



## TEST DATA

Test Data Number: 3163123MIN-001  
Project Number: 3163123

Testing performed on the  
InterReach picoBTS 800MHz Cellular

To  
47 CFR, Part 22

For  
ADC Telecommunications Inc.

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

Test Authorized by:  
ADC Telecommunications Inc.  
1187 Park Place  
Shakopee, MN 55379

Prepared by: *U. Spector*  
Uri Spector

Date: November 21, 2008

Reviewed by: *Norman Shpilsher*  
Norman Shpilsher

Date: November 21, 2008



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## 1.0 DESCRIPTION OF THE SAMPLE (EUT)

<b>Model:</b>	InterReach picoBTS 800MHz Cellular
<b>Type of EUT:</b>	Base Transceiver Station
<b>Serial Number:</b>	000803718
<b>Company:</b>	ADC Telecommunications Inc.
<b>Customer:</b>	Mr. Mark Miska
<b>Address:</b>	1187 Park Place Shakopee, MN 55379
<b>Phone:</b>	952-403-8340
<b>Fax:</b>	952-403-8858
<b>Test Standards:</b>	<input type="checkbox"/> EN 55022:2006, Class A <input type="checkbox"/> EN 55011:1998 + A1:1999 + A2:2002, Group [redacted], Class [redacted] <input type="checkbox"/> 47 CFR, Part 15:2007, §15.107 and §15.109, Class A <input checked="" type="checkbox"/> 47 CFR, Part 22:2007 <input type="checkbox"/> 47 CFR, Part 24:2007 <input type="checkbox"/> 47 CFR, Part 90:2007 <input type="checkbox"/> EN 55014-1:2000 + A1:2001 + A2:2002 <input type="checkbox"/> EN 61326-1:2006 <input type="checkbox"/> Class [redacted] for Radiated and Conducted Emissions <input type="checkbox"/> EN 60601-1-2:2001 +A1:2006 <input type="checkbox"/> Class [redacted] Radiated and Conducted Emissions <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"/> Other [redacted]



## 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	Spurious Enclosure 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:  $\pm 4$  dB at 10m and  $\pm 5.4$  dB at 3m

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

General notes:

1. Test was performed with the EUT tuned to the low frequency channel (869MHz), middle frequency channel 190 (882.5MHz), and upper frequency channel 251 (894MHz) of the operating band. Testing was performed in frequency range from 30MHz to 10GHz. EUT tuned frequencies 869MHz, 882.5MHz, and 894MHz were excluded from the table.
2. The Spurious Radiated Power limits of -13dBm was correlated with field strength reference level of 82.2dB $\mu$ V/m during field strength measurements at 3m measurement distance

### **3.0 TEST RESULTS**

#### **3.1 Spurious Radiated Emissions**

Tables 1 and 2 show detected Radiated Emissions.

Graphs 1 to 12 show the EUT peak Radiated Emissions.

No emissions were chosen for substitution measurements as the maximum emission is more than 20dB below the reference limit.



TILE Instrument Control System EMI Measurement Software

**Radiated Emissions from 30MHz to 1GHz**

**Date:** 11-21-2008

**Company:** ADC Telecommunications Inc.  
**Model:** InterReach picoBTS 800MHz Cellular  
**Test Engineer:** Uri Spector  
**Standard:** FCC Part 22  
**Test Site:** 3m Anechoic Chamber, 3m measurement distance  
**Note:** The table shows the worst case radiated emissions  
 Measurements were taken using a Peak detector

**Table # 1**

Frequency	Ant. Polarity	Peak Reading dBµV	Ant.Factor dB1/m	Total at 3m dBµV/m	QP Limit dBµV/m	Margin dB
<b>Operating Frequency 869MHz</b>						
32.802 MHz	V	29.1	19.1	48.1	82.2	-34.1
45.457 MHz	V	32.3	12.3	44.6	82.2	-37.6
84.571 MHz	V	40.4	9.4	49.8	82.2	-32.4
101.07 MHz	V	39.4	12.0	51.4	82.2	-30.8
144.04 MHz	V	29.3	13.0	42.3	82.2	-39.9
<b>Operating Frequency 882.5MHz</b>						
31.121 MHz	H	21.9	20.0	41.9	82.2	-40.3
86.896 MHz	H	33.2	9.6	42.8	82.2	-39.4
103.43 MHz	H	37.7	12.4	50.1	82.2	-32.2
238.29 MHz	H	26.1	13.3	39.3	82.2	-42.9
<b>Operating Frequency 894MHz</b>						
32.84 MHz	V	27.9	19.0	46.9	82.2	-35.3
46.07 MHz	V	33.0	12.0	45.0	82.2	-37.2
85.227 MHz	V	39.5	9.5	48.9	82.2	-33.3
100.3 MHz	V	40.9	11.9	52.7	82.2	-29.5
31.524 MHz	H	21.9	19.7	41.6	82.2	-40.6
97.165 MHz	H	37.8	11.3	49.2	82.2	-33.0
141.5 MHz	H	34.0	13.1	47.1	82.2	-35.1
235.38 MHz	H	27.6	13.0	40.6	82.2	-41.7
<b>Operating Frequency 894MHz</b>						
32.909 MHz	V	29.0	19.0	48.0	82.2	-34.2
45.239 MHz	V	33.3	12.5	45.7	82.2	-36.5
84.481 MHz	V	39.6	9.4	49.0	82.2	-33.2
100.15 MHz	V	41.2	11.8	53.0	82.2	-29.2
169.15 MHz	V	30.2	11.6	41.8	82.2	-40.4
31.455 MHz	H	22.0	19.8	41.8	82.2	-40.4
45.031 MHz	H	21.3	12.6	33.9	82.2	-48.3
85.525 MHz	H	32.1	9.5	41.6	82.2	-40.6
141.5 MHz	H	34.3	13.1	47.4	82.2	-34.8



TILE Instrument Control System EMI Measurement Software

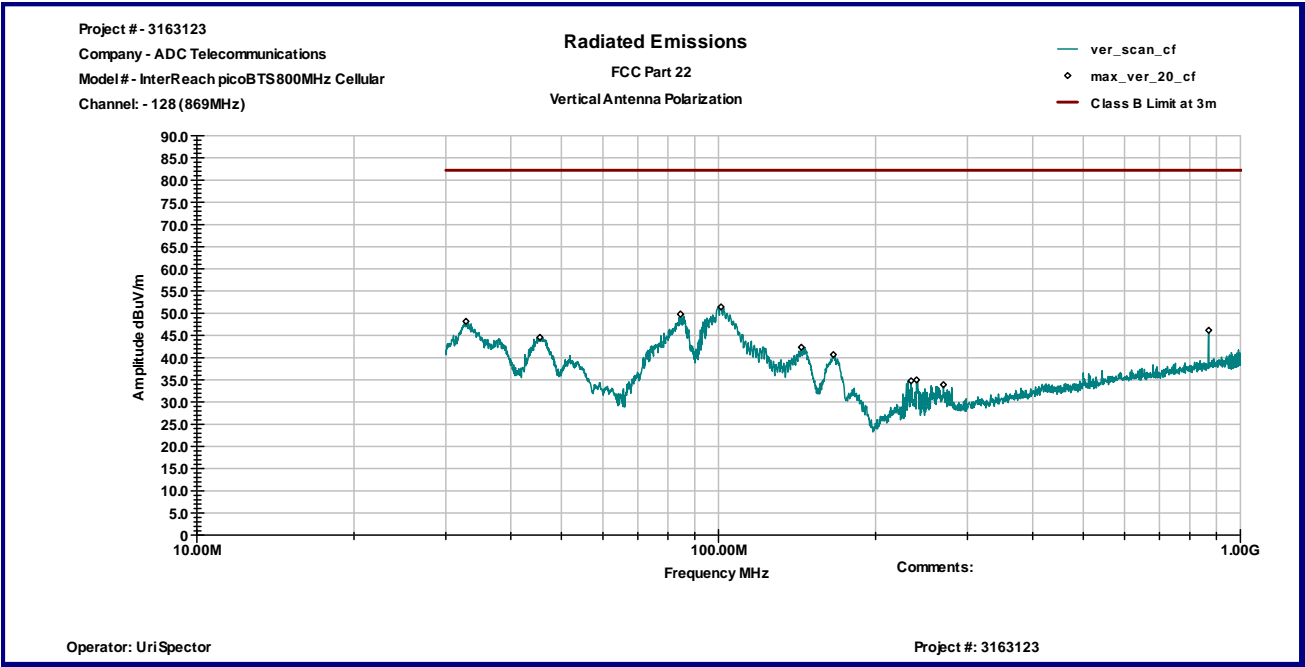
**Radiated Emissions from 1GHz to 10GHz**

**Date:** 11-21-2008

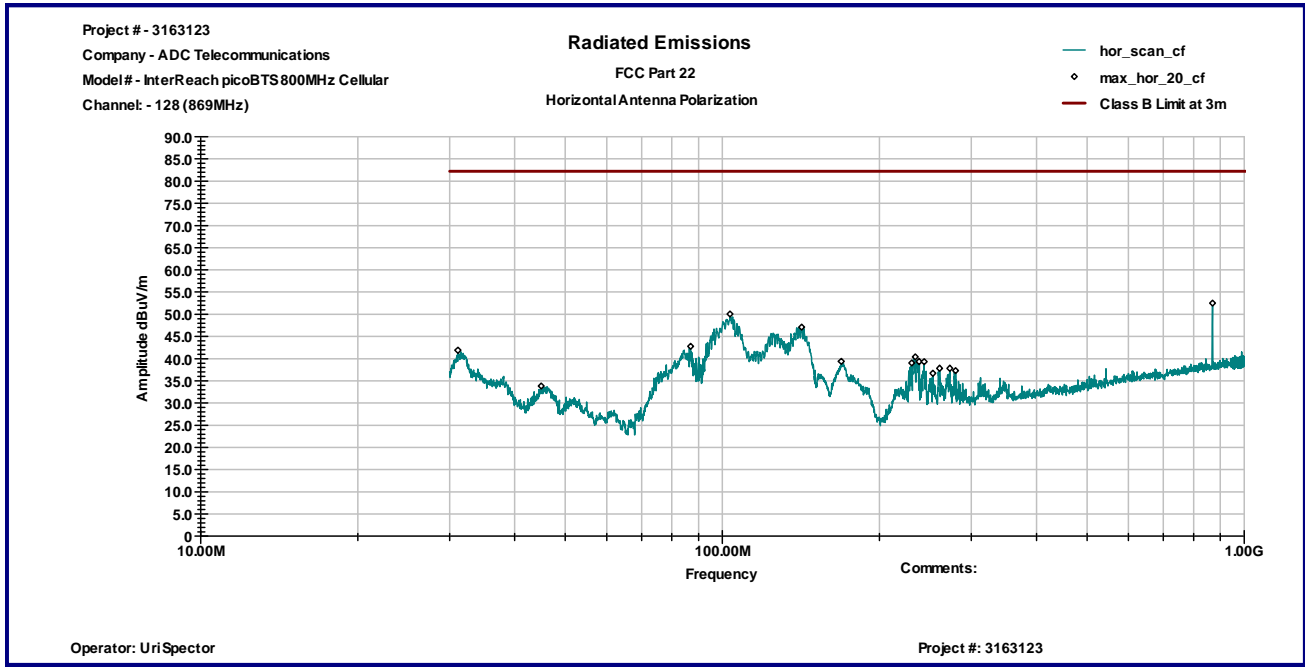
**Company:** ADC Telecommunications Inc.  
**Model:** InterReach picoBTS 800MHz Cellular  
**Test Engineer:** Uri Spector  
**Standard:** FCC Part 22  
**Test Site:** 3m Anechoic Chamber, 3m measurement distance  
**Note:** The table shows the worst case radiated emissions  
 All measurements were taken using a Peak detector

**Table # 2**

Frequency MHz	Antenna Polarity	Reading dB $\mu$ V	Total C.F. dB1/m	Pre-Amp. Gain (dB)	Total at 3m dB $\mu$ V/m	QP Limit dB $\mu$ V/m	Margin dB
<b>Operating Frequency 869 MHz</b>							
1.210 GHz	V	44.3	28.6	41.2	31.7	82.2	-50.5
3.91 GHz	V	40.7	36.9	40.1	37.5	82.2	-44.7
4.69 GHz	V	39.8	39.1	39.8	39.1	82.2	-43.1
<b>Operating Frequency 882.5 MHz</b>							
1.732 GHz	H	40.3	32.6	40.9	32.0	82.2	-50.2
3.616 GHz	H	40.8	36.0	40.2	36.6	82.2	-45.6
4.708 GHz	H	40.5	39.1	39.8	39.8	82.2	-42.4
<b>Operating Frequency 894 MHz</b>							
2.428 GHz	V	40.8	32.5	39.8	33.5	82.2	-48.7
4.348 GHz	V	40.5	38.2	39.9	38.8	82.2	-43.4
5.254 GHz	V	38.3	40.6	39.7	39.2	82.2	-43.0
2.24 GHz	H	40.6	31.9	40.0	32.5	82.2	-49.7
3.37 GHz	H	40.9	35.3	40.2	36.0	82.2	-46.2
4.378 GHz	H	39.7	38.3	39.9	38.1	82.2	-44.1
<b>Operating Frequency 894 MHz</b>							
2.464 GHz	V	41.3	32.6	39.7	34.2	82.2	-48.0
3.88 GHz	V	40.8	36.7	40.1	37.4	82.2	-44.8
4.91 GHz	V	40.0	39.6	39.8	39.8	82.2	-42.4
2.464 GHz	H	43.9	32.6	39.7	36.8	82.2	-45.4
3.58 GHz	H	41.3	35.9	40.3	36.9	82.2	-45.3
4.744 GHz	H	39.8	39.2	39.8	39.2	82.2	-43.0

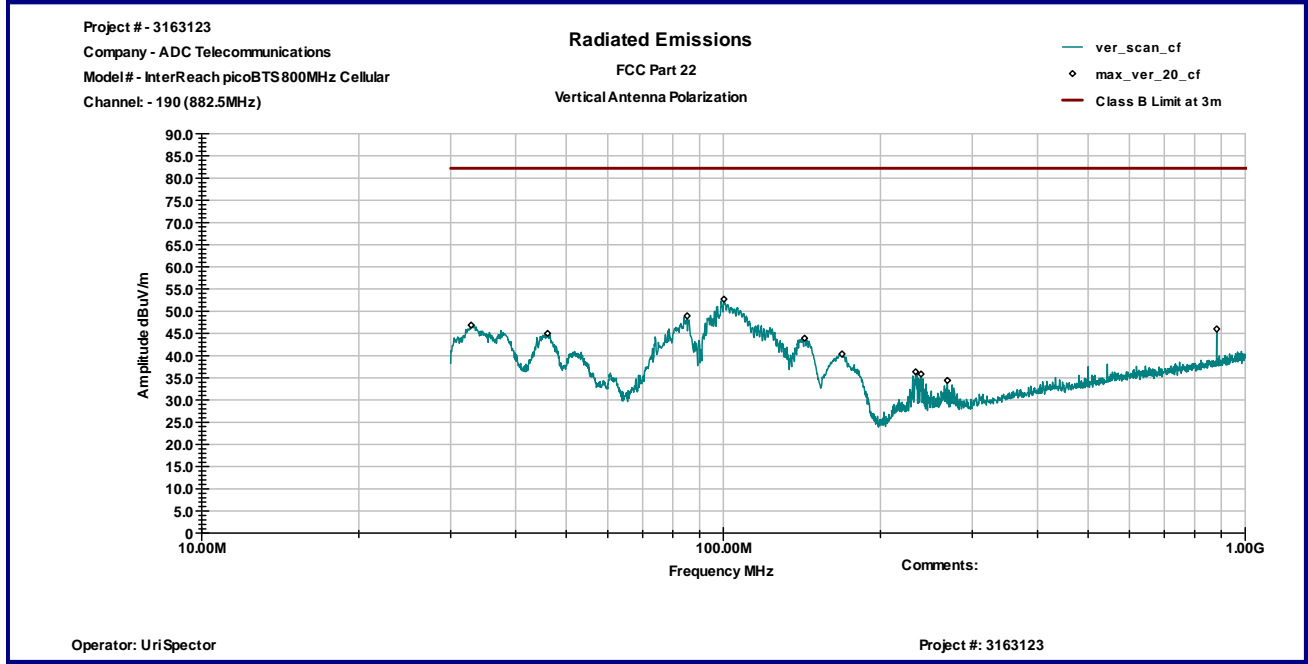


Graph 1

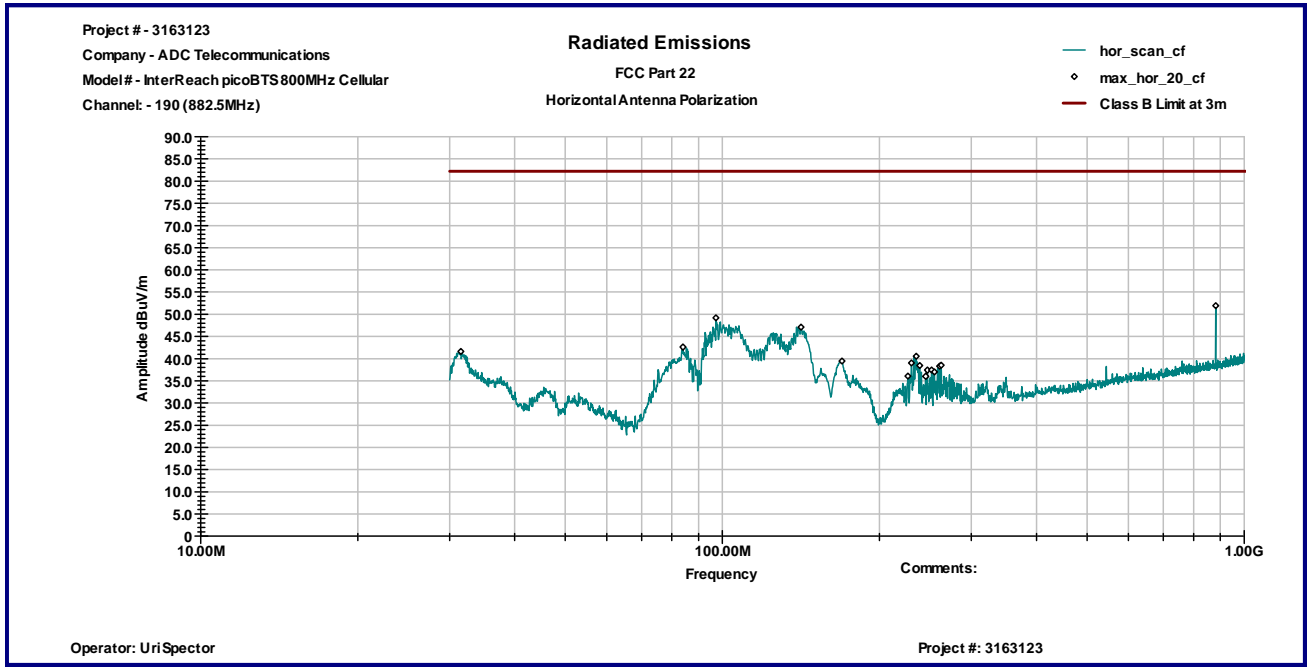


Graph 2

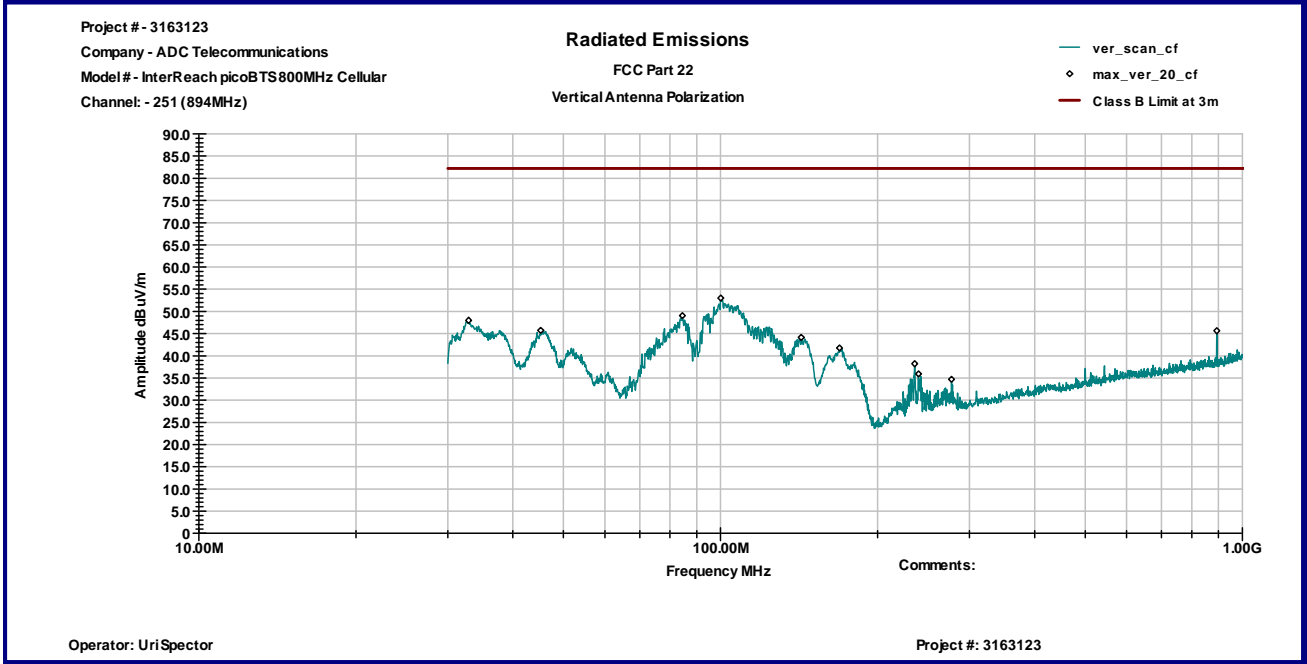




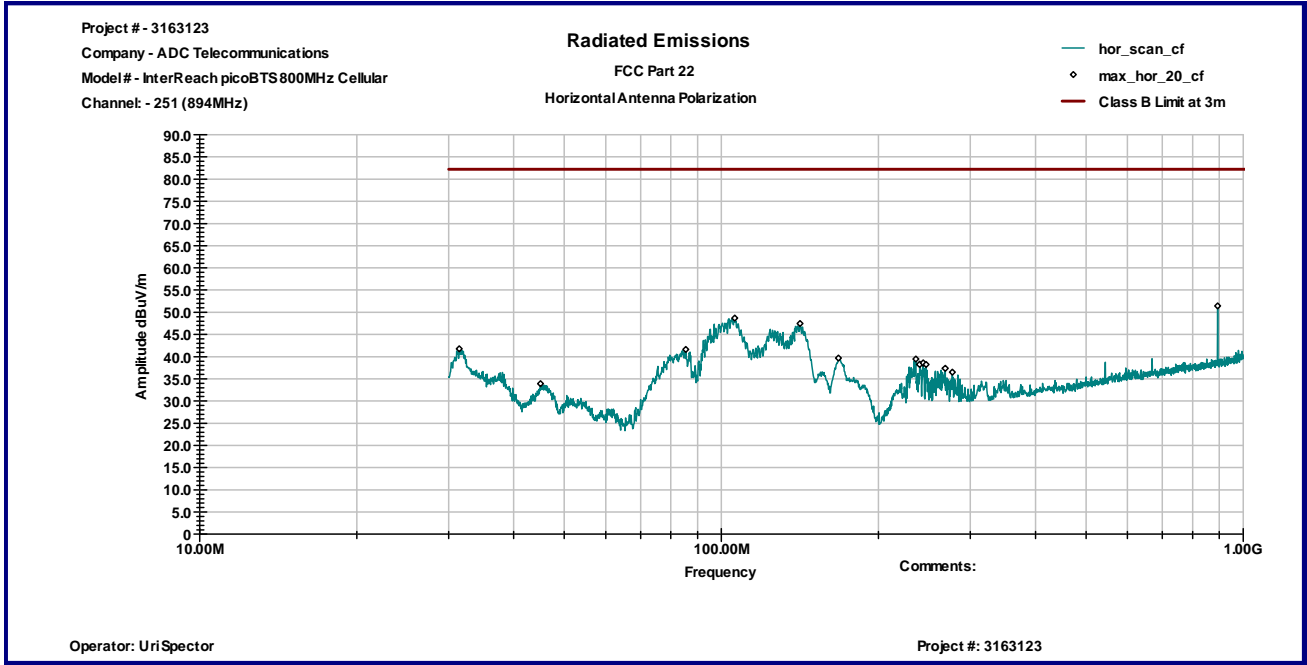
Graph 3



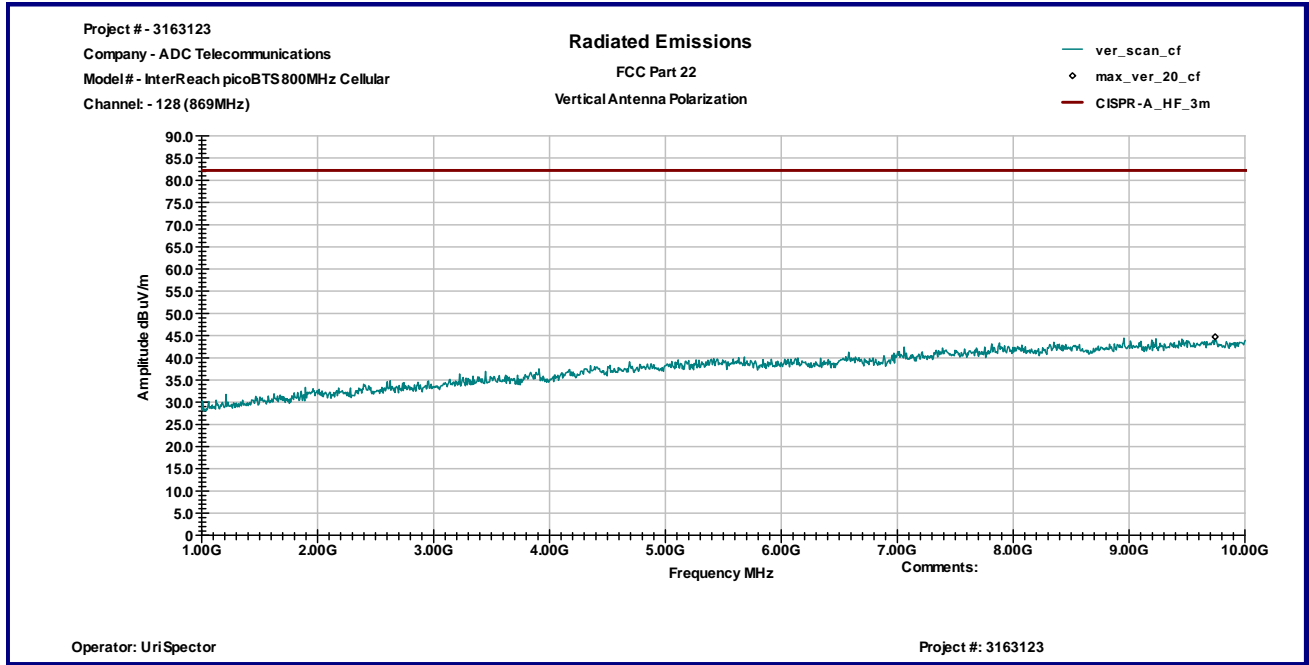
Graph 4



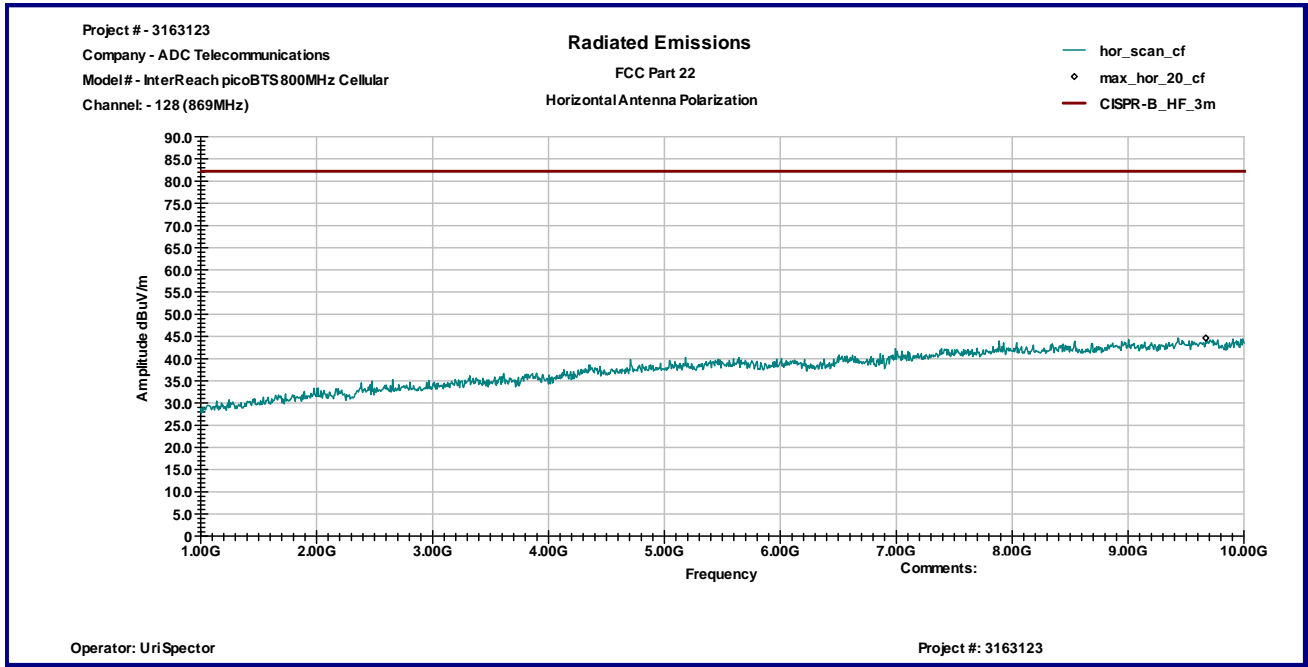
Graph 5



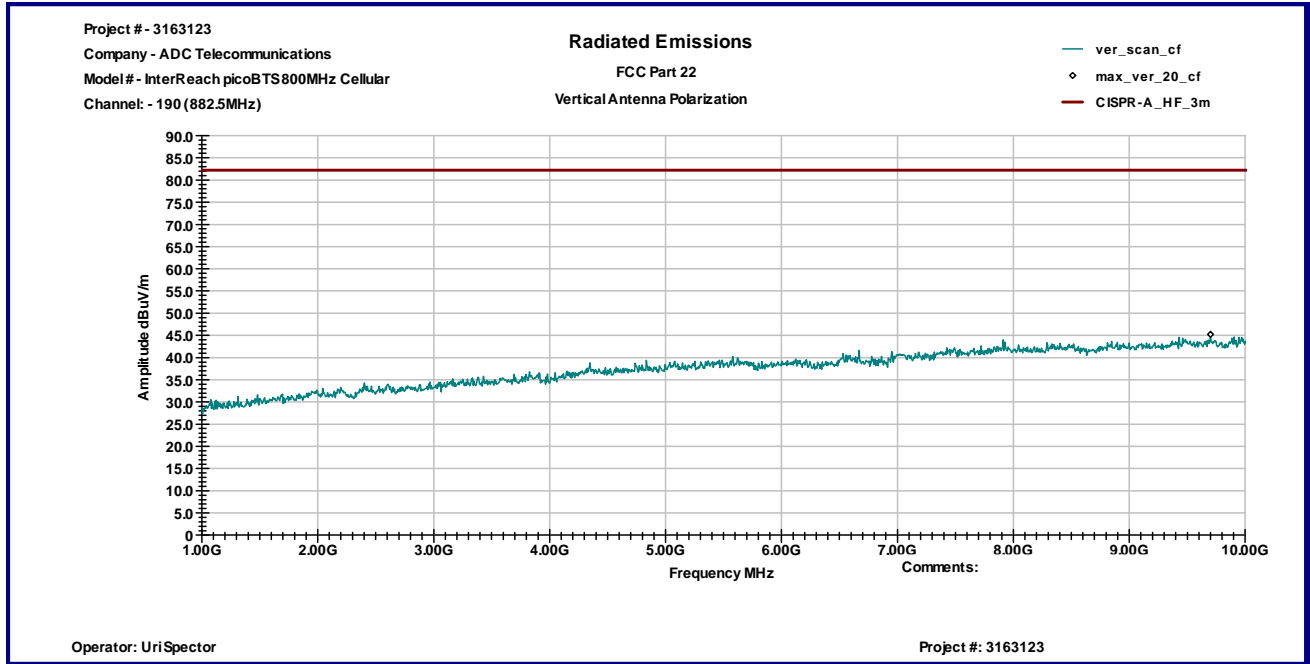
Graph 6



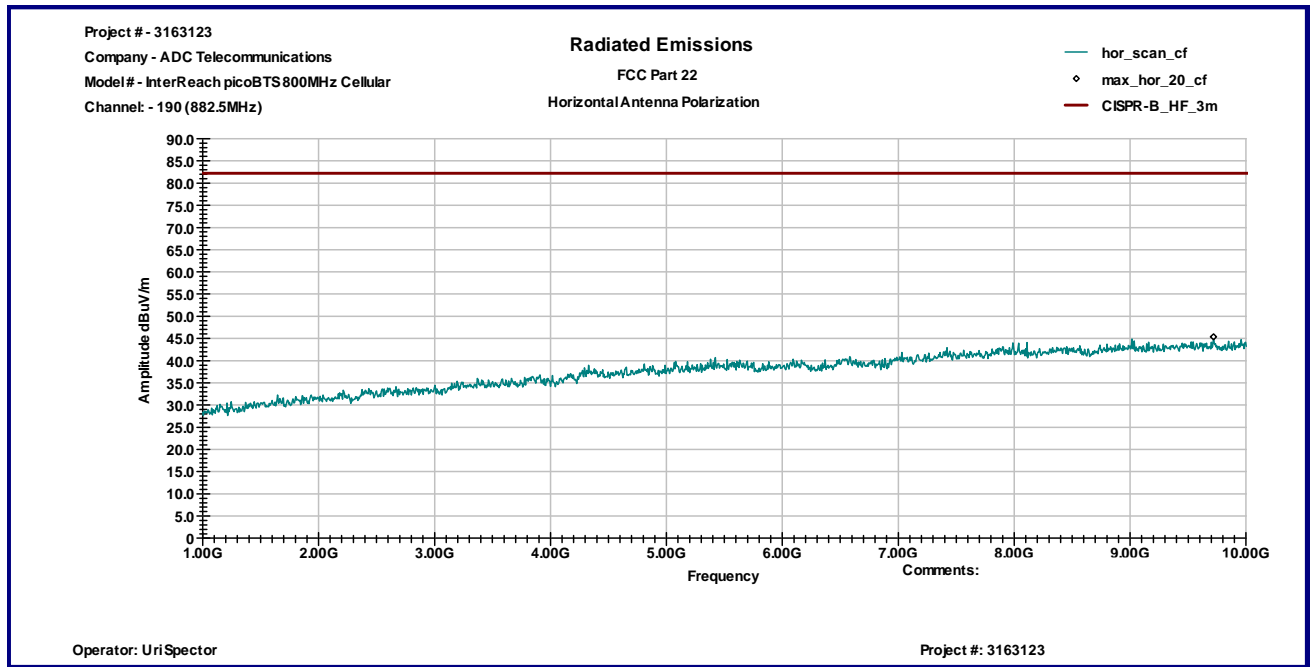
**Graph 7**



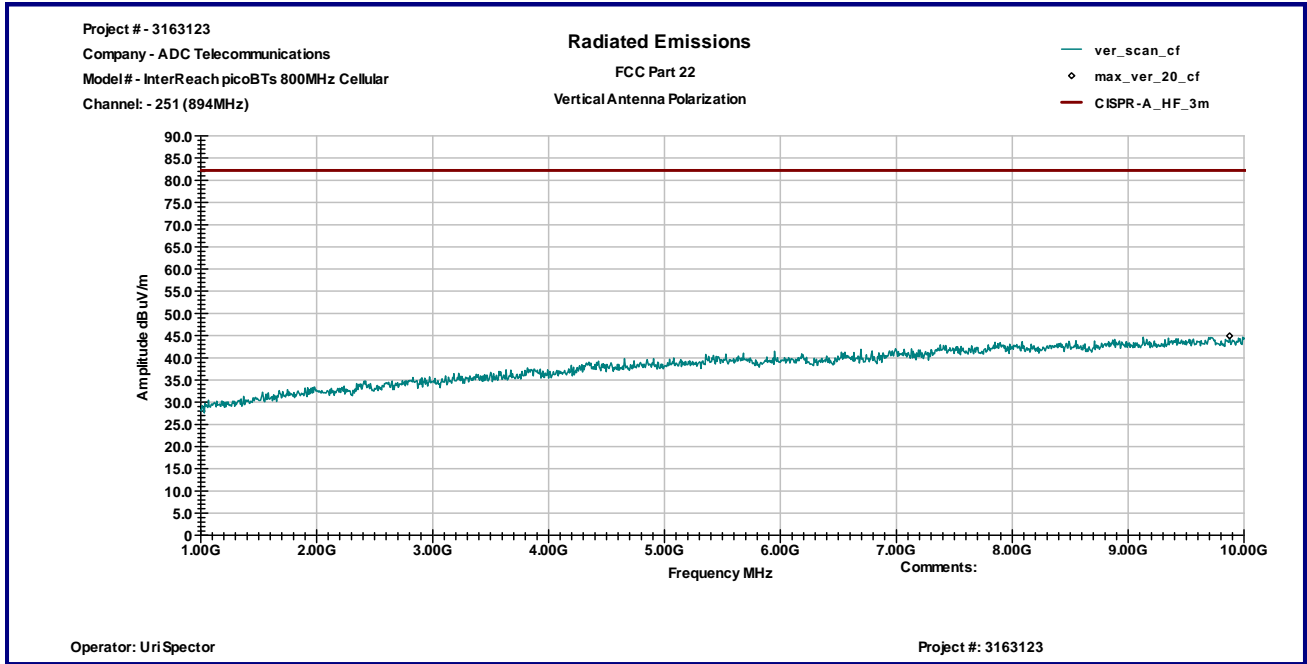
**Graph 8**



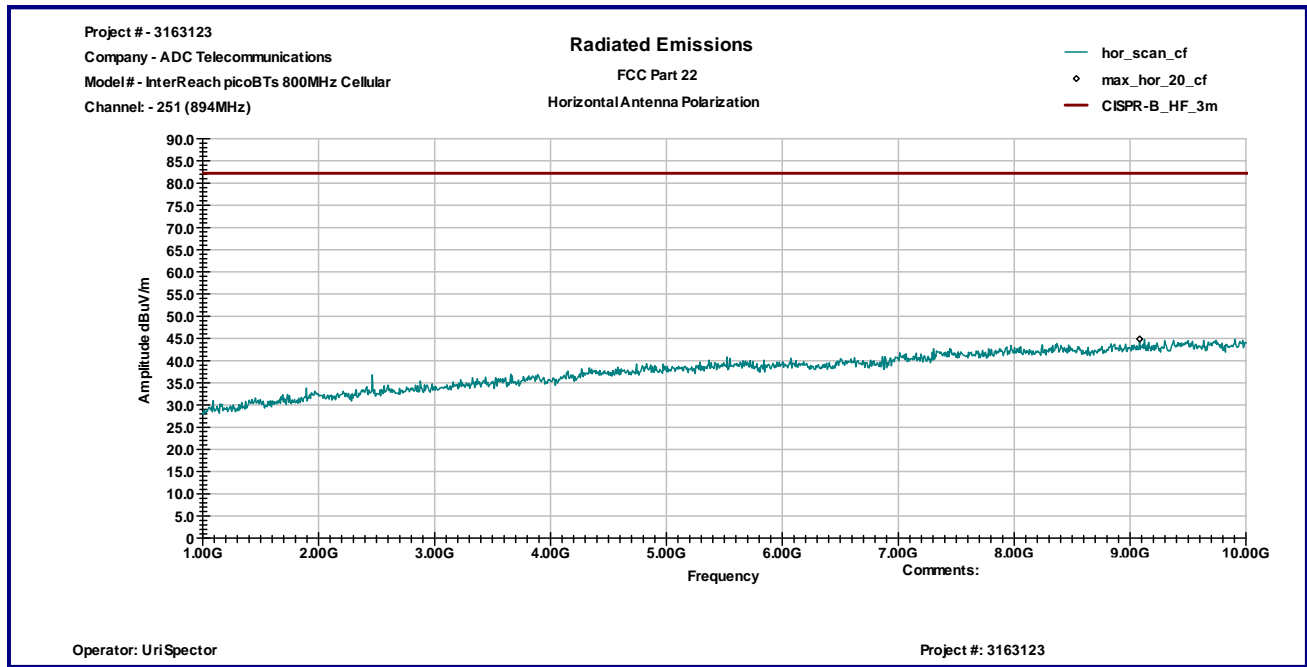
### Graph 9



### Graph 10



Graph 11



Graph 12

### 3.2 Environmental conditions

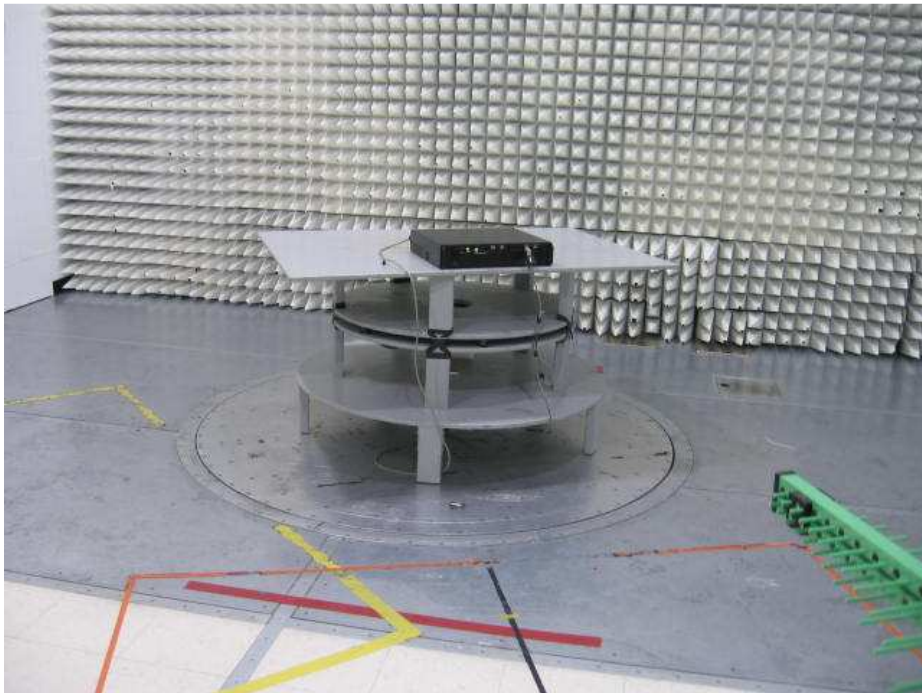
During the measurement the environmental conditions were within the listed ranges:

**Temperature:** 15-35 °C

**Humidity:** 30-60 %

**Atmospheric pressure:** 86-106 kPa

**4.0 PHOTOS**



**Test Setup Photos**



## 5.0 TEST EQUIPMENT

DESCRIPTION	MANUFACTURER	MODEL	SERIAL NO.	CAL DUE	USED
Spectrum Analyzer	R & S	FSP 40	100024	08/22/2009	<input checked="" type="checkbox"/>
Spectrum Analyzer	R & S	ESCI	100358	05/07/2009	<input checked="" type="checkbox"/>
Bicono-Log Antenna	Schaffner-Chase	CBL 6112 B	2630	09/26/2009	<input checked="" type="checkbox"/>
Horn Antenna	EMCO	3115	9507-4513	02/13/2009	<input checked="" type="checkbox"/>
Waveguide Horn Antenna	EMCO	3116	9904-2423	07/20/2009	<input type="checkbox"/>
Pre-Amplifier	MITEQ	AMF-5D-00501800-28-13P	1122951	04/28/2009	<input checked="" type="checkbox"/>
Pre-Amplifier	MITEQ	AMF-6F-16002600-25-10P	1222383	01/17/2009	<input type="checkbox"/>
System	TILE! Instrument Control		Ver. 3.4.K.29	VBU	<input checked="" type="checkbox"/>



