



TEST DATA

Test Data Number: 3163128MIN-001

Project Number: 3163128

Testing performed on the
FlexWave Prism-AWS

To
47 CFR, Part 27

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: Uri Spector
Uri Spector

Date: November 13, 2008

Reviewed by: Norman Shpilsher
Norman Shpilsher

Date: November 13, 2008



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1.0 DESCRIPTION OF THE SAMPLE (EUT)

Model:	FlexWave Prism-AWS
Type of EUT:	Outdoor 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 27:2007 ☐ 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 27	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 EUT tuned to the low frequency (2110MHz), middle frequency (2132.5MHz), and upper frequency (2155MHz) of the operating band.

Testing was performed in frequency range from 30MHz to 22GHz. EUT tuned frequencies 2110MHz, 2132.5MHz, and 2155MHz were excluded from the table.

2. The Spurious Radiated Power limits of -13dBm was correlated with field strength reference level of 82.2dB μ 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 18 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.

Radiated Emissions from 30MHz to 1GHz

Date: 11/12-13/2008

Company: ADC Telecommunications Inc.
Model: FlexWave Prism-AWS
Test Engineer: Uri Spector
Standard: FCC Part 27
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
Operating Frequency 2110MHz						
31.86 MHz	V	19.1	19.6	38.7	82.2	-43.5
60.617 MHz	V	30.3	8.0	38.3	82.2	-43.9
249.96 MHz	V	19.5	14.4	33.9	82.2	-48.3
425.28 MHz	V	20.6	19.5	40.2	82.2	-42.0
750.23 MHz	V	19.7	23.1	42.8	82.2	-39.4
30.14 MHz	H	14.4	20.5	34.9	82.2	-47.3
214.97 MHz	H	22.8	11.5	34.3	82.2	-47.9
437.57 MHz	H	27.7	19.4	47.1	82.2	-35.1
499.94 MHz	H	19.8	20.2	40.0	82.2	-42.2
625.08 MHz	H	19.1	21.9	41.0	82.2	-41.3
Operating Frequency 2132.5MHz						
31.509 MHz	V	19.4	19.7	39.2	82.2	-43.0
63.009 MHz	V	31.0	7.9	38.9	82.2	-43.3
118.29 MHz	V	21.7	13.8	35.4	82.2	-46.8
437.57 MHz	V	21.3	19.4	40.7	82.2	-41.5
750.23 MHz	V	20.1	23.1	43.2	82.2	-39.0
172.24 MHz	H	23.7	11.4	35.1	82.2	-47.1
399.31 MHz	H	23.1	18.5	41.5	82.2	-40.7
450.2 MHz	H	21.6	19.3	40.9	82.2	-41.3
625.08 MHz	H	19.0	21.9	40.9	82.2	-41.4
Operating Frequency 2155MHz						
31.755 MHz	V	17.5	19.6	37.1	82.2	-45.1
118.73 MHz	V	24.0	13.8	37.8	82.2	-44.4
185.79 MHz	V	25.3	10.8	36.1	82.2	-46.1
437.57 MHz	V	21.2	19.4	40.6	82.2	-41.6
32.632 MHz	H	26.3	19.2	45.5	82.2	-36.7
167.77 MHz	H	20.5	11.7	32.1	82.2	-50.1
399.31 MHz	H	24.8	18.5	43.3	82.2	-38.9
437.57 MHz	H	28.4	19.4	47.8	82.2	-34.4
499.94 MHz	H	19.1	20.2	39.3	82.2	-42.9

Radiated Emissions from 1GHz to 22GHz

Date: 11/12-13/2008

Company: ADC Telecommunications Inc.
Model: FlexWave Prosm AWS
Test Engineer: Uri Spector
Standard: FCC Part 27
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 dBμV	Total C.F. dB1/m	Pre-Amp. Gain (dB)	Total at 3m dBμV/m	QP Limit dBμV/m	Margin dB
Operating Frequency 2110 MHz							
1.2465 GHz	V	60.2	27.4	41.2	46.4	82.2	-35.8
1.6545 GHz	V	52.1	29.3	40.8	40.6	82.2	-41.6
4.2215 GHz	V	64.0	37.8	40.0	61.8	82.2	-20.4
4.4 GHz	V	49.3	38.3	39.9	47.7	82.2	-34.5
6.3295 GHz	V	45.4	41.8	40.2	47.0	82.2	-35.2
1.2465 GHz	H	58.8	27.4	41.2	45.1	82.2	-37.1
1.4675 GHz	H	60.0	28.4	41.1	47.3	82.2	-34.9
1.8415 GHz	H	58.3	30.3	40.5	48.1	82.2	-34.1
2.751 GHz	H	49.9	33.4	39.9	43.4	82.2	-38.8
4.2215 GHz	H	55.1	37.8	40.0	52.9	82.2	-29.3
4.4 GHz	H	45.2	38.3	39.9	43.6	82.2	-38.6
Operating Frequency 2132.5 MHz							
3.278 GHz	V	53.9	35.0	40.2	48.7	82.2	-33.5
5.3775 GHz	V	50.3	40.9	39.7	51.5	82.2	-30.7
7.171 GHz	V	43.5	43.4	40.1	46.8	82.2	-35.4
8.038 GHz	V	41.9	45.0	39.3	47.6	82.2	-34.6
1.2465 GHz	H	60.4	27.4	41.2	46.7	82.2	-35.5
1.8415 GHz	H	51.6	30.3	40.5	41.3	82.2	-40.9
4.2725 GHz	H	63.1	37.9	40.0	61.0	82.2	-21.2
4.4 GHz	H	48.0	38.3	39.9	46.4	82.2	-35.8
6.3975 GHz	H	44.4	41.9	40.2	46.1	82.2	-36.1
Operating Frequency 2155 MHz							
1.3825 GHz	V	52.6	28.1	41.1	39.5	82.2	-42.7
1.8415 GHz	V	52.9	30.3	40.5	42.6	82.2	-39.6
2.6745 GHz	V	47.4	33.2	39.9	40.8	82.2	-41.5
4.315 GHz	V	56.7	38.1	40.0	54.9	82.2	-27.4
4.417 GHz	V	53.3	38.4	39.9	51.8	82.2	-30.4
1.2465 GHz	H	58.7	27.4	41.2	45.0	82.2	-37.2
1.8415 GHz	H	59.2	30.3	40.5	48.9	82.2	-33.3
2.751 GHz	H	49.3	33.4	39.9	42.8	82.2	-39.4
4.315 GHz	H	47.8	38.1	40.0	45.9	82.2	-36.3
4.417 GHz	H	49.0	38.4	39.9	47.4	82.2	-34.8

Project # - 3163128

Company - ADC Telecommunications

Model # - FlexWave Prism-AWS

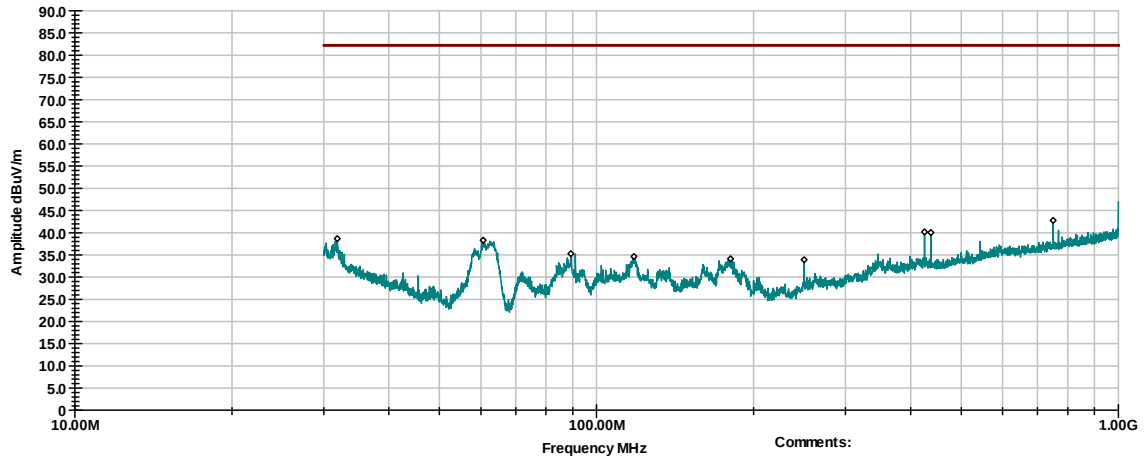
Channel: - 2110MHz

Radiated Emissions

FCC Part 27

Vertical Antenna Polarization

— ver_scan_cf
 ◇ max_ver_20_cf
 — Class B Limit at 3m



Operator: UriSpector

Project #: 3163128

Graph 1

Project # - 3163128

Company - ADC Telecommunications

Model # - FlexWave Prism-AWS

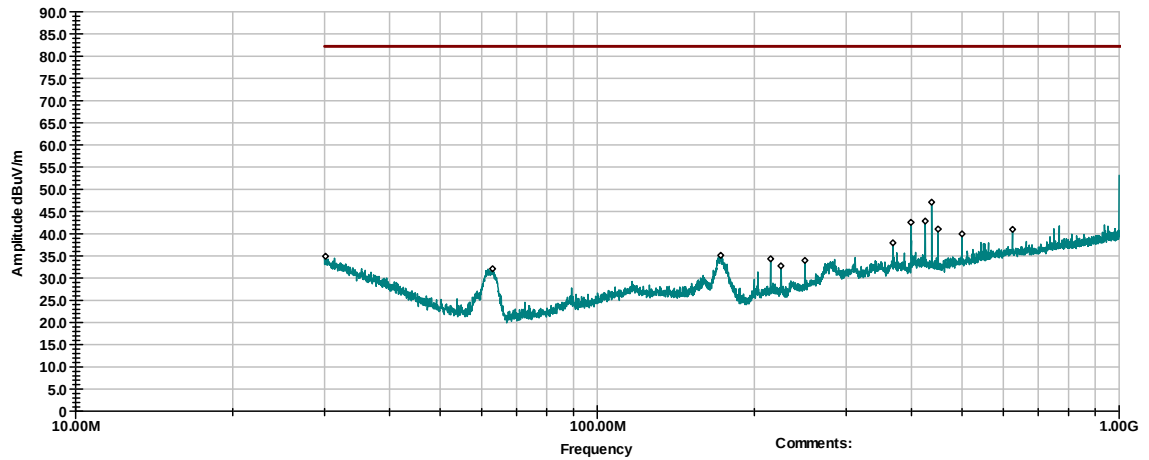
Channel: - 2110MHz

Radiated Emissions

FCC Part 27

Horizontal Antenna Polarization

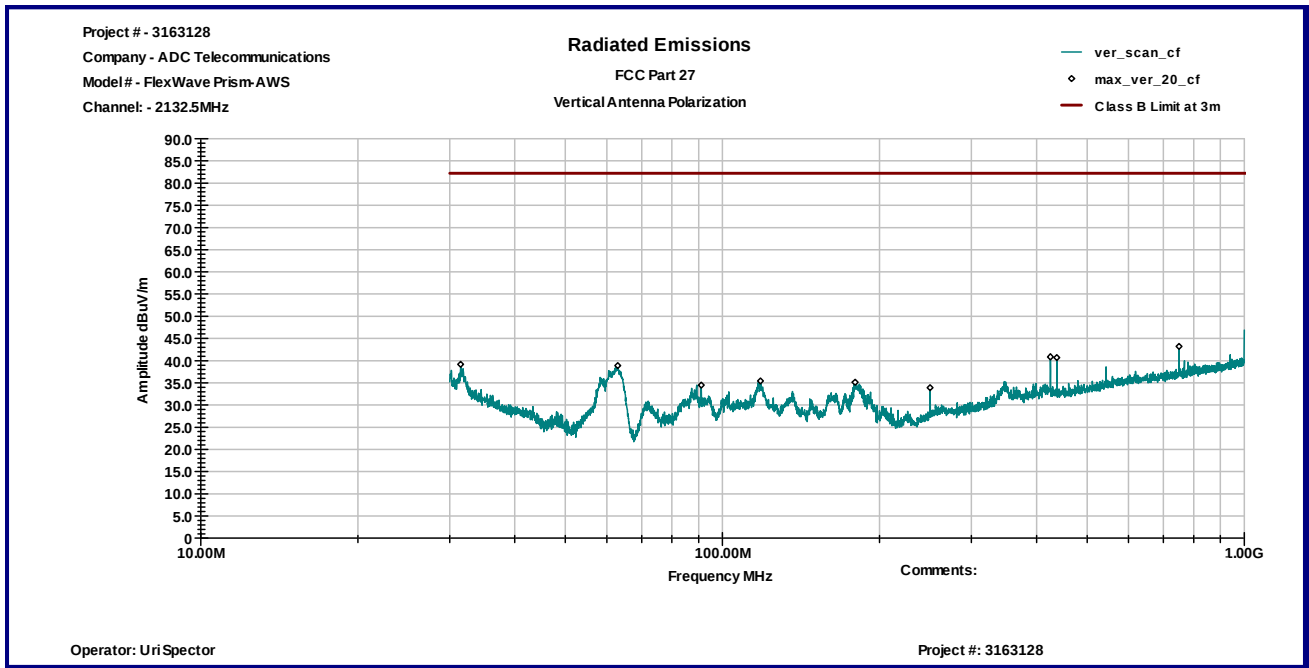
— hor_scan_cf
 ◇ max_hor_20_cf
 — Class B Limit at 3m



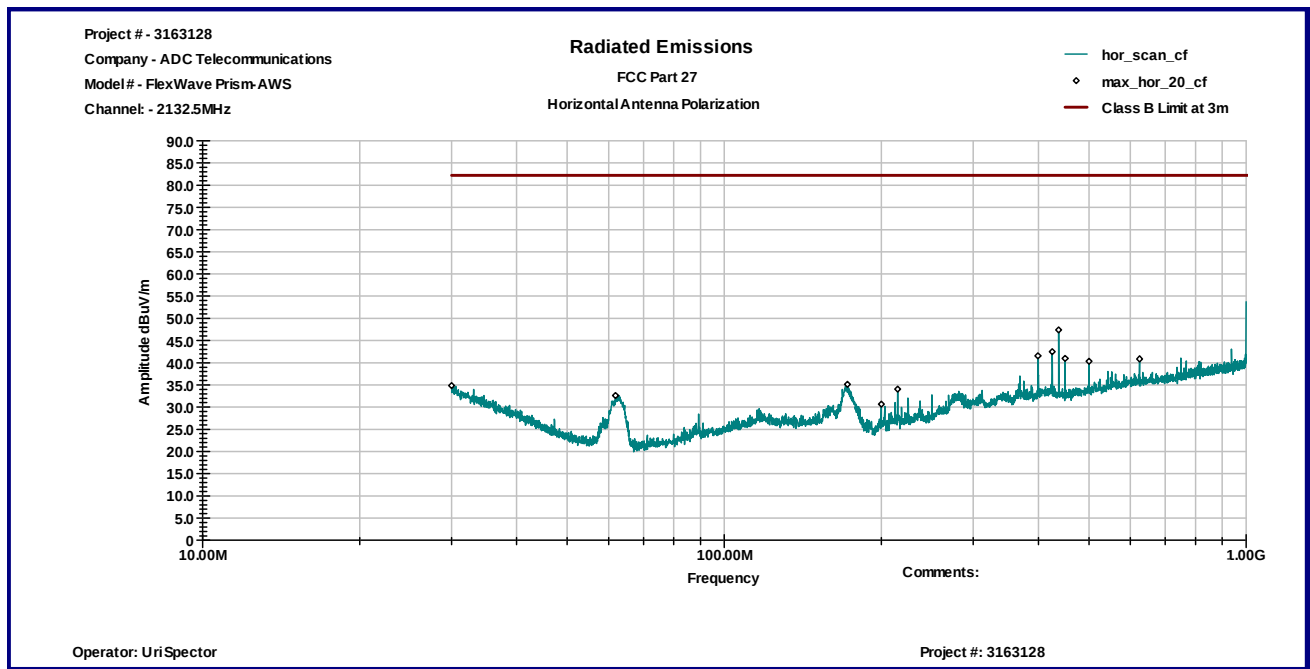
Operator: UriSpector

Project #: 3163128

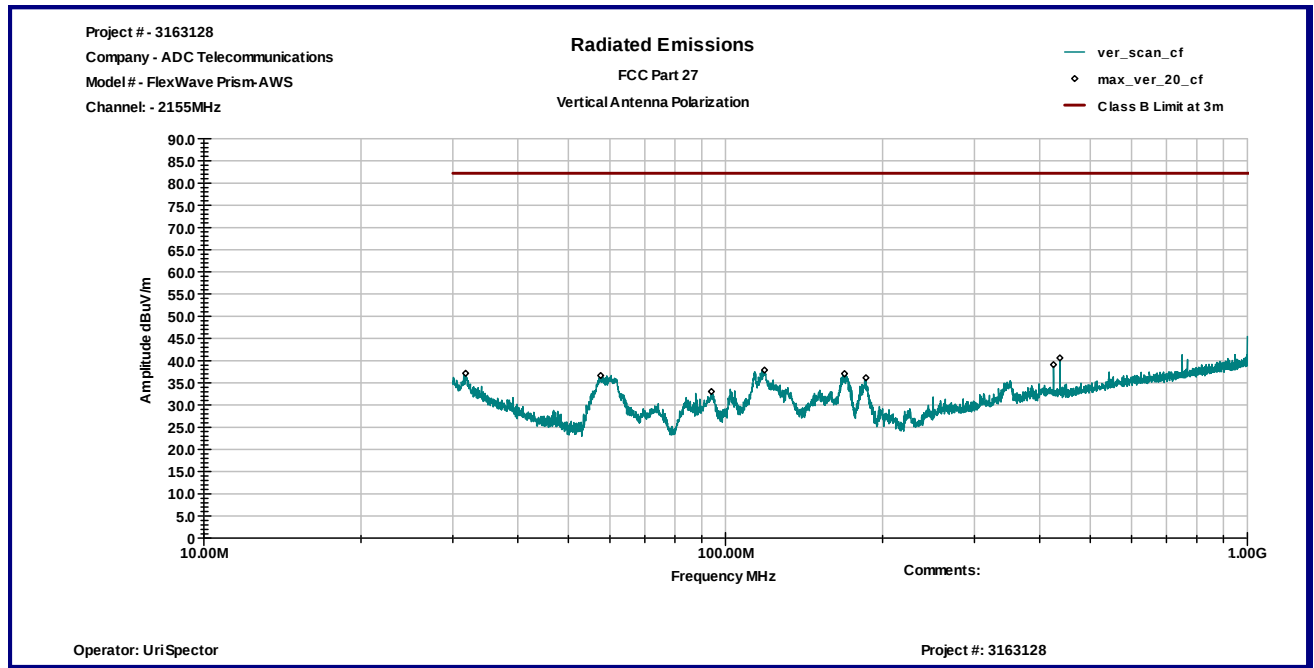
Graph 2



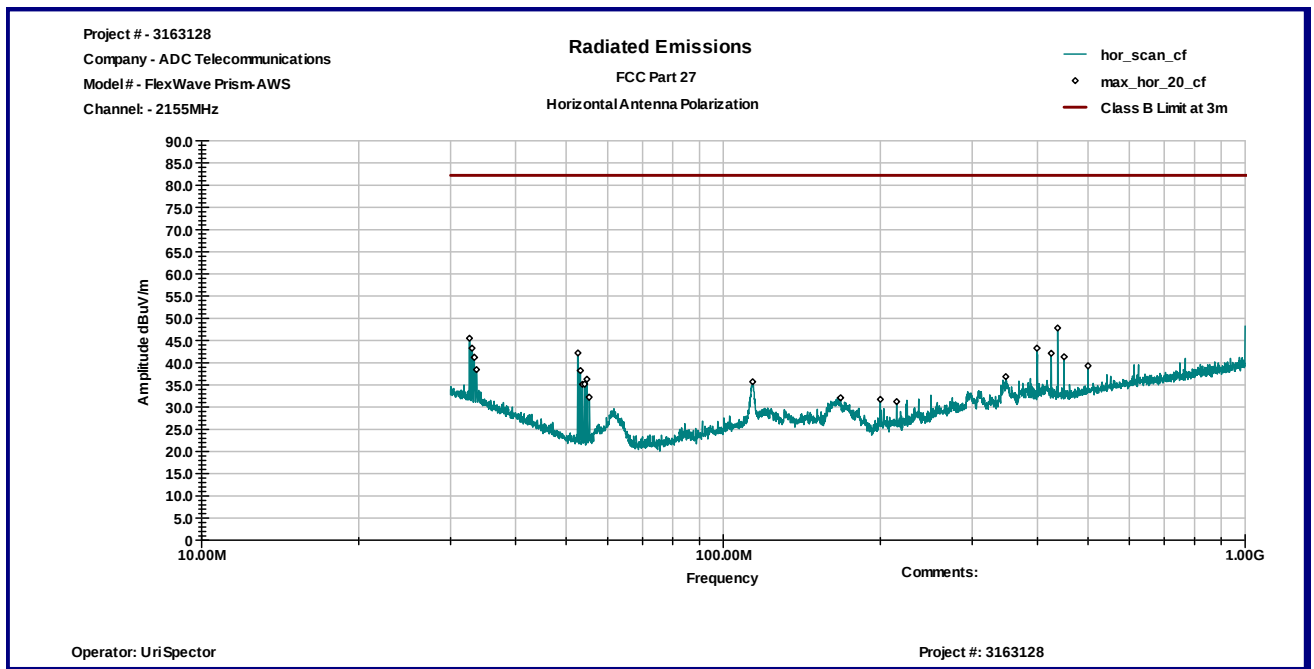
Graph 3



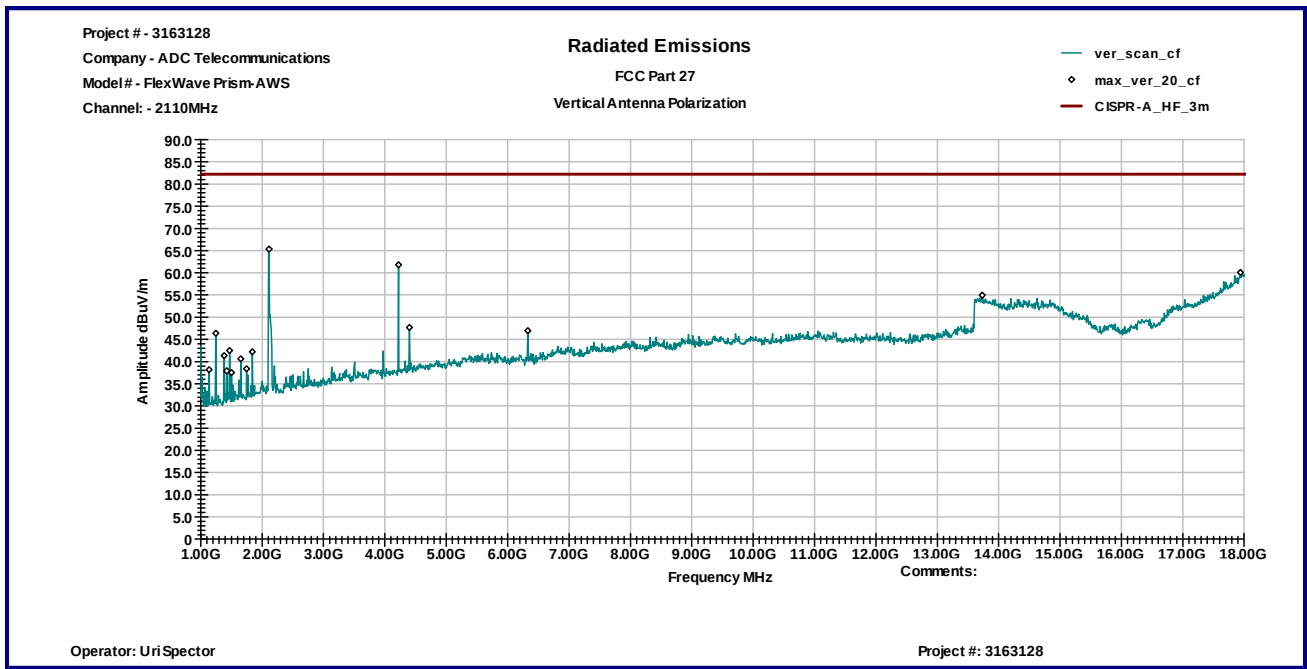
Graph 4



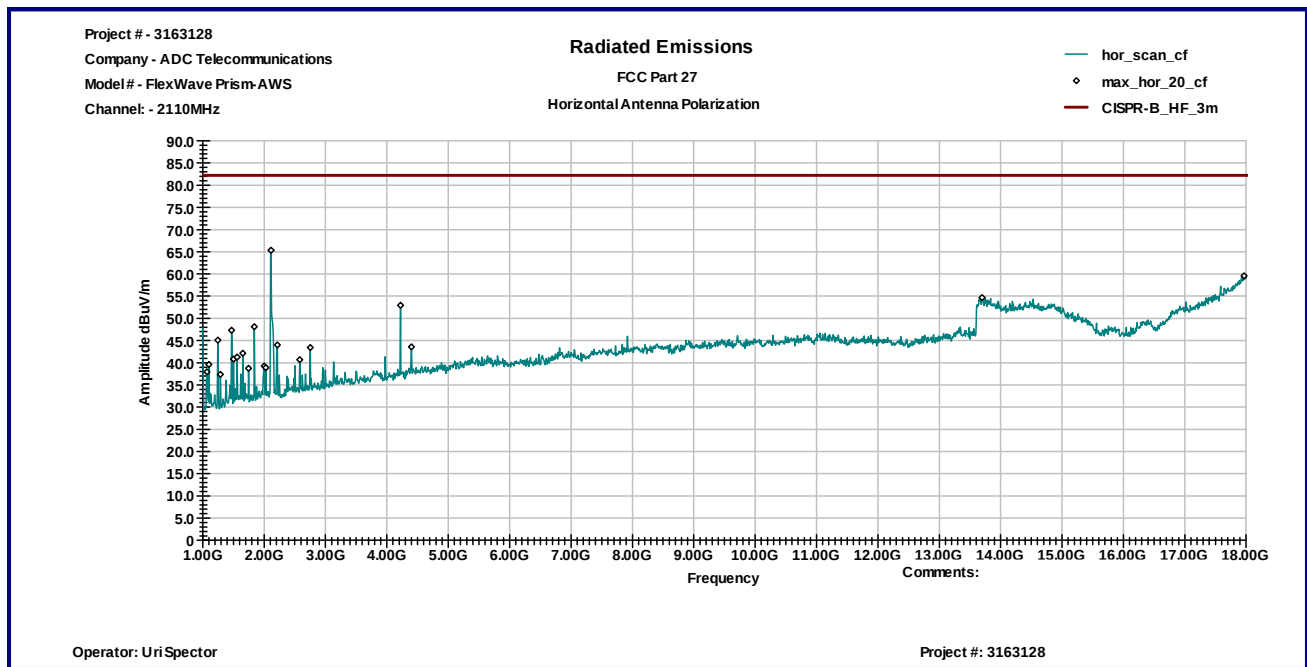
Graph 5



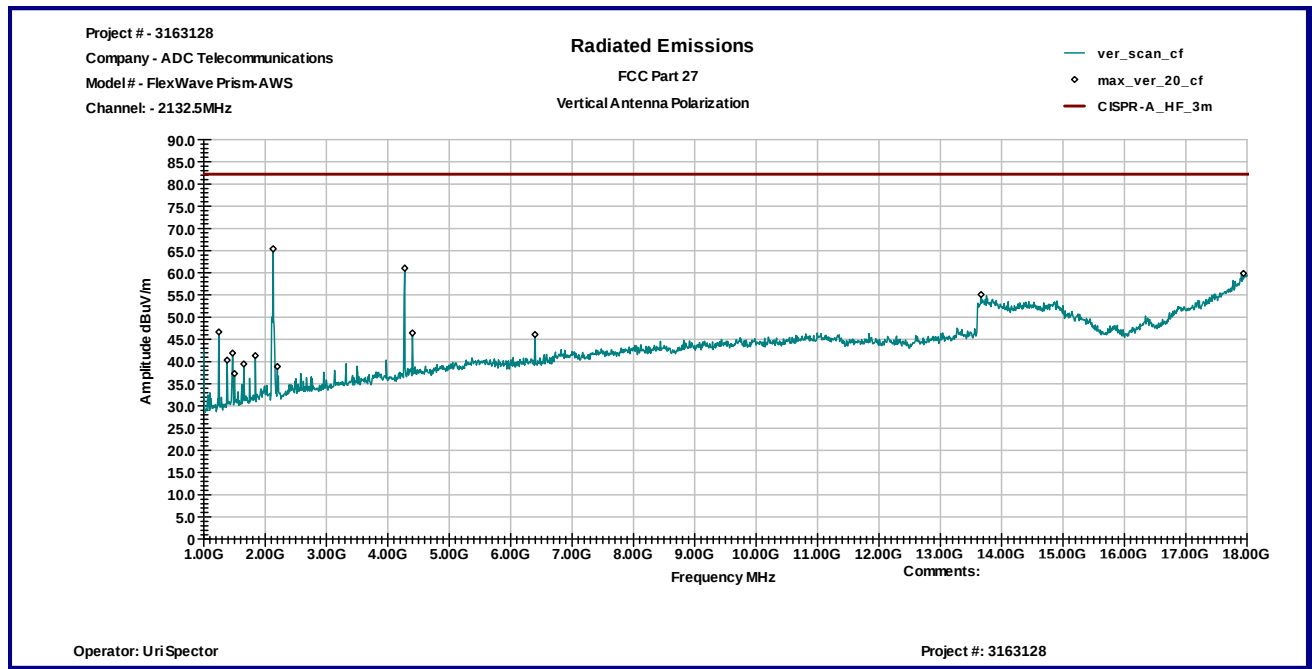
Graph 6



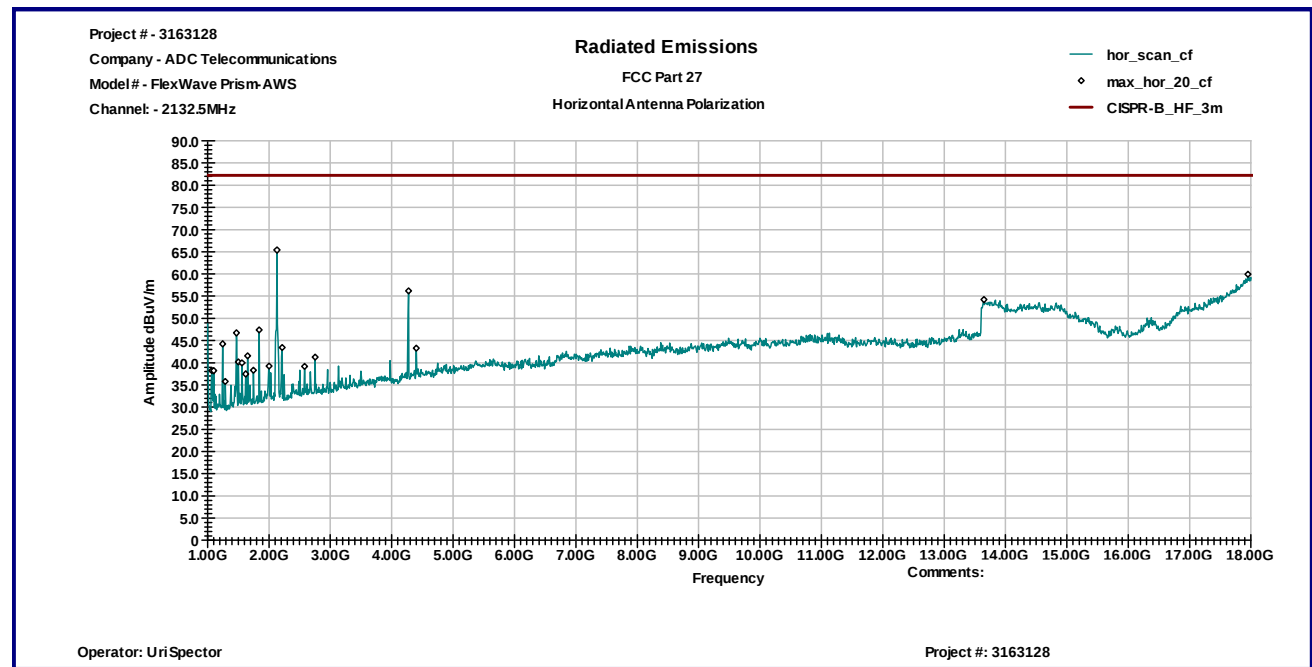
Graph 7



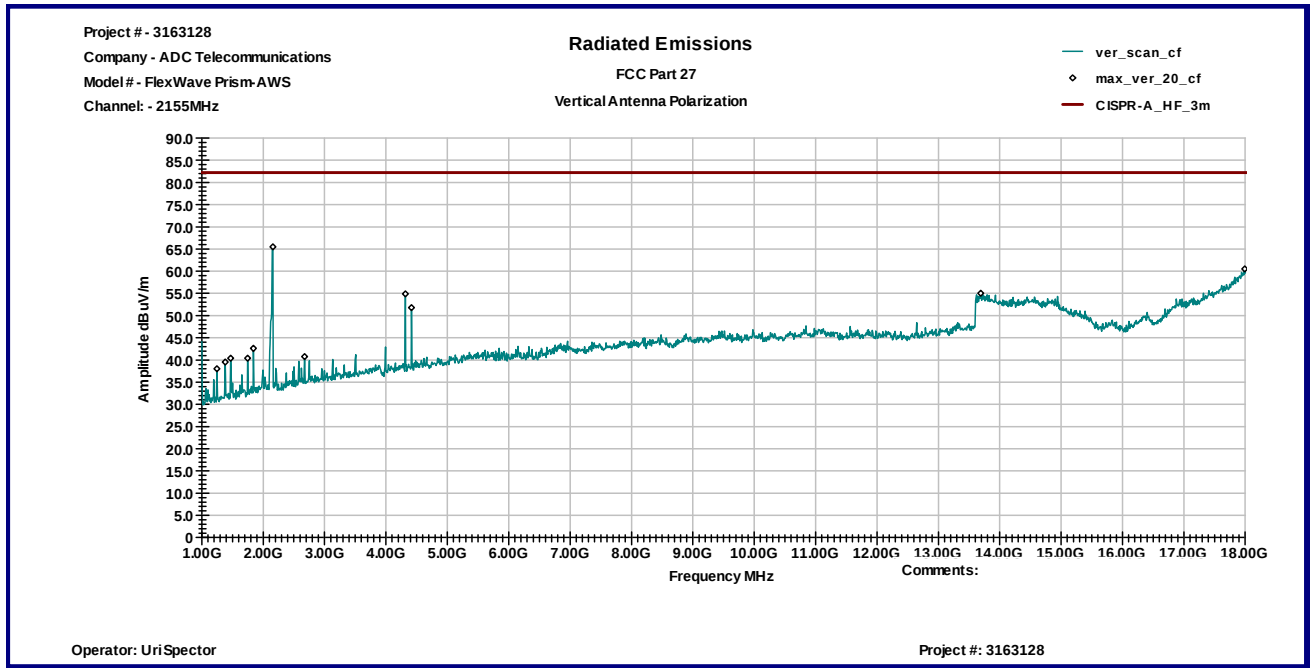
Graph 8



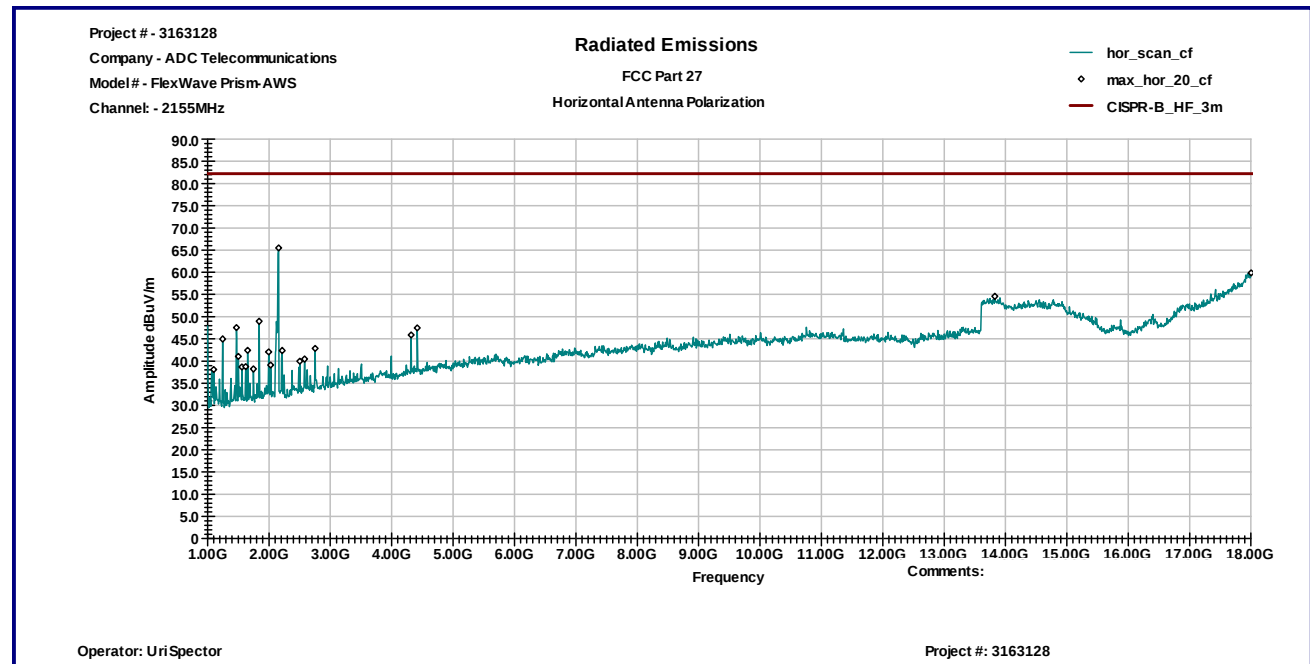
Graph 9



Graph 10



Graph 11



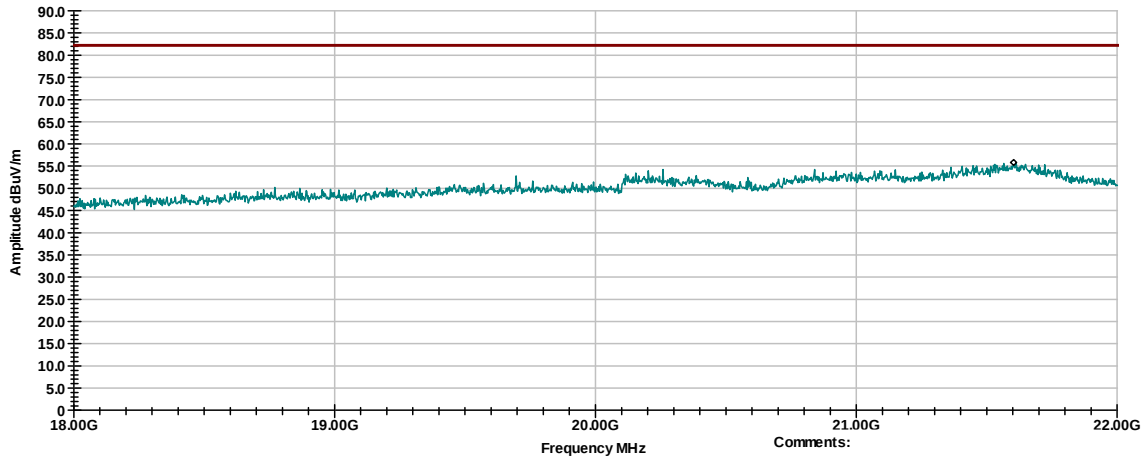
Graph 12

Project # - 3163128
Company - ADC Telecommunications
Model # - FlexWave Prism-AWS
Channel# - 2110MHz

Radiated Emissions

FCC Part 27
Vertical Antenna Polarization

ver_scan_cf
max_ver_20_cf
FCC_A_3m



Operator: Richard Blonigen

Project #: 3163128

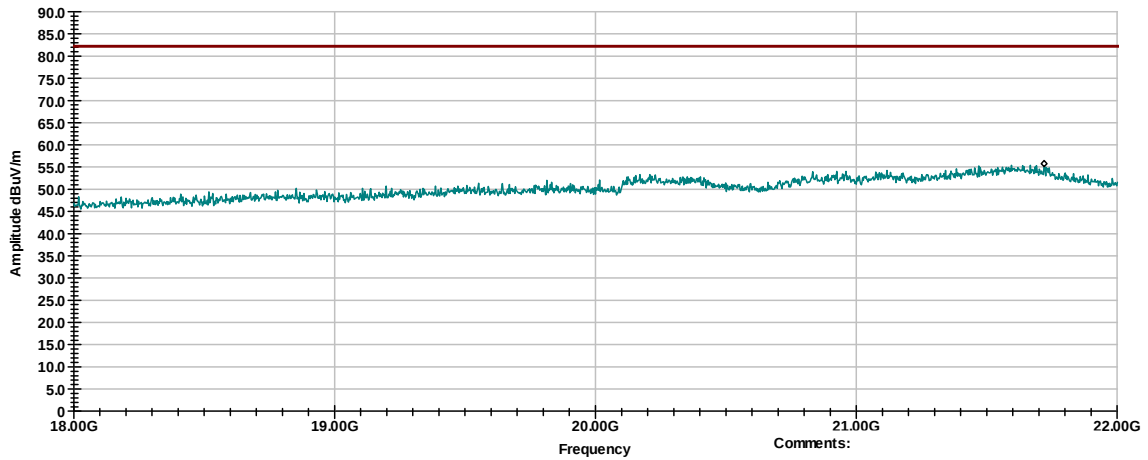
Graph 13

Project # - 3163128
Company - ADC Telecommunications
Model # - FlexWave Prism-AWS
Channel# - 2110MHz

Radiated Emissions

FCC Part 27
Horizontal Antenna Polarization

hor_scan_cf
max_hor_20_cf
FCC_A_3m



Operator: Richard Blonigen

Project #: 3163128

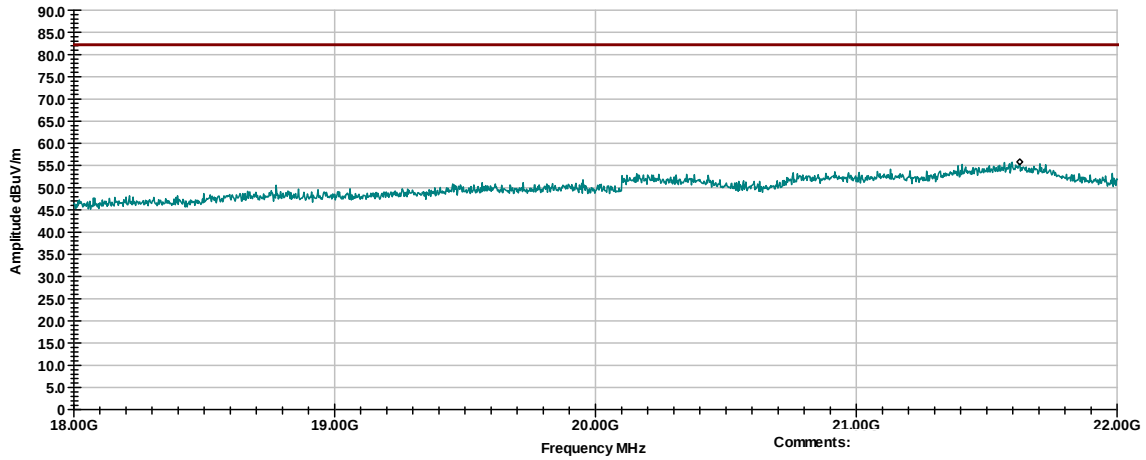
Graph 14

Project # - 3163128
Company - ADC Telecommunications
Model # - FlexWave Prism-AWS
Channel# - 2132.5MHz

Radiated Emissions

FCC Part 27
Vertical Antenna Polarization

ver_scan_cf
max_ver_20_cf
FCC_A_3m



Operator: Richard Blonigen

Project #: 3163128

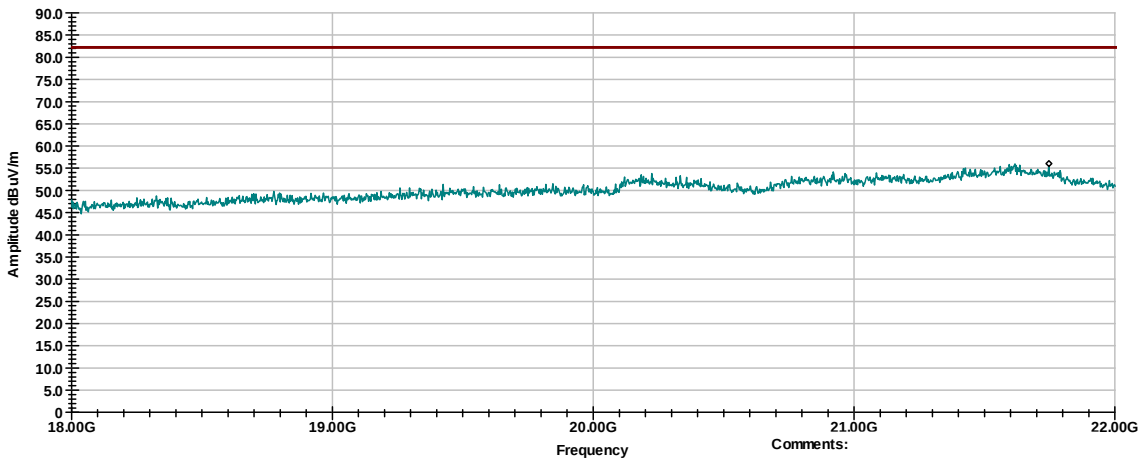
Graph 15

Project # - 3163128
Company - ADC Telecommunications
Model # - FlexWave Prism-AWS
Channel# - 2132.5MHz

Radiated Emissions

FCC Part 27
Horizontal Antenna Polarization

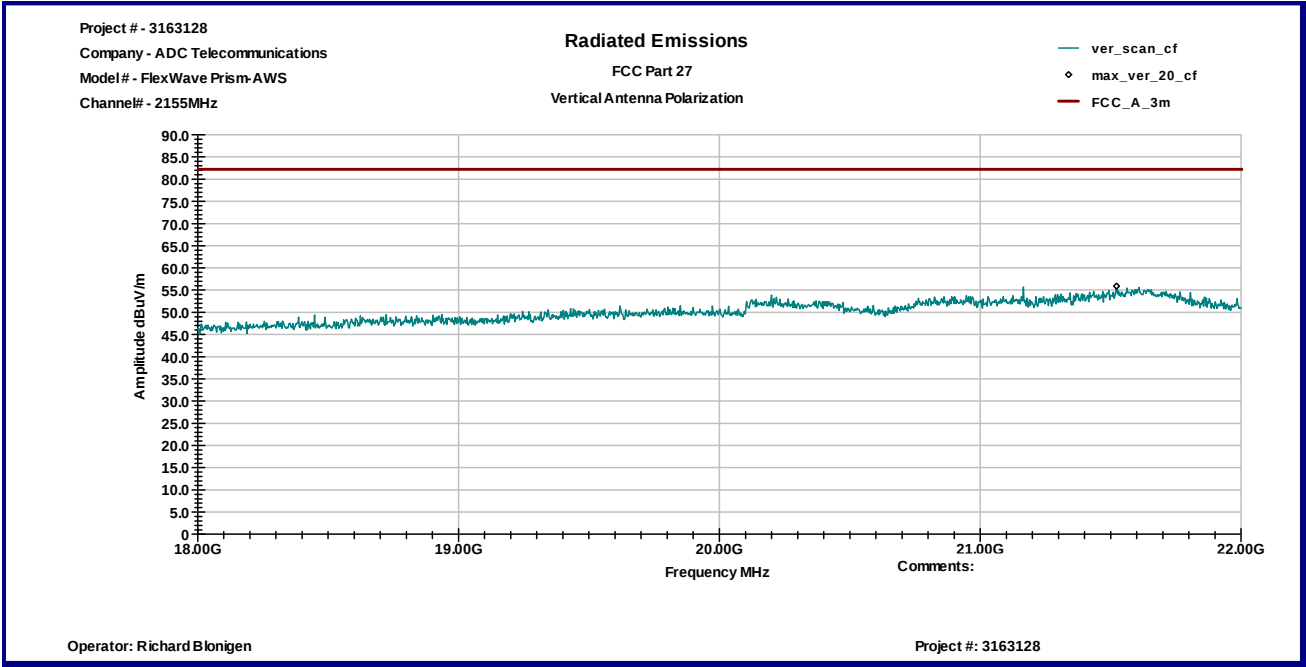
hor_scan_cf
max_hor_20_cf
FCC_A_3m



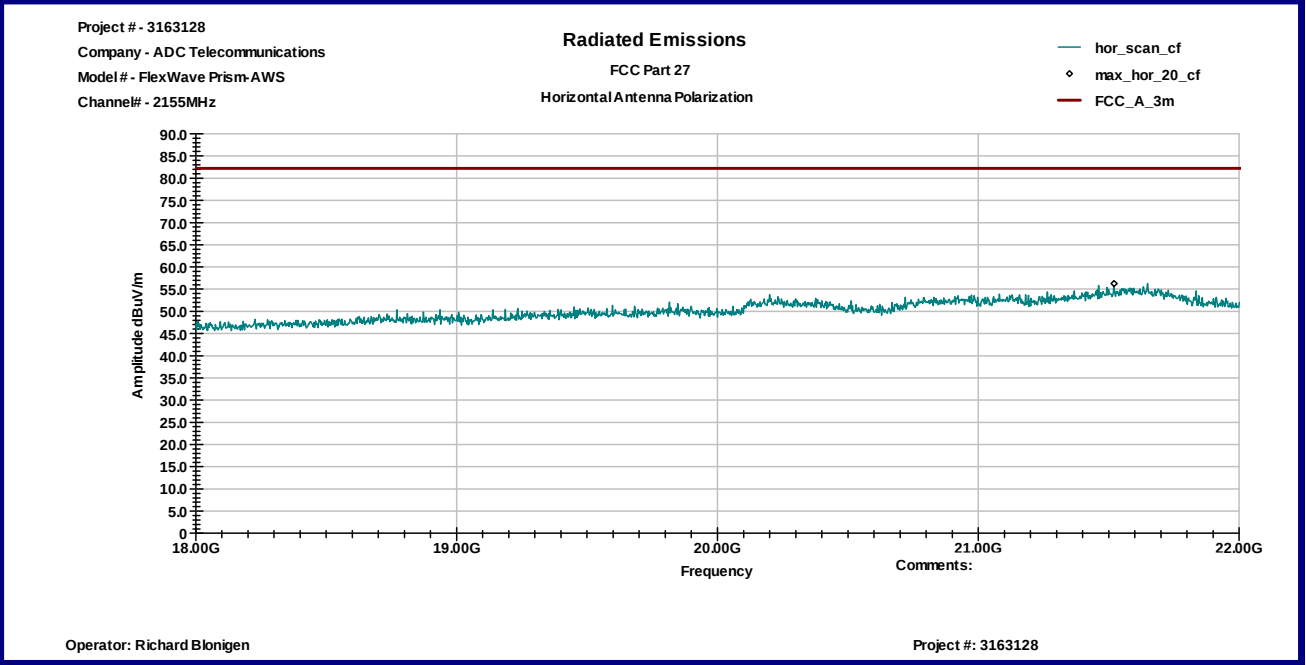
Operator: Richard Blonigen

Project #: 3163128

Graph 16



Graph 17



Graph 18

3.2 Environmental conditions

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

Temperature:	<u>15-35 °C</u>
Humidity:	<u>30-60 %</u>
Atmospheric pressure:	<u>86-106 kPa</u>

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	☒
Spectrum Analyzer	R & S	ESCI	100358	05/07/2009	☒
Bicono-Log Antenna	Schaffner-Chase	CBL 6112 B	2630	09/26/2009	☒
Horn Antenna	EMCO	3115	9507-4513	02/13/2009	☒
Waveguide Horn Antenna	EMCO	3116	9904-2423	07/20/2009	☒
Pre-Amplifier	MITEQ	AMF-5D-00501800-28-13P	1122951	04/28/2009	☒
Pre-Amplifier	MITEQ	AMF-6F-16002600-25-10P	1222383	01/17/2009	☒
System	TILE! Instrument Control		Ver. 3.4.K.29	VBU	☒

