



TEST REPORT

Report Number: 100381637MIN-001
Project Number: G100381637

Testing performed on the
Prism 700MHz 40W Upper C-Band

to
47 CFR, Part 27:2009, Enclosure Spurious Radiated Emissions

For
TE Connectivity / LGC Wireless

Test Performed by:
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Oakdale, MN 55128 USA

Test Authorized by:
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Date: April 14, 2011

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Date: April 14 2011

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1.0 DESCRIPTION OF THE SAMPLE (EUT)

Model:	Prism 700MHz 40W Upper C- Band FWP-U816100MOD
Type of EUT:	Distributed Antenna System / Repeater
Frequency Range:	746MHz – 756MHz
Company:	TE Connectivity / LGC Wireless
Customer:	Sue Cyr
Address:	541 E. Trimble Road San Jose, CA 95131 USA
Phone:	408-952-2445
Fax:	408-952-2645
e-mail:	sue.cyr@te.com
Test Standards:	<input type="checkbox"/> EN 55022:2006 +A1:2007, Class [REDACTED] <input type="checkbox"/> EN 55011:2007 +A2:2007, Group [REDACTED], Class [REDACTED] <input checked="" type="checkbox"/> 47 CFR, Part 27:2009, Enclosure Spurious Radiated Emissions <input type="checkbox"/> ICES-003, Issue 4:2004 <input type="checkbox"/> EN 55014-1:2006 <input type="checkbox"/> EN 61326-1:2006 <input type="checkbox"/> Class [REDACTED] for Radiated and Conducted Emissions <input type="checkbox"/> Basic Immunity Test Requirements <input type="checkbox"/> Immunity Test Requirements for Industrial Locations <input type="checkbox"/> EN 60601-1-2:2001 +A1:2006 <input type="checkbox"/> EN 61000-6-3:2007 <input type="checkbox"/> EN 61000-6-4:2007 <input type="checkbox"/> EN 61000-3-2:2006 <input type="checkbox"/> EN 61000-3-3:1995 +A1:2001 +A2:2006 <input type="checkbox"/> EN 61000-6-1:2007 <input type="checkbox"/> EN 61000-6-2:2005 <input type="checkbox"/> EN 55024:1998 + A1:2001 + A2:2003
Date Sample Submitted:	April 13, 2011
Test Work Started:	April 13, 2011
Test Work Completed:	April 13, 2011
Test Sample Conditions:	<input type="checkbox"/> Damaged <input type="checkbox"/> Poor (Usable) <input checked="" type="checkbox"/> Good <input type="checkbox"/> Prototype <input checked="" type="checkbox"/> Production <input type="checkbox"/> Used

2.0 TEST SUMMARY

Referring to the performance criteria and the operating mode during the tests specified in this report, the equipment complies with the requirements according to the following standards.

TEST STANDARD	TEST	RESULT
Part 27	Enclosure Spurious Radiated Emissions	Pass

2.1 Statement of the Measurement Uncertainty

Note: The measured result in this report is within the specification limits by more than the measurement uncertainty; the measured result indicates that the product tested complies with the specification limit.

The expanded uncertainty ($k = 2$) for radiated emissions from 30 to 1000 MHz has been determined to be: ± 4 dB at 10m and ± 5.4 dB at 3m

The expanded uncertainty ($k = 2$) for conducted emissions from 150 kHz to 30 MHz has been determined to be:
 ± 2.6 dB

3.0 EQUIPMENT UNDER TEST

3.1 Power Configuration

Rated voltage:	<input checked="" type="checkbox"/> 120VAC <input type="checkbox"/> 230VAC <input type="checkbox"/> 400VAC <input type="checkbox"/> VDC <input type="checkbox"/> Other:
Rated current:	Amp.
Rated frequency:	<input type="checkbox"/> 50Hz <input checked="" type="checkbox"/> 60Hz
Number of phases:	<input checked="" type="checkbox"/> 1 Phase <input type="checkbox"/> 3 Phases

3.2 EUT Configuration

The equipment under test was operated during the measurement under the following conditions:

- Standby
- Test program (H - Pattern)
- Continuous Operation (see details below)
- Specific test program
-

Operating modes of the EUT:

No.	Description
1	Continuous amplifying at 747MHz 751MHz and 755MHz
2	

Cables:

No.	Type	Length	Designation	Note
1	Two RF coax cables	10m each	RF input and output RF cables	
2	3-wire, unshielded	1.8m	AC Power Input	

Support equipment/Services:

No.	Item	Description
1	Agilent E4430B	Signal Generator
2	Prism Host Unit p/n 1449226	Host Unit
3	Sorensen DCS 90-13	Power Supply

General notes: None

3.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature: 15-35 ° C

Humidity: 30-60 %

Atmospheric pressure: 86-106 kPa

4.0 TEST CONDITIONS AND RESULTS

4.1 Enclosure Spurious Radiated Emissions

Description of the test location

Test location: OATS Anechoic Chamber

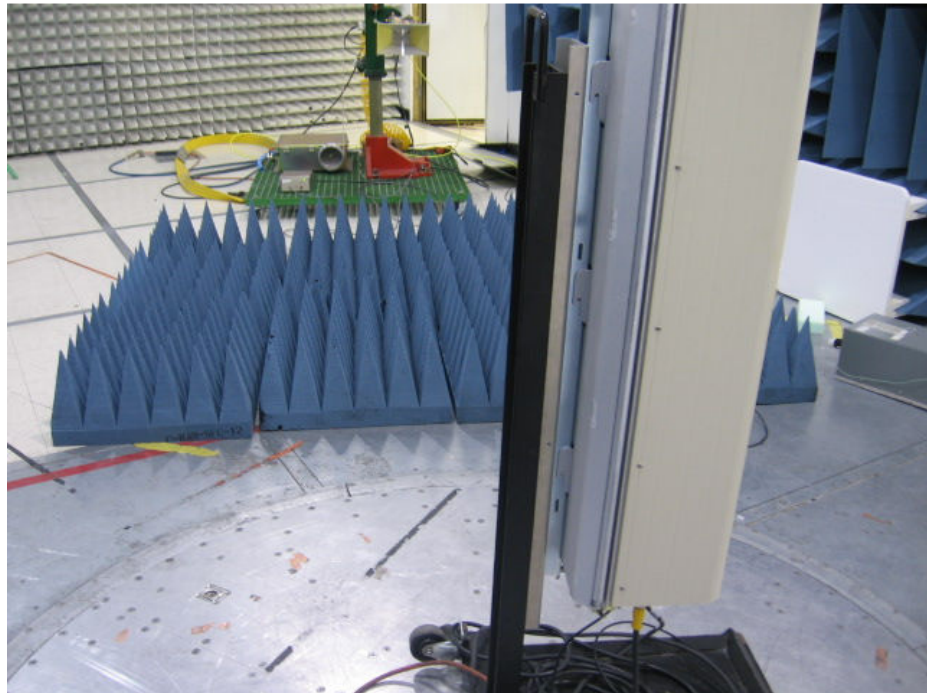
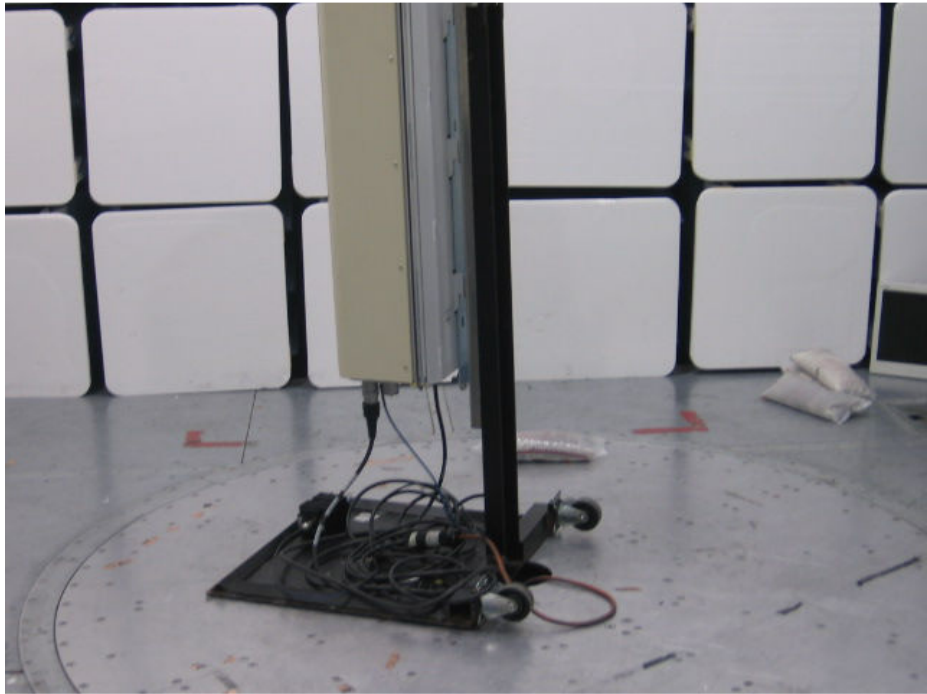
Test distance: 10 meters 3 meters

Test result: **Pass**

Frequency range: 30MHz-10000MHz

Max. Emissions margin: 31.0dB below the Reference Limits

- Notes:**
1. The Radiated Emissions testing was performed in the Anechoic chamber at 3m measurement distance (see Table 1 and Graphs 1 to 6)
 2. The Spurious Radiated Power limits of -13dBm was correlated with field strength Reference Limit of 82.2dB μ V/m during field strength measurements at 3m measurement distance
 3. No emissions were chosen for substitution measurements as the maximum emission is more than 20dB below the Reference Limit
 4. Emissions at operating frequencies were excluded from the table
-



Test Setup Photos

Date:	April 13, 2011	Result: Pass
Standard:	FCC Part 27	
Tested by:	Uri Spector	
Test Point:	Enclosure	
Operation mode:	See Page 5	
Note:	Frequency range 30-1000MHz	

Table 1

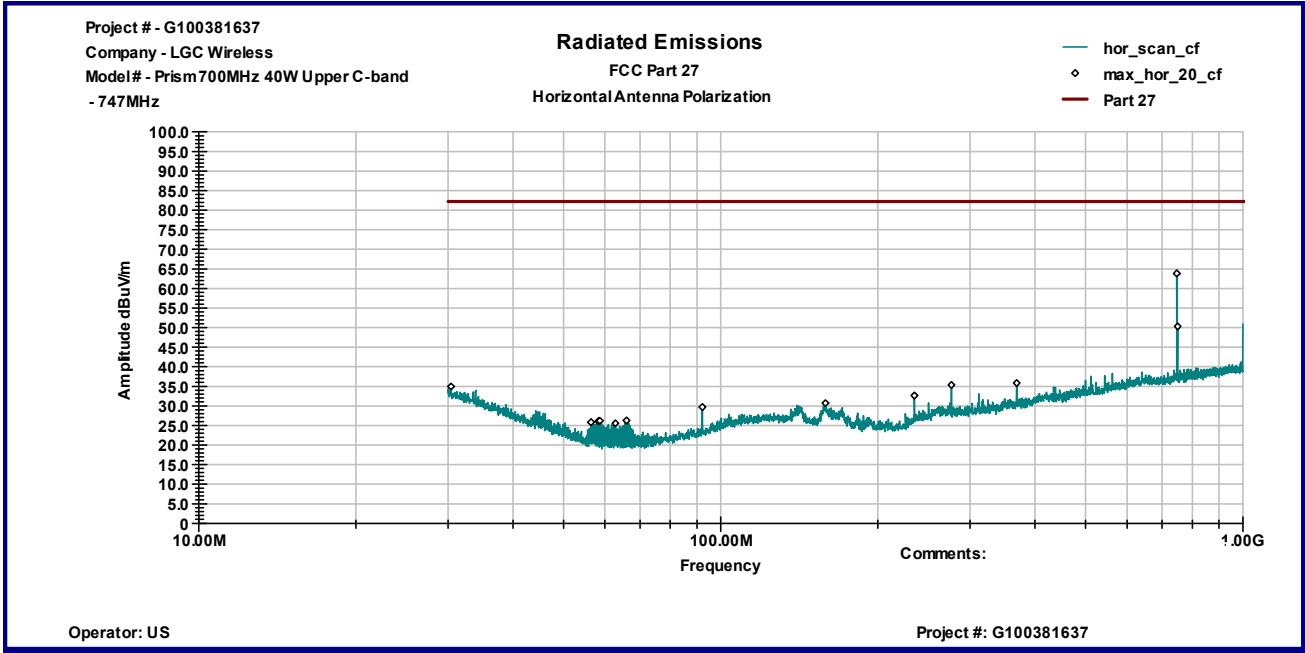
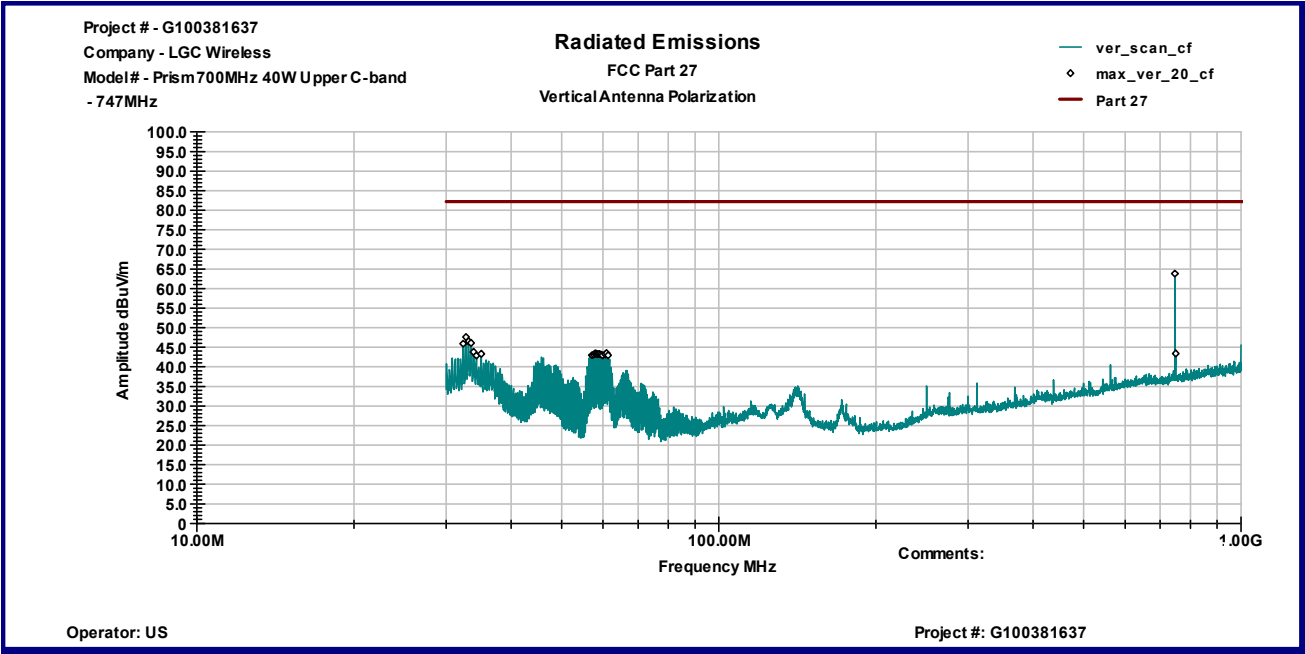
Frequency	Ant. Polarity	Peak Reading dB μ V	Ant.Factor dB1/m	Total at 3m dB μ V/m	Limit dB μ V/m	Margin dB
Operating Frequency 747MHz						
32.772 MHz	V	28.8	18.8	47.6	82.2	-34.6
35.053 MHz	V	25.8	17.5	43.3	82.2	-38.9
60.951 MHz	V	36.4	7.0	43.5	82.2	-38.7
750.23 MHz	V	19.7	23.8	43.4	82.2	-38.8
Operating Frequency 751MHz						
30.421 MHz	H	14.9	20.1	35.0	82.2	-47.2
276.53 MHz	H	19.8	15.6	35.4	82.2	-46.8
368.78 MHz	H	17.9	18.0	35.8	82.2	-46.4
750.23 MHz	H	26.5	23.8	50.3	82.2	-31.9
Operating Frequency 755MHz						
32.737 MHz	V	27.2	18.8	46.0	82.2	-36.2
56.78 MHz	V	35.3	7.7	43.0	82.2	-39.3
59.449 MHz	V	36.4	7.2	43.6	82.2	-38.6
750.23 MHz	V	21.6	23.8	45.4	82.2	-36.9
30.912 MHz	H	15.1	19.8	35.0	82.2	-47.3
276.53 MHz	H	19.7	15.6	35.3	82.2	-46.9
312.28 MHz	H	17.7	16.3	34.0	82.2	-48.2
368.78 MHz	H	18.6	18.0	36.5	82.2	-45.7
750.23 MHz	H	26.5	23.8	50.3	82.2	-31.9
Operating Frequency 755MHz						
32.779 MHz	V	27.6	18.8	46.4	82.2	-35.8
57.918 MHz	V	35.1	7.5	42.6	82.2	-39.6
58.289 MHz	V	35.7	7.4	43.1	82.2	-39.1
749.74 MHz	V	20.3	23.8	44.1	82.2	-38.1
31.937 MHz	H	15.1	19.3	34.4	82.2	-47.8
276.48 MHz	H	18.8	15.6	34.4	82.2	-47.8
312.35 MHz	H	18.8	16.3	35.2	82.2	-47.1
368.77 MHz	H	19.0	18.0	37.0	82.2	-45.2
737.04 MHz	H	19.0	23.7	42.6	82.2	-39.6
749.74 MHz	H	26.3	23.8	50.1	82.2	-32.1



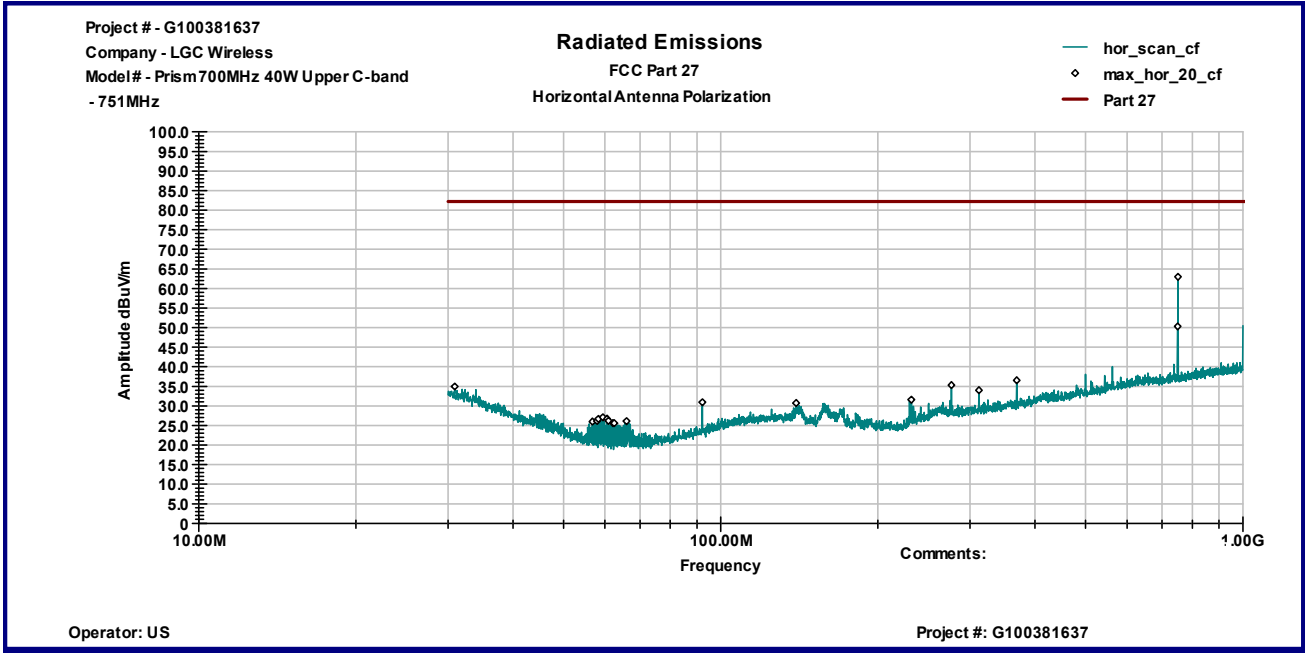
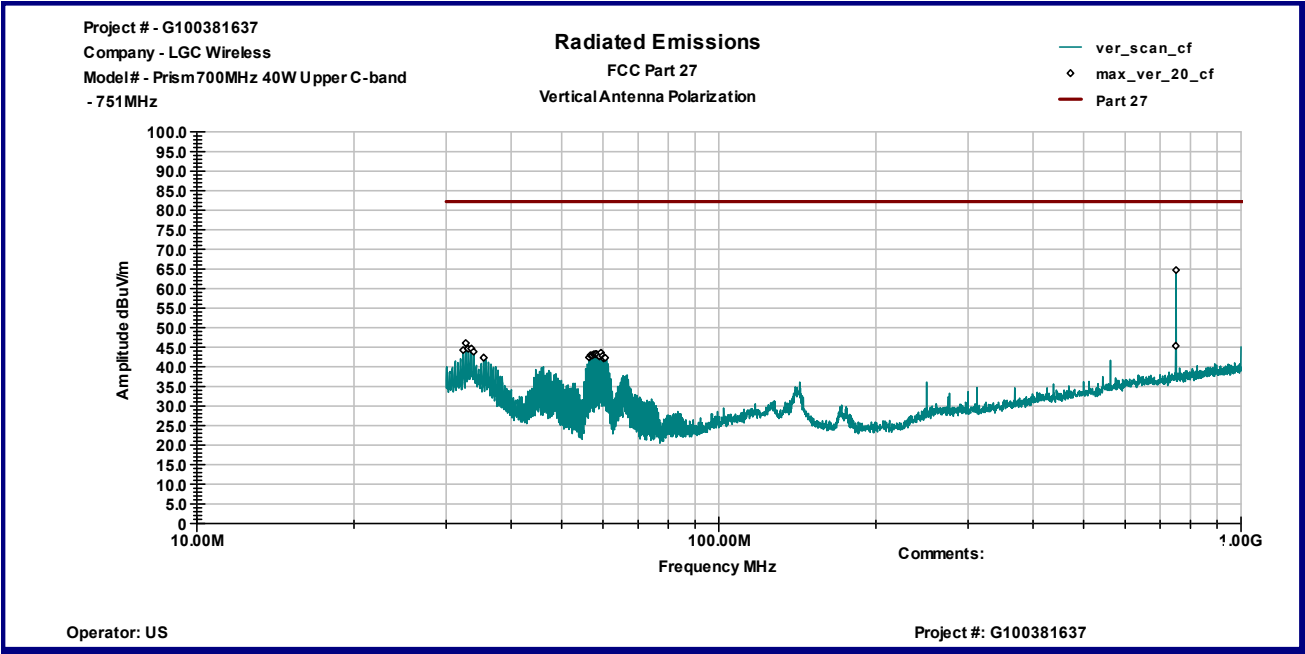
Date:	April 13, 2011	Result: Pass
Standard:	FCC Part 27	
Tested by:	Uri Spector	
Test Point:	Enclosure	
Operation mode:	See Page 5	
Note:	Frequency range 1-10GHz	

Table 2

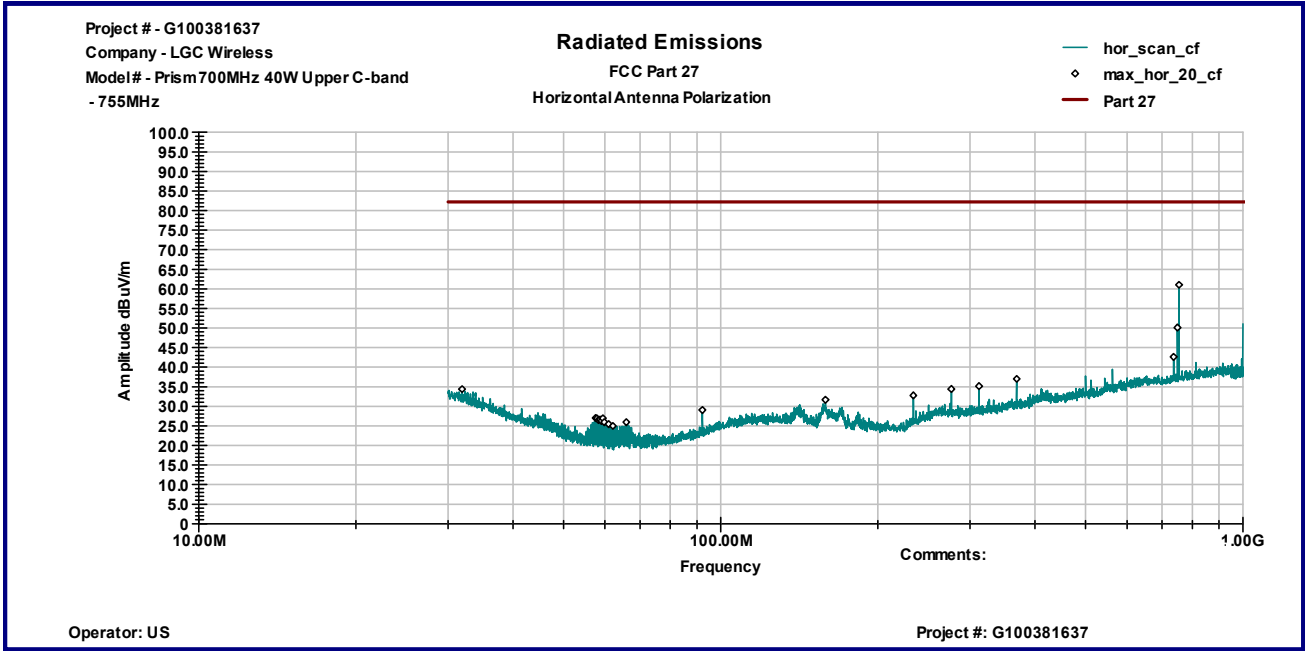
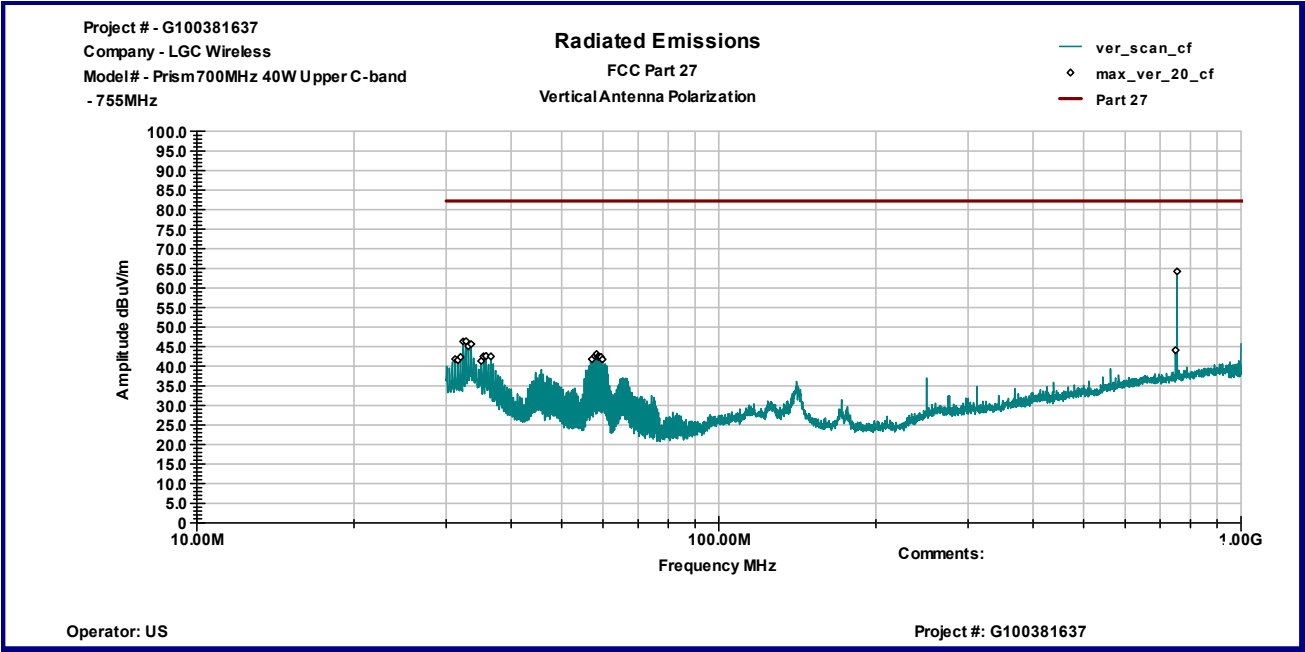
Frequency MHz	Antenna Polarity	Peak Reading dBμV	Total C.F. dB1/m	Pre-Amp. Gain (dB)	Total at 3m dBμV/m	Limit dBμV/m	Margin dB
Operating Frequency 747MHz							
1.249 GHz	V	62.2	27.2	38.9	50.4	82.2	-31.8
1.75 GHz	V	48.7	29.3	38.6	39.4	82.2	-42.8
2.002 GHz	V	50.0	30.5	38.3	42.2	82.2	-40.0
2.251 GHz	V	49.6	31.3	38.0	42.9	82.2	-39.3
9.712 GHz	V	36.2	45.0	35.4	45.9	82.2	-36.4
1.063 GHz	H	54.8	26.3	38.9	42.2	82.2	-40.0
1.249 GHz	H	63.2	27.1	38.9	51.3	82.2	-30.9
1.501 GHz	H	52.4	28.1	38.9	41.6	82.2	-40.6
2.002 GHz	H	51.3	30.9	38.3	43.9	82.2	-38.3
2.251 GHz	H	50.4	31.6	38.0	43.9	82.2	-38.3
9.943 GHz	H	35.2	45.6	35.2	45.6	82.2	-36.6
Operating Frequency 751MHz							
1.249 GHz	V	62.3	27.2	38.9	50.5	82.2	-31.7
1.753 GHz	V	48.5	29.3	38.6	39.2	82.2	-43.0
2.002 GHz	V	48.6	30.5	38.3	40.8	82.2	-41.4
2.251 GHz	V	50.4	31.3	38.0	43.6	82.2	-38.6
9.724 GHz	V	36.0	45.1	35.4	45.7	82.2	-36.5
1.063 GHz	H	54.7	26.3	38.9	42.1	82.2	-40.1
1.249 GHz	H	63.3	27.1	38.9	51.5	82.2	-30.7
1.501 GHz	H	52.4	28.1	38.9	41.6	82.2	-40.6
2.002 GHz	H	51.6	30.9	38.3	44.2	82.2	-38.0
2.251 GHz	H	50.9	31.6	38.0	44.4	82.2	-37.8
8.779 GHz	H	37.1	44.4	35.7	45.8	82.2	-36.4
Operating Frequency 755MHz							
1.249 GHz	V	62.5	27.2	38.9	50.7	82.2	-31.5
2.002 GHz	V	48.8	30.5	38.3	41.0	82.2	-41.2
2.251 GHz	V	49.7	31.3	38.0	42.9	82.2	-39.3
9.784 GHz	V	36.1	45.2	35.3	46.0	82.2	-36.2
1.063 GHz	H	55.5	26.3	38.9	42.9	82.2	-39.4
1.249 GHz	H	63.5	27.1	38.9	51.6	82.2	-30.6
1.501 GHz	H	52.0	28.1	38.9	41.2	82.2	-41.0
2.002 GHz	H	49.9	30.9	38.3	42.5	82.2	-39.7
2.251 GHz	H	50.4	31.6	38.0	43.9	82.2	-38.3
2.476 GHz	H	48.5	32.2	37.8	42.9	82.2	-39.3
9.721 GHz	H	36.2	45.1	35.4	46.0	82.2	-36.2



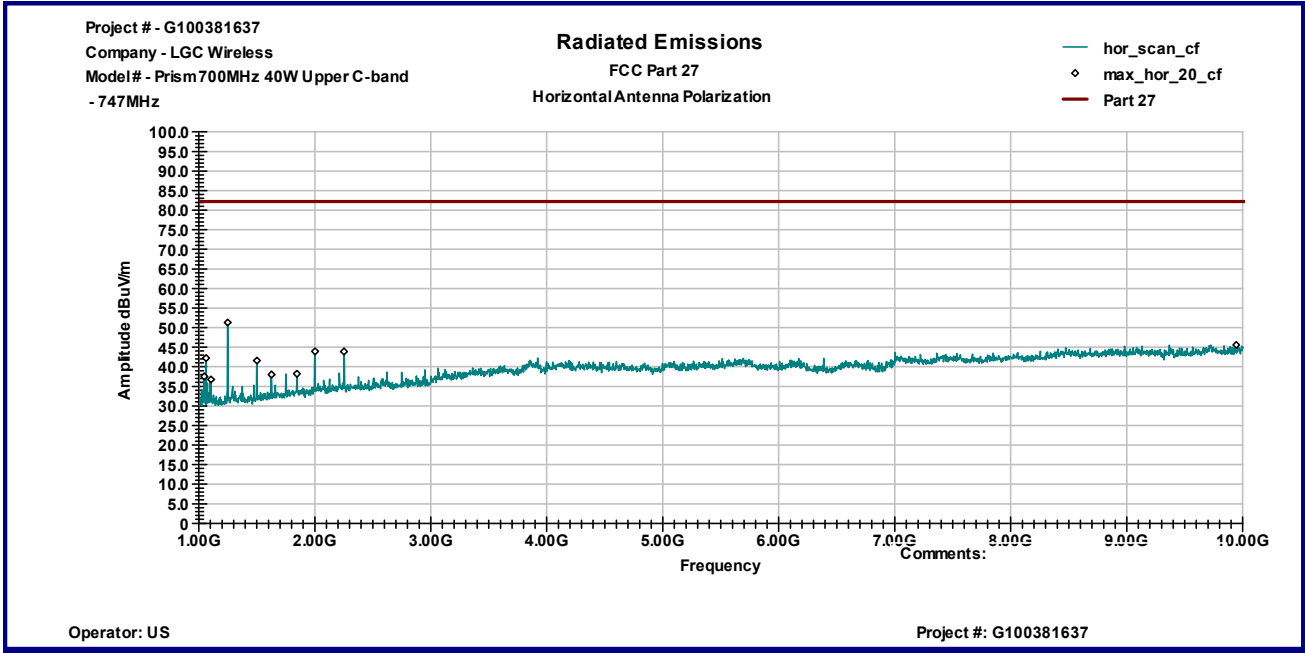
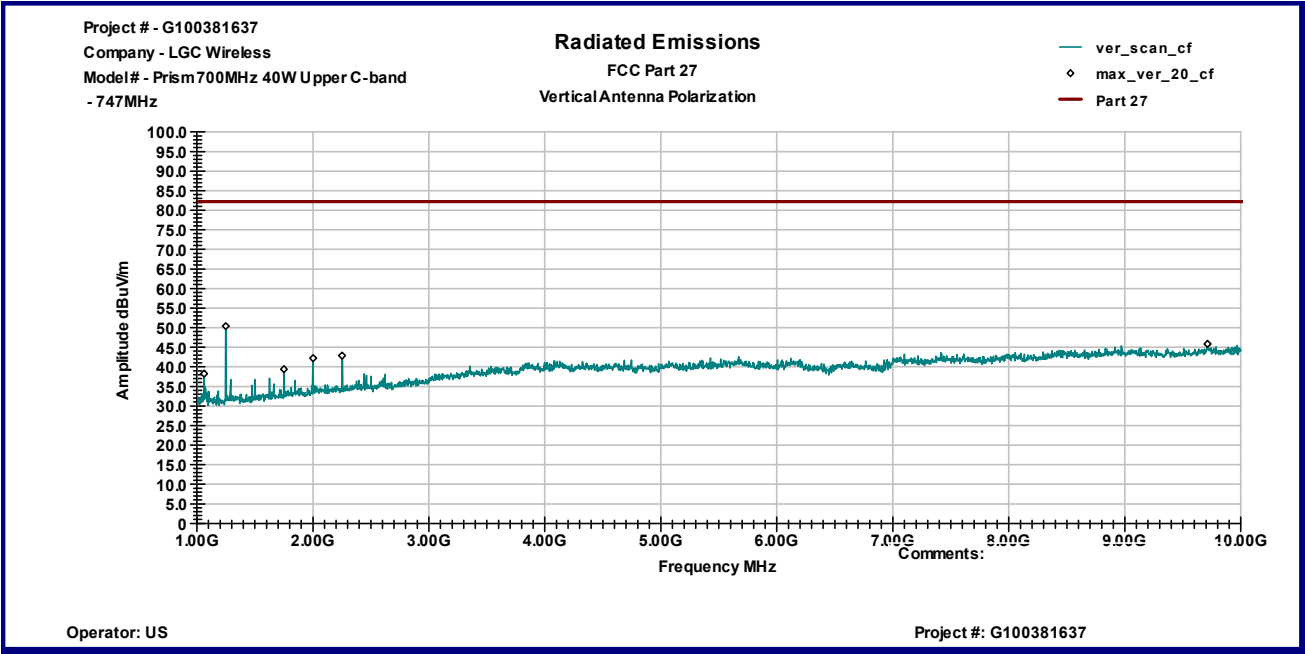
Graph 1



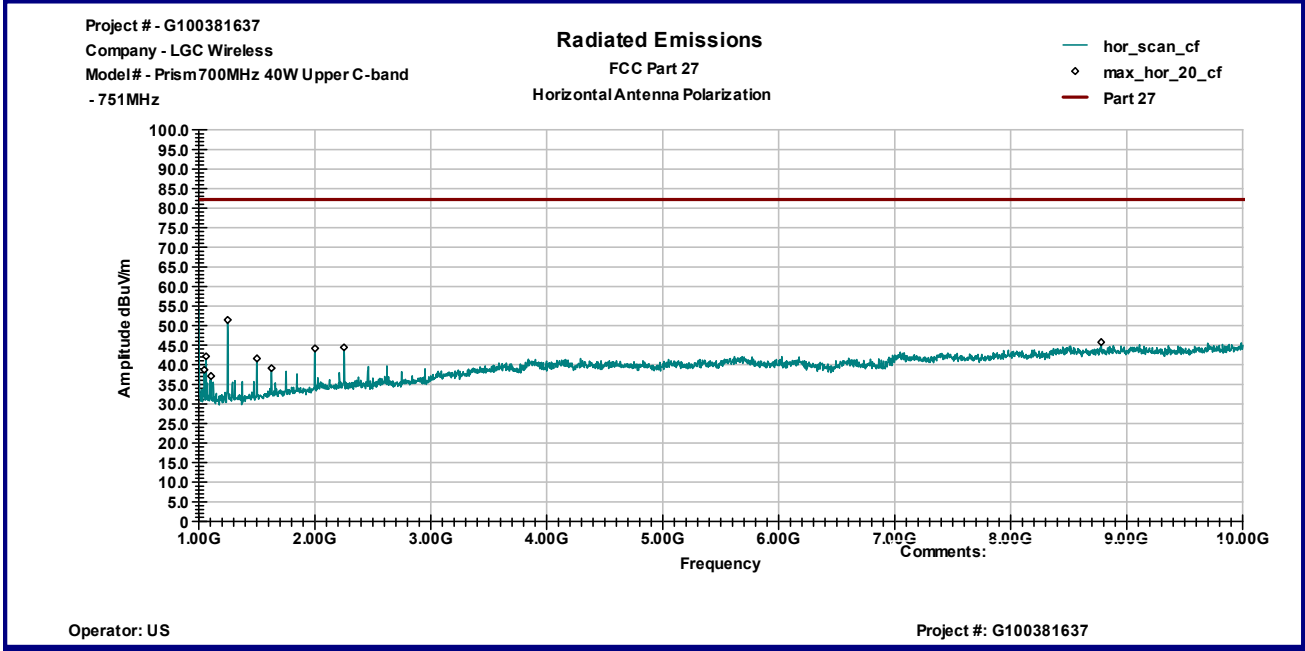
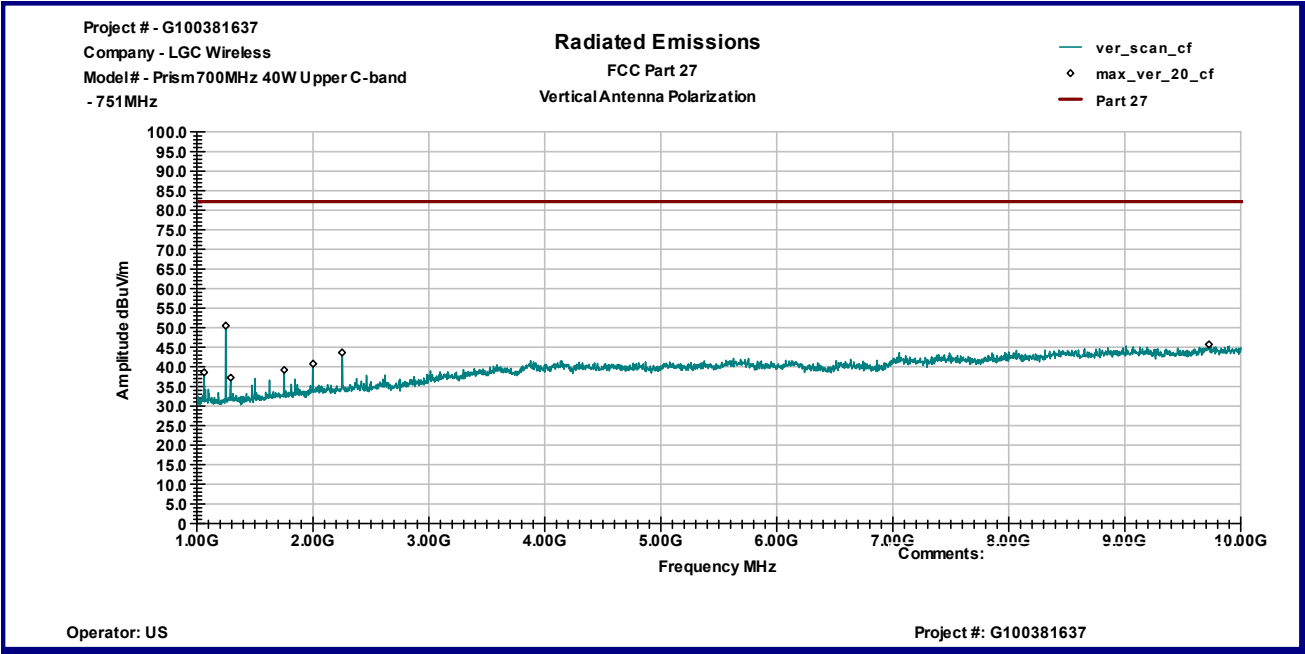
Graph 2



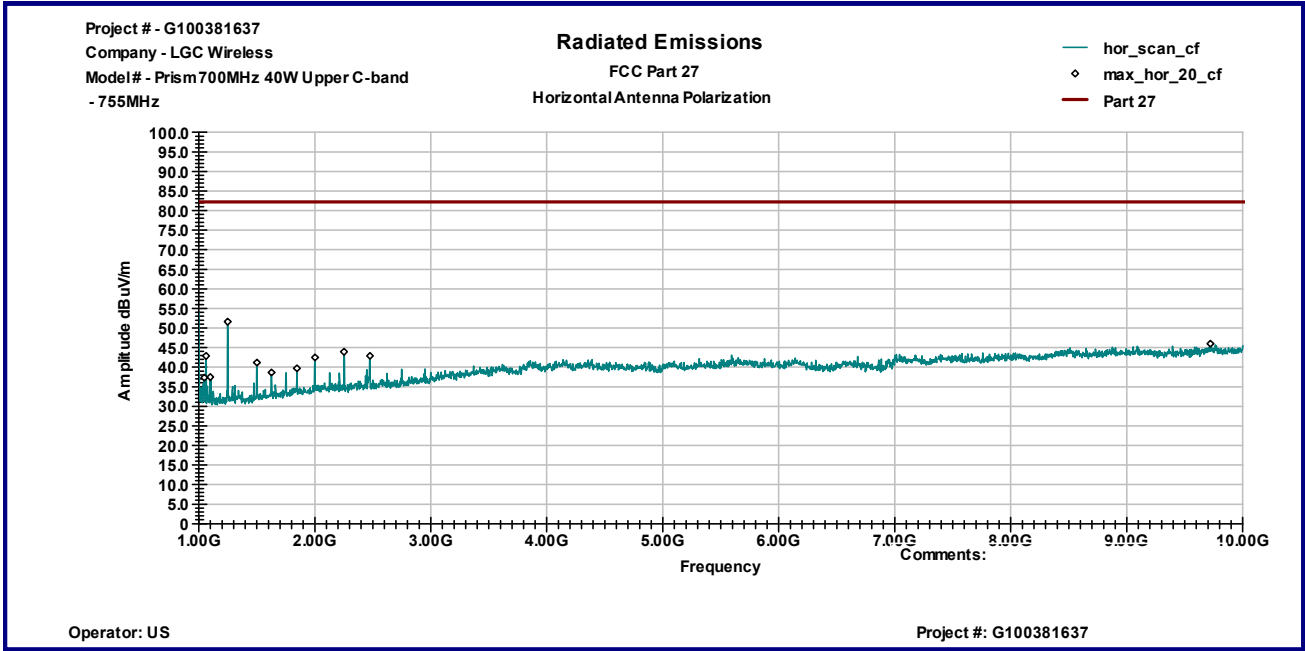
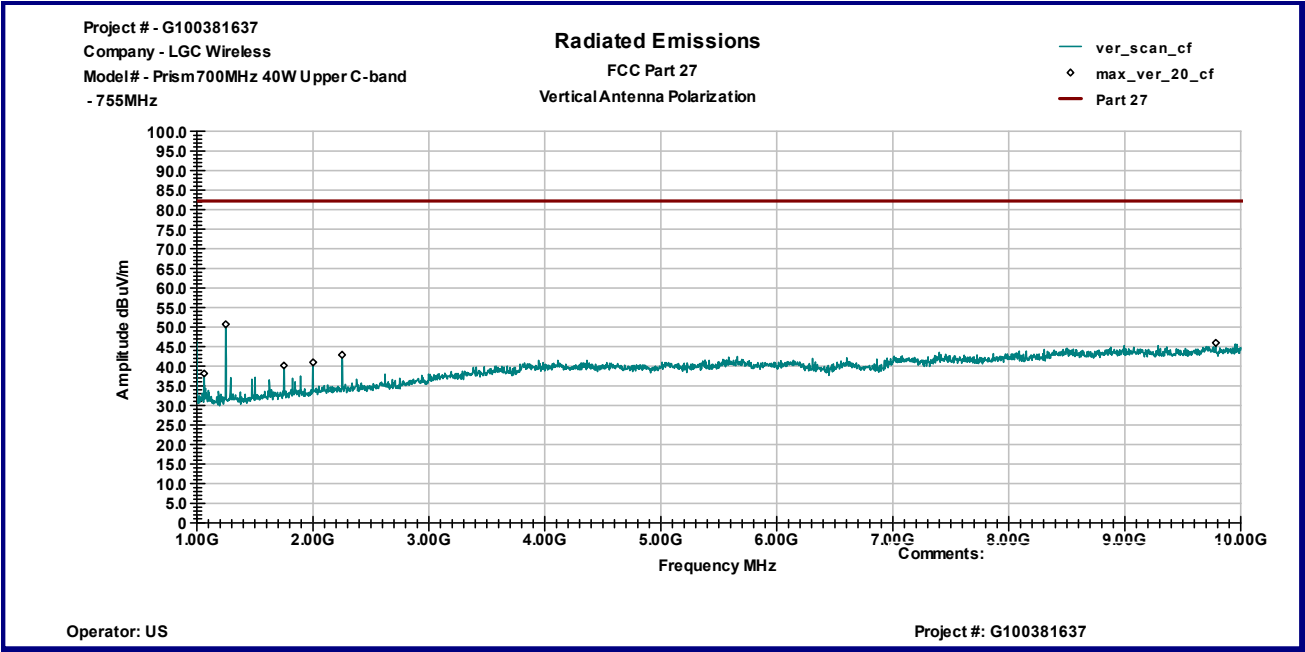
Graph 3



Graph 4



Graph 5



Graph 6



5.0 TEST EQUIPMENT

DESCRIPTION	MANUFACTURER	MODEL	SERIAL NO.	INTERTEK ID	CAL DUE	USED
Spectrum Analyzer	R & S	FSP 40	100024	12559	12/07/2011	<input checked="" type="checkbox"/>
Spectrum Analyzer	R & S	ESCI	100358	12909	07/12/2011	<input checked="" type="checkbox"/>
Bicono-Log Antenna	Schaffner-Chase	CBL 6112 B	2468	14459	10/18/2011	<input checked="" type="checkbox"/>
Horn Antenna	EMCO	3115	6579	15580	04/29/2011	<input checked="" type="checkbox"/>
Pre-Amplifier	MITEQ	AMF-5D-00501800-28-13P	1122951	13475	10/06/2011	<input checked="" type="checkbox"/>
System	TILE! Instrument Control		Ver. 3.4.K.29	15259	VBU	<input checked="" type="checkbox"/>

