



TEST DATA REPORT

Report Number: 100553602MIN-001

Project Number: G100553602

Testing performed on the
FWP-B810100MOD

to

47 CFR, Part 22:2010, Enclosure Spurious Radiated Emissions

For

LGC Wireless, LLC - a TE Connectivity Company

Test Performed by:
Intertek Testing Services NA, Inc.
7250 Hudson Blvd., Suite 100
Oakdale, MN 55128 USA

Test Authorized by:
ADC Telecommunications Inc.- a TE Connectivity
Company
541 E Trimble Road
San Jose, CA 95131 USA

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Date: November 8, 2011

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Norman Shpilsher

Date: November 8, 2011

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1.0 DESCRIPTION OF THE SAMPLE (EUT)

Model:	FWP-B810100MOD
Type of EUT:	40W RF Output Repeater
Frequency Range:	869-894MHz
Company:	ADC Telecommunications Inc. - a TE Connectivity Company
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 22:2010, 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:	November 7, 2011
Test Work Started:	November 7, 2011
Test Work Completed:	November 7, 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 22	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 type="checkbox"/> 120VAC <input type="checkbox"/> 230VAC <input type="checkbox"/> 400VAC <input checked="" type="checkbox"/> 54VDC from external support power supply VDC <input type="checkbox"/> Other: <input type="text"/>
Rated current:	<input type="text"/> Amp.
Rated frequency:	<input type="checkbox"/> 50Hz <input type="checkbox"/> 60Hz
Number of phases:	<input 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 transmission of RF signal at 870MHz, 881MHz, and 893MHz
3	The EUT antenna port was terminated.

Cables:

No.	Type	Length	Designation	Note
1	Two RF coax	10m each	RF signal cables to the Support Equipment	

Support equipment/Services:

No.	Item	Description
1	Agilent 8648B (located outside Test site)	Signal Generator
2	Prism Host Unit	
3	Prism Host 54VDC Power Supply	
3	30dB Attenuator	

General notes: None

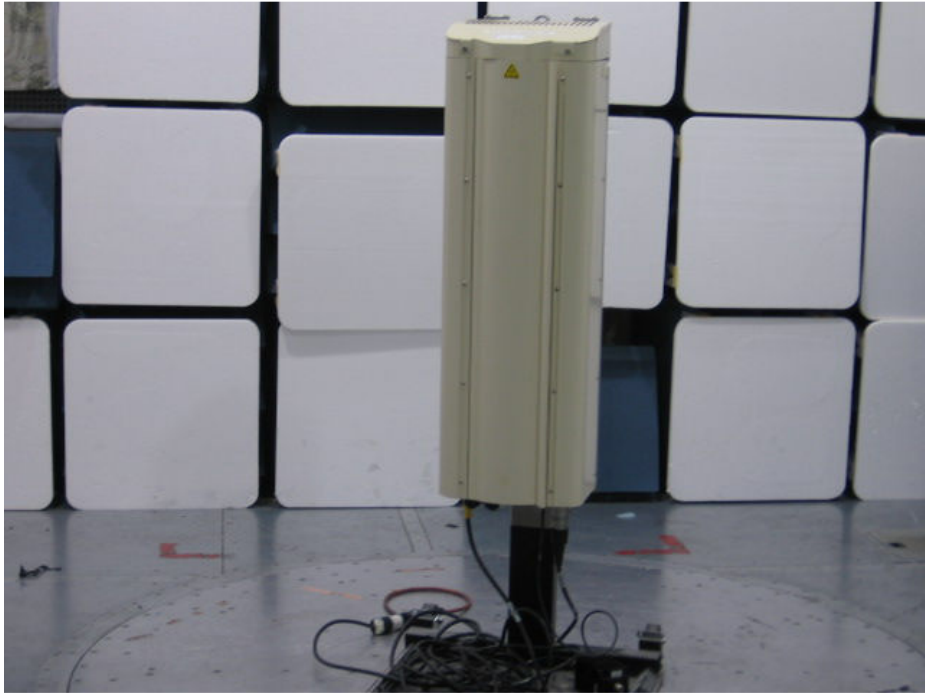
3.3 Environmental conditions

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

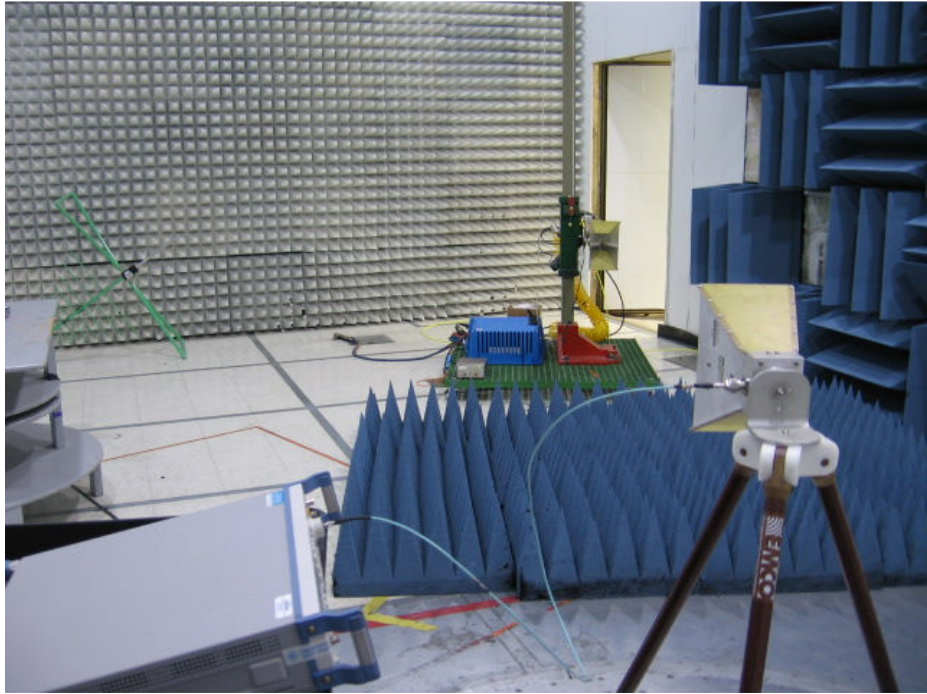
Temperature: 15-35 ° C

Humidity: 30-60 %

Atmospheric pressure: 86-106 kPa



Test Setup Photos



Test Setup Photo

Date:	November 7, 2011	Result: Pass
Tested by:	Uri Spector	
Standard:	FCC Part 22	
Test Point:	Enclosure	
Operation mode:	See page 5	
Note:	None	

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
870MHz						
31.247 MHz	V	21.5	19.6	41.1	82.2	-41.1
50.295 MHz	V	36.2	9.8	46.0	82.2	-36.2
562.52 MHz	V	20.0	21.9	41.9	82.2	-40.3
750.31 MHz	V	23.0	23.8	46.7	82.2	-35.5
30.416 MHz	H	15.0	20.1	35.0	82.2	-47.2
187.47 MHz	H	35.9	11.3	47.2	82.2	-35.0
368.57 MHz	H	25.1	18.0	43.1	82.2	-39.2
750.31 MHz	H	21.2	23.8	44.9	82.2	-37.3
881MHz						
31.662 MHz	V	21.5	19.4	40.9	82.2	-41.3
48.009 MHz	V	33.6	10.9	44.5	82.2	-37.7
48.425 MHz	V	33.4	10.7	44.1	82.2	-38.1
50.364 MHz	V	35.7	9.8	45.4	82.2	-36.8
563.21 MHz	V	21.2	21.9	43.1	82.2	-39.1
750.31 MHz	V	23.5	23.8	47.2	82.2	-35.0
30.762 MHz	H	14.3	19.9	34.2	82.2	-48.0
187.47 MHz	H	35.9	11.3	47.1	82.2	-35.1
368.57 MHz	H	25.1	18.0	43.1	82.2	-39.1
750.31 MHz	H	21.4	23.8	45.1	82.2	-37.1
893MHz						
48.425 MHz	V	33.8	10.7	44.5	82.2	-37.7
50.295 MHz	V	36.7	9.8	46.5	82.2	-35.8
563.21 MHz	V	20.6	21.9	42.5	82.2	-39.8
750.31 MHz	V	22.6	23.8	46.4	82.2	-35.9
30.069 MHz	H	13.8	20.3	34.1	82.2	-48.1
62.486 MHz	H	32.3	7.0	39.3	82.2	-42.9
80.004 MHz	H	28.4	8.9	37.3	82.2	-44.9
187.47 MHz	H	35.9	11.3	47.2	82.2	-35.0
368.57 MHz	H	25.2	18.0	43.2	82.2	-39.0
750.31 MHz	H	21.6	23.8	45.4	82.2	-36.8

Table 2

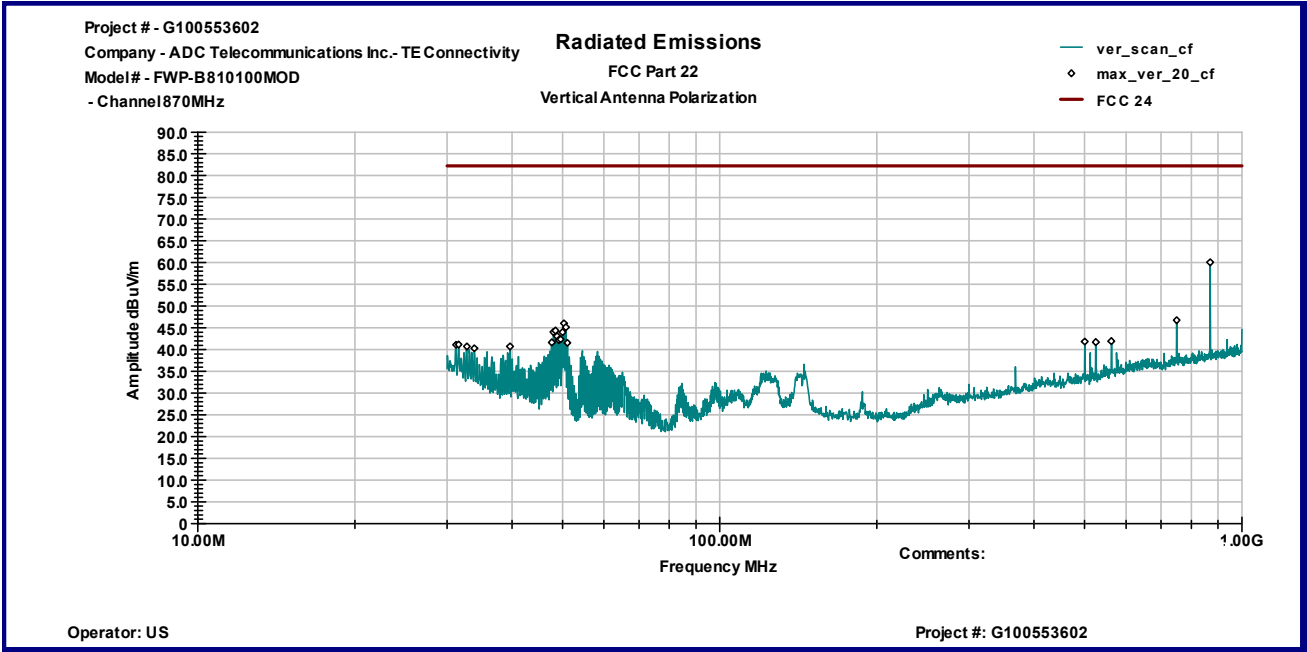
Frequency MHz	Antenna Polarity	Peak Reading dB μ V	Total C.F. dB1/m	Pre-Amp. Gain (dB)	Total at 3m dB μ V/m	Limit dB μ V/m	Margin dB
870MHz							
1.3456 GHz	V	60.5	29.3	38.9	50.9	82.2	-31.3
2.4472 GHz	V	53.5	35.0	37.8	50.7	82.2	-31.5
2.5336 GHz	V	60.4	35.3	37.8	58.0	82.2	-24.2
2.9548 GHz	V	52.0	37.0	37.7	51.3	82.2	-30.9
6.292 GHz	V	46.2	43.1	36.8	52.6	82.2	-29.6
1.3456 GHz	H	72.8	29.3	38.9	63.1	82.2	-19.1
1.63 GHz	H	66.2	30.8	38.8	58.3	82.2	-23.9
2.4472 GHz	H	62.4	34.9	37.8	59.4	82.2	-22.8
2.5336 GHz	H	61.4	35.2	37.8	58.9	82.2	-23.3
2.7244 GHz	H	55.3	36.0	37.7	53.5	82.2	-28.7
2.908 GHz	H	53.7	36.6	37.7	52.6	82.2	-29.6
3.1744 GHz	H	51.5	37.6	37.6	51.4	82.2	-30.8
4.5892 GHz	H	53.9	40.9	36.8	58.0	82.2	-24.2
6.2884 GHz	H	48.9	43.1	36.8	55.3	82.2	-26.9
881MHz							
1.3456 GHz	V	61.0	29.3	38.9	51.4	82.2	-30.8
1.63 GHz	V	55.8	30.9	38.8	47.9	82.2	-34.3
2.5336 GHz	V	62.0	35.3	37.8	59.6	82.2	-22.6
4.5892 GHz	V	46.8	40.9	36.8	51.0	82.2	-31.3
6.2884 GHz	V	44.2	43.1	36.8	50.6	82.2	-31.6
1.3456 GHz	H	72.5	29.3	38.9	62.9	82.2	-19.3
1.63 GHz	H	66.2	30.8	38.8	58.2	82.2	-24.0
1.6876 GHz	H	54.3	31.2	38.7	46.8	82.2	-35.4
2.4472 GHz	H	61.6	34.9	37.8	58.6	82.2	-23.6
2.5336 GHz	H	60.9	35.2	37.8	58.4	82.2	-23.8
2.7244 GHz	H	54.8	36.0	37.7	53.0	82.2	-29.2
2.9512 GHz	H	64.7	36.8	37.7	63.8	82.2	-18.4
4.5892 GHz	H	54.2	40.9	36.8	58.3	82.2	-23.9
6.2884 GHz	H	49.2	43.1	36.8	55.6	82.2	-26.7
893MHz							
1.3456 GHz	V	60.4	29.3	38.9	50.8	82.2	-31.4
1.63 GHz	V	55.1	30.9	38.8	47.2	82.2	-35.0
2.5336 GHz	V	61.5	35.3	37.8	59.1	82.2	-23.1
6.2884 GHz	V	46.0	43.1	36.8	52.4	82.2	-29.8
7.8724 GHz	V	39.6	46.1	36.1	49.5	82.2	-32.7
1.3456 GHz	H	72.5	29.3	38.9	62.9	82.2	-19.3
1.63 GHz	H	65.6	30.8	38.8	57.6	82.2	-24.6
2.3788 GHz	H	55.6	34.6	37.9	52.3	82.2	-29.9
2.4472 GHz	H	61.5	34.9	37.8	58.5	82.2	-23.7
2.5336 GHz	H	61.5	35.2	37.8	59.0	82.2	-23.2
2.7244 GHz	H	54.4	36.0	37.7	52.6	82.2	-29.6
2.9548 GHz	H	65.1	36.8	37.7	64.1	82.2	-18.1
4.5892 GHz	H	54.5	40.9	36.8	58.6	82.2	-23.6
6.2884 GHz	H	48.9	43.1	36.8	55.3	82.2	-27.0



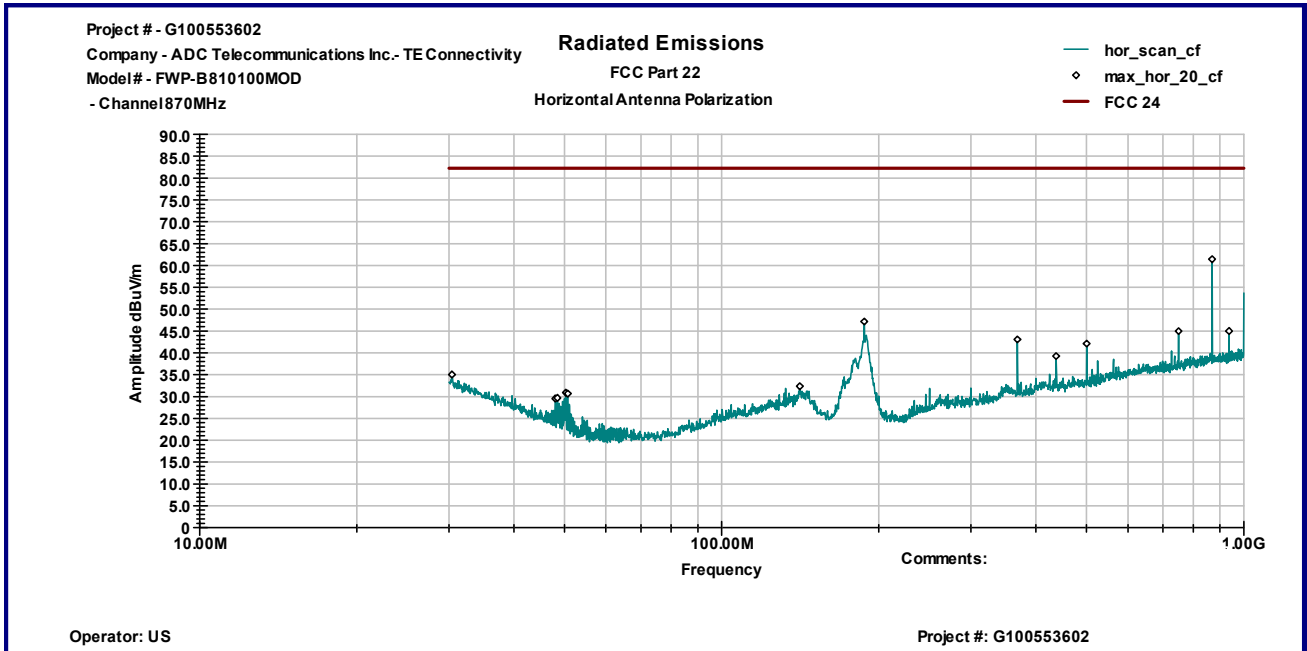
Date:	November 7, 2011	Result: Pass
Tested by:	Uri Spector	
Standard:	FCC Part 22	
Test Point:	Enclosure	
Operation mode:	See page 5	
Note:	Substitution Method	

Table 3

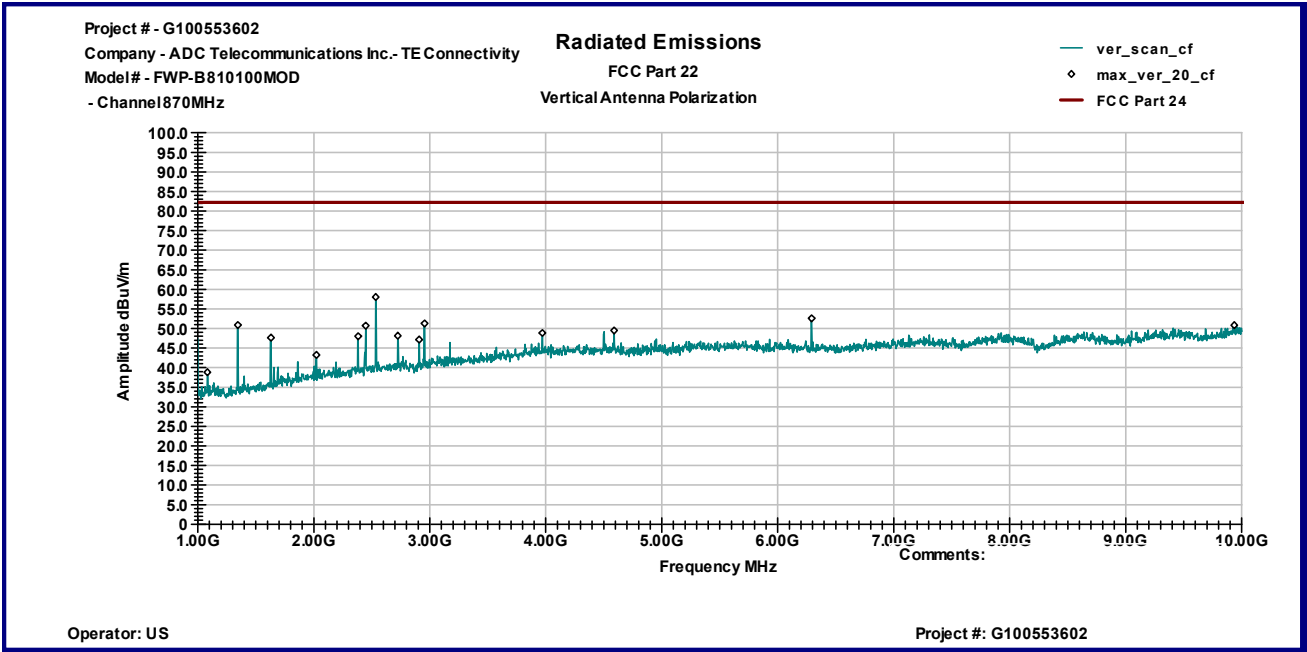
Frequency MHz	Antenna Polarity	Measured Emissions dBμV	Substitution Antenna Power dBm	Substitution Antenna Gain dBi	Cable Loss dB	Additional Loss/Gain dB	Emissions EIRP dBm	Limits dBm	Margin dB
870MHz									
1345.60	H	72.8	-42.5	7.5	0.9	0.0	-35.9	-13.0	-22.9
2954.80	H	64.9	-44.9	9.6	1.7	0.0	-36.9	-13.0	-23.9
881MHz									
1345.60	H	72.5	-42.9	7.5	0.9	0.0	-36.3	-13.0	-23.3
2954.80	H	64.7	-45.1	9.6	1.7	0.0	-37.1	-13.0	-24.1
893MHz									
1345.60	H	72.5	-42.9	7.5	0.9	0.0	-36.3	-13.0	-23.3
2954.80	H	65.1	-44.7	9.6	1.7	0.0	-36.7	-13.0	-23.7



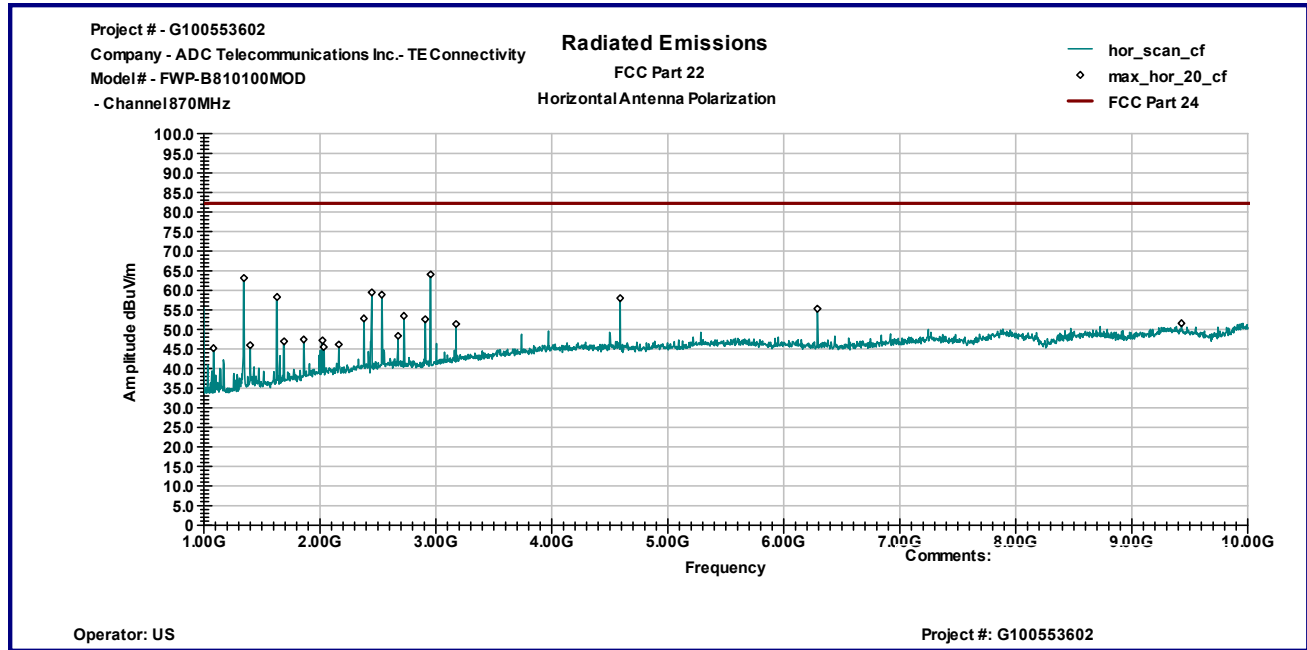
Graph 1



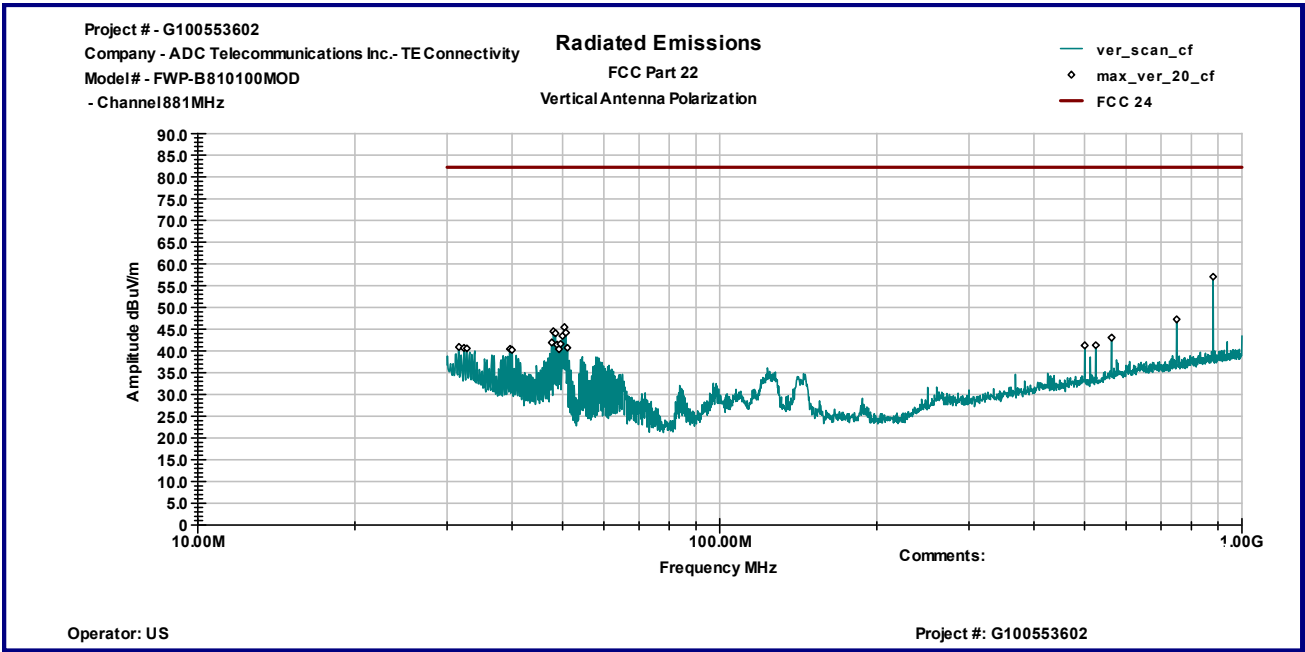
Graph 2



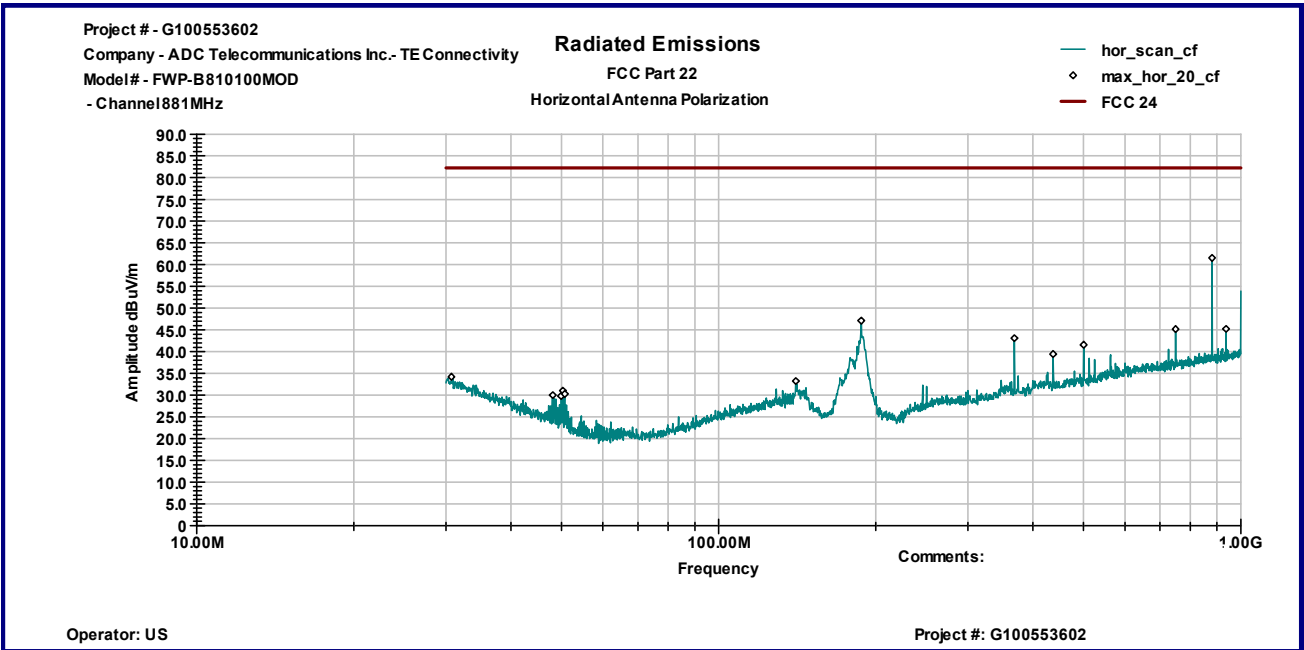
Graph 3



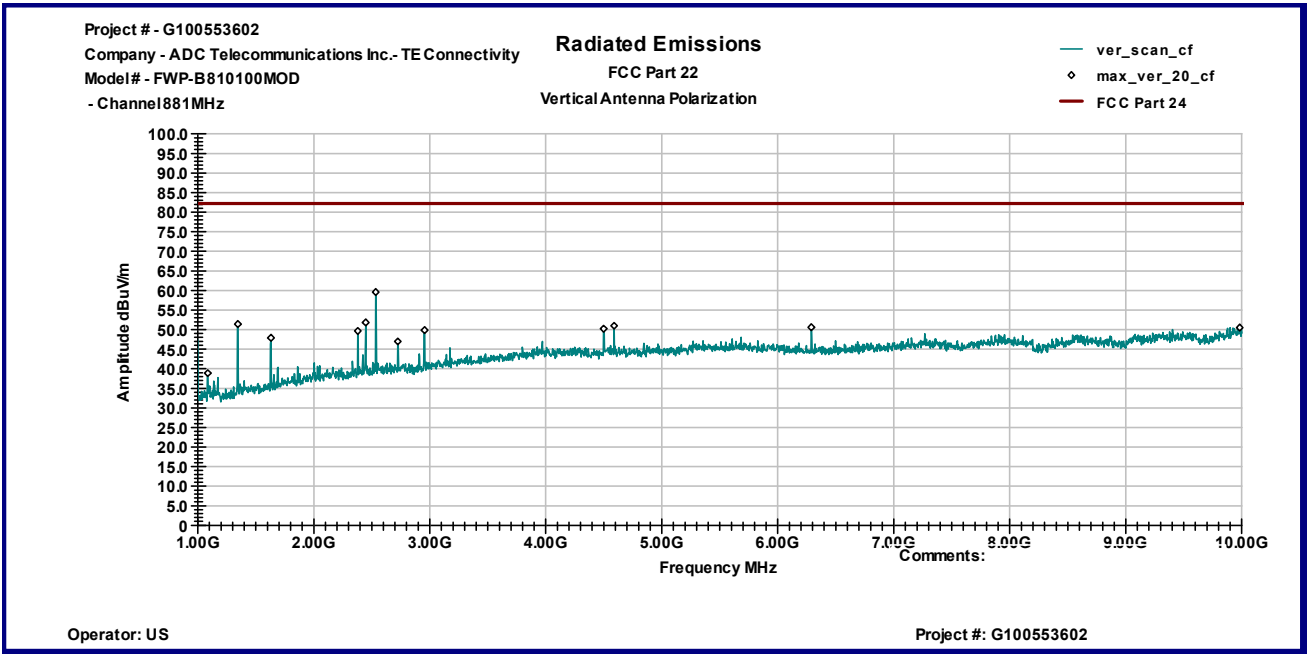
Graph 4



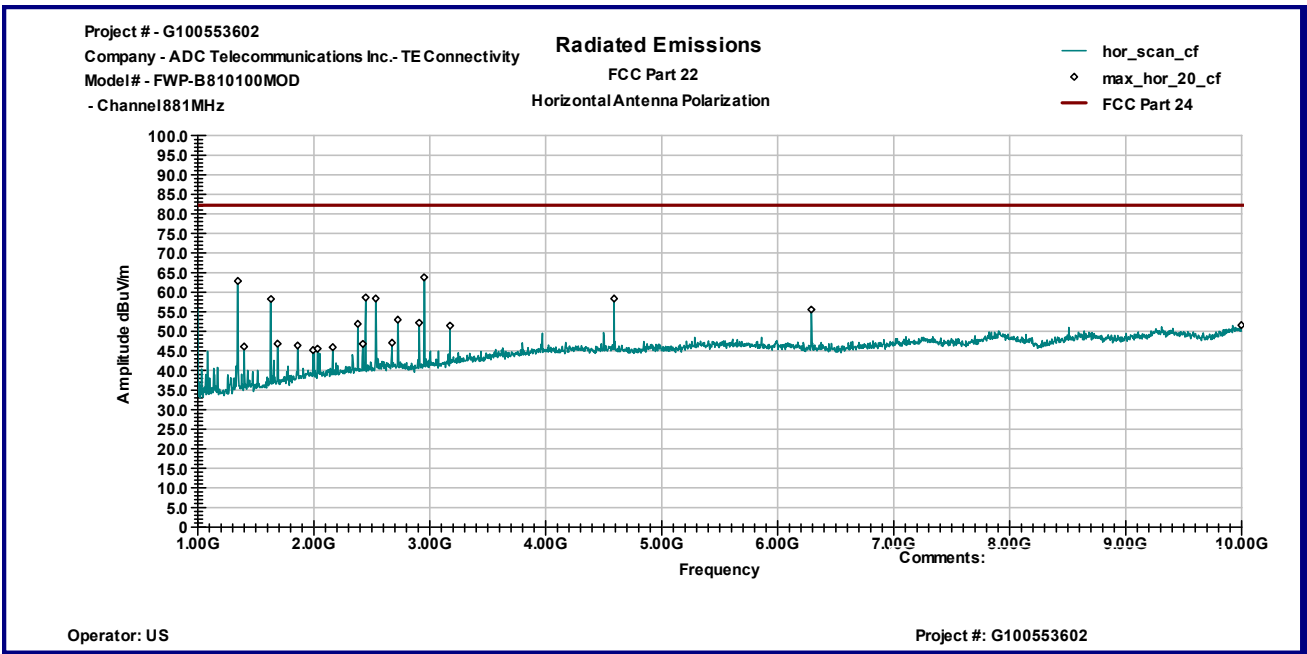
Graph 5



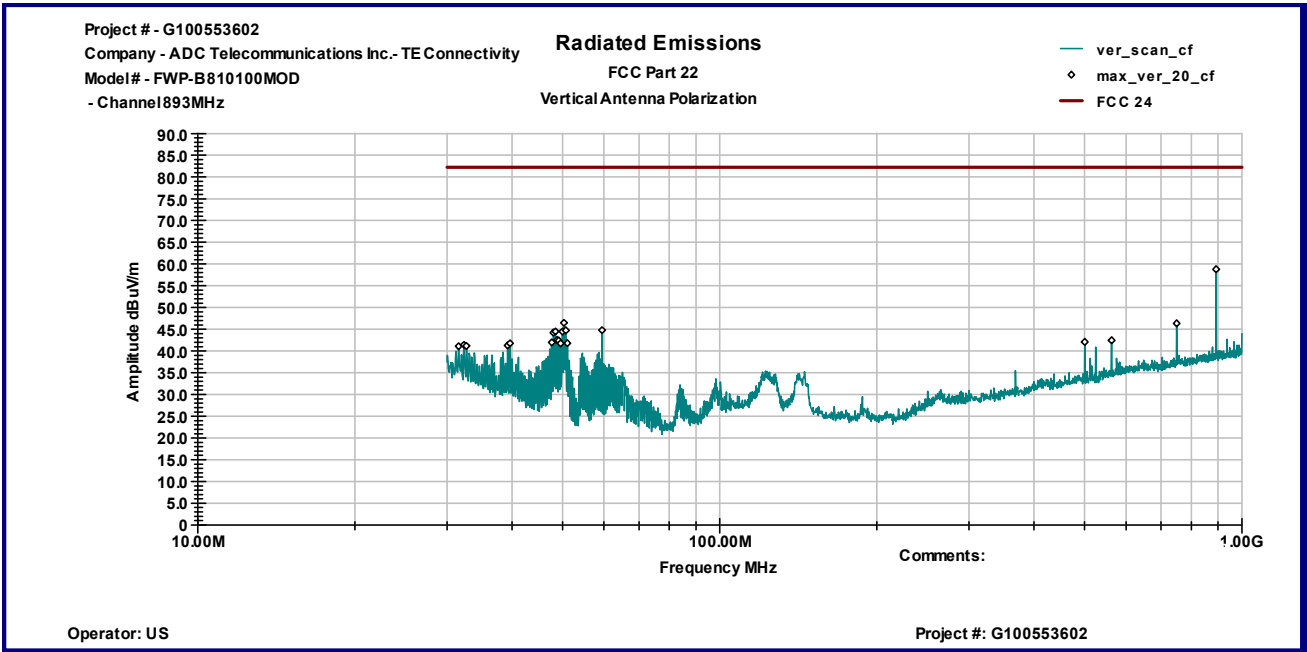
Graph 6



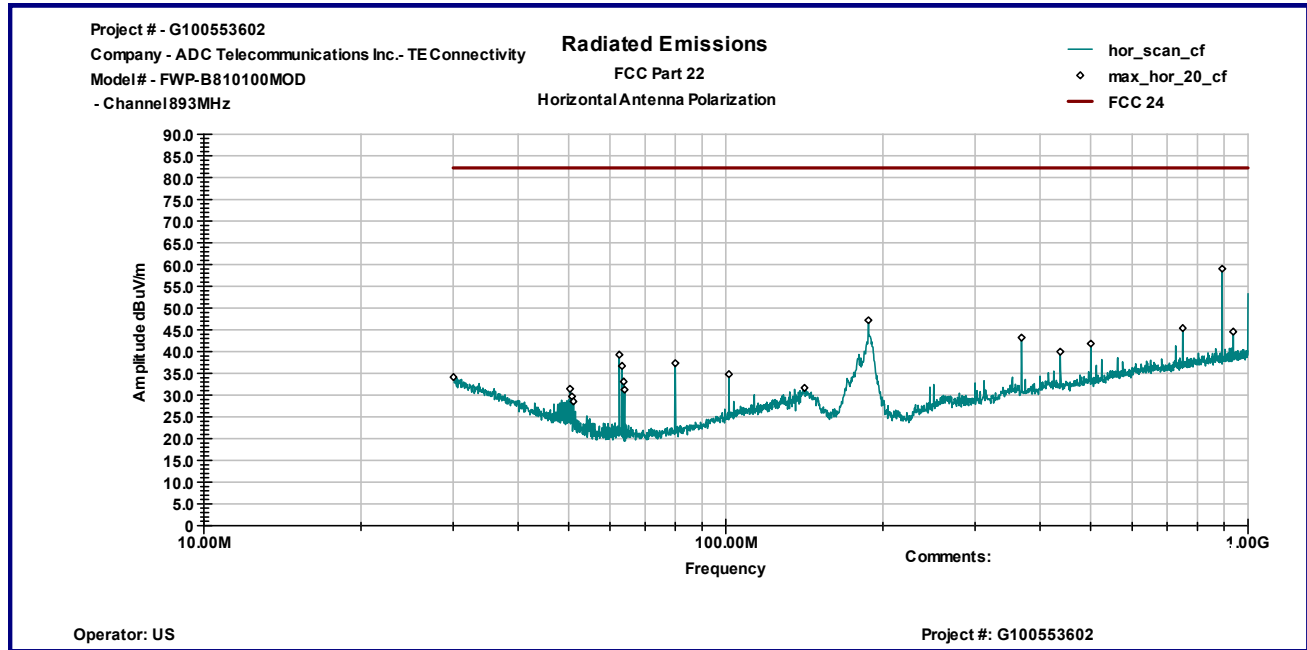
Graph 7



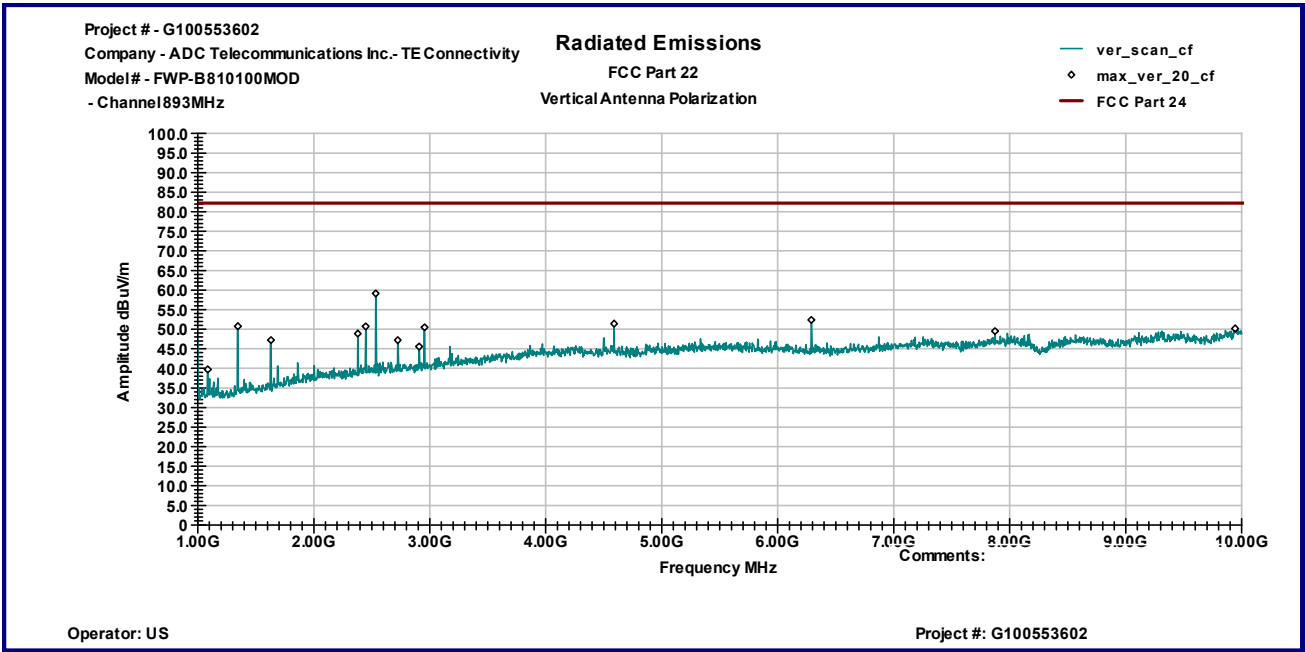
Graph 8



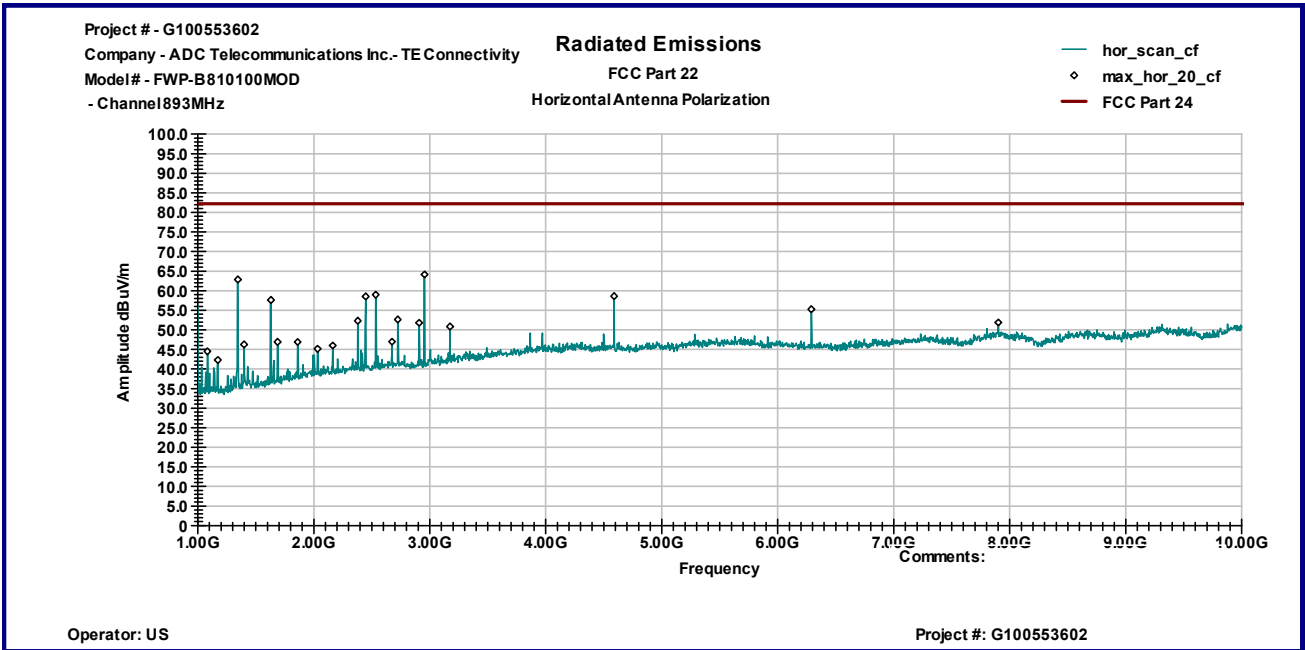
Graph 9



Graph 10



Graph 11



Graph 12



5.0 TEST EQUIPMENT

DESCRIPTION	MANUFACTURER	MODEL	SERIAL NO.	INTERTEK ID	CAL DUE	USED
Spectrum Analyzer	R & S	FSV 30	101101		11/09/2011	<input checked="" type="checkbox"/>
Spectrum Analyzer	R & S	ESCI	100358	12909	05/12/2012	<input checked="" type="checkbox"/>
Bicono-Log Antenna	Schaffner-Chase	CBL 6112 B	2630	14459	11/22/2011	<input checked="" type="checkbox"/>
Horn Antenna	EMCO	3115	9507-4513	9936	04/29/2012	<input checked="" type="checkbox"/>
Horn Antenna	EMCO	3115	6579	15580	05/25/2012	<input checked="" type="checkbox"/>
Signal Generator	R & S	SMR20	101469	25233	10/03/2012	<input checked="" type="checkbox"/>
Pre-Amplifier	MITEQ	AMF-5D-00501800-28-13P	1122951	13475	11/30/2011	<input checked="" type="checkbox"/>
System	TILE! Instrument Control		Ver. 3.4.K.29	15259	VBU	<input checked="" type="checkbox"/>

