TEST DATA

Test Data Number: 3150809MIN-003
Project Number: 3150809

Testing performed on the
InterReach Fusion Wideband

To
47 CFR, Part 90:2007

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.
5341 12th Avenue East
Shakopee, MN 55379

Prepared by: _____ Date: May 16, 2008
Norman Shpilsher

Reviewed by: _____ Date: May 16, 2008
Uri Spector

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1.0 DESCRIPTION OF THE SAMPLE (EUT)

Model:	InterReach Fusion Wideband System, which consists of: - FSN-W2-808519-1, Remote Access Unit (RAU) - Main Hub - Expansion Hub
Type of EUT:	Indoor Fiber / Coaxial Repeater
Serial Number:	N/A
Company:	ADC Telecommunications Inc.
Customer:	Mr. Mark Miska
Address:	1187 Park Place Shakopee, MN 55379
Phone:	952-403-8340
Fax:	952-403-8858
Test Standards:	☐ EN 55022:2006, Class A ☐ EN 55011:1998 + A1:1999 + A2:2002, Group , Class ☐ 47 CFR, Part 15:2007, §15.107 and §15.109, Class A ☐ 47 CFR, Part 22:2007 ☐ 47 CFR, Part 24:2007 ☒ 47 CFR, Part 90:2007 ☐ EN 55014-1:2000 + A1:2001 + A2:2002 ☐ EN 61326-1:2006 ☐ Class for Radiated and Conducted Emissions ☐ EN 60601-1-2:2001 +A1:2006 ☐ Class Radiated and Conducted Emissions ☐ EN 61000-6-3:2007 ☐ EN 61000-6-4:2007 ☐ EN 61000-3-2:2006 ☐ EN 61000-3-3:1995 +A1:2001 +A2:2006 ☐ Other

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 90	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: ±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

General notes:
1. Test was performed with the System in Tx mode tuned to 860MHz; In Rx mode the System was tuned to 824MHz.
Testing was performed in frequency range from 30MHz to 10GHz.
2. In Tx mode the DL1 Port of the Main Hub was connected to the Signal Generator, and all other RF ports of the System were terminated with 50Ohm terminator.
In Rx mode the SMR90 Port of the RAU was connected to the Signal Generator, and all other RF ports of the System were terminated with 50Ohm terminator.
The Signal Generator was located outside of the test site.
3. The Spurious Radiated Power limits of -13dBm was correlated with field strength reference level of 82.2dBµV/m during field strength measurements at 3m measurement distance.

3.0 TEST RESULTS

3.2 Spurious Radiated Emissions, Rx Mode

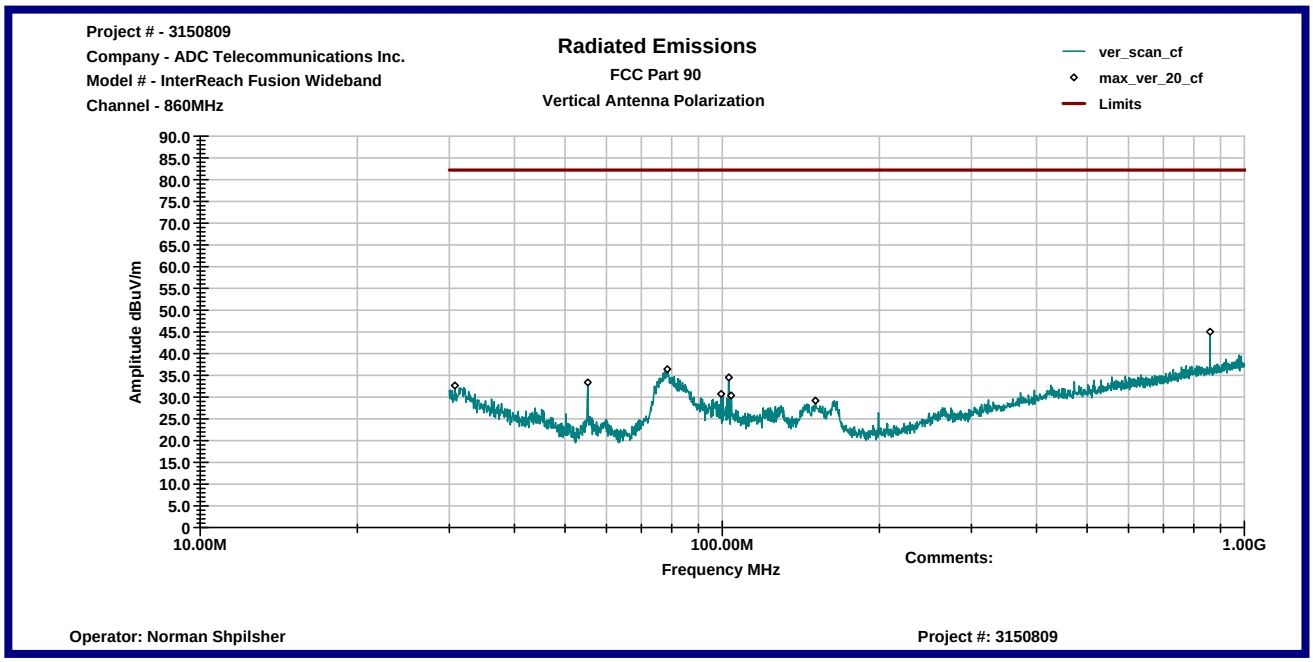
No emissions were chosen for substitution measurements as the maximum emissions is more than 20dB below the reference limit

Radiated Emissions from 30MHz to 10GHz **Date:** 05-09-2008

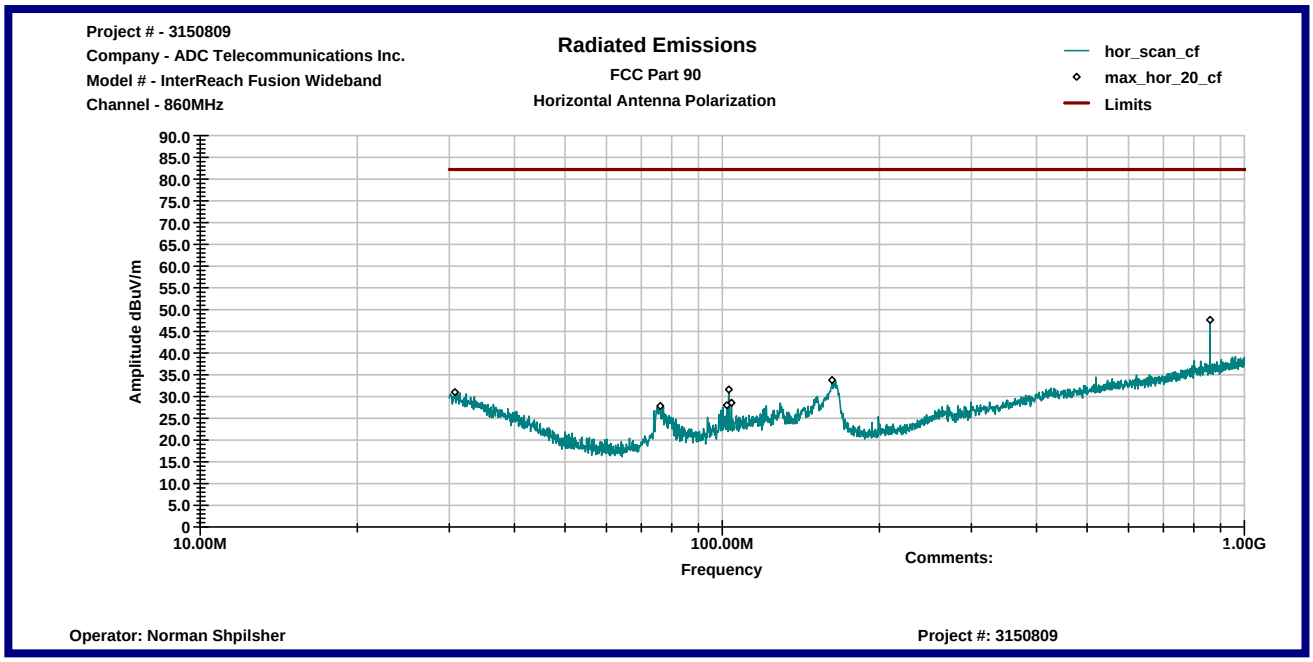
Company: ADC Telecommunications Inc.
Model: InterReach Fusion Wideband
Test Engineer: Norman Shpilsher
Special Info: Tx Mode, 860MHz
Standard: FCC Part 90
Test Site: 3m Anechoic Chamber, 3m measurement distance
Note: The table shows the worst case radiated emissions
Measurements were taken using a Peak detector

Table # 1

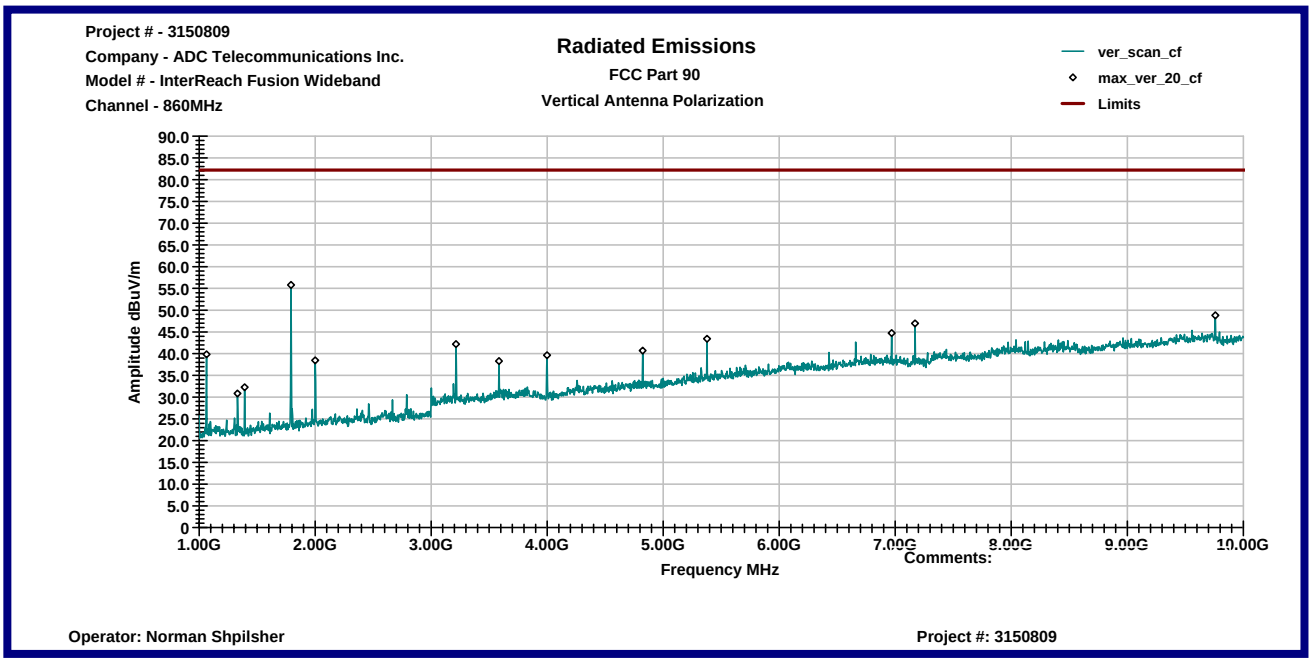
Frequency MHz	Antenna Polarity	Reading dBµV	Total C.F. dB1/m	Pre-Amp. Gain (dB)	Total at 3m dBµV/m	Limit dBµV/m	Margin dB
55.282 MHz	V	24.8	8.5	0.0	33.4	82.2	-48.9
78.511 MHz	V	27.6	8.8	0.0	36.4	82.2	-45.8
102.98 MHz	V	22.2	12.3	0.0	34.5	82.2	-47.7
859.95 MHz	V	20.9	24.2	0.0	45.0	82.2	-37.2
30.762 MHz	H	10.9	20.1	0.0	31.0	82.2	-51.2
162.4 MHz	H	21.8	12.0	0.0	33.8	82.2	-48.4
859.95 MHz	H	23.5	24.2	0.0	47.6	82.2	-34.6
1.792 GHz	V	64.3	30.4	38.9	55.8	82.2	-26.5
2.0008 GHz	V	45.6	31.4	38.6	38.4	82.2	-43.8
5.3776 GHz	V	39.9	40.8	37.4	43.4	82.2	-38.8
6.9688 GHz	V	38.7	43.1	37.1	44.7	82.2	-37.5
7.1704 GHz	V	40.4	43.5	37.0	46.9	82.2	-35.3
9.7588 GHz	V	36.9	46.6	34.8	48.8	82.2	-33.4
1.792 GHz	H	66.8	30.4	38.9	58.2	82.2	-24.0
3.214 GHz	H	45.1	34.6	37.8	41.9	82.2	-40.3
6.9688 GHz	H	37.9	43.1	37.1	43.9	82.2	-38.3
9.7588 GHz	H	35.8	46.6	34.8	47.6	82.2	-34.6



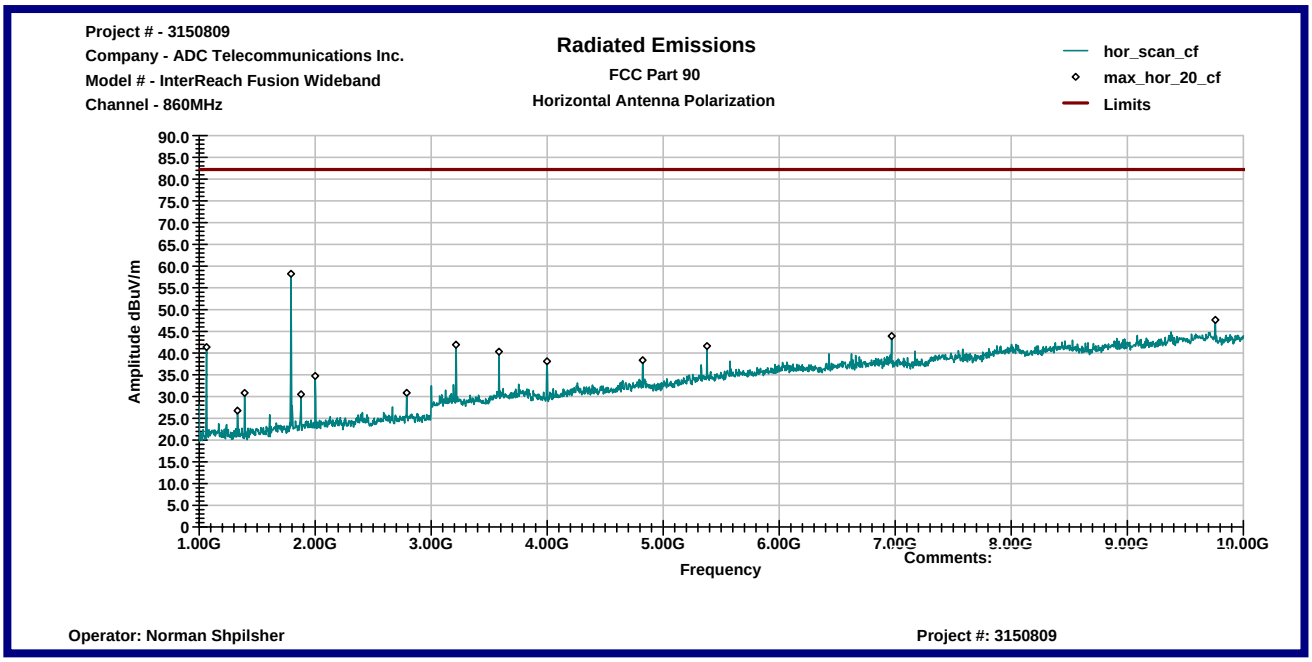
Graph 1



Graph 2



Graph 3



Graph 4

3.2 Spurious Radiated Emissions, Rx Mode

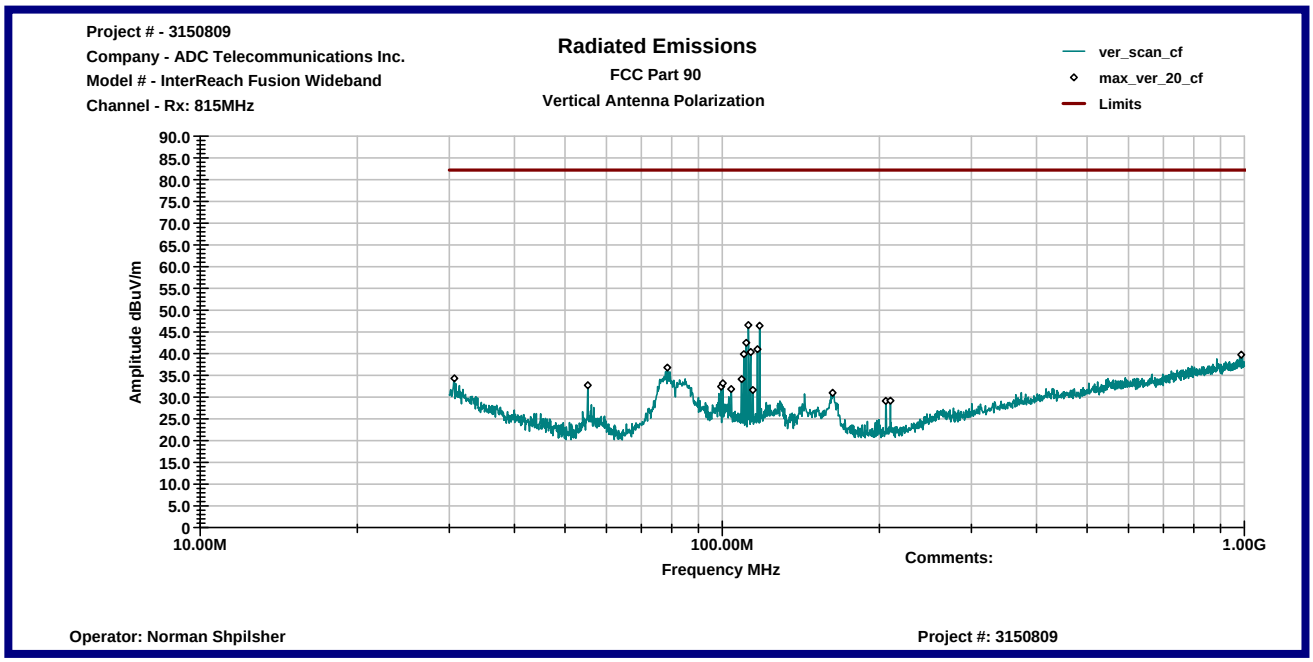
No emissions were chosen for substitution measurements as the maximum emissions is more than 20dB below the reference limit

Radiated Emissions from 30MHz to 10GHz **Date:** 05-09-2008

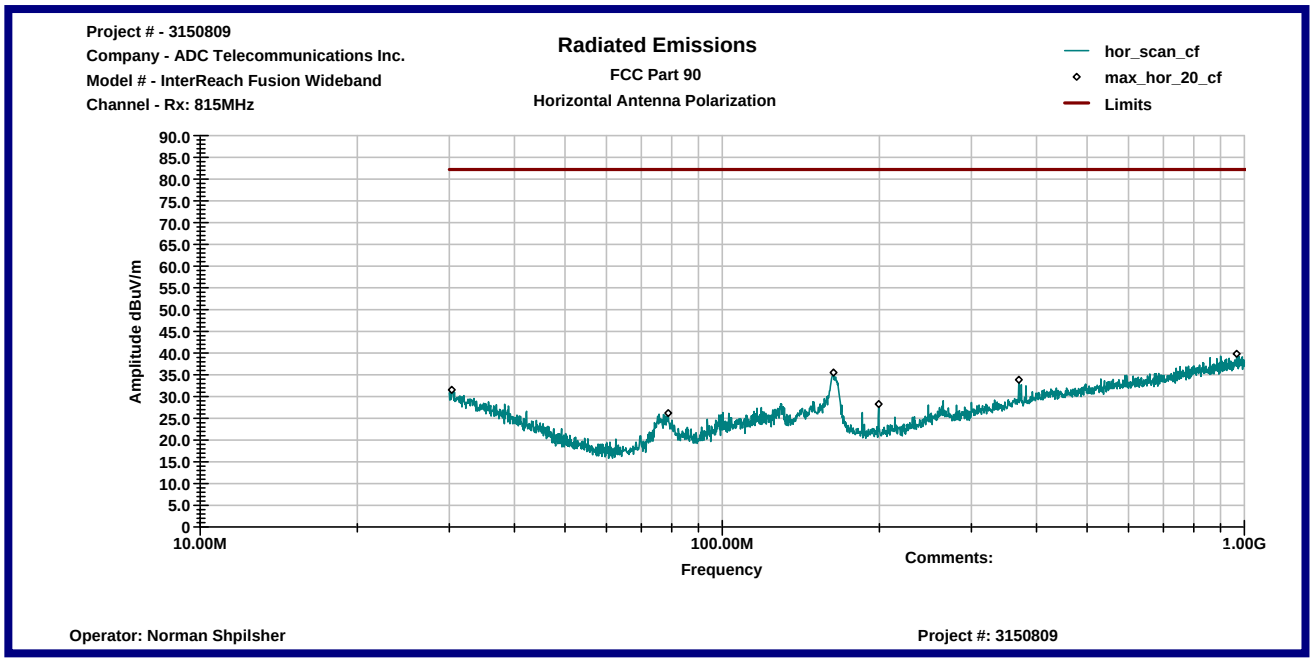
Company: ADC Telecommunications Inc.
Model: InterReach Fusion Wideband
Test Engineer: Norman Shpilsher
Special Info: Rx Mode, 815MHz
Standard: FCC Part 90
Test Site: 3m Anechoic Chamber, 3m measurement distance
Note: The table shows the worst case radiated emissions
Measurements were taken using a Peak detector

Table # 2

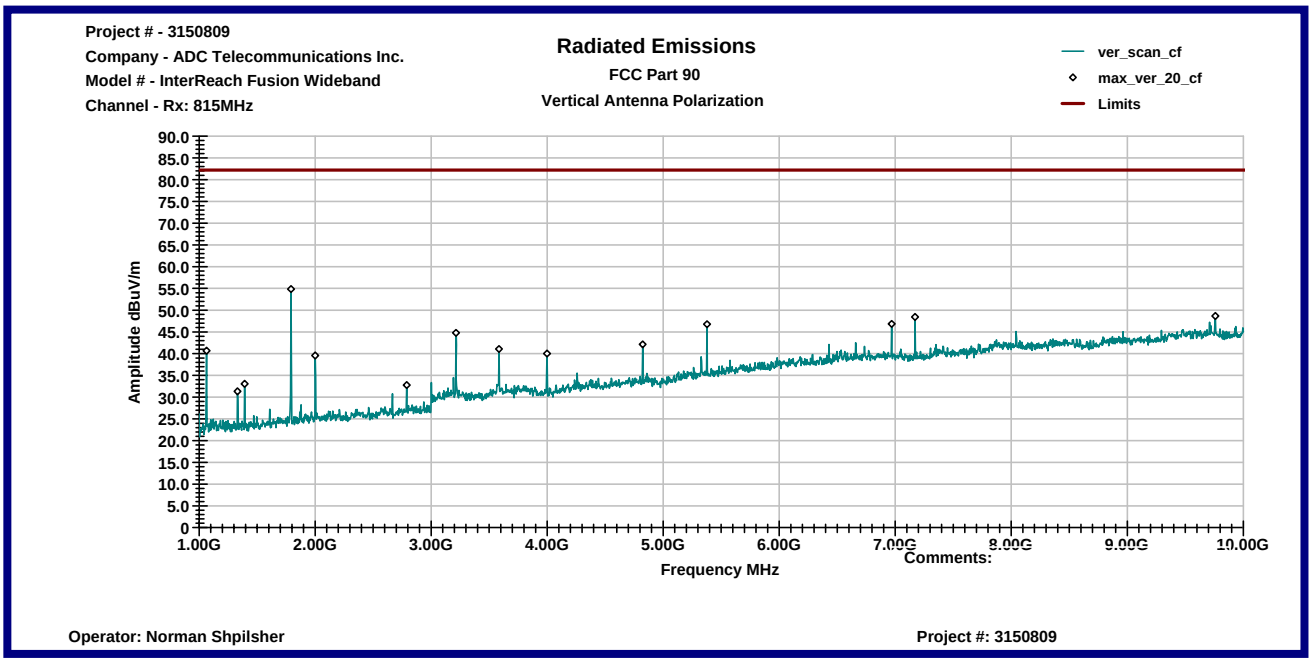
Frequency MHz	Antenna Polarity	Reading dBµV	Total C.F. dB1/m	Pre-Amp. Gain (dB)	Total at 3m dBµV/m	Limit dBµV/m	Margin dB
111.19 MHz	V	29.3	13.2	0.0	42.5	82.2	-39.7
112.24 MHz	V	33.2	13.3	0.0	46.5	82.2	-35.7
113.43 MHz	V	26.9	13.4	0.0	40.3	82.2	-41.9
116.86 MHz	V	27.3	13.7	0.0	41.0	82.2	-41.2
117.91 MHz	V	32.6	13.8	0.0	46.4	82.2	-35.8
986.56 MHz	V	14.0	25.8	0.0	39.7	82.2	-42.5
163.36 MHz	H	23.6	11.9	0.0	35.5	82.2	-46.7
369.96 MHz	H	16.1	17.8	0.0	33.9	82.2	-48.4
966.76 MHz	H	14.3	25.5	0.0	39.8	82.2	-42.4
1.792 GHz	V	63.4	30.4	38.9	54.8	82.2	-27.4
3.214 GHz	V	48.0	34.6	37.8	44.8	82.2	-37.5
5.3776 GHz	V	43.3	40.8	37.4	46.7	82.2	-35.5
6.9688 GHz	V	40.9	43.1	37.1	46.8	82.2	-35.4
7.1704 GHz	V	41.9	43.5	37.0	48.4	82.2	-33.8
9.7588 GHz	V	36.8	46.6	34.8	48.6	82.2	-33.6
1.792 GHz	H	65.0	30.4	38.9	56.5	82.2	-25.8
2.0008 GHz	H	42.7	31.4	38.6	35.5	82.2	-46.7
3.214 GHz	H	48.4	34.6	37.8	45.2	82.2	-37.0
3.5848 GHz	H	43.3	35.7	37.6	41.4	82.2	-40.8
5.3776 GHz	H	41.1	40.8	37.4	44.5	82.2	-37.7
6.9688 GHz	H	38.2	43.1	37.1	44.1	82.2	-38.1
9.7588 GHz	H	36.0	46.6	34.8	47.8	82.2	-34.4



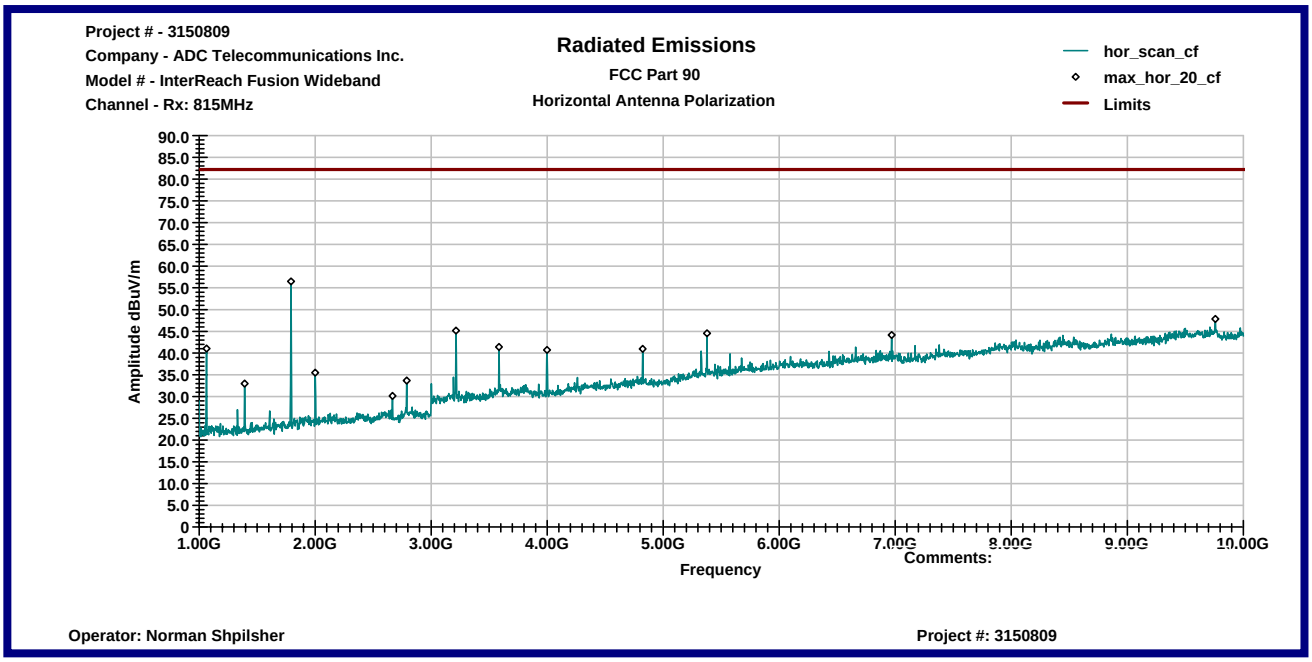
Graph 5



Graph 6



Graph 7



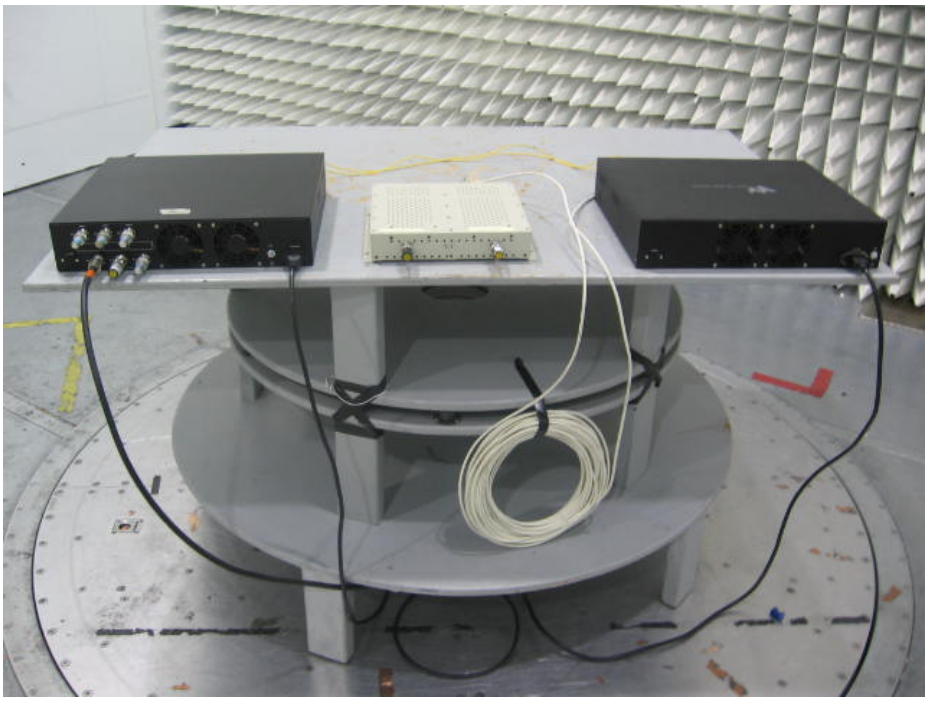
Graph 8

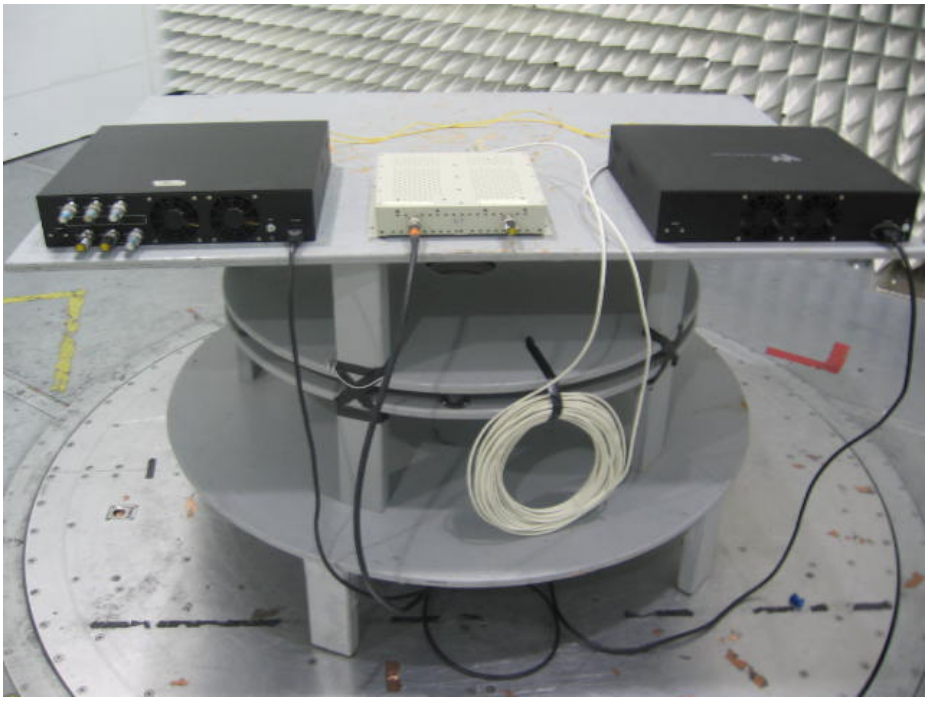
3.3 Environmental conditions

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 PHOTOS





5.0 TEST EQUIPMENT

DESCRIPTION	MANUFACTURER	MODEL	SERIAL NO.	CAL DUE	USED
Receiver RF Section	HP	85462A	3325A00106	03/03/2009	☐
RF Filter Section	HP	85460A	3330A00109	03/03/2009	☐
Spectrum Analyzer	R & S	FSP 40	100024	08/23/2008	☒
Spectrum Analyzer	Agilent	E7402A	MY44212200	29/10/2008	☐
Bicono-Log Antenna	Schaffner-Chase	CBL 6112 B	2468	07/30/2008	☒
Bicono-Log Antenna	Schaffner-Chase	CBL 6112 B	2630	09/07/2008	☐
Horn Antenna	EMCO	3115	9507-4513	02/13/2009	☒
Horn Antenna	EMCO	3115	6579	03/20/2009	☐
Waveguide Horn Antenna	EMCO	3116	9904-2423	07/20/2008	☐
LISN	Fischer Custom Communications	FCC-LISN-2	316	09/24/2008	☐
LISN	Fischer Custom Communications	FCC-LISN-50-25-2	2014	10/22/2008	☐
Pre-Amplifier	MITEQ	AMF-5D-00501800-28-13P	1122951	04/28/2009	☒
Pre-Amplifier	MITEQ	AMF-6F-16002600-25-10P	1222383	01/17/2009	☐
Pre-Amplifier	MITEQ	AMF-6F-26004000-40-8P	13224444	11/05/2008	☐
System	TILE! Instrument Control		Ver. 3.4.K.29	VBU	☒