.1	10.6	46.93	73	-26.07	-	-
12	1.9635	29.53	Ca	0.1	10.6	40.23	-	-	60	-19.77
13	4.36875	37.89	Qp	0.1	10.7	48.69	73	-24.31	-	-
14	4.36875	37.86	Ca	0.1	10.7	48.66	-	-	60	-11.34
15	6.5535	39.15	Qp	0.2	10.8	50.15	73	-22.85	-	-
16	6.5535	38.81	Ca	0.2	10.8	49.81	-	-	60	-10.19
17	16.2285	40.19	Qp	0.6	11.2	51.99	73	-21.01	-	-
18	16.2285	36.92	Ca	0.6	11.2	48.72	-	-	60	-11.28
19	17.69325	39.98	Qp	0.6	11.3	51.88	73	-21.12	-	-
20	17.69325	36.73	Ca	0.6	11.3	48.63	-	-	60	-11.37
21	18.2445	40.68	Qp	0.6	11.3	52.58	73	-20.42	-	-
22	18.24225	37.36	Ca	0.6	11.3	49.26	-	-	60	-10.74
23	23.12925	38.44	Qp	1.1	11.6	51.14	73	-21.86	-	-
24	23.12925	35.84	Ca	1.1	11.6	48.54	-	-	60	-11.46
LIne 2										
25	0.15225	46.98	Qp	0.1	12.8	59.88	79	-19.12	-	-
26	0.15225	44.42	Ca	0.1	12.8	57.32	-	-	66	-8.68
27	0.168	45.8	Qp	0.1	12.4	58.3	79	-20.7	-	-
28	0.17475	33.6	Ca	0.1	12.2	45.9	-	-	66	-20.1
29	0.3075	42.27	Qp	0.1	10.9	53.27	79	-25.73	-	-
30	0.30525	38.58	Ca	0.1	10.9	49.58	-	-	66	-16.42
31	0.46275	37.86	Qp	0.1	10.8	48.76	79	-30.24	-	-
32	0.45825	32.69	Ca	0.1	10.8	43.59	-	-	66	-22.41
33	0.61575	35.87	Qp	0.1	10.7	46.67	73	-26.33	-	-
34	0.61125	29.39	Ca	0.1	10.7	40.19	-	-	60	-19.81
35	1.8465	38.16	Qp	0.1	10.7	48.96	73	-24.04	-	-
36	1.82625	30.51	Ca	0.1	10.7	41.31	-	-	60	-18.69
37	4.36875	37.37	Qp	0.1	10.8	48.27	73	-24.73	-	-
38	4.36875	37.36	Ca	0.1	10.8	48.26	-	-	60	-11.74
39	6.5535	39.04	Qp	0.2	10.9	50.14	73	-22.86	-	-
40	6.5535	38.67	Ca	0.2	10.9	49.77	-	-	60	-10.23
41	13.41825	37.16	Qp	0.5	11.2	48.86	73	-24.14	-	-
42	13.41825	33.91	Ca	0.5	11.2	45.61	-	-	60	-14.39
43	16.2285	38.81	Qp	0.6	11.3	50.71	73	-22.29	-	-
44	16.2285	36.41	Ca	0.6	11.3	48.31	-	-	60	-11.69
45	18.2445	37.34	Qp	0.6	11.5	49.44	73	-23.56	-	-
46	18.2445	35.86	Ca	0.6	11.5	47.96	-	-	60	-12.04
Qp - Quasi-Peak detector										
Ca - CISPR Average detection										

Delta Amplifier 1000Mbps

LINE 1 RESULTS



LINE 2 RESULTS



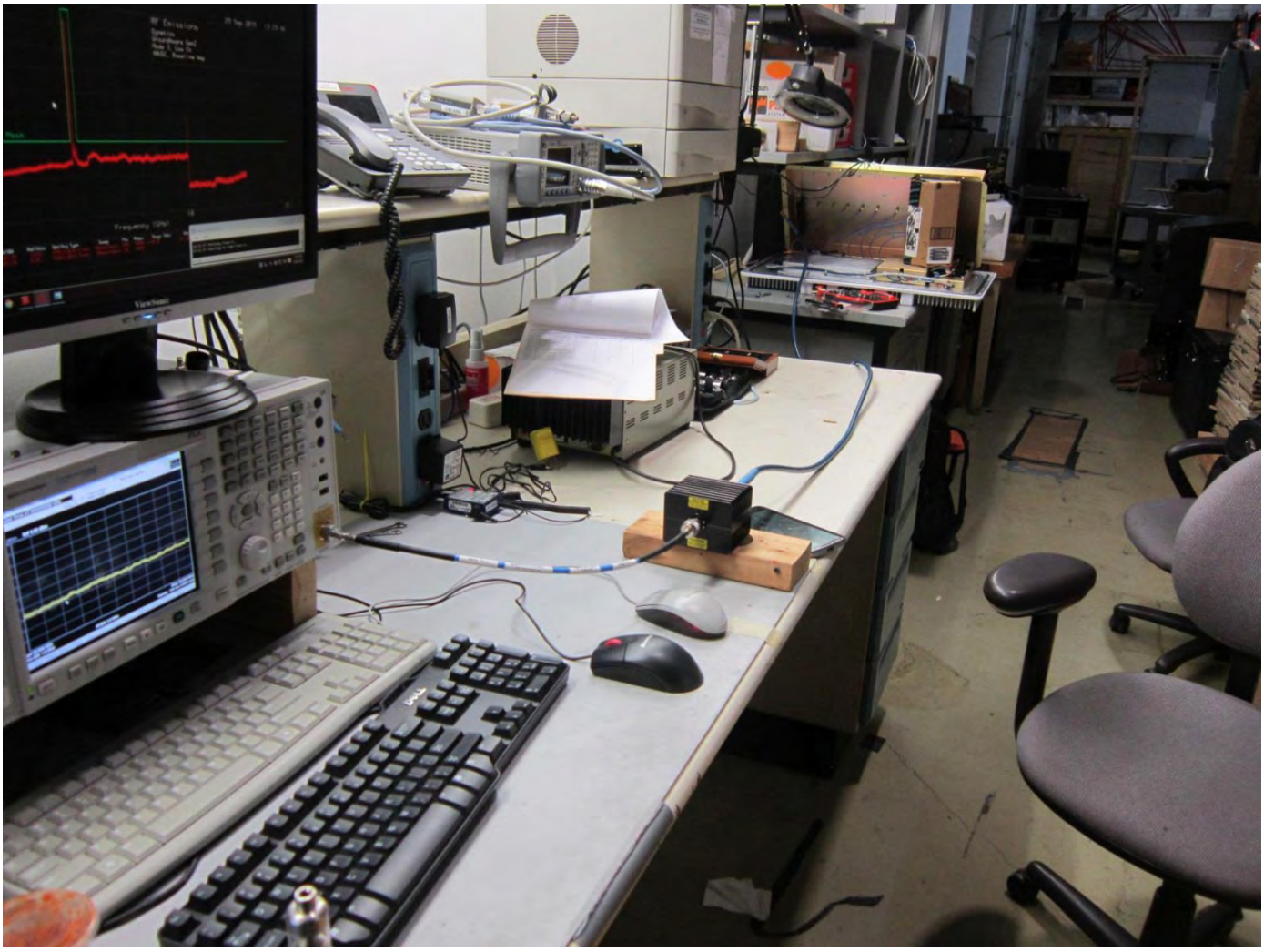
Dynetics
GroundAware Gen2
Mode 1, Lo Ch
48VDC, 1000Mbps, Delta Amp
QP=Red CaV=Grn, L1 DC Neg, L2 DC Pos
Trace Markers

Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	LISN Factor dB	Path Factor dB	Level dBuV	Limit CISPR 22/11 Group 1 Class A QP dBuV	QP Margin (dB)	Limit CISPR 22/11 Group 1 Class A AV dBuV	Margin (dB)
Line 1										
1	0.15225	46.16	Qp	0.1	12.7	58.96	79	-20.04	-	-
2	0.15225	42.16	Ca	0.1	12.7	54.96	-	-	66	-11.04
3	0.17475	46.03	Qp	0.1	12.1	58.23	79	-20.77	-	-
4	0.1725	37.73	Ca	0.1	12.1	49.93	-	-	66	-16.07
5	0.30525	41.09	Qp	0.1	10.8	51.99	79	-27.01	-	-
6	0.3075	35.68	Ca	0.1	10.8	46.58	-	-	66	-19.42
7	0.45825	37.79	Qp	0.1	10.7	48.59	79	-30.41	-	-
8	0.4605	30.7	Ca	0.1	10.7	41.5	-	-	66	-24.5
9	0.61125	35.85	Qp	0.1	10.6	46.55	73	-26.45	-	-
10	0.61125	27.64	Ca	0.1	10.6	38.34	-	-	60	-21.66
11	1.9005	38.1	Qp	0.1	10.6	48.8	73	-24.2	-	-
12	1.9005	32.5	Ca	0.1	10.6	43.2	-	-	60	-16.8
13	4.36875	38.95	Qp	0.1	10.7	49.75	73	-23.25	-	-
14	4.36875	38.7	Ca	0.1	10.7	49.5	-	-	60	-10.5
15	6.5535	39.11	Qp	0.2	10.8	50.11	73	-22.89	-	-
16	6.5535	38.36	Ca	0.2	10.8	49.36	-	-	60	-10.64
17	19.66425	33.64	Qp	0.7	11.4	45.74	73	-27.26	-	-
18	19.66425	30.47	Ca	0.7	11.4	42.57	-	-	60	-17.43
Line 2										
19	0.15225	46.55	Qp	0.1	12.8	59.45	79	-19.55	-	-
20	0.15225	42.65	Ca	0.1	12.8	55.55	-	-	66	-10.45
21	0.17475	46.03	Qp	0.1	12.2	58.33	79	-20.67	-	-
22	0.177	37.18	Ca	0.1	12.1	49.38	-	-	66	-16.62
23	0.30525	41.96	Qp	0.1	10.9	52.96	79	-26.04	-	-
24	0.3075	36.79	Ca	0.1	10.9	47.79	-	-	66	-18.21
25	0.35025	40.64	Qp	0.1	10.9	51.64	79	-27.36	-	-
26	0.3525	29.36	Ca	0.1	10.9	40.36	-	-	66	-25.64
27	0.45825	37.53	Qp	0.1	10.8	48.43	79	-30.57	-	-
28	0.4605	30.65	Ca	0.1	10.8	41.55	-	-	66	-24.45
29	0.61125	35.65	Qp	0.1	10.7	46.45	73	-26.55	-	-
30	0.61125	27.48	Ca	0.1	10.7	38.28	-	-	60	-21.72
31	1.833	38.96	Qp	0.1	10.7	49.76	73	-23.24	-	-
32	1.9005	32.08	Ca	0.1	10.7	42.88	-	-	60	-17.12
33	4.36875	38.49	Qp	0.1	10.8	49.39	73	-23.61	-	-
34	4.36875	38.21	Ca	0.1	10.8	49.11	-	-	60	-10.89
35	6.55575	39.2	Qp	0.2	10.9	50.3	73	-22.7	-	-
36	6.55575	38.33	Ca	0.2	10.9	49.43	-	-	60	-10.57
37	19.66425	33.07	Qp	0.8	11.5	45.37	73	-27.63	-	-
38	19.66425	30.06	Ca	0.8	11.5	42.36	-	-	60	-17.64

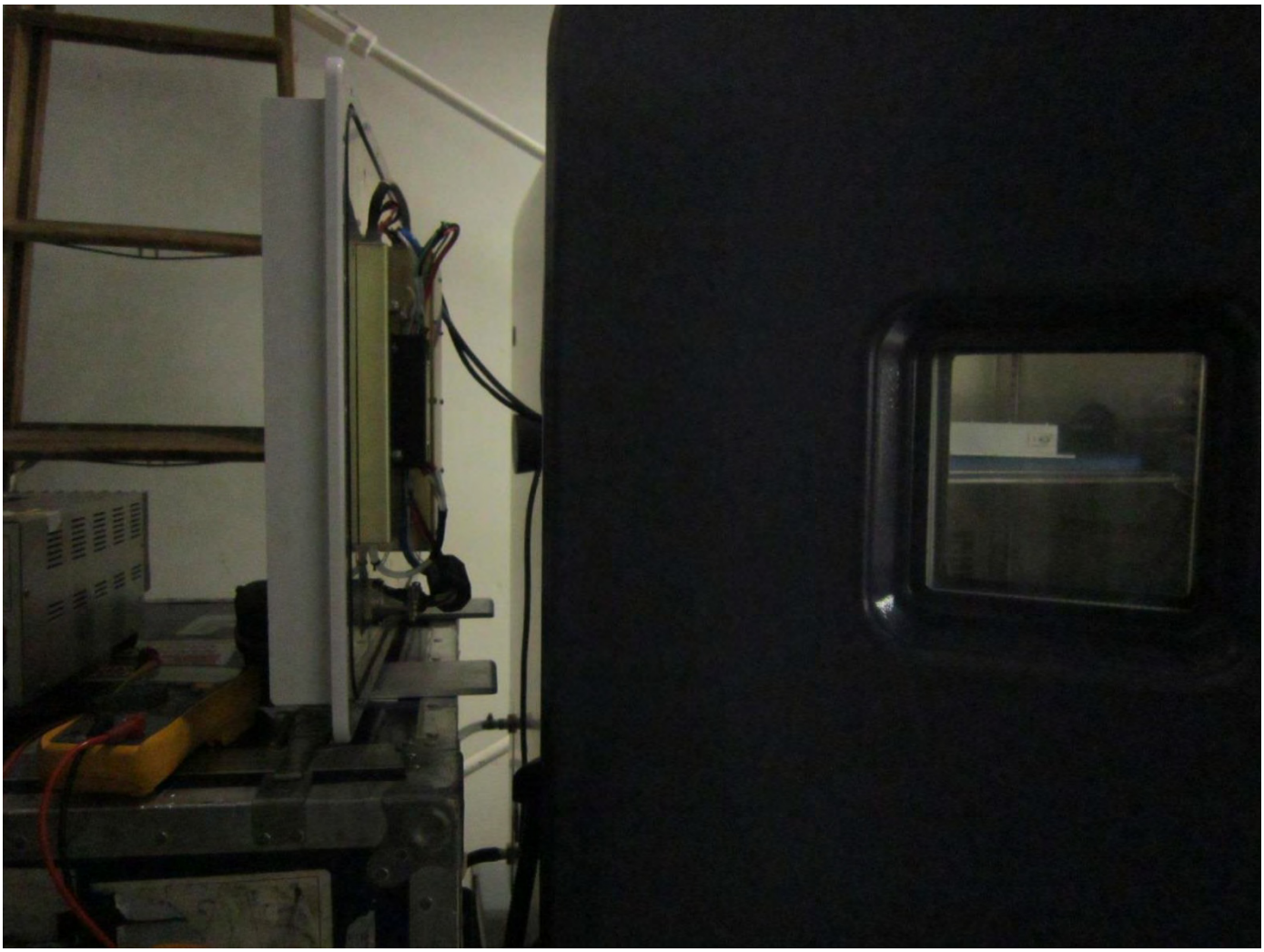
Qp - Quasi-Peak detector
Ca - CISPR Average detection

11. Test Setup Photos

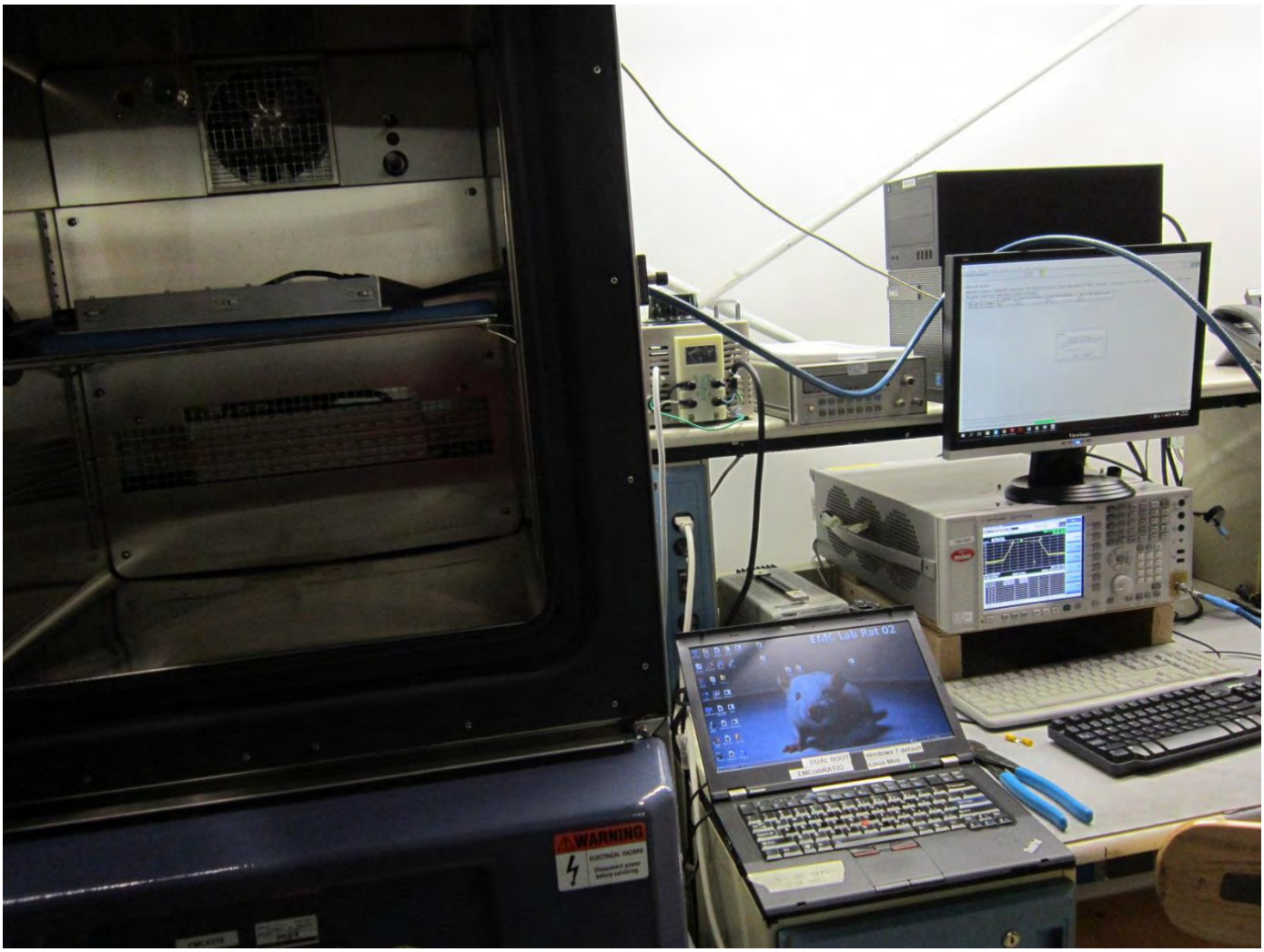
Antenna Port Measurement



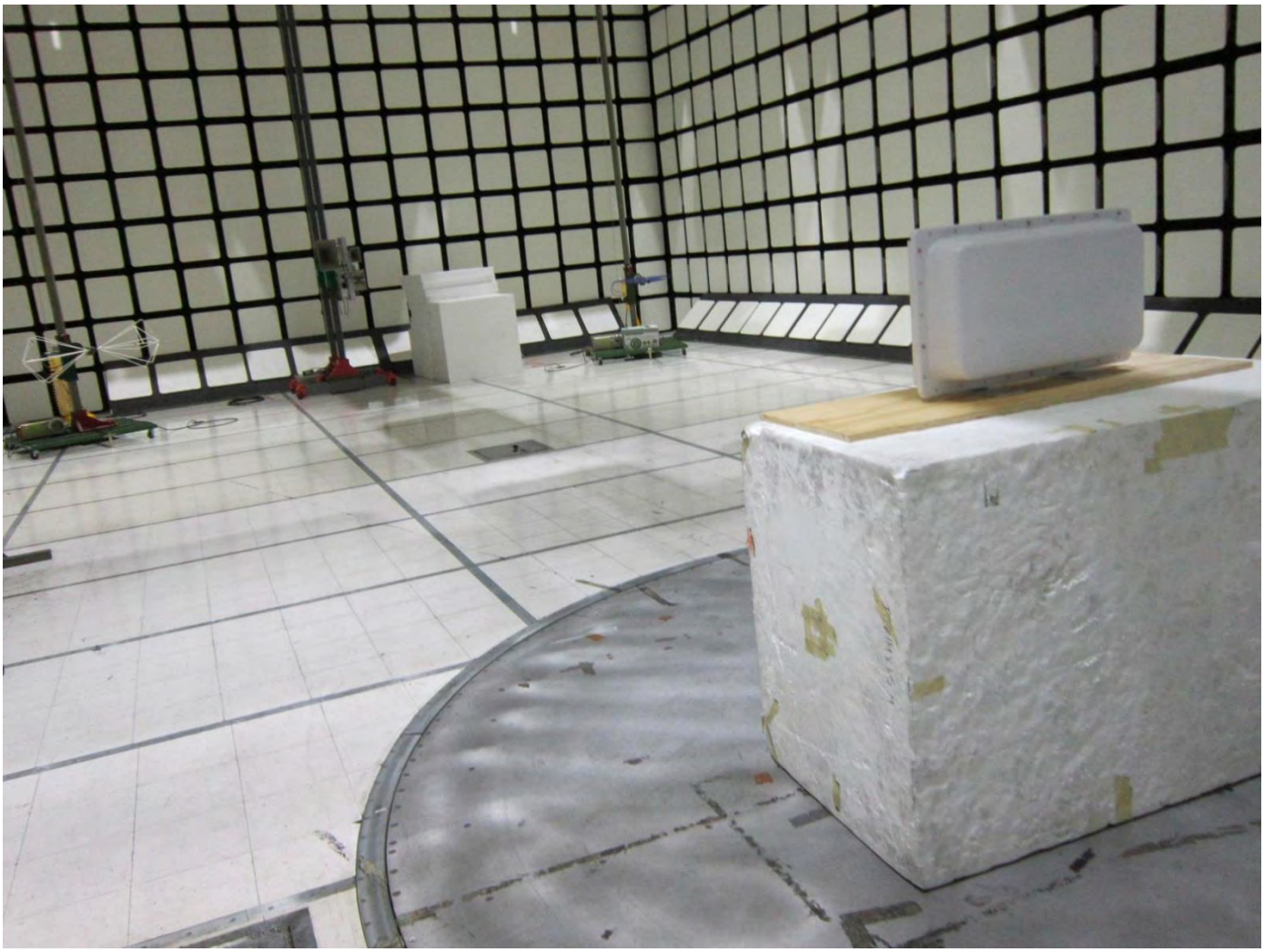
Temperature Stability Measurements – electronics part of device outside



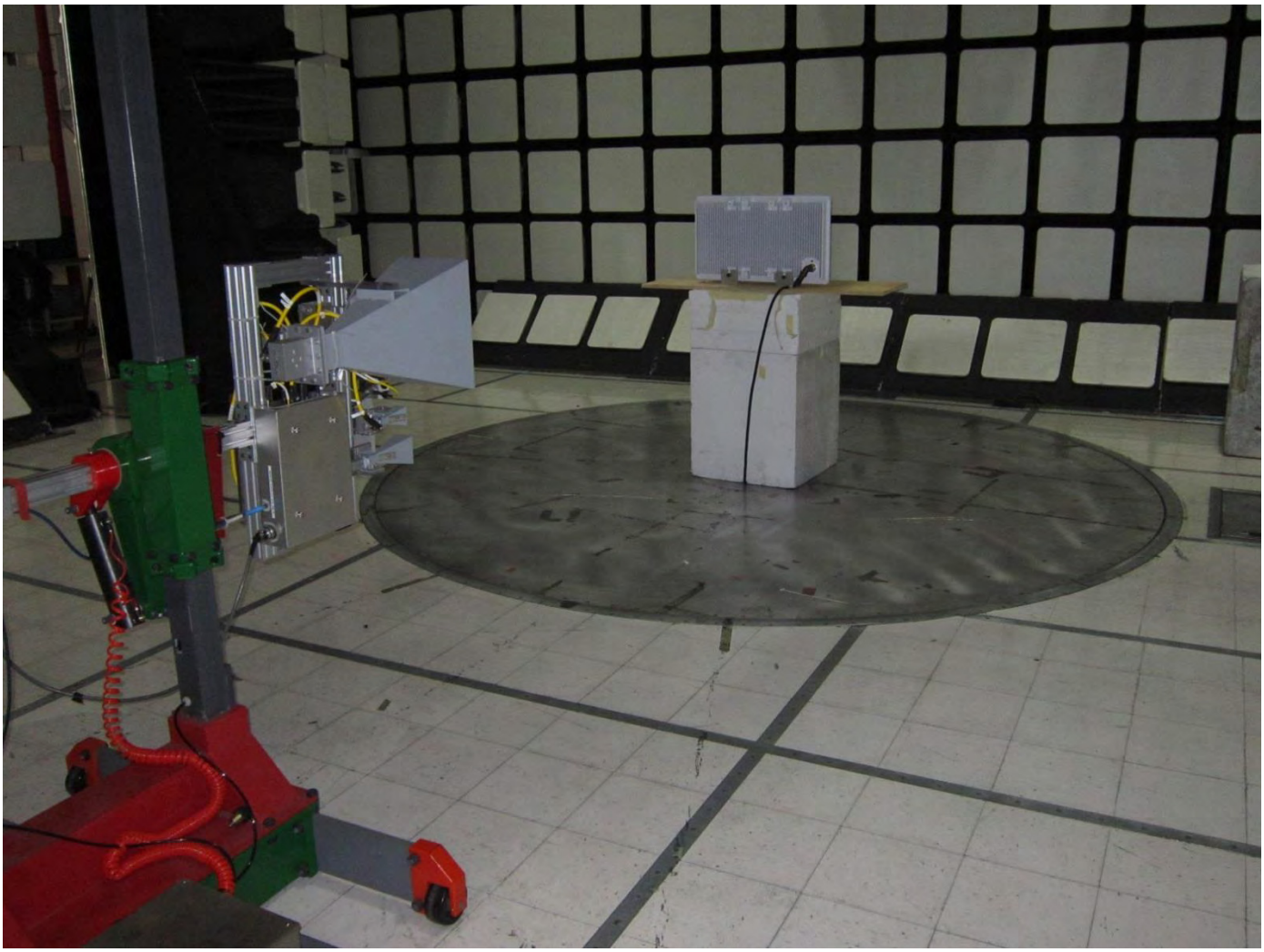
Temperature Stability Measurements – essential part of transmitter inside the temperature chamber



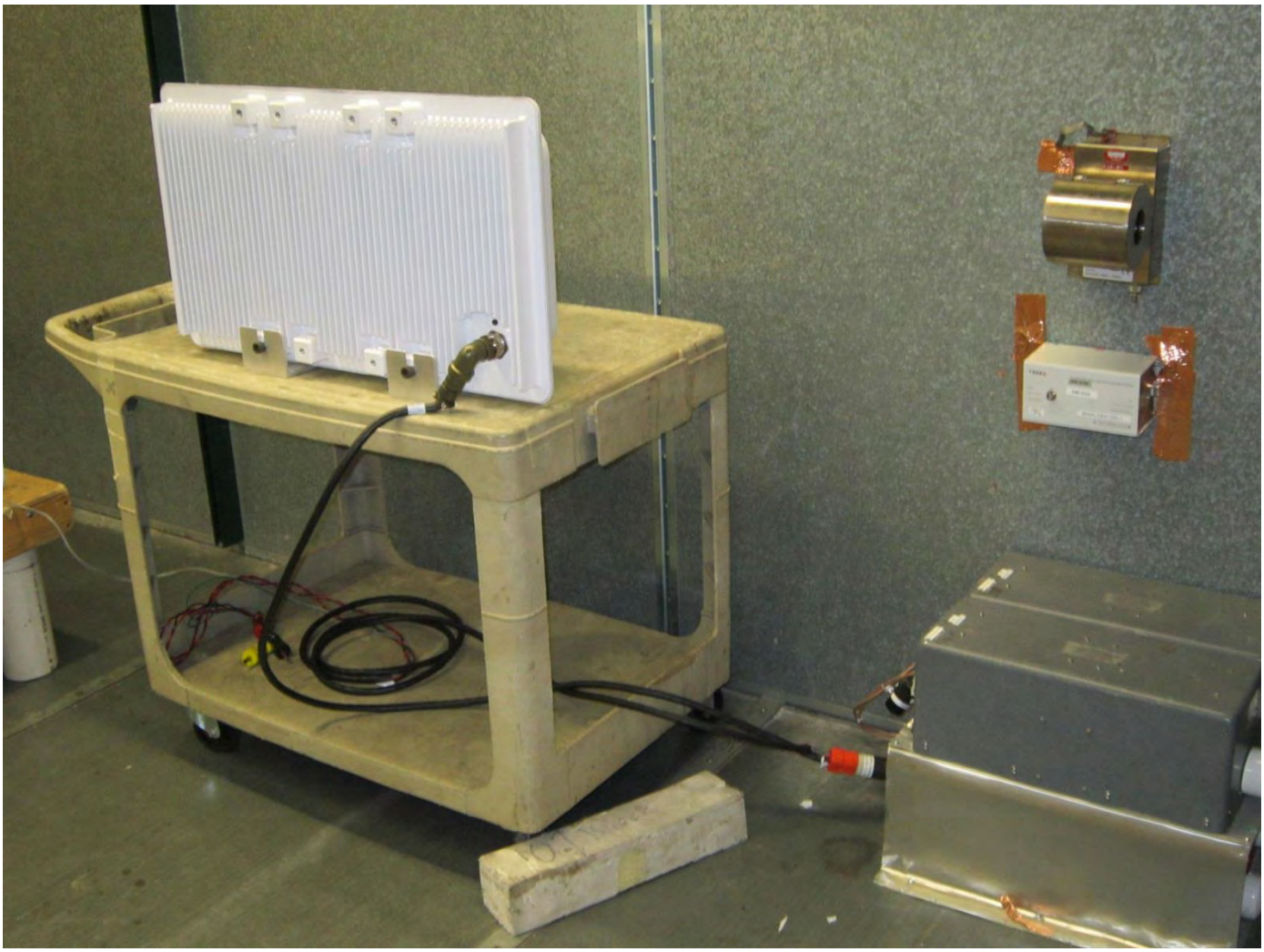
Radiated Measurements below 1GHz



Radiated Emissions Measurements above 1GHz



Line Conducted Emissions



END OF REPORT