FCC 47 CFR PART 15 SUBPART C
Radiated Emissions Only

CERTIFICATION TEST REPORT

FOR

EUT

MODEL NUMBER: RF6 GB / LGB500

FCC ID: CFS8DLLGB500

REPORT NUMBER: 10784397

ISSUE DATE: June 18, 2015

Prepared for
Honeywell Security
PO Box 9040 2 Corporate Center Dr., Suite 100
Melville
NY 11747

Prepared by
UL LLC
333 Pfingsten Rd.
Northbrook, IL 60062
TEL: (847) 272-8800

NVLAP Lab code: 100414-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	06/18/2015	Initial Issue	Dan Cieplik

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Honeywell Security
2 Corporate Center Dr, PO Box 9040, Suite 100
Melville, NY 11747 USA

EUT DESCRIPTION: The EUT is a wireless glass break sensor.

MODEL: RF6GB / LGB500

SERIAL NUMBER:N/A

DATE TESTED: June 2, 2015

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C*	Pass*

*Radiated Emissions Only

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

Approved & Released For

UL LLC By: Michael Ferrer

PROJECT LEAD
UL LLC

Tested By: Dan Cieplik

PROJECT LEAD
UL LLC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.4-2009.

Testing Deviation – EUT was tested 1.5m height for above 1Ghz Radiated Emissions in accordance with TCB Conference Call Dec 2014.

3. FACILITIES AND ACCREDITATION

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

UL NBK is accredited by NVLAP, Laboratory Code 100414-0. The full scope of accreditation can be viewed at http://ts.nist.gov/Standards/scopes/1004140.htm

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

Sample Calculations
Radiated Field Strength and Conducted Emissions data contained within this report is calculated on the following basis:
Field Strength (dBuV/m) = Meter Reading (dBuV) + AF (dB/m) - Gain (dB) + Cable Loss (dB)
Conducted Voltage (dBuV) = Meter Reading (dBuV) + Cable Loss (dB) + LISN IL (dB)
Conducted Current (dBuA) = Meter Reading (dBuV) + Cable Loss (dB) - Transducer Factor (dBohms)

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
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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a 2.4Ghz transceiver glass break sensor.

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two fixed metal internal antennas

5.3. WORST-CASE CONFIGURATION AND MODE

Radiated emission were performed with the EUT set to transmit with highest output power as worst-case scenario.

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

Preliminary tests on low, mid and high channels were conducted. For Antenna 1 Low channel produced the worst case emissions and for Antenna 2 Mid channel produced the worst case emissions therefore worst case data is reported for high channel on antenna 1 and low channel on antenna 2.

5.1. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT - None

TEST SETUP

The EUT was transmitting at a 100% duty cycle.

SETUP DIAGRAM FOR TESTS

6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List					
Description	**Manufacturer**	**Model**	**T No.**	**Cal Date**	**Cal Due**
Radiated Software	UL	UL EMC	Ver 9.5, July 22, 2014		
Conducted Software	UL	UL EMC	Ver 9.5, May 17 2012		
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC4328	20141830	20151231
Bicon Antenna	Electro-Metrics	EM6912A	EMC4070	20141014	20151031
Log-P Antenna	Chase	UPA6109	EMC4313	20141119	20151130
Amplified 1GHz – 10GHz System	UL w/ EMCO Horn Antenna	3117	EMC4293	N/A	N/A
EMI Test Receiver	Rohde & Schwarz	ESU	EMC4323	20141216	20151231

7. ON TIME AND DUTY CYCLE

Manufacturers Statements about the Duty Cycle Information

There is a 32MHz crystal is connected to transceiver chip. The crystal is used in PLL circuit inside the chip. You will find the delta between the carrier and humps are 32MHz above and below. Thus the humps must belong to the transceiver circuit.

The transmissions between the PIR and its access point follow a proprietary protocol defined by Honeywell which is hard-coded into the transceiver IC and which is not accessible to the installer or end user. Analysis of the timing of packets transmitted in 100mS for worst case scenario shows 6.976mS aggregate transmit 'on' time in any 100mS interval.

The manufacturers stated duty cycle of 6.976% = -23.13db relaxation

8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

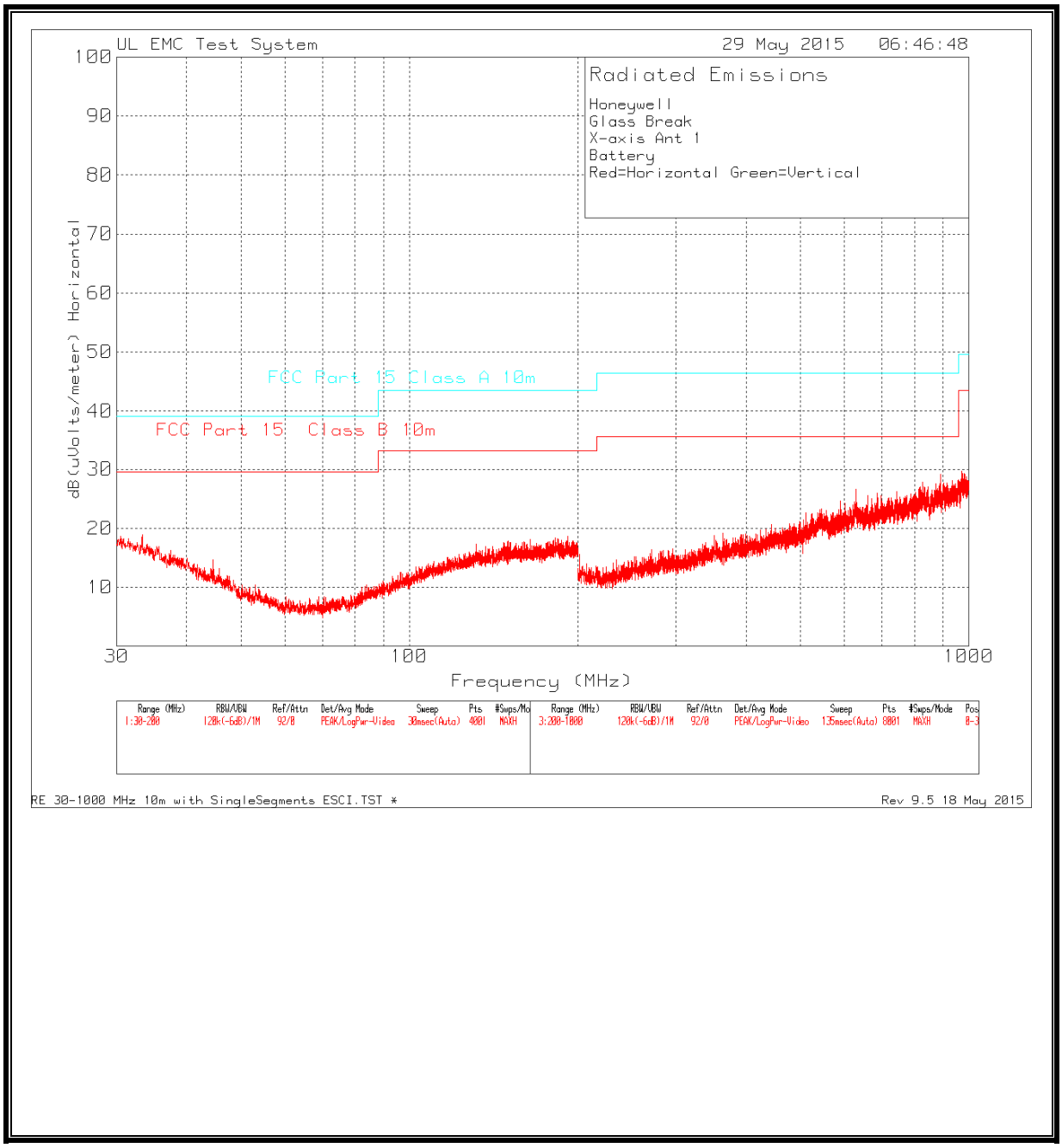
LIMITS

FCC §15.247, 15.209

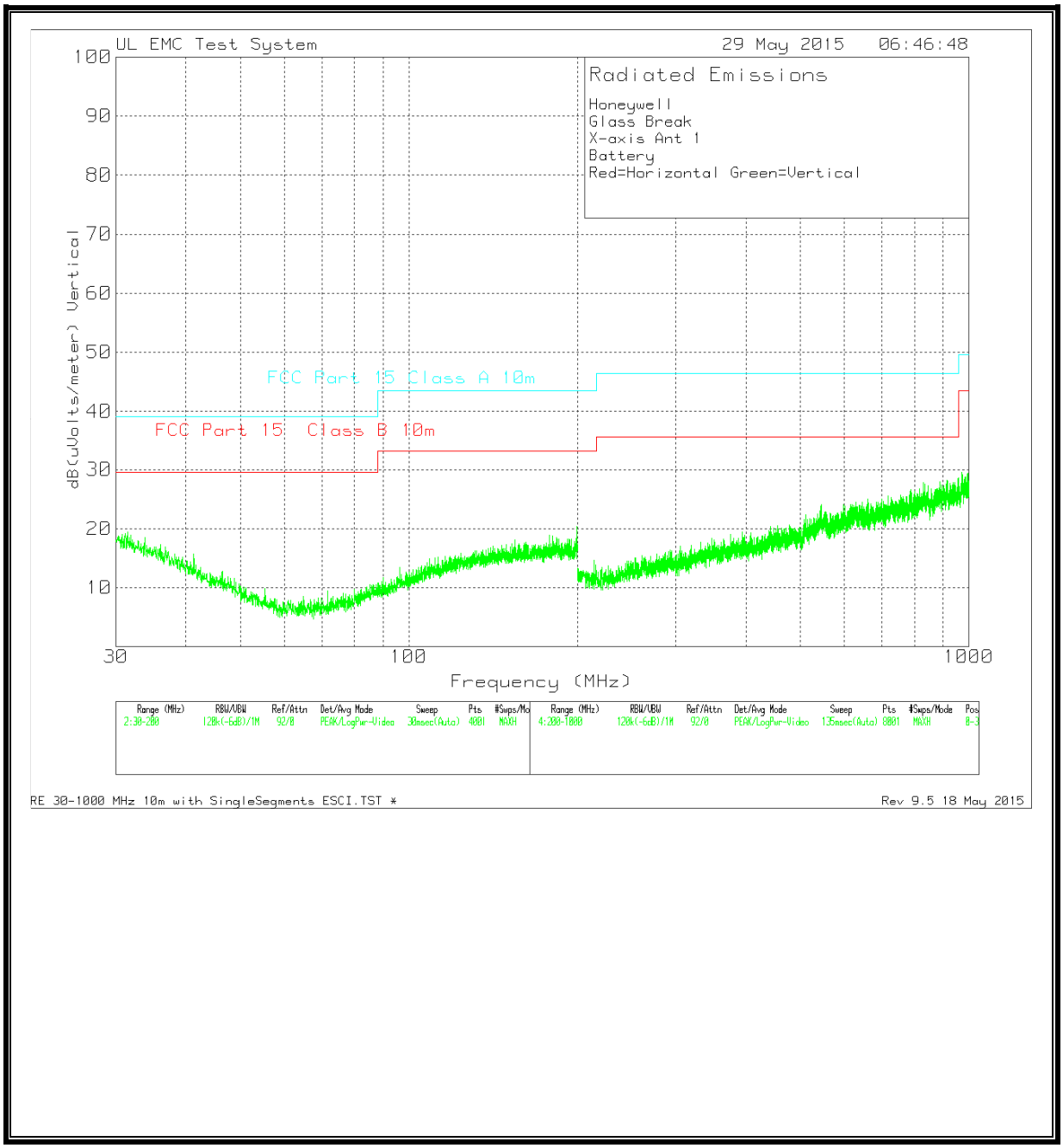
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

9. WORST-CASE BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL) Ant 1



SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL) Ant 1



Honeywell
Glass Break
X-axis Ant 1
Battery
Red=Horizontal Green=Vertical

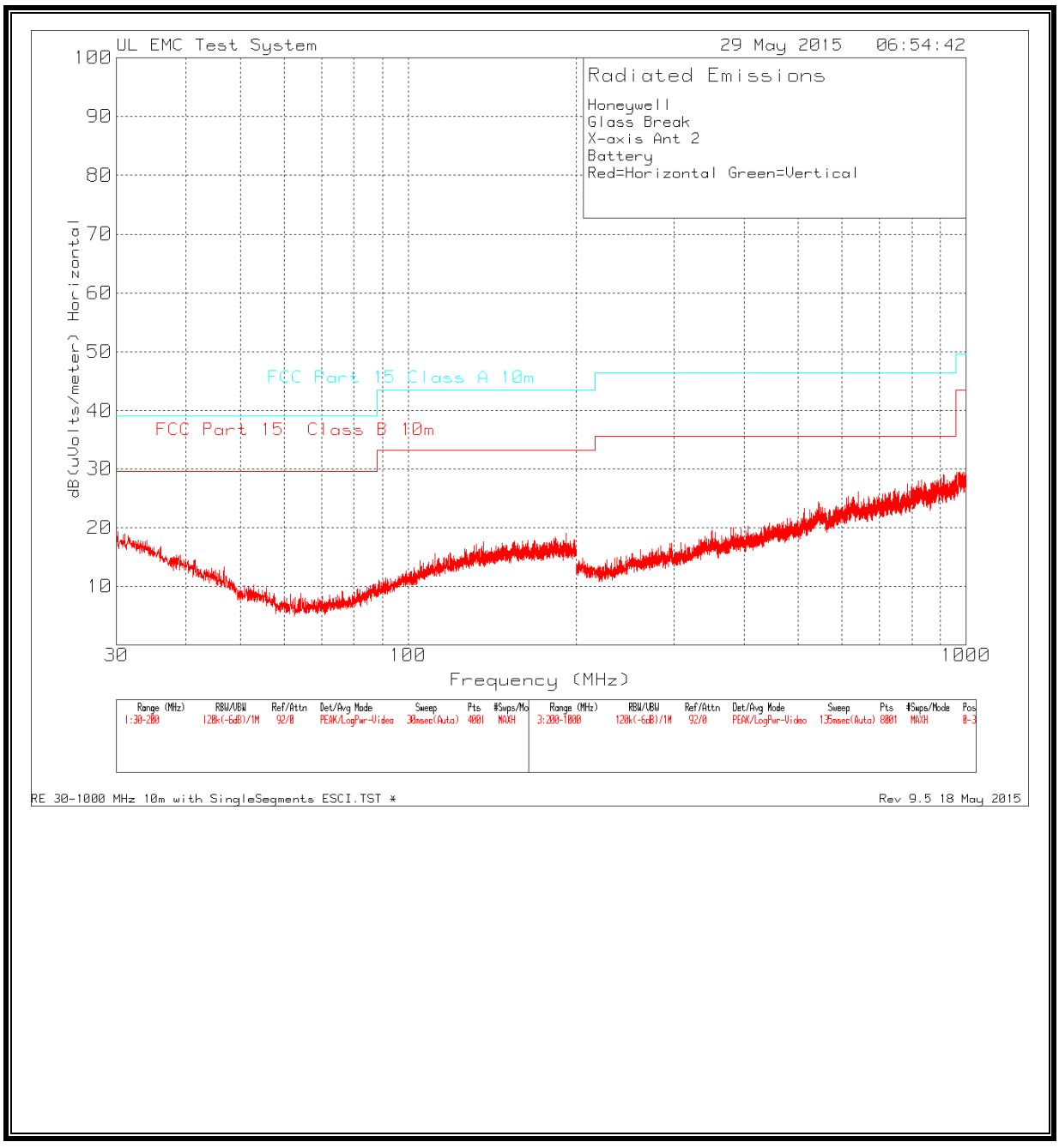
Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit:1	2	3	4	5	6
Range 1: Bicon Horizonta 30 - 200MHz											
1	199.66	30.48dBuV Pk	15.7	-28.7	17.48	-	-	43.52	33.07	-	-
		Azimuth:0-360	Height:400	Horz	Margin (dB)	-	-	-26.04	-15.59	-	-
Range 2: Bicon Vertical 30 - 200MHz											
2	199.5325	33.36dBuV Pk	15.7	-28.7	20.36	-	-	43.52	33.07	-	-
		Azimuth:0-360	Height:249	Vert	Margin (dB)	-	-	-23.16	-12.71	-	-
Range 3: LogP Horizontal 200 - 1000MHz											
3	628.7	31.93dBuV Pk	20.7	-26	26.63	-	-	46.44	35.57	-	-
		Azimuth:0-360	Height:399	Horz	Margin (dB)	-	-	-19.81	-8.94	-	-
4	975	30.34dBuV Pk	24.2	-25.3	29.24	-	-	49.54	43.52	-	-
		Azimuth:0-360	Height:399	Horz	Margin (dB)	-	-	-20.3	-14.28	-	-
Range 4: LogP Vertical 200 - 1000MHz											
5	545.7	31.34dBuV Pk	19.9	-27.1	24.14	-	-	46.44	35.57	-	-
		Azimuth:0-360	Height:399	Vert	Margin (dB)	-	-	-22.3	-11.43	-	-
6	997.3	30.72dBuV Pk	23.7	-25	29.42	-	-	49.54	43.52	-	-
		Azimuth:0-360	Height:399	Vert	Margin (dB)	-	-	-20.12	-14.1	-	-

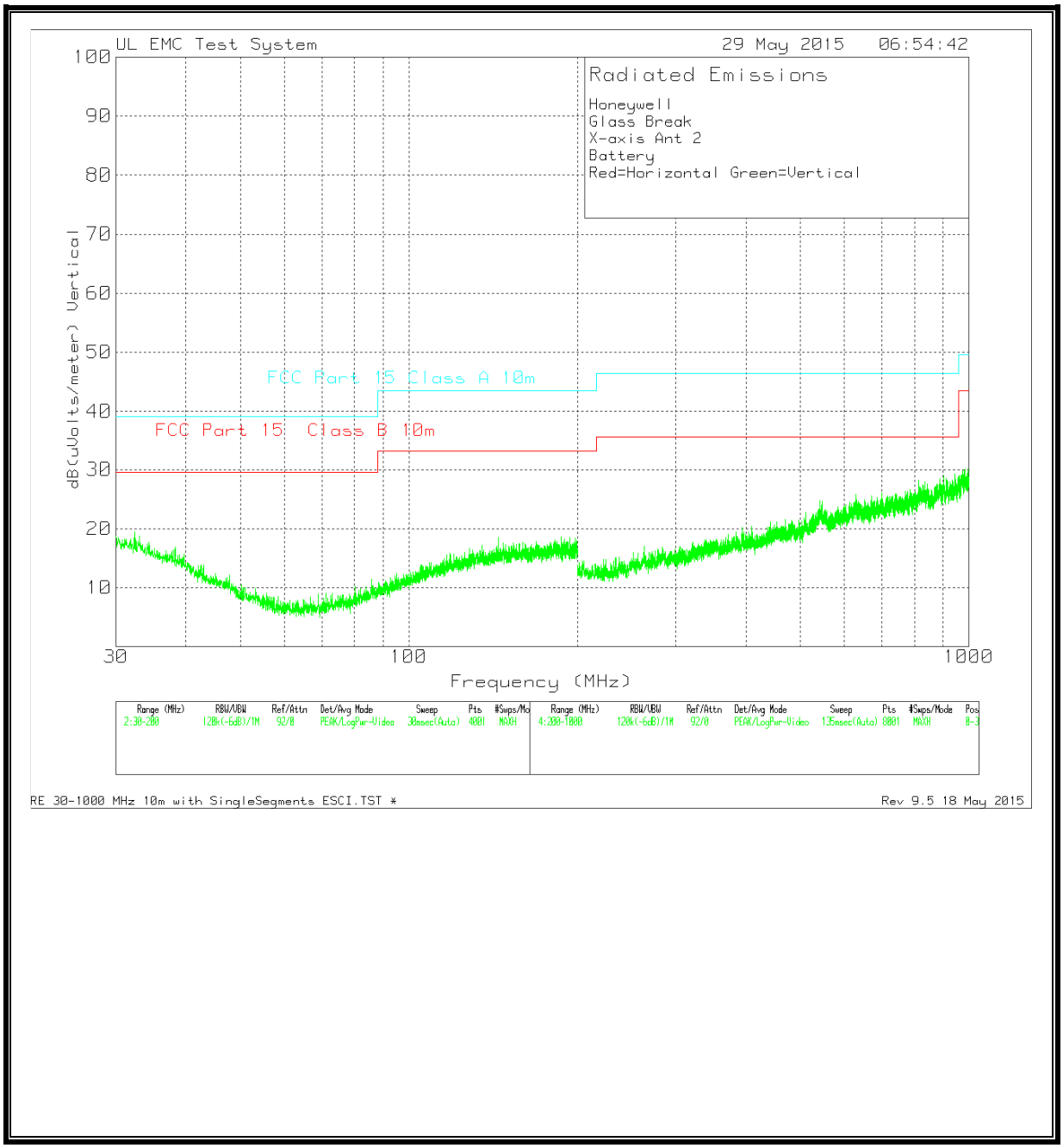
LIMIT 3: FCC Part 15 Class A 10m
LIMIT 4: FCC Part 15 Class B 10m

Pk - Peak detector

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL) Ant 2



SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL) Ant 2



Honeywell
Glass Break
X-axis Ant 2
Battery
Red=Horizontal Green=Vertical

Trace Markers

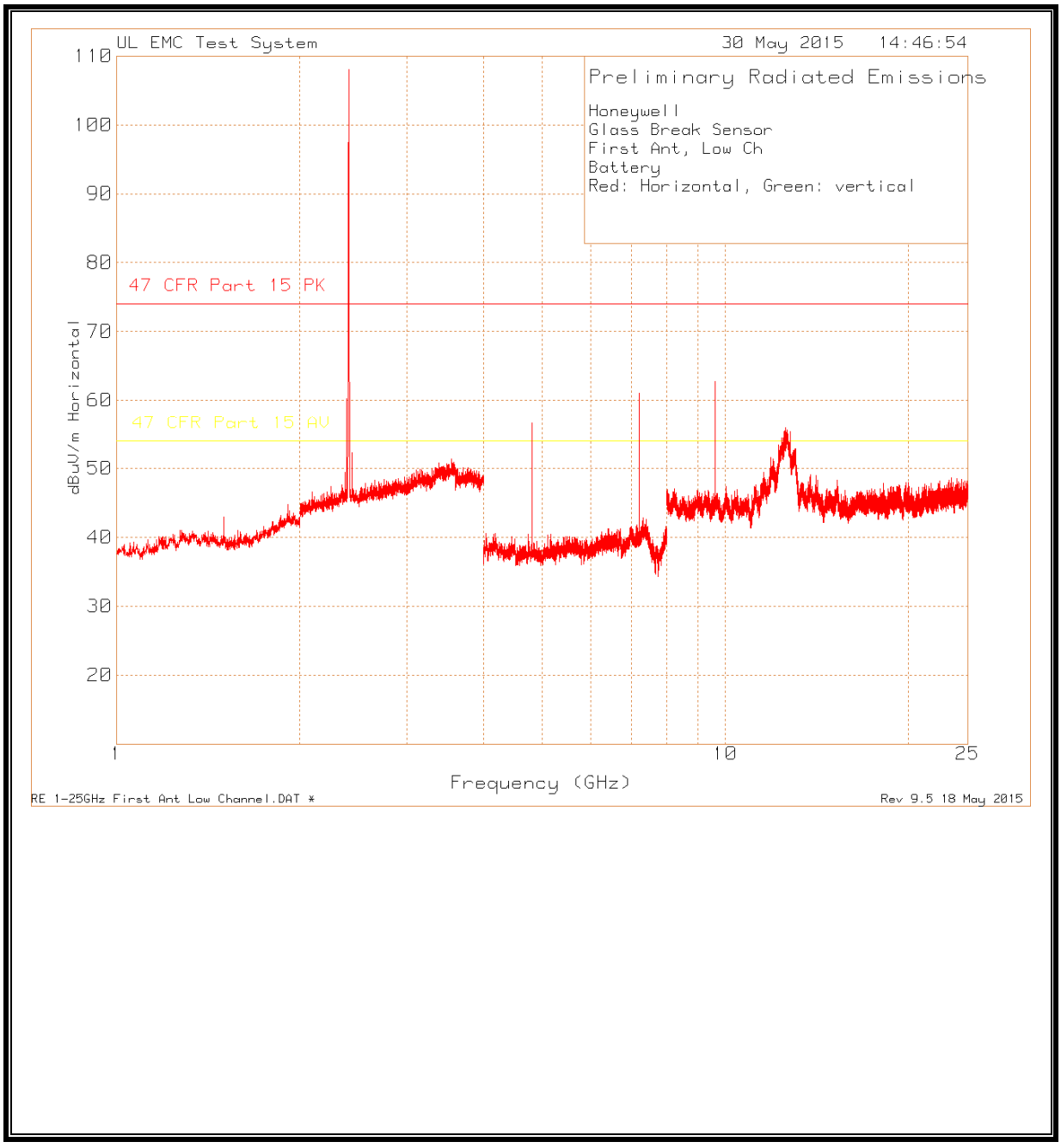
No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit:1	2	3	4	5	6
Range 1: Bicon Horizonta 30 - 200MHz											
1	33.995	31.35dBuV Pk	16.6	-30.1	17.85	-	-	39.08	29.55	-	-
		Azimuth:0-360	Height:250 Horz		Margin (dB)	-	-	-21.23	-11.7	-	-
Range 2: Bicon Vertical 30 - 200MHz											
2	144.4525	33.25dBuV Pk	15	-29.8	18.45	-	-	43.52	33.07	-	-
		Azimuth:0-360	Height:248 Vert		Margin (dB)	-	-	-25.07	-14.62	-	-
Range 3: LogP Horizontal 200 - 1000MHz											
3	544.6	31.48dBuV Pk	19.9	-27	24.38	-	-	46.44	35.57	-	-
		Azimuth:0-360	Height:300 Horz		Margin (dB)	-	-	-22.06	-11.19	-	-
4	640.4	32.13dBuV Pk	20.1	-26.1	26.13	-	-	46.44	35.57	-	-
		Azimuth:0-360	Height:400 Horz		Margin (dB)	-	-	-20.31	-9.44	-	-
Range 4: LogP Vertical 200 - 1000MHz											
5	542.6	31.8dBuV Pk	19.7	-26.8	24.7	-	-	46.44	35.57	-	-
		Azimuth:0-360	Height:400 Vert		Margin (dB)	-	-	-21.74	-10.87	-	-
6	628.8	31.21dBuV Pk	20.6	-26	25.81	-	-	46.44	35.57	-	-
		Azimuth:0-360	Height:99 Vert		Margin (dB)	-	-	-20.63	-9.76	-	-

LIMIT 3: FCC Part 15 Class A 10m
LIMIT 4: FCC Part 15 Class B 10m

Pk - Peak detector

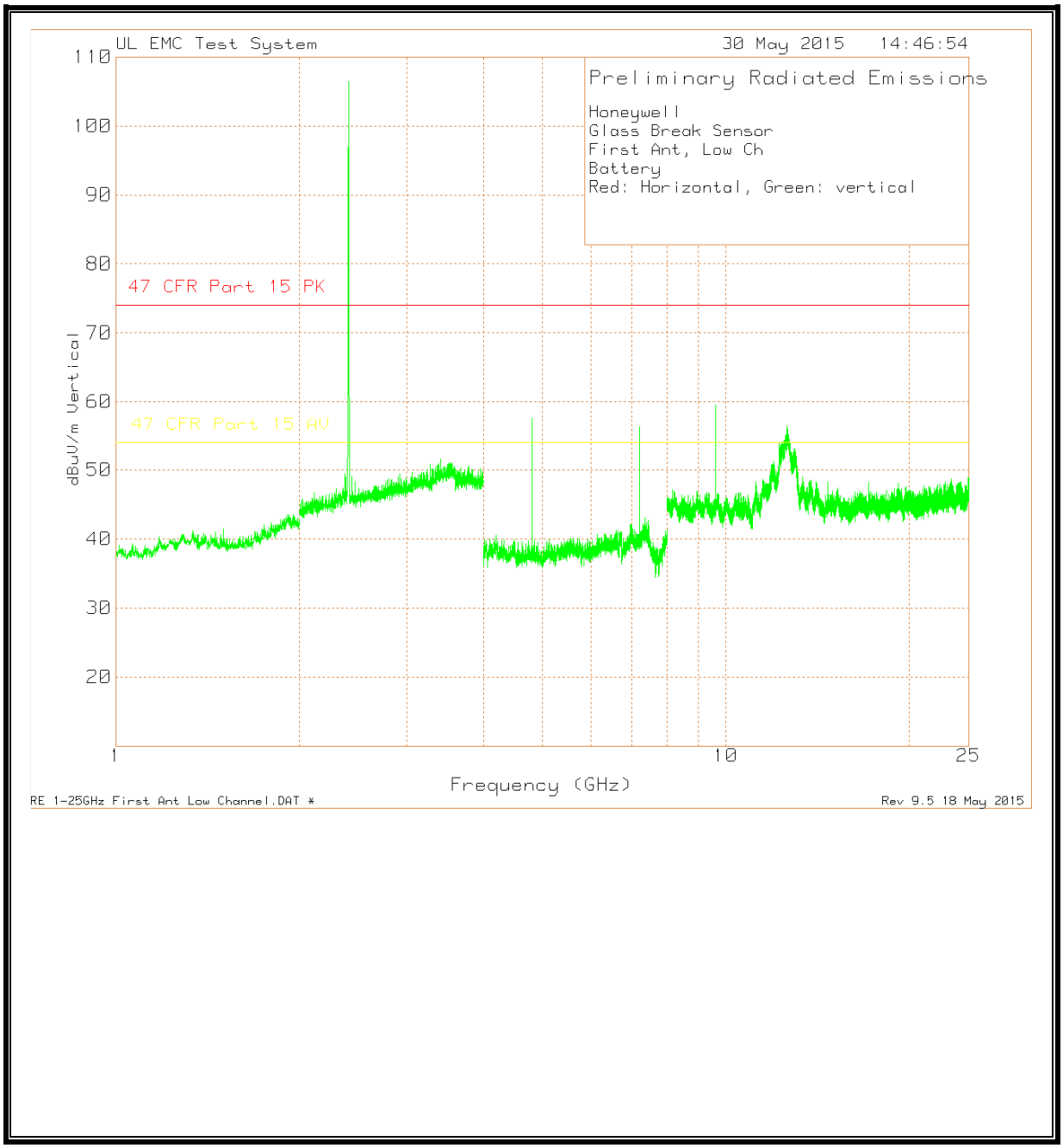
10. Radiated Emissions Above 1Ghz

Above 1Ghz (WORST-CASE CONFIGURATION, Horizontal) Low Ch Ant 1



*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, VERTICAL) Low Ch Ant 1

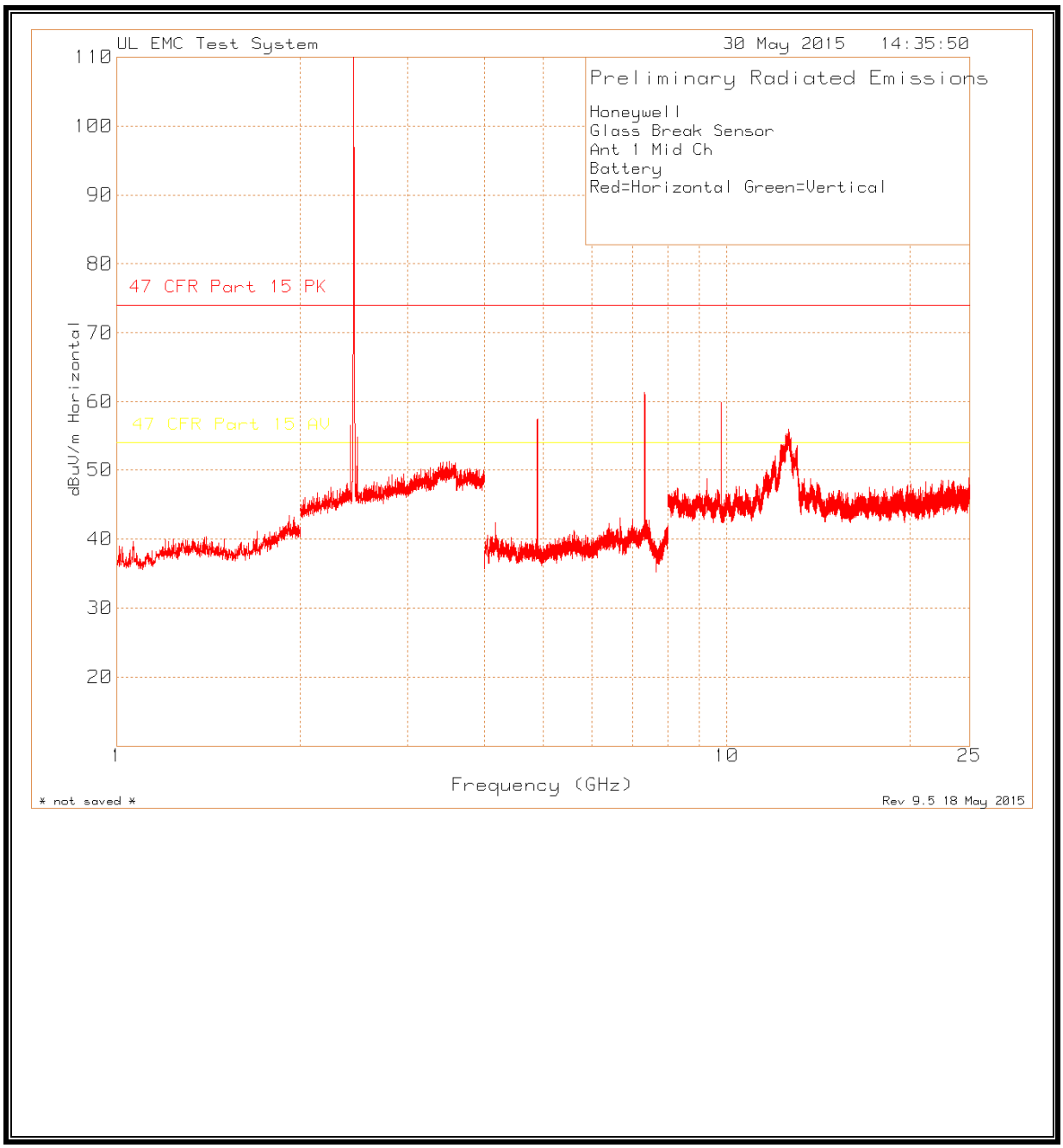


*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, DATA) Low Ch Ant 1

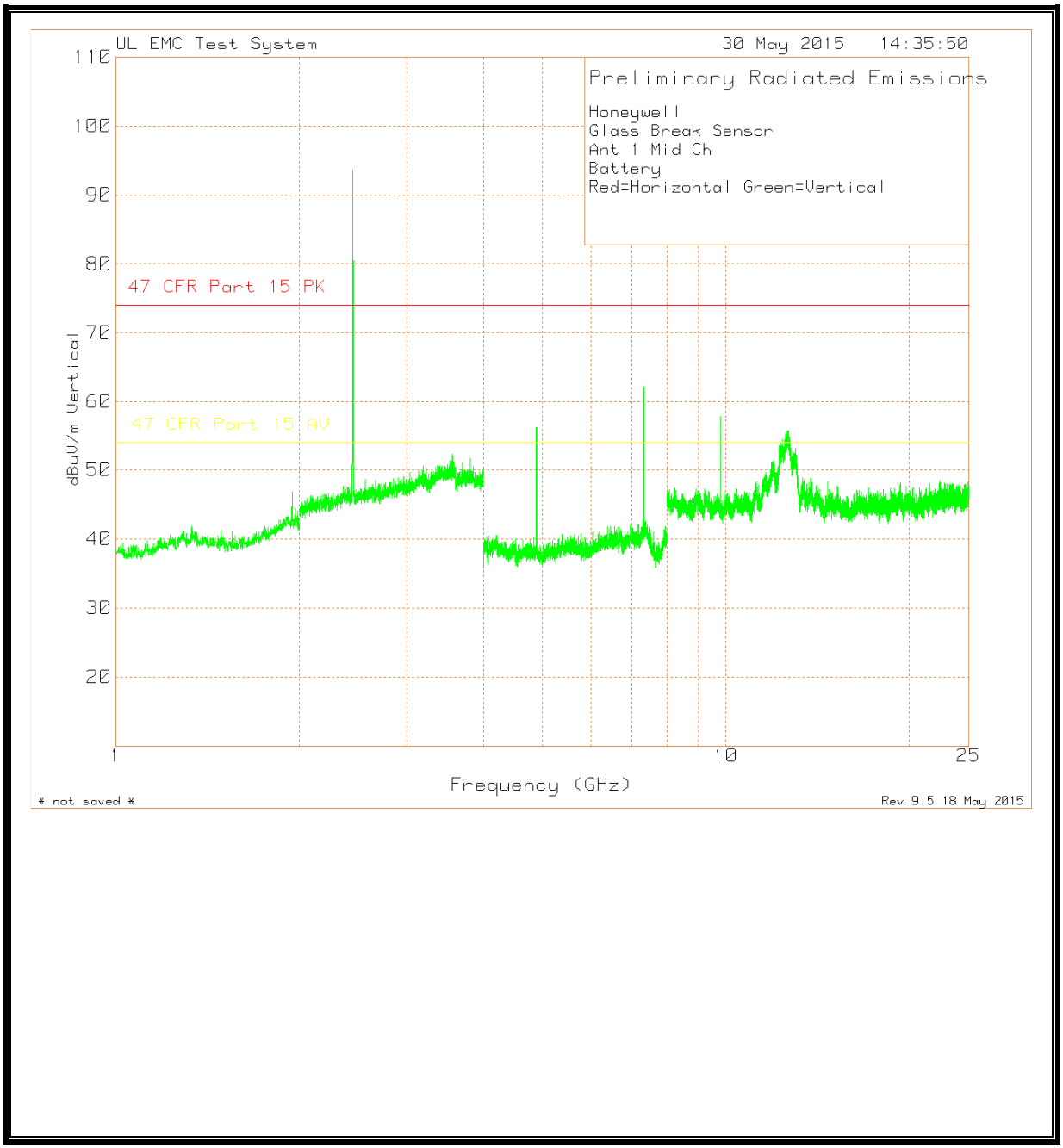
Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factor (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected Av Reading	47 CFR Part 15 AV	Margin (dB)	47 CFR Part 15 PK	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
4.8111	80.06	Pk	27.7	-50.55	57.21	-23.13	34.08	54	-19.92	74	-16.79	64	150	H
7.217	79.44	Pk	29.8	-46.77	62.47	-23.13	39.34	54	-14.66	74	-11.53	318	148	H
9.6222	77.78	Pk	36.4	-48.29	65.89	-23.13	42.76	54	-11.24	74	-8.11	45	150	H
4.8091	81.15	Pk	27.7	-50.57	58.28	-23.13	35.15	54	-18.85	74	-15.72	0	150	V
7.2135	74.06	Pk	29.8	-46.73	57.13	-23.13	34	54	-20	74	-16.87	300	150	V
9.6219	73.41	Pk	36.4	-48.3	61.51	-23.13	38.38	54	-15.62	74	-12.49	26	150	V
Pk - Peak detector														

Above 1Ghz (WORST-CASE CONFIGURATION, Horizontal) Mid Ch Ant 1



*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, VERTICAL) Mid Ch Ant 1

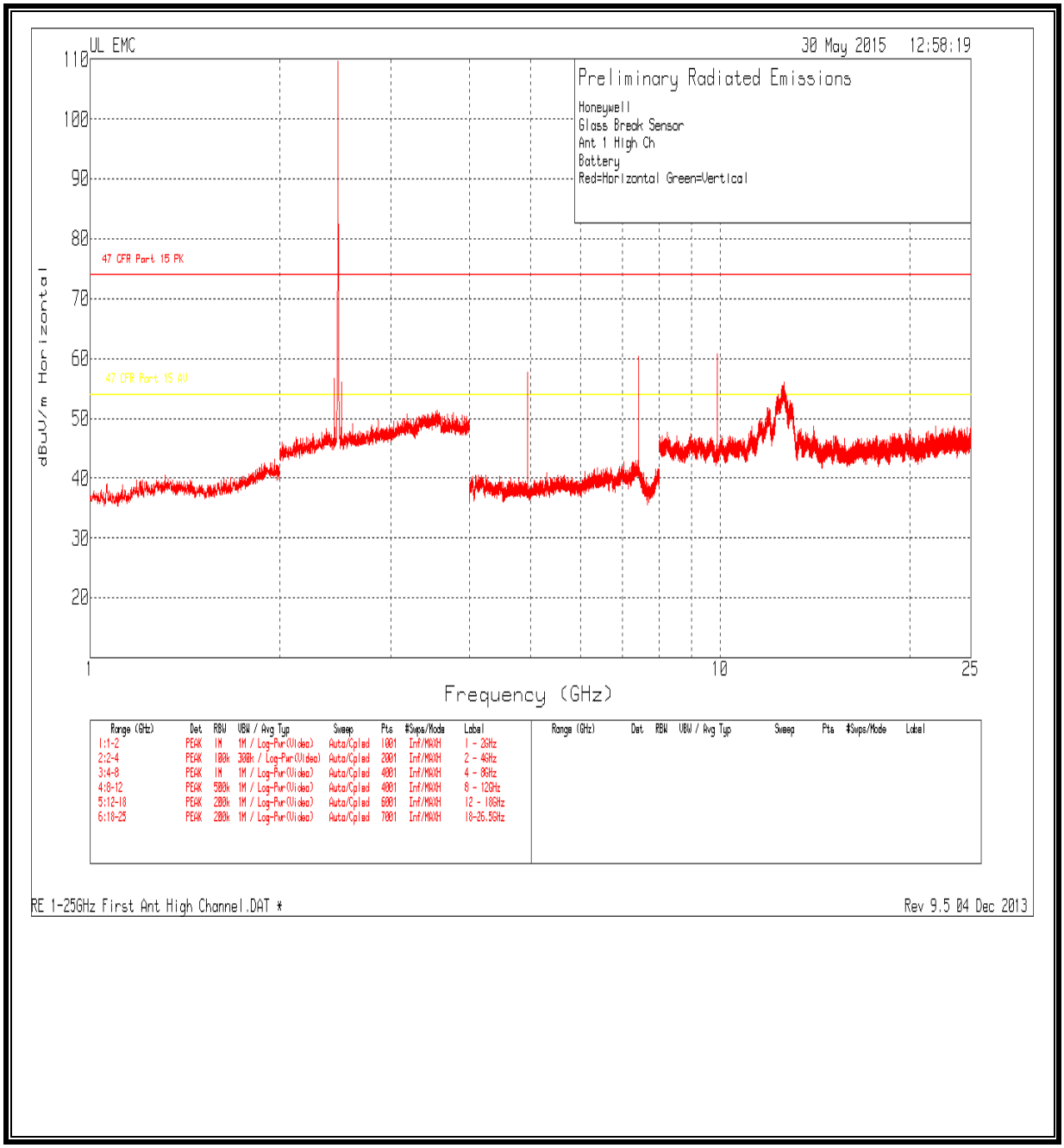


*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, DATA) Mid Ch Ant 1

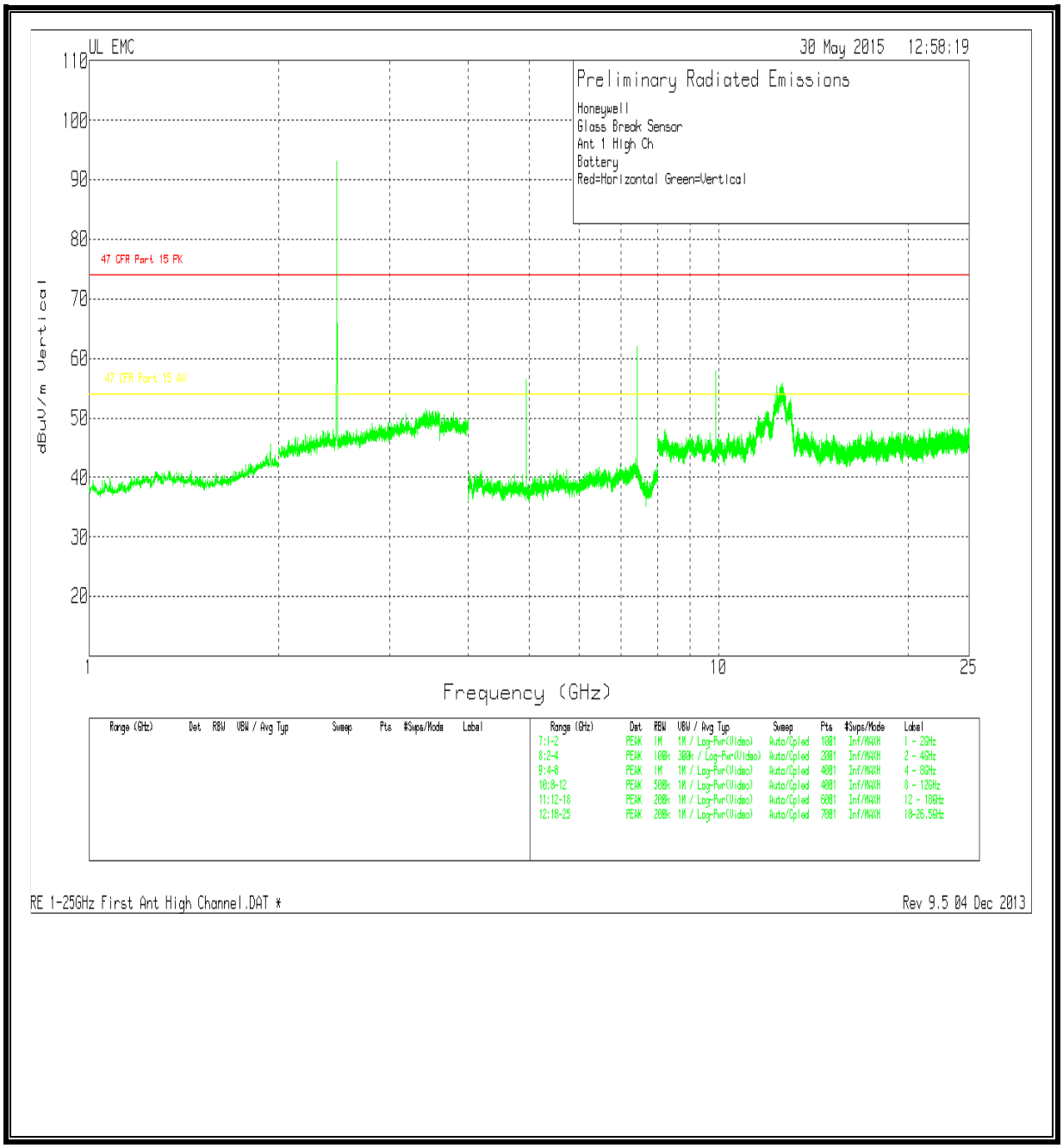
Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factor (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected AV Reading	47 CFR Part 15 AV	Margin (dB)	47 CFR Part 15 PK	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
4.891	80.27	Pk	27.7	-50.42	57.55	-23.13	34.42	54	-19.58	74	-16.45	0-360	101	H
7.334	76.62	Pk	30.7	-45.91	61.41	-23.13	38.28	54	-15.72	74	-12.59	0-360	101	H
9.778	72.72	Pk	36.4	-49.24	59.88	-23.13	36.75	54	-17.25	74	-14.12	0-360	100	H
12.643	50.62	Pk	39.5	-34.25	55.87	-23.13	32.74	54	-21.26	74	-18.13	0-360	100	H
7.337	77.54	Pk	30.7	-45.9	62.34	-23.13	39.21	54	-14.79	74	-11.66	0-360	100	V
4.891	78.83	Pk	27.7	-50.42	56.11	-23.13	32.98	54	-21.02	74	-17.89	0-360	150	V
9.783	70.79	Pk	36.4	-49.3	57.89	-23.13	34.76	54	-19.24	74	-16.11	0-360	100	V
12.637	50.28	Pk	39.5	-34.07	55.71	-23.13	32.58	54	-21.42	74	-18.29	0-360	100	V
Pk - Peak detector														

Above 1Ghz (WORST-CASE CONFIGURATION, Horizontal) High Ch Ant 1



*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, VERTICAL) High Ch Ant 1

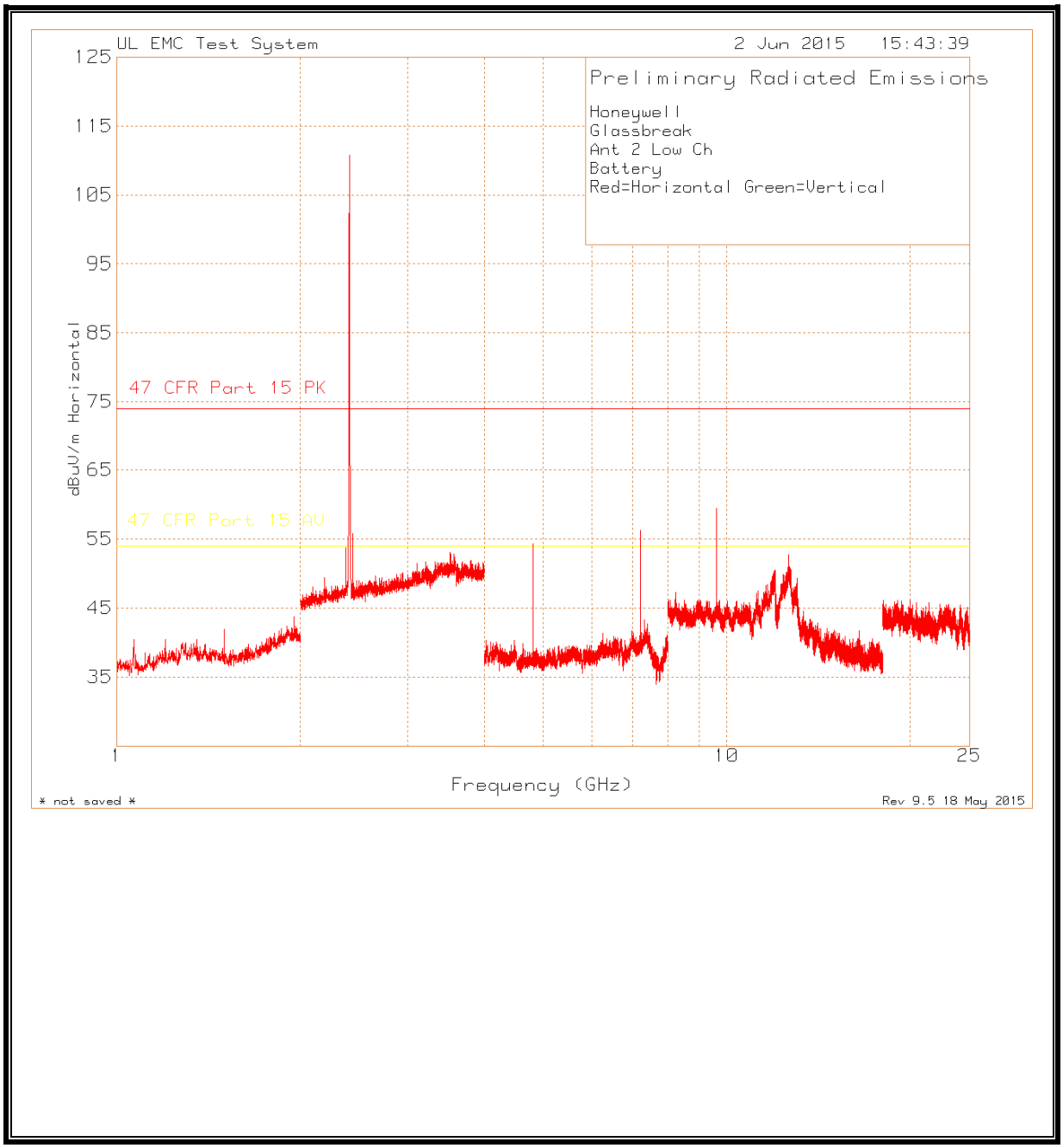


*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, DATA) High Ch Ant 1

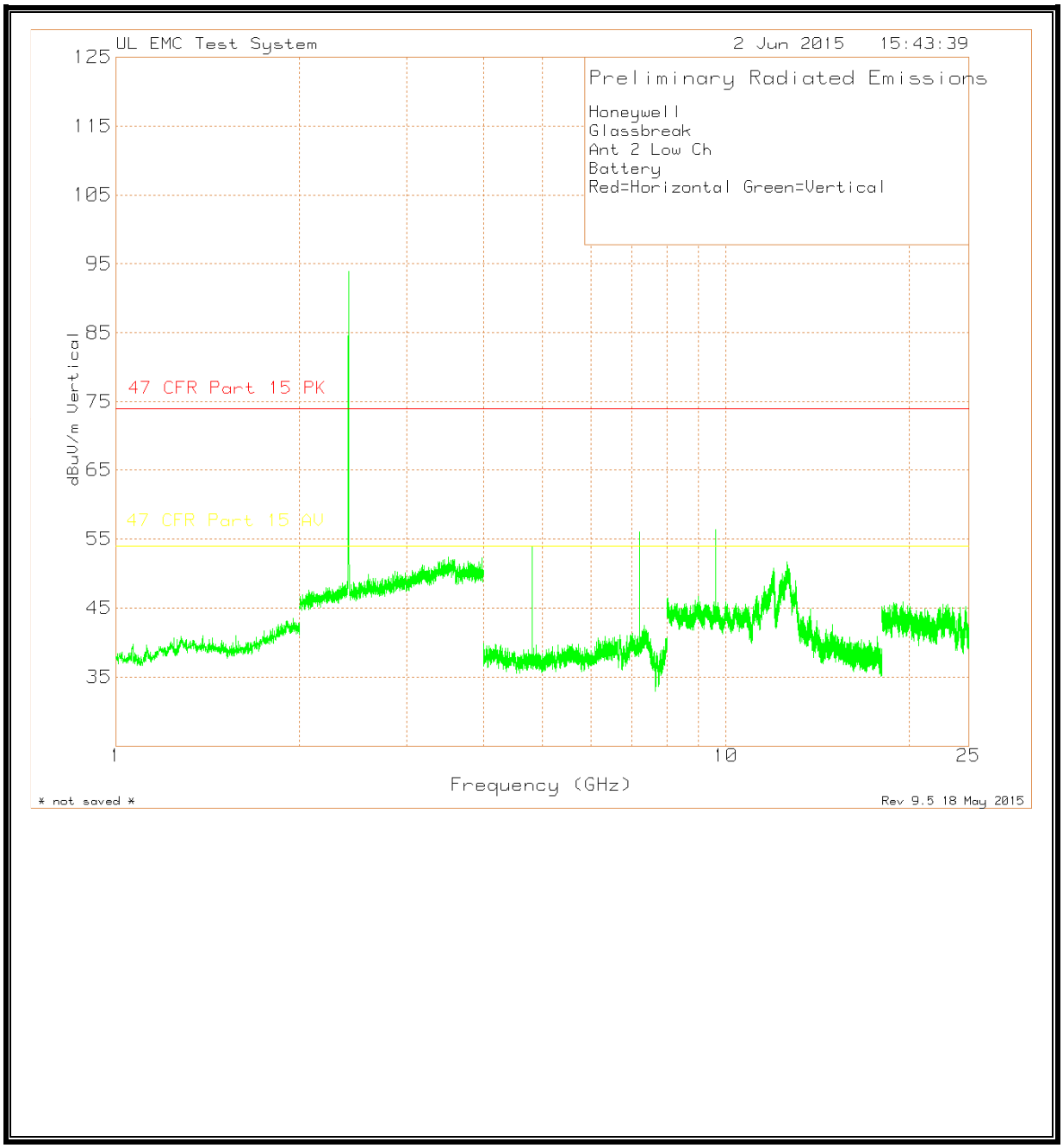
Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factors (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected Av Reading	47 CFR Part 15 AV	Margin (dB)	47 CFR Part 15 PK	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
4.951	80.51	Pk	27.8	-50.76	57.55	-23.13	34.42	54	-19.58	74	-16.45	0-360	101	H
7.424	76.32	Pk	30.8	-46.74	60.38	-23.13	37.25	54	-16.75	74	-13.62	0-360	101	H
9.902	73.84	Pk	36.4	-49.42	60.82	-23.13	37.69	54	-16.31	74	-13.18	0-360	100	H
12.632	50.66	Pk	39.5	-34.11	56.05	-23.13	32.92	54	-21.08	74	-17.95	0-360	100	H
4.951	78.85	Pk	27.8	-50.76	55.89	-23.13	32.76	54	-21.24	74	-18.11	0-360	100	V
7.4275	77.43	Pk	30.8	-46.69	61.54	-23.13	38.41	54	-15.59	74	-12.46	0-360	100	V
9.902	70.83	Pk	36.4	-49.42	57.81	-23.13	34.68	54	-19.32	74	-16.19	0-360	100	V
12.626	50.47	Pk	39.5	-34.23	55.74	-23.13	32.61	54	-21.39	74	-18.26	0-360	100	V
Pk - Peak detector														

Above 1Ghz (WORST-CASE CONFIGURATION, Horizontal) Low Ch Ant 2



*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, VERTICAL) Low Ch Ant 2

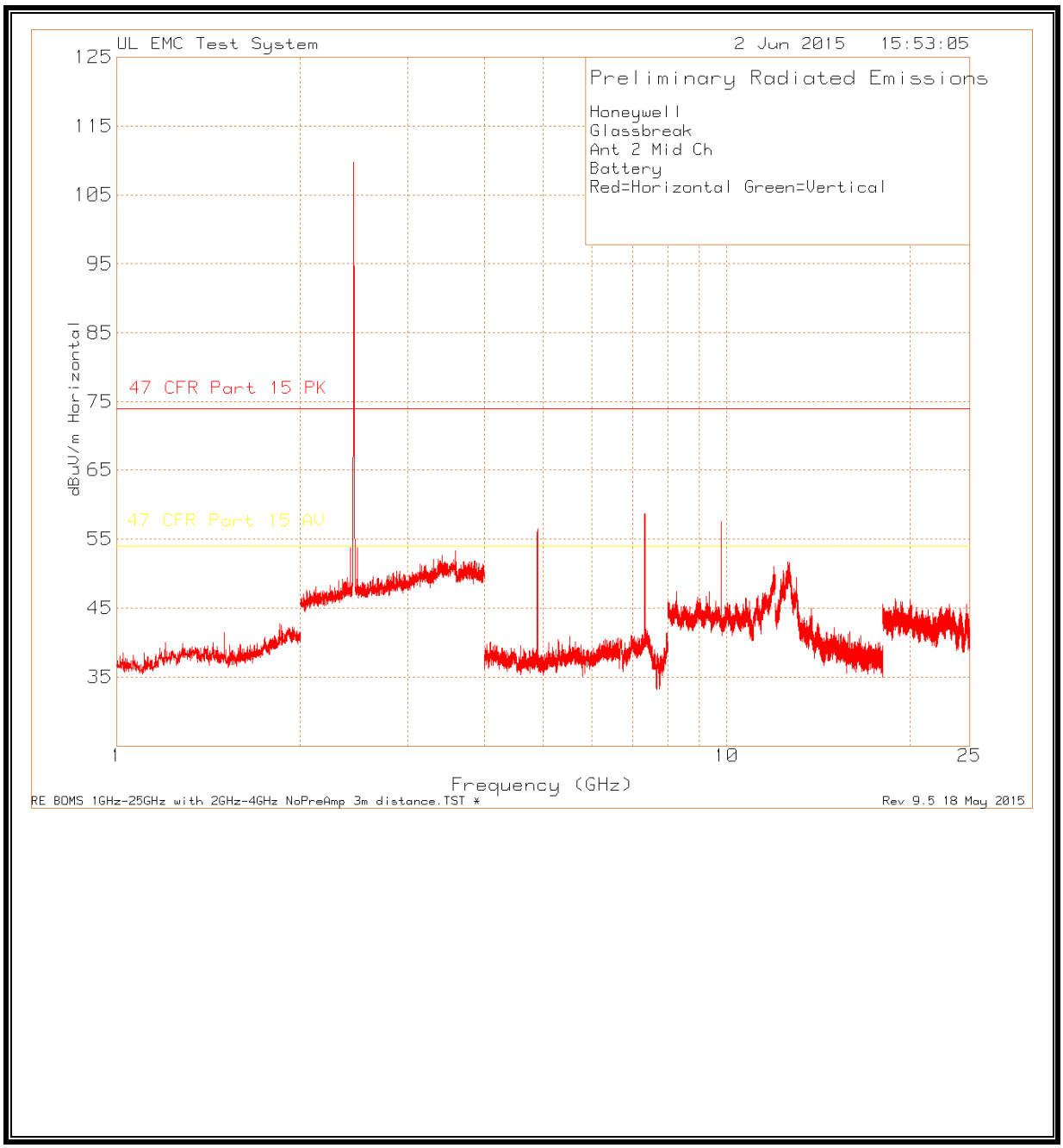


*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, DATA) Low Ch Ant 2

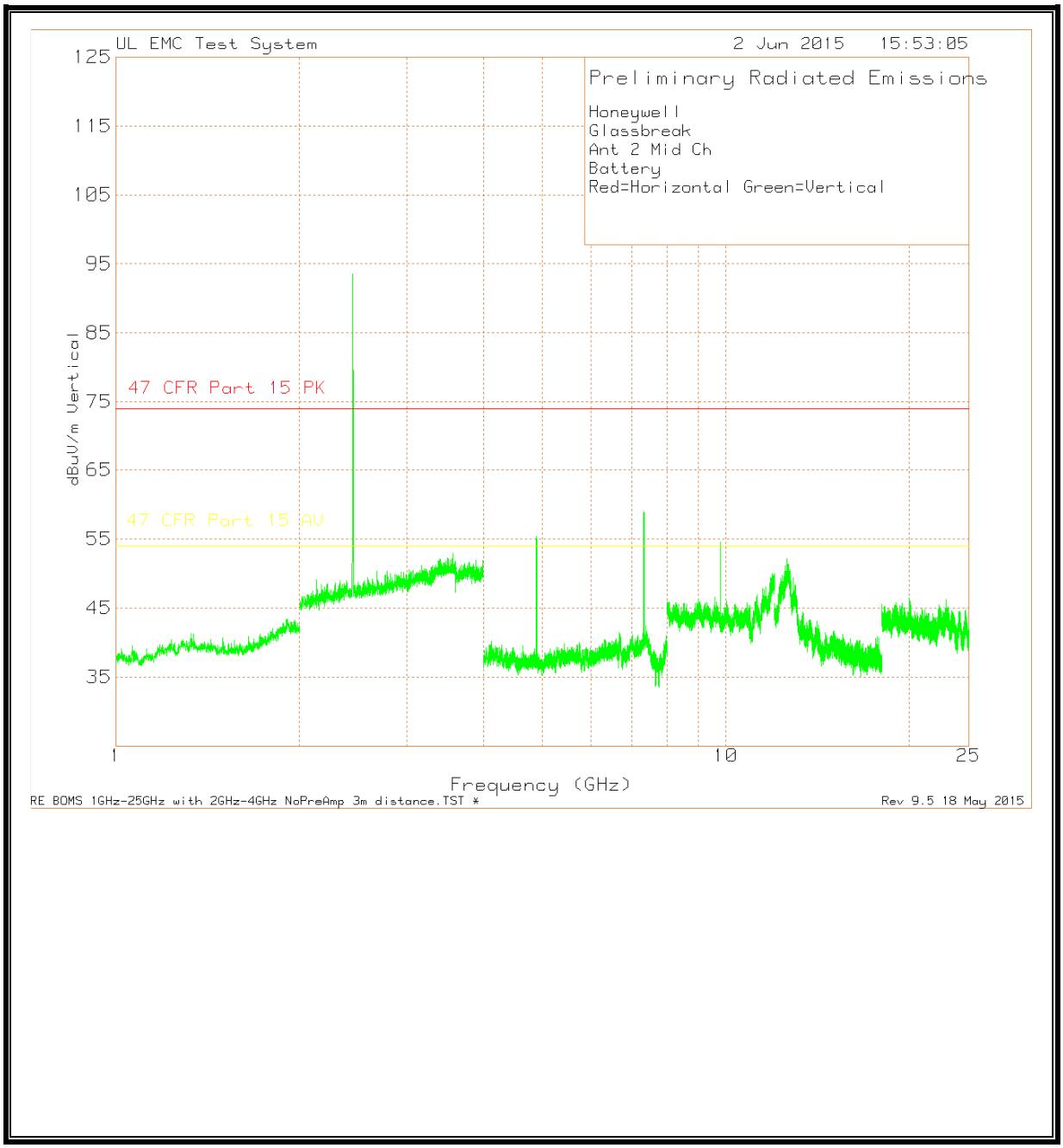
Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factor (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected Av Reading	47 CFR Part 15 AV	Margin (dB)	47 CFR Part 15 PK	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
4.811	77.12	Pk	27.7	-50.55	54.27	-23.13	31.14	54	-22.86	74	-19.73	0-360	100	H
7.2145	73.17	Pk	29.8	-46.74	56.23	-23.13	33.1	54	-20.9	74	-17.77	0-360	100	H
9.619	71.41	Pk	36.4	-48.36	59.45	-23.13	36.32	54	-17.68	74	-14.55	0-360	100	H
12.623	47.45	Pk	39.5	-34.26	52.69	-23.13	29.56	54	-24.44	74	-21.31	0-360	150	H
4.809	76.68	Pk	27.7	-50.57	53.81	-23.13	30.68	54	-23.32	74	-20.19	0-360	99	V
7.217	72.98	Pk	29.8	-46.77	56.01	-23.13	32.88	54	-21.12	74	-17.99	0-360	99	V
9.619	68.26	Pk	36.4	-48.36	56.3	-23.13	33.17	54	-20.83	74	-17.7	0-360	100	V
12.63	45.93	Pk	39.5	-34.15	51.28	-23.13	28.15	54	-25.85	74	-22.72	0-360	99	V
Pk - Peak detector														

Above 1Ghz (WORST-CASE CONFIGURATION, Horizontal) Mid Ch Ant 2



*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, VERTICAL) Mid Ch Ant 2

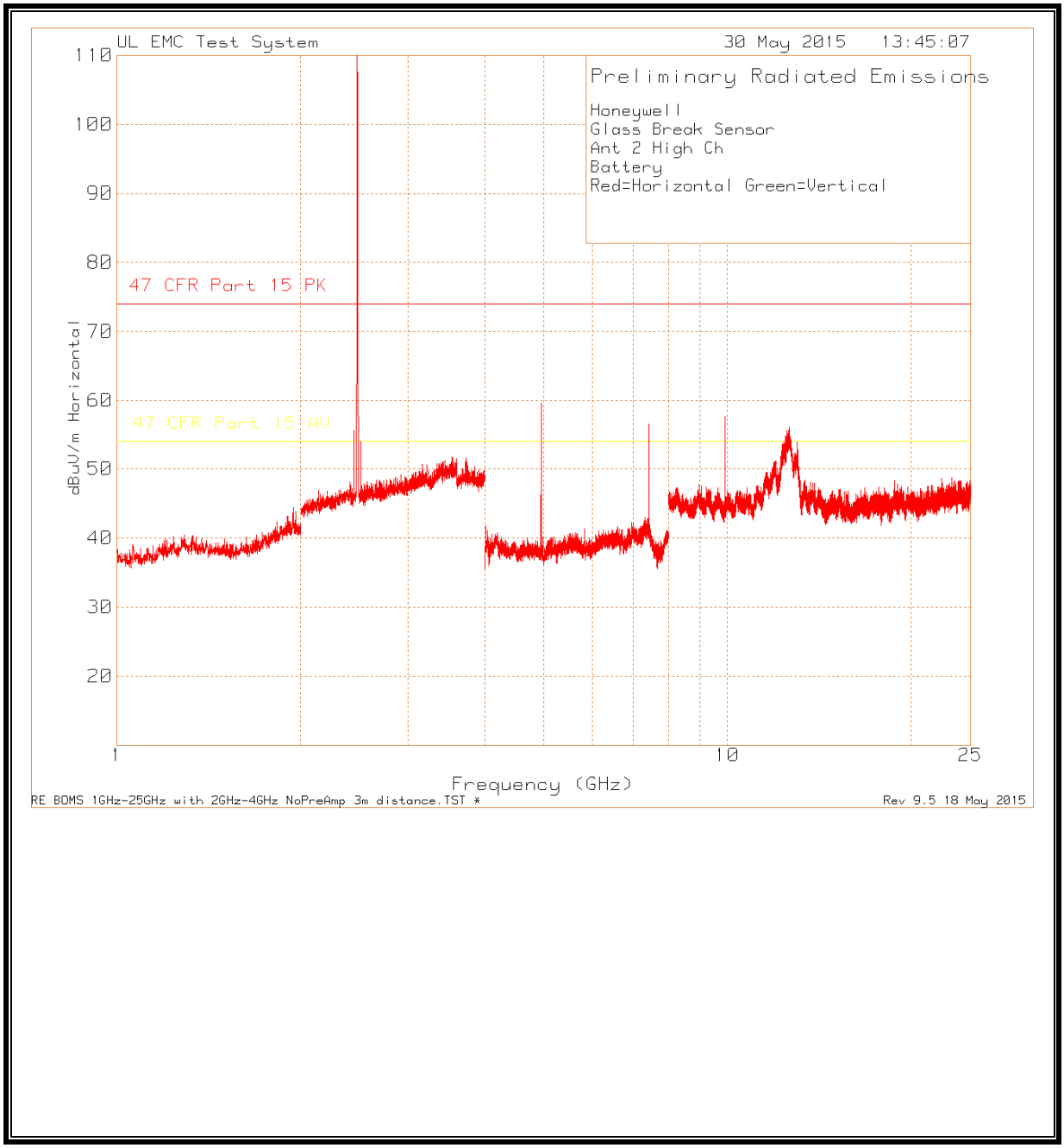


*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, DATA) Mid Ch Ant 2

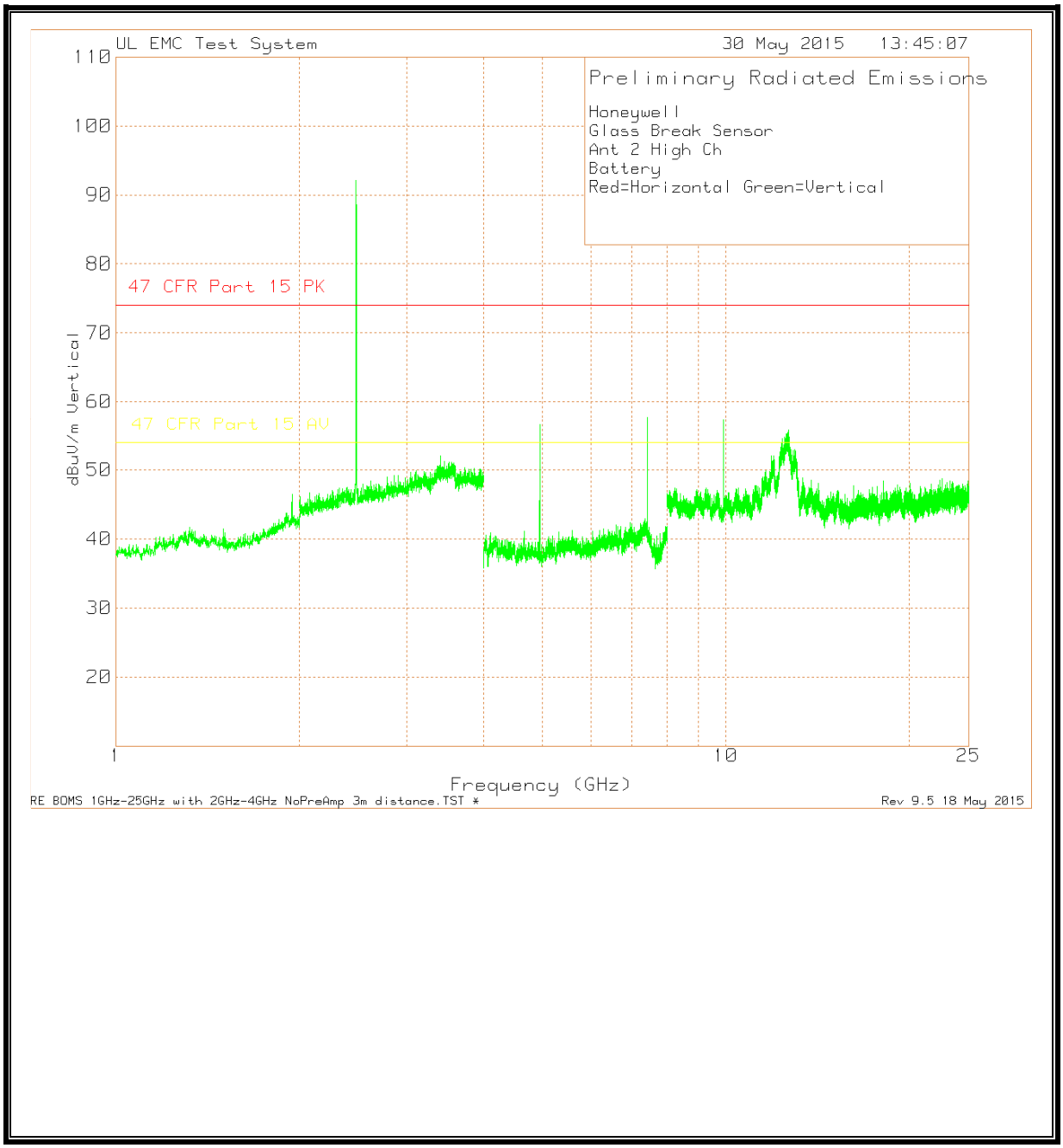
Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factor (db/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Duty Cycle Correction Factor (db)	Corrected Av Reading (db)	47 CFR Part 15 AV	Margin (dB)	47 CFR Part 15 PK	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
4.8091	80.65	Pk	27.7	-50.57	57.78	-23.13	34.65	54	-19.35	74	-16.22	90	204	H
4.811	79.21	Pk	27.7	-50.55	56.36	-23.13	33.23	54	-20.77	74	-17.64	360	231	V
7.2166	79.58	Pk	29.8	-46.76	62.62	-23.13	39.49	54	-14.51	74	-11.38	87	188	H
7.2165	79.3	Pk	29.8	-46.76	62.34	-23.13	39.21	54	-14.79	74	-11.66	326	213	V
9.6179	73.57	Pk	36.4	-48.38	61.59	-23.13	38.46	54	-15.54	74	-12.41	223	187	H
9.6219	71.98	Pk	36.4	-48.3	60.08	-23.13	36.95	54	-17.05	74	-13.92	301	100	V
Pk - Peak detector														

Above 1Ghz (WORST-CASE CONFIGURATION, Horizontal) High Ch Ant 2



*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, VERTICAL) High Ch Ant 2



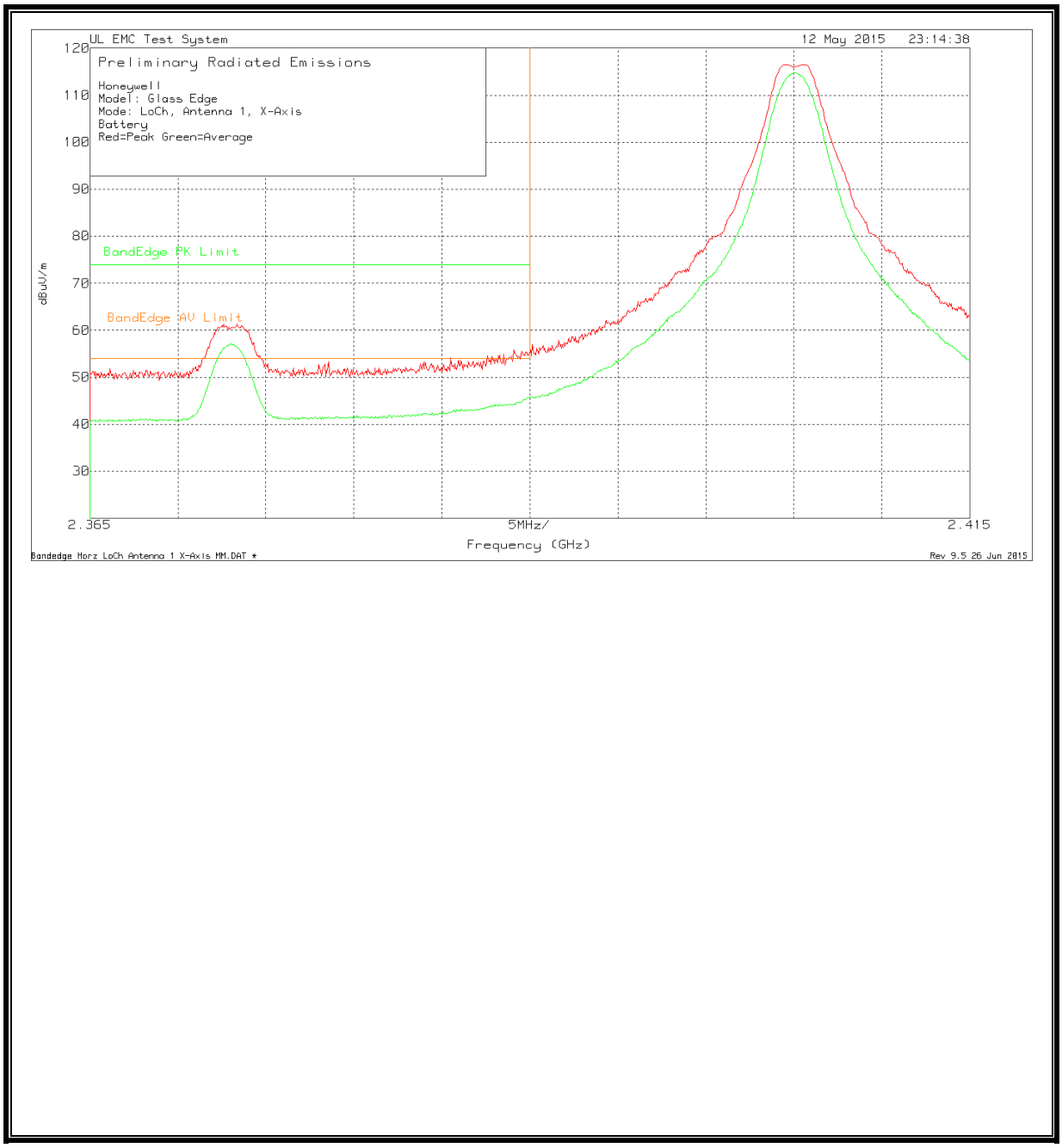
*Also see section 12 ambient scan with measurement data.

Above 1Ghz (WORST-CASE CONFIGURATION, DATA) High Ch Ant 2

Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factors (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected Av Reading	47 CFR Part 15 AV	Margin (dB)	47 CFR Part 15 PK	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
4.951	82.15	Pk	27.8	-50.76	59.19	-23.13	36.06	54	-17.94	74	-14.81	0-360	100	H
7.425	72.47	Pk	30.8	-46.73	56.54	-23.13	33.41	54	-20.59	74	-17.46	0-360	100	H
9.898	70.87	Pk	36.4	-49.48	57.79	-23.13	34.66	54	-19.34	74	-16.21	0-360	100	H
12.625	50.77	Pk	39.5	-34.25	56.02	-23.13	32.89	54	-21.11	74	-17.98	0-360	100	H
7.425	73.62	Pk	30.8	-46.73	57.69	-23.13	34.56	54	-19.44	74	-16.31	0-360	100	V
4.949	79.51	Pk	27.8	-50.76	56.55	-23.13	33.42	54	-20.58	74	-17.45	0-360	100	V
9.898	70.33	Pk	36.4	-49.48	57.25	-23.13	34.12	54	-19.88	74	-16.75	0-360	100	V
12.637	50.01	Pk	39.5	-34.07	55.44	-23.13	32.31	54	-21.69	74	-18.56	0-360	100	V
Pk - Peak detector														

11. Bandedge

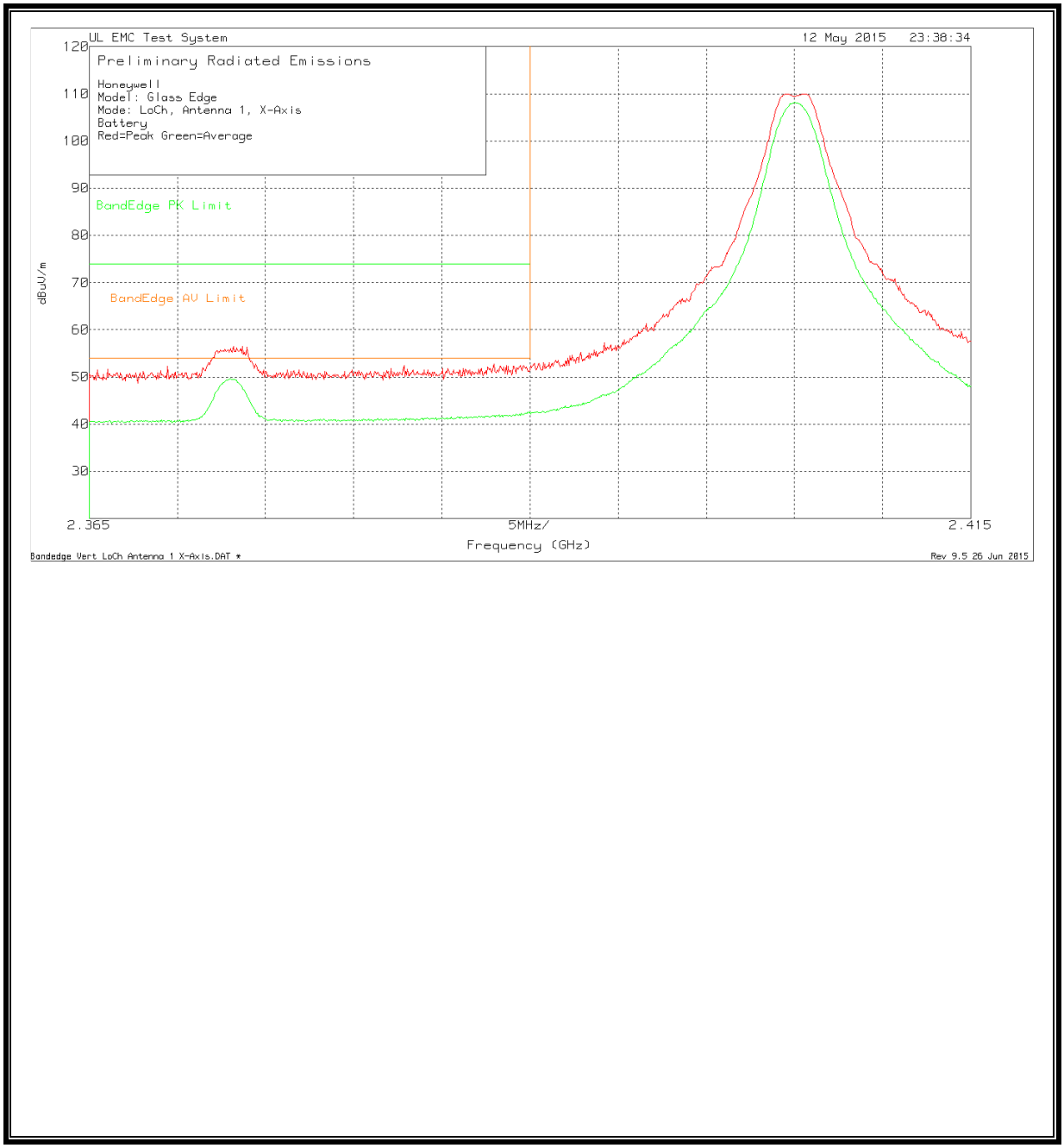
Bandedge (WORST-CASE CONFIGURATION, Horizontal) Low Ch Ant 1



Bandedge (WORST-CASE CONFIGURATION, Horizontal DATA) Low Ch Ant 1

Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factors (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected Av Reading	BandEdge AV Limit	Margin (dB)	BandEdge PK Limit	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
2.39	28.49	Pk	21.8	4.72	55.01	-23.13	-	-	-	74	-18.99	0	98	H
2.3737	34.4	Pk	21.8	4.67	60.87	-23.13	-	-	-	74	-13.13	0	98	H
2.3727	34.32	Pk	21.8	4.68	60.8	-23.13	-	-	-	74	-13.2	0	98	H
2.39	18.98	AV	21.8	4.72	45.5	-23.13	22.37	54	-31.63	-	-	0	98	H
2.3738	28	AV	21.8	4.67	54.47	-23.13	31.34	54	-22.66	-	-	0	98	H
2.373	30.56	AV	21.8	4.68	57.04	-23.13	33.91	54	-20.09	-	-	0	98	H
		AV - Average Dectector			Pk - Peak detector									

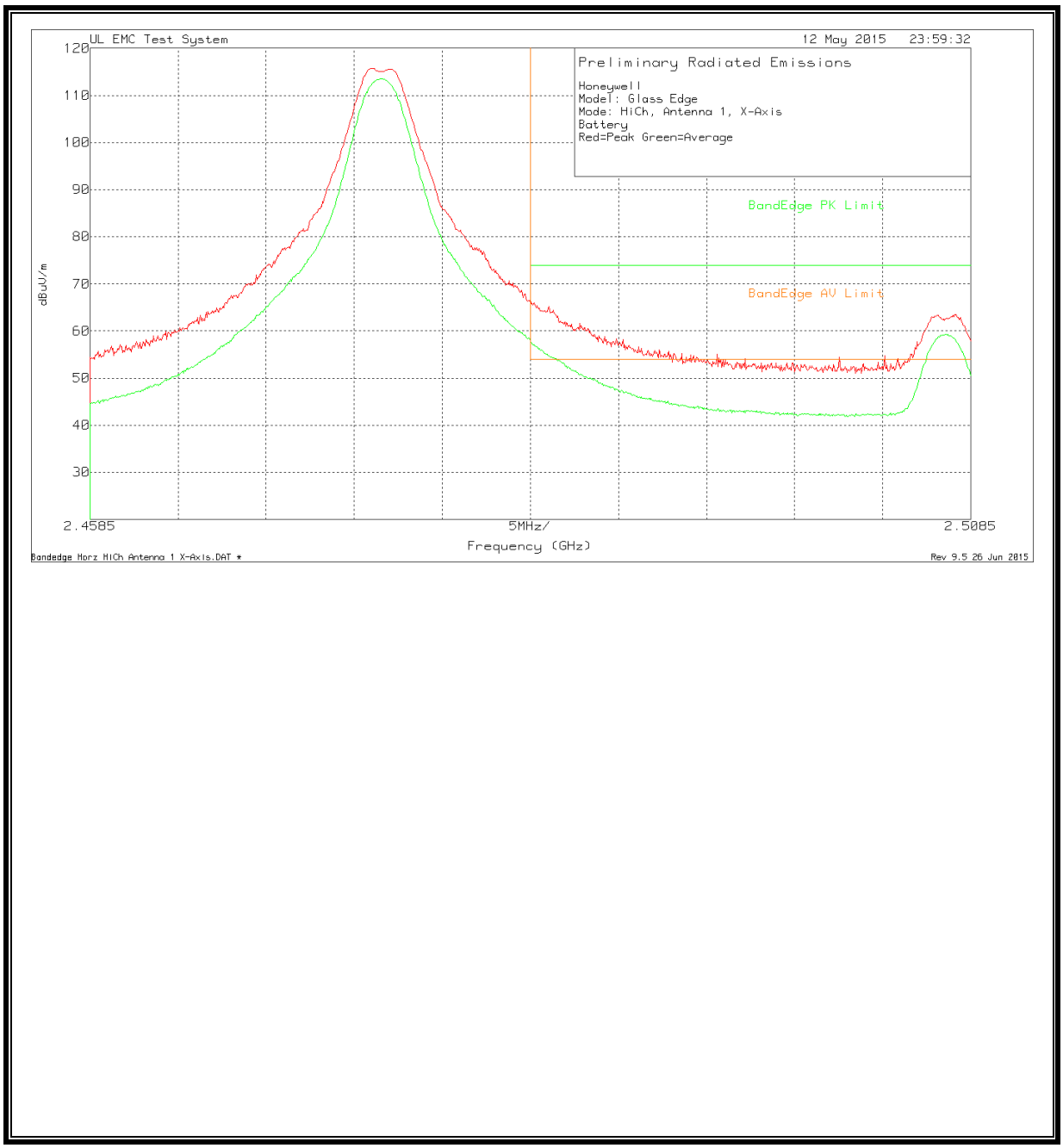
Band edge (WORST-CASE CONFIGURATION, VERTICAL) Low Ch Ant 1



Bandedge (WORST-CASE CONFIGURATION, Vertical DATA) Low Ch Ant 1

Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factors (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected Av Reading	BandEdge AV Limit	Margin (dB)	BandEdge PK Limit	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
2.4836	33.83	Pk	22.1	4.37	60.3	-23.13	-	-	-	74	-13.7	135	281	V
2.5067	31.57	Pk	22.1	4.38	58.05	-23.13	-	-	-	74	-15.95	135	281	V
2.5077	30.96	Pk	22.1	4.38	57.44	-23.13	-	-	-	74	-16.56	135	281	V
2.4835	25.41	AV	22.1	4.37	51.88	-23.13	28.75	54	-25.25	-	-	135	281	V
2.4836	24.97	AV	22.1	4.37	51.44	-23.13	28.31	54	-25.69	-	-	135	281	V
2.5069	25.09	AV	22.1	4.38	51.57	-23.13	28.44	54	-25.56	-	-	135	281	V
		AV - Average Dectector			Pk - Peak detector									

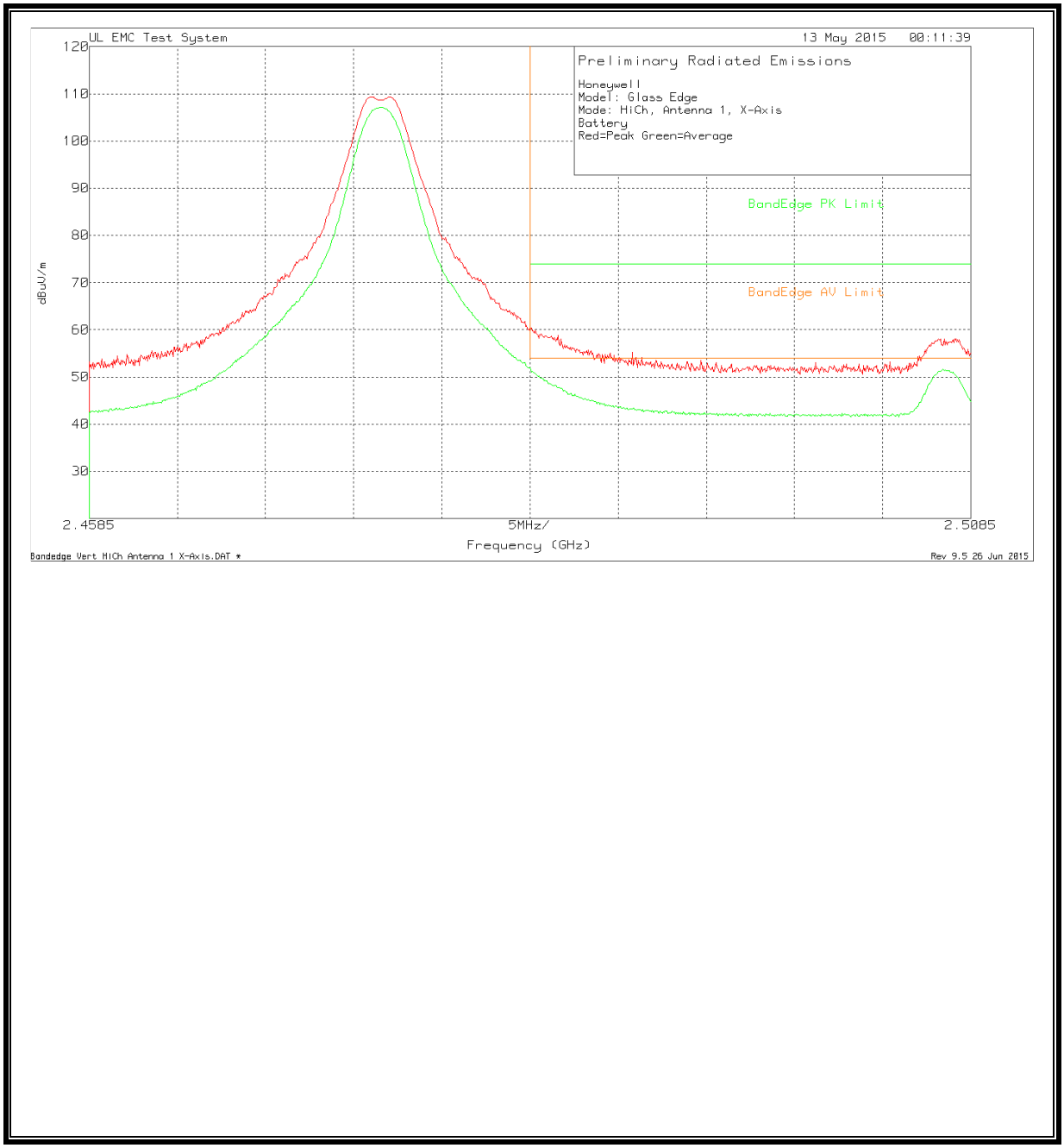
Bandedge (WORST-CASE CONFIGURATION, Horizontal) High Ch Ant 1



Bandedge (WORST-CASE CONFIGURATION, Horizontal DATA) High Ch Ant 1

Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factors (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected AV Reading	BandEdge AV Limit	Margin (dB)	BandEdge PK Limit	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
2.4836	39.3	Pk	22.1	4.37	65.77	-23.13	-	-	-	74	-8.23	86	100	H
2.5066	36.88	Pk	22.1	4.38	63.36	-23.13	-	-	-	74	-10.64	86	100	H
2.5077	37.06	Pk	22.1	4.38	63.54	-23.13	-	-	-	74	-10.46	86	100	H
2.4835	31.35	AV	22.1	4.37	57.82	-23.13	34.69	54	-19.31	-	-	86	100	H
2.4836	30.93	AV	22.1	4.37	57.4	-23.13	34.27	54	-19.73	-	-	86	100	H
2.5071	32.75	AV	22.1	4.38	59.23	-23.13	36.1	54	-17.9	-	-	86	100	H
		AV - Average Dectector			Pk - Peak detector									

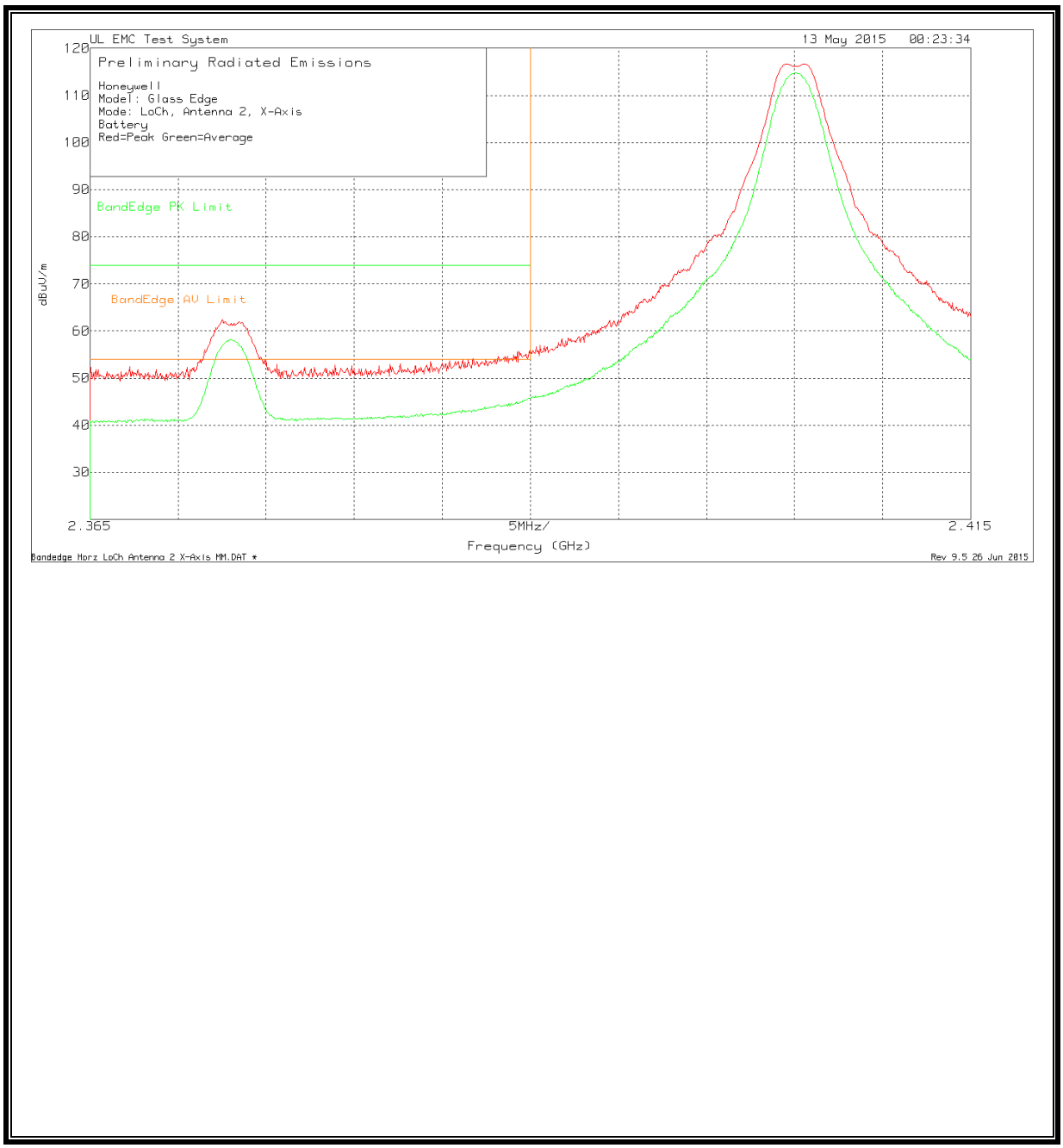
Bandedge (WORST-CASE CONFIGURATION, VERTICAL) High Ch Ant 1



Bandedge (WORST-CASE CONFIGURATION, Vertical DATA) High Ch Ant 1

Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factors (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected Av Reading	BandEdge AV Limit	Margin (dB)	BandEdge PK Limit	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
2.4836	33.83	Pk	22.1	4.37	60.3	-23.13	-	-	-	74	-13.7	135	281	V
2.5067	31.57	Pk	22.1	4.38	58.05	-23.13	-	-	-	74	-15.95	135	281	V
2.5077	30.96	Pk	22.1	4.38	57.44	-23.13	-	-	-	74	-16.56	135	281	V
2.4835	25.41	AV	22.1	4.37	51.88	-23.13	28.75	54	-25.25	-	-	135	281	V
2.4836	24.97	AV	22.1	4.37	51.44	-23.13	28.31	54	-25.69	-	-	135	281	V
2.5069	25.09	AV	22.1	4.38	51.57	-23.13	28.44	54	-25.56	-	-	135	281	V
		AV - Average Dectector			Pk - Peak detector									

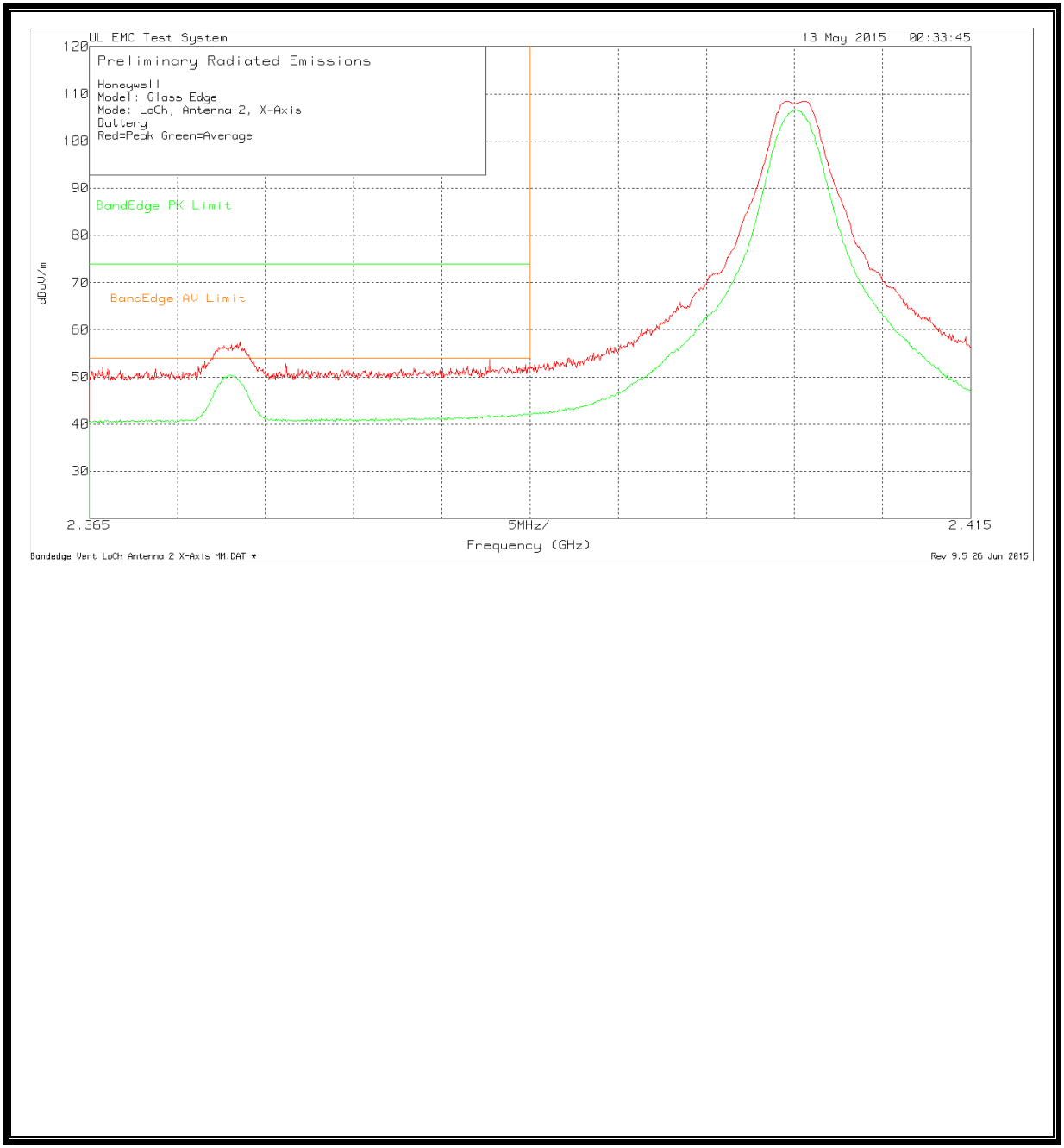
Bandedge (WORST-CASE CONFIGURATION, Horizontal) Low Ch Ant 2



Bandedge (WORST-CASE CONFIGURATION, Horizontal DATA) Low Ch Ant 2

Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factors (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected Av Reading	BandEdge AV Limit	Margin (dB)	BandEdge PK Limit	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
2.39	29.27	Pk	21.8	4.72	55.79	-23.13	-	-	-	74	-18.21	194	100	H
2.3735	35.46	Pk	21.8	4.68	61.94	-23.13	-	-	-	74	-12.06	194	100	H
2.3725	35.89	Pk	21.8	4.68	62.37	-23.13	-	-	-	74	-11.63	194	100	H
2.39	19.13	AV	21.8	4.72	45.65	-23.13	22.52	54	-31.48	-	-	194	100	H
2.3738	28.62	AV	21.8	4.67	55.09	-23.13	31.96	54	-22.04	-	-	194	100	H
2.373	31.64	AV	21.8	4.68	58.12	-23.13	34.99	54	-19.01	-	-	194	100	H
		AV - Average Dectector			Pk - Peak detector									

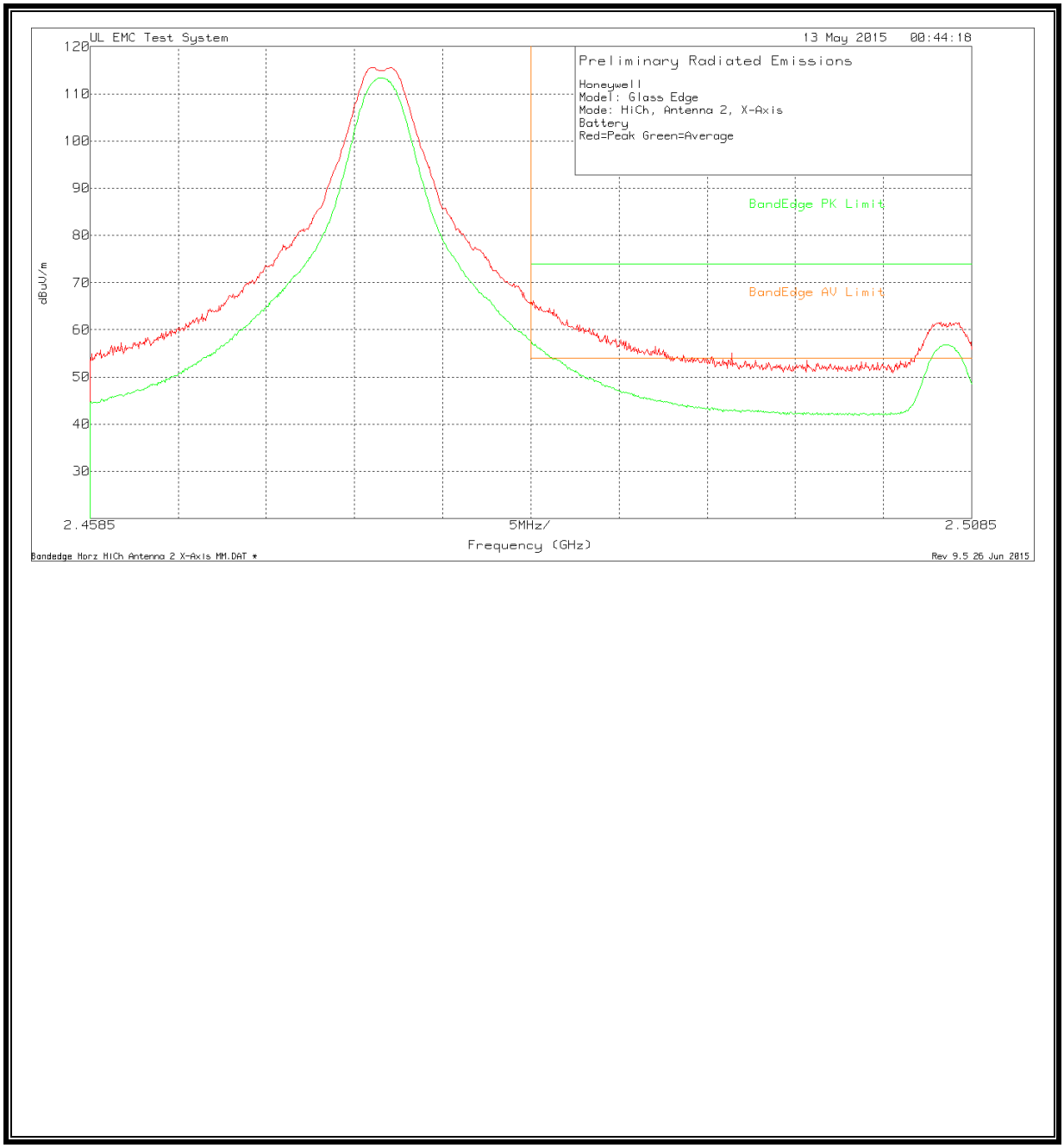
Band edge (WORST-CASE CONFIGURATION, VERTICAL) Low Ch Ant 2



Bandedge (WORST-CASE CONFIGURATION, Vertical DATA) Low Ch Ant 2

Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factor (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Measurement	Corrected Av Reading	BandEdge AV Limit	Margin (dB)	BandEdge PK Limit	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
2.39	24.74	Pk	21.8	4.72	51.26	-23.13	-	-	-	74	-22.74	161	280	V
2.3736	30.89	Pk	21.8	4.68	57.37	-23.13	-	-	-	74	-16.63	161	280	V
2.3727	30.12	Pk	21.8	4.68	56.6	-23.13	-	-	-	74	-17.4	161	280	V
2.3899	15.65	AV	21.8	4.72	42.17	-23.13	19.04	54	-34.96	-	-	161	280	V
2.373	23.91	AV	21.8	4.68	50.39	-23.13	27.26	54	-26.74	-	-	161	280	V
	AV - Average Dectector			Pk - Peak detector										

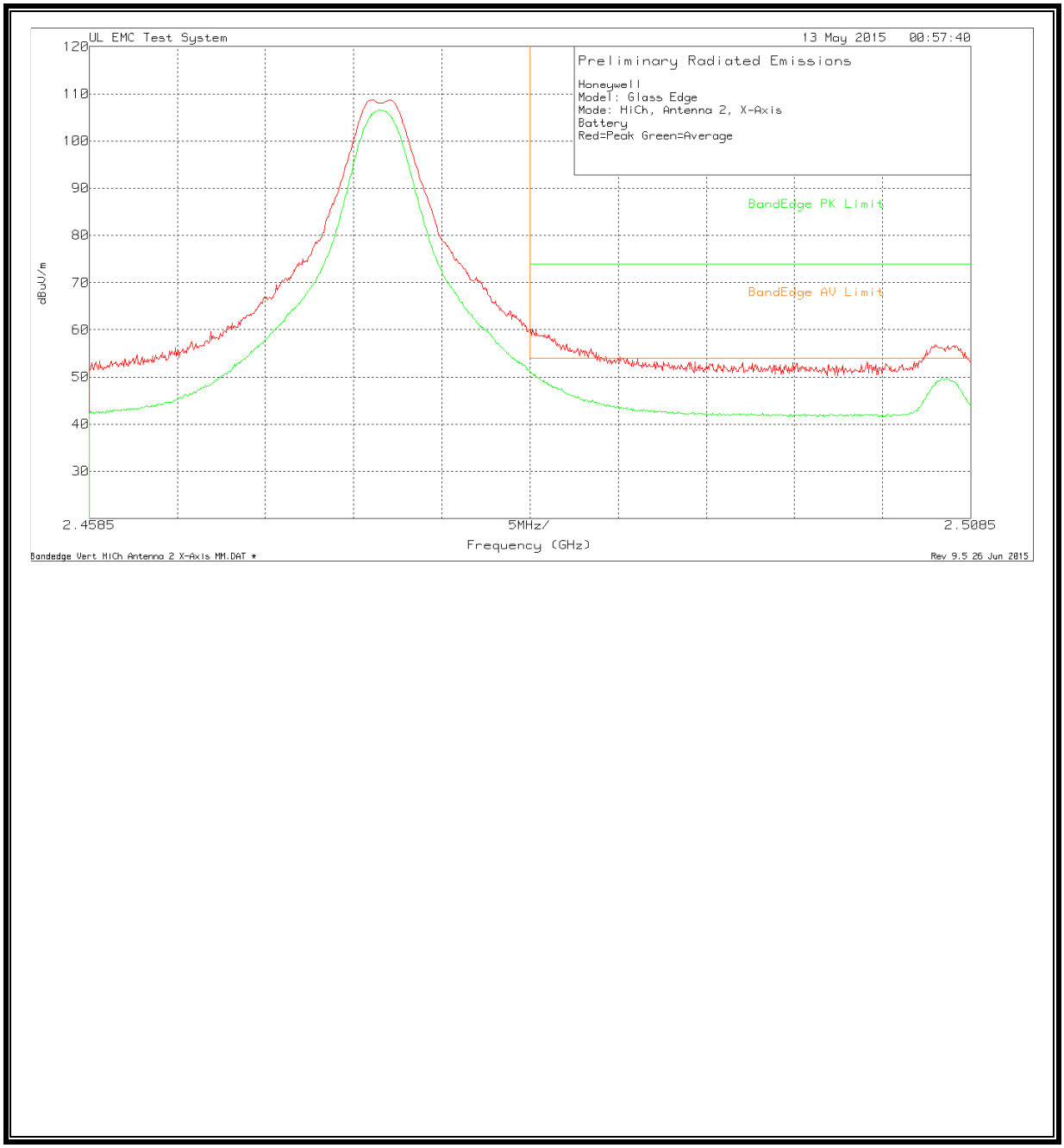
Band Edge (WORST-CASE CONFIGURATION, Horizontal) High Ch Ant 2



Bandedge (WORST-CASE CONFIGURATION, Horizontal DATA) High Ch Ant 2

Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factor (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected Av Reading	BandEdge AV Limit	Margin (dB)	BandEdge PK Limit	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
2.4836	38.75	Pk	22.1	4.37	65.22	-23.13	-	-	-	74	-8.78	196	100	H
2.5068	35.15	Pk	22.1	4.38	61.63	-23.13	-	-	-	74	-12.37	196	100	H
2.5078	34.95	Pk	22.1	4.38	61.43	-23.13	-	-	-	74	-12.57	196	100	H
2.4835	39.59	Pk	22.1	4.37	66.06	-23.13	-	-	-	74	-7.94	196	100	H
2.4835	31.47	AV	22.1	4.37	57.94	-23.13	34.81	54	-19.19	-	-	196	100	H
2.4836	30.56	AV	22.1	4.37	57.03	-23.13	33.9	54	-20.1	-	-	196	100	H
2.5064	28.25	AV	22.1	4.38	54.73	-23.13	31.6	54	-22.4	-	-	196	100	H
2.5072	30.26	AV	22.1	4.38	56.74	-23.13	33.61	54	-20.39	-	-	196	100	H
		AV - Average Dectector			Pk - Peak detector									

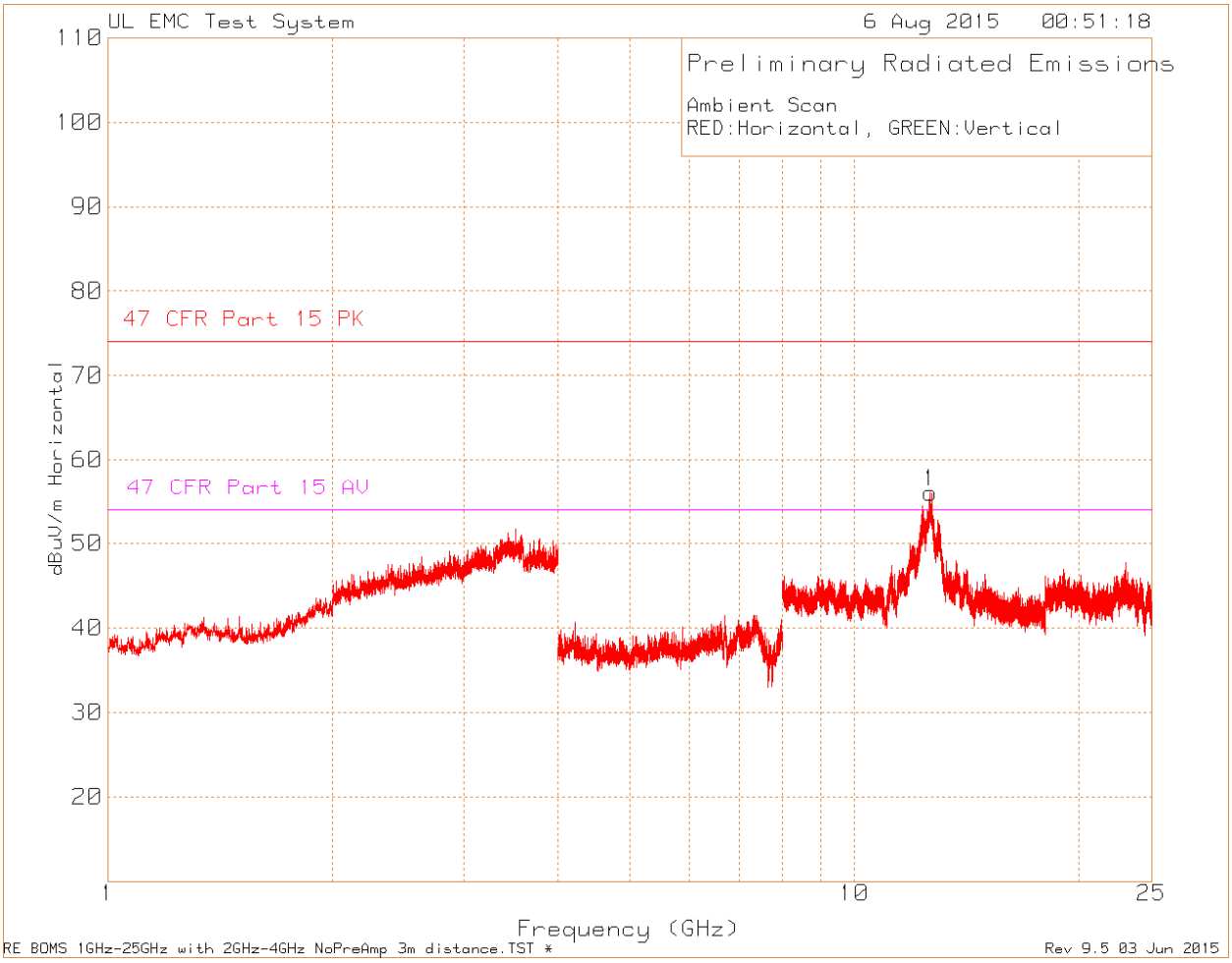
Bandedge (WORST-CASE CONFIGURATION, VERTICAL) High Ch Ant 2

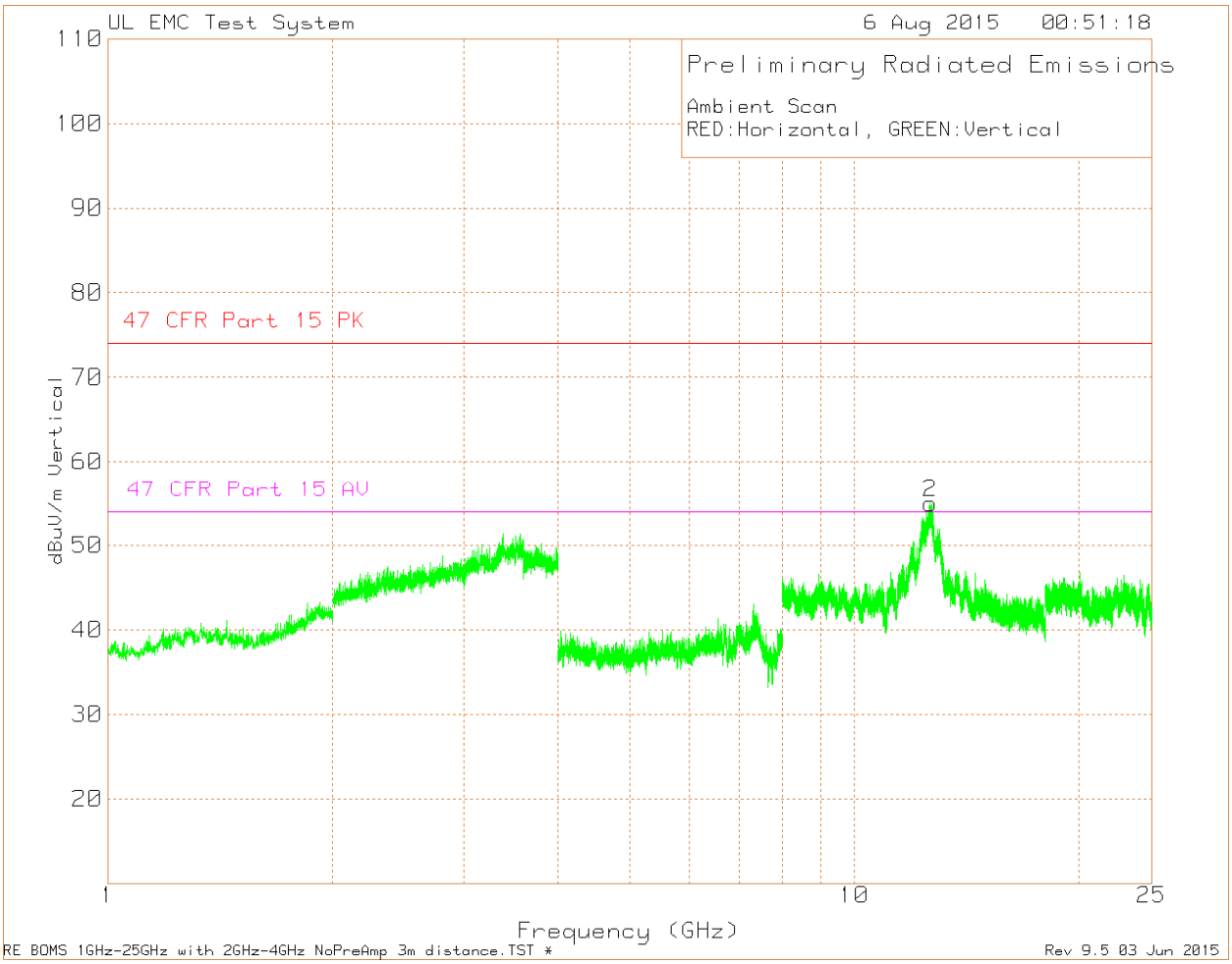


Bandedge (WORST-CASE CONFIGURATION, Vertical DATA) High Ch Ant 2

Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Ant Factor (db/m)	Gain/Loss (dB)	Corrected Reading dBuV/m	Duty Cycle Correction	Corrected Av Reading	BandEdge AV Limit	Margin (dB)	BandEdge PK Limit	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
2.4835	33.72	Pk	22.1	4.37	60.19	-23.13	-	-	-	74	-13.81	170	275	V
2.5065	30.33	Pk	22.1	4.38	56.81	-23.13	-	-	-	74	-17.19	170	275	V
2.5077	30.1	Pk	22.1	4.38	56.58	-23.13	-	-	-	74	-17.42	170	275	V
2.4835	24.66	AV	22.1	4.37	51.13	-23.13	28	54	-26	-	-	170	275	V
2.4836	24.28	AV	22.1	4.37	50.75	-23.13	27.62	54	-26.38	-	-	170	275	V
2.5073	23.08	AV	22.1	4.38	49.56	-23.13	26.43	54	-27.57	-	-	170	275	V
		AV - Average Dectector			Pk - Peak detector									

12. Ambient Scan Data

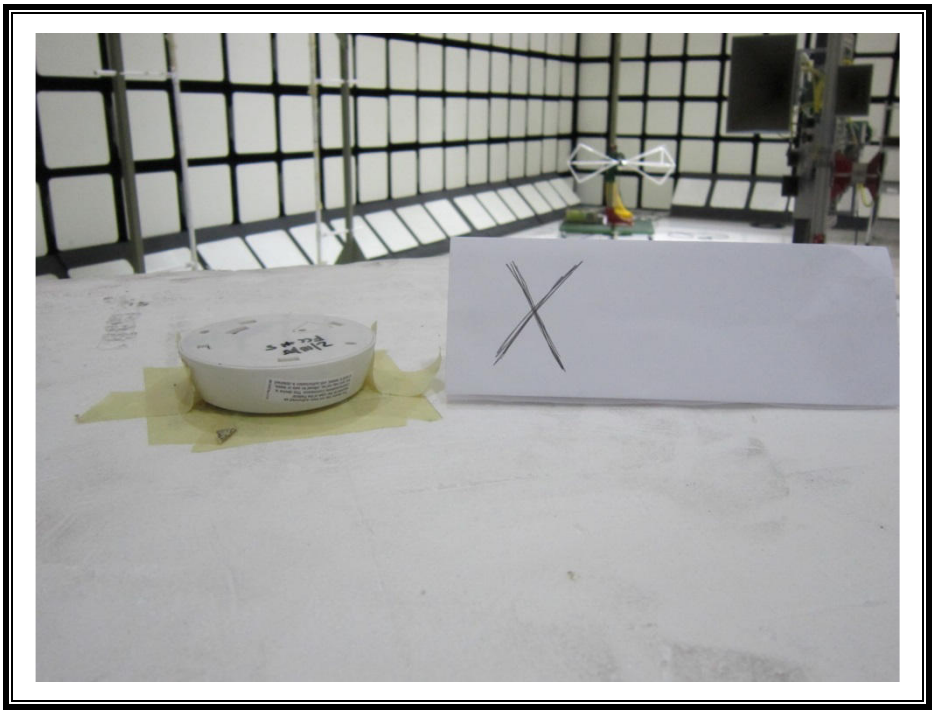


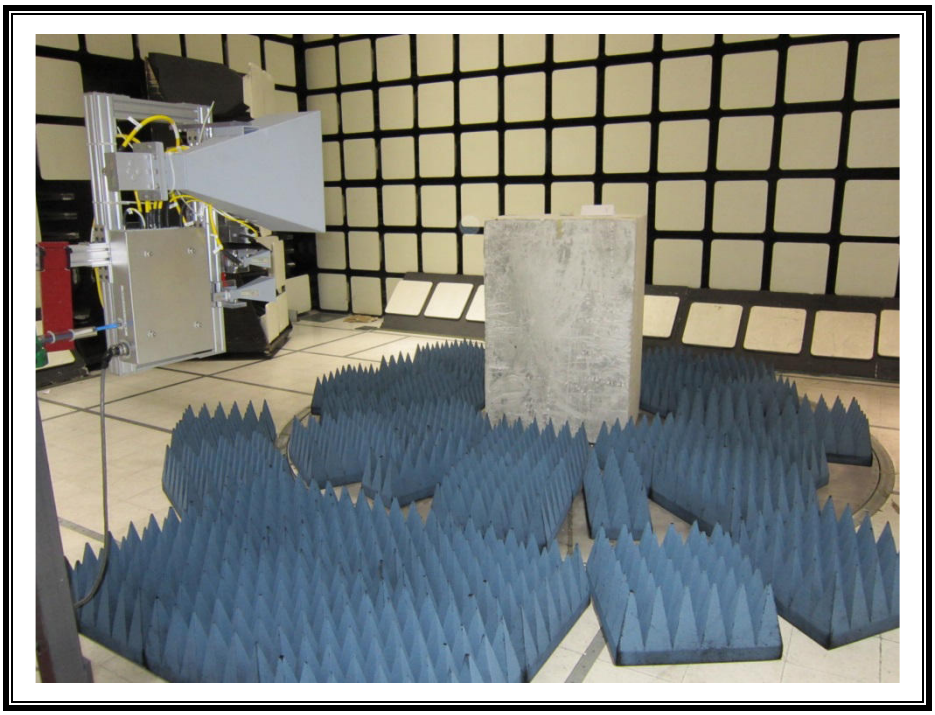


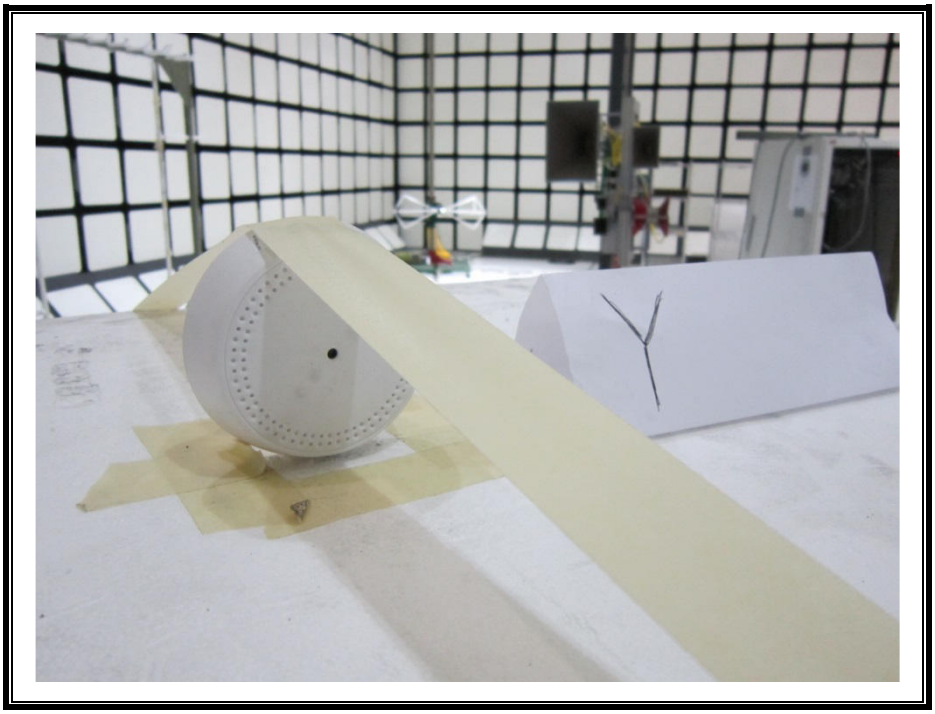
Marker No.	Test Frequency (GHz)	Meter Reading(dBuV)	Detector	EMCO 3160-08 S/N 9904-1100 UL	Gain/Loss (dB)	Corrected Reading dBuV/m	47 CFR Part 15 PK	Margin (dB)	47 CFR Part 15 AV	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	12.639	50.68	Pk	39.5	-34.13	56.05	74	-17.95	54	2.05	0-360	99	H
2	12.638	49.63	Pk	39.5	-34.1	55.03	74	-18.97	54	1.03	0-360	99	V
	12.6411	44.37	Av	39.5	-34.19	49.68	74	-24.32	54	-4.32	0	100	H
	12.6415	44.36	Av	39.5	-34.2	49.66	74	-24.34	54	-4.34	0	100	V
Av - Average detection			PK - Peak Detector										

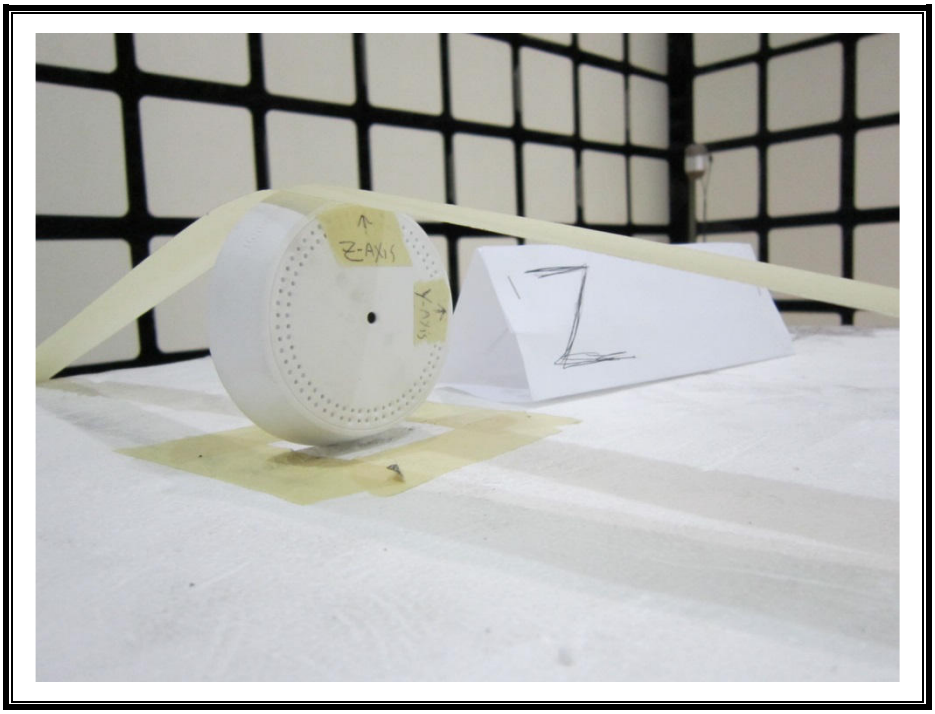
13. Test Setup Photos

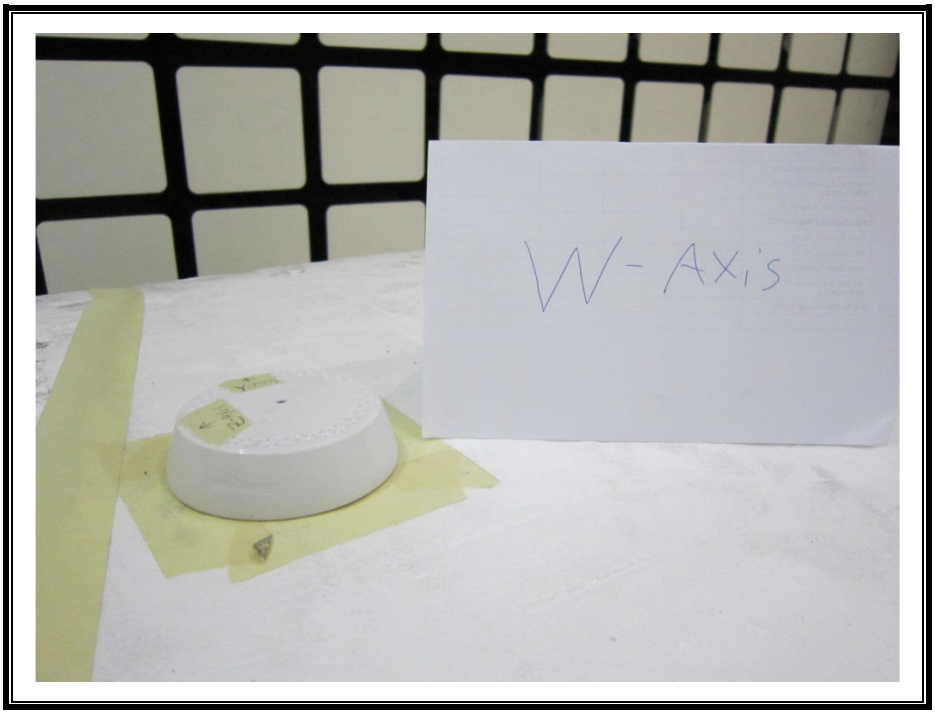
RADIATED RF MEASUREMENT SETUP











END OF REPORT