



PATTERN CERTIFICATION

TABLE OF CONTENTS

Narrative Pattern Certification

FM Azimuth Pattern Approval

Azimuth Patterns of Vertically Polarized Plane

Tabulation of Measured Vertically Polarized Plane

Gain Summary

Rectangular Plot of Vertical Plane Pattern

Sketch of Scale Model Test



PATTERN CERTIFICATION

Method of Measurement

The azimuth pattern for "WCNV", Dielectric Document Sketch #P11, was measured in the following manner.

A single 4.4 to 1 scale model "DCV2ERD" bay radiator was mounted on a similarly scaled model of the tower according to information provided to Dielectric by the customer; refer to Dielectric Document Sketch #P11. The antenna under test, all parasitics, all known tower appurtenances, and the tower section were rotated through 360 degrees while receiving a signal at the appropriate frequency from a linear cavity-backed source antenna. Both the horizontal and vertical polarization azimuth patterns were measured in an anechoic test range.

The transmit and scale model antennas are mounted at identical elevations and at opposite ends of the chamber. A Hewlett Packard model 8752C network analyzer was used to supply the RF signal to the source antenna at 4.4 times the fundamental FM frequency and to receive the signal intercepted by the antenna under test. The received signal was converted to a relative level, referenced to the source. This level was stored on a computer acting as the master controller. The computer controls the measurement system via IEEE-488 control bus through a GPIB card.

Statement of Qualifications

Keith L. Pelletier is a Senior Electrical Engineer here at Dielectric. He received a BS in Electrical Engineering Technology from the University of Maine in 1998. He has over 6 years experience in RF antenna engineering and has been employed by Dielectric Communications since 1997.

Signed By: Keith Pelletier

Date: 8/10/06



MSO NO: C-00149

DATE: 08/14/06

PATTERN NO: P11

FM AZIMUTH PATTERN APPROVAL

The azimuth pattern of the horizontal polarization and vertical polarization as supplied by Dielectric in the document labeled “ Pattern **P11** ”, is acknowledged as acceptable. We understand that Dielectric does not guarantee or predict signal strength in any particular location.

(Customer's name)

By: _____
(Name typed or printed)

Title: _____

(Signature)



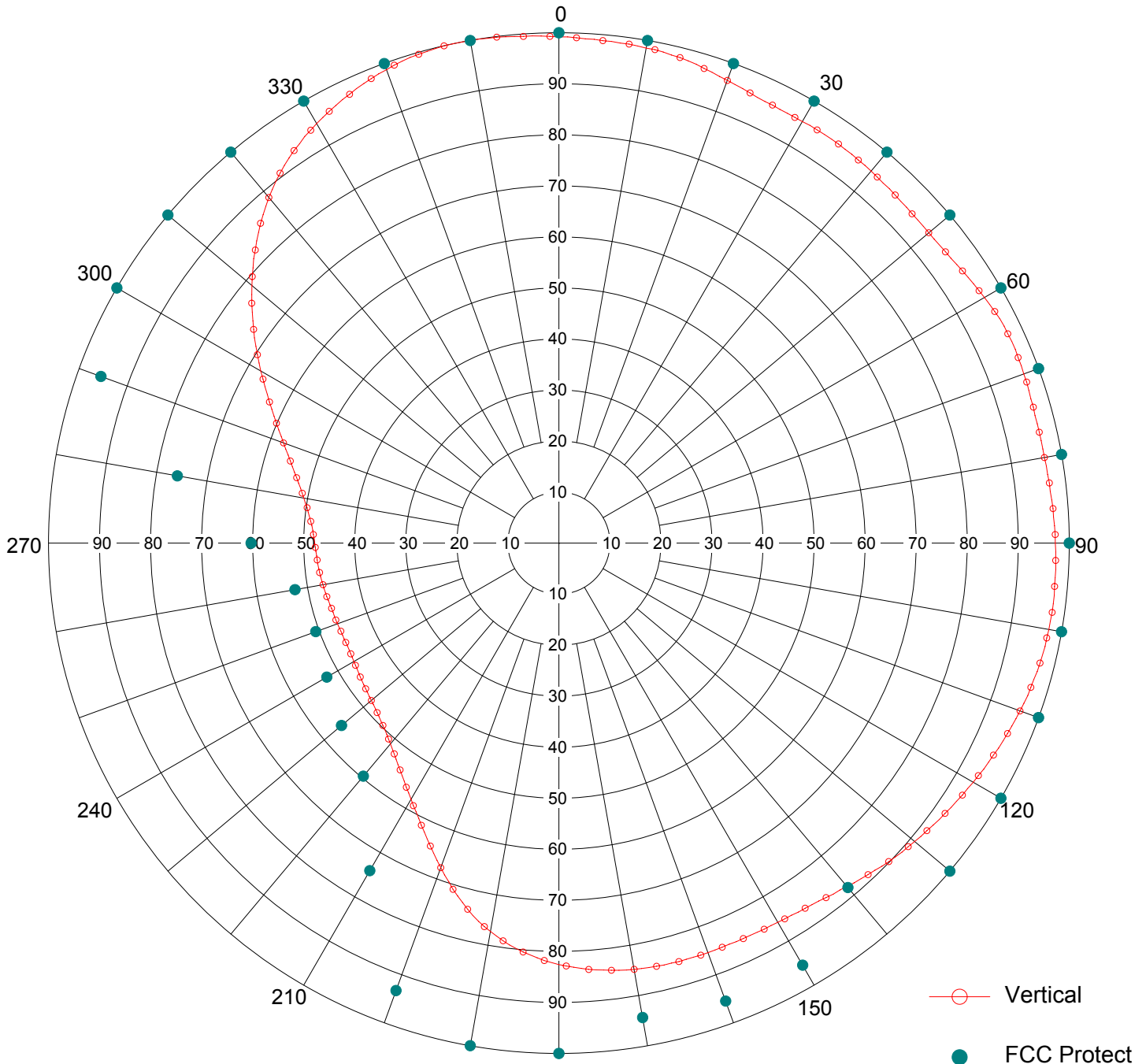
Proposal Number **C-00149** Revision
Date **Aug 14, 2006**
Call Letters **WCNV** Channel
Location **Heathsville VA.**
Customer **CPBC**
Antenna Type **DCV2ERD**

AZIMUTH PATTERN

Ccov = 90.3%

Gain **1.46 (1.64) VPOL**
Calculated / Measured **Measured**

Frequency **89.1MHz**
Drawing # **P11**



Remarks:

POLE MOUNTED 1 VERTICAL PARASITIC



Proposal Number **C-00149**
 Date **14-Aug-06**
 Call Letters **WCNV**
 Location **Heathsville, VA**
 Customer **CPBC**
 Antenna Type **DCV2ED**
 Frequency **89.1 MHz**
 Drawing #: **P11**

TABULATION OF VERTICAL AZIMUTH PATTERN

Angle	Field	dBk	ERP kW
0	0.992	5.728	3.739
10	0.985	5.667	3.687
20	0.965	5.488	3.539
30	0.954	5.389	3.458
40	0.952	5.371	3.444
50	0.946	5.316	3.401
60	0.963	5.470	3.524
70	0.969	5.524	3.568
80	0.966	5.497	3.546
90	0.973	5.560	3.598
100	0.975	5.578	3.612
110	0.961	5.452	3.509
120	0.937	5.233	3.336
130	0.910	4.979	3.147
140	0.878	4.668	2.929
150	0.858	4.468	2.797
160	0.854	4.427	2.771
170	0.848	4.366	2.733
180	0.826	4.137	2.593
190	0.773	3.561	2.271
200	0.677	2.410	1.742
210	0.579	1.051	1.274
220	0.513	0.000	1.000
230	0.480	-0.577	0.876
240	0.464	-0.872	0.818
250	0.462	-0.909	0.811
260	0.469	-0.779	0.836
270	0.479	-0.595	0.872
280	0.508	-0.085	0.981
290	0.574	0.976	1.252
300	0.674	2.371	1.726
310	0.785	3.695	2.342
320	0.884	4.727	2.970
330	0.949	5.343	3.422
340	0.987	5.684	3.702
350	1.000	5.798	3.800



Proposal Number	C-00149
Date	Aug 14, 2006
Call Letters	WCNV
Location	Heathsville, VA
Customer	CPBC
Antenna Type	DCV2ED
Frequency	89.1 MHz
Drawing #	P11

CUSTOMER GAIN SUMMARY

Azimuth Pattern Gain of Vertical Polarization	1.46	(1.64 dB)
Elevation Pattern Gain Vertical Polarization	2.00	(3.01 dB)
Peak Gain at Vertical Polarization	2.92	(4.65 dB)



Proposal Number	C-00149
Date	14-Aug-06
Call Letters	WCNV
Location	Heathsville, VA
Customer	CPBC
Antenna Type	DCV2ED
Drawing #	

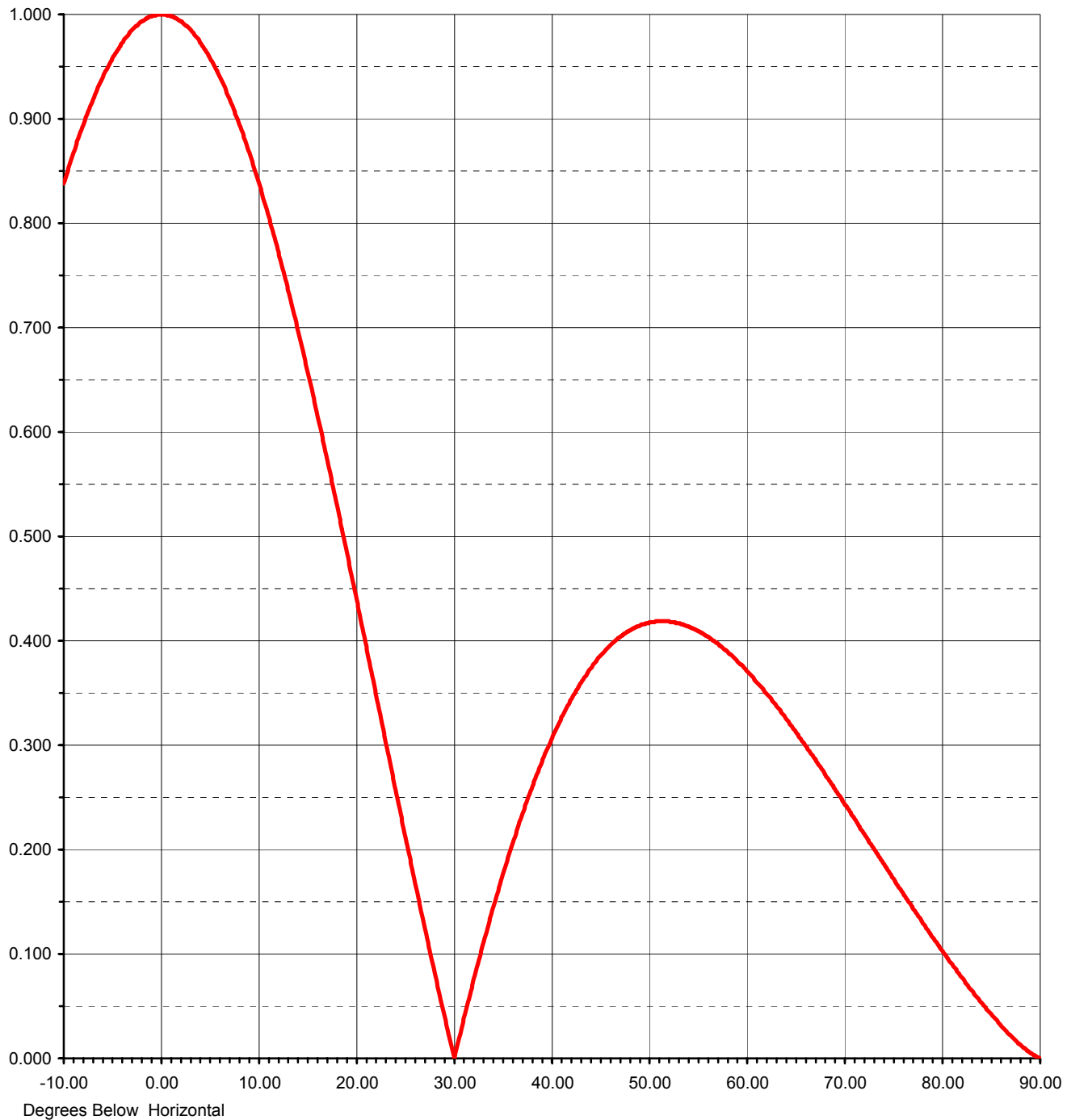
ELEVATION PATTERN

RMS Gain at Main Lobe **2.00 (3.01 dB)**

Beam Tilt **0.00 deg**

Frequency **89.1 MHz**

Calculated / Measured **Calculated**



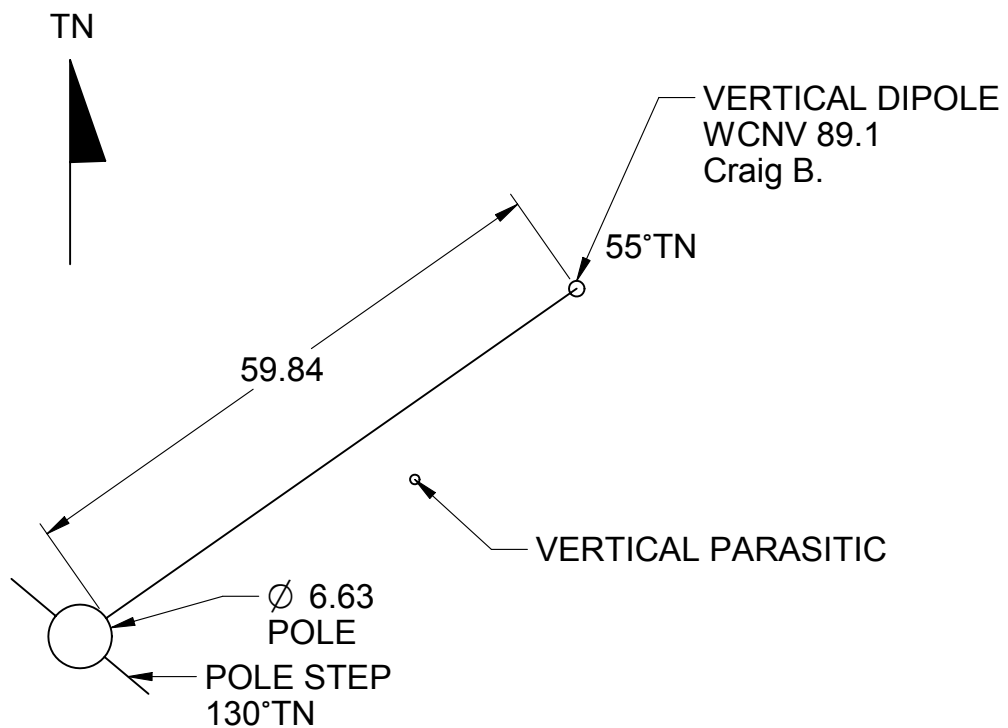
REV:

REVISION NOTE

CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.

A

SEE SHEET #1

**Dielectric**

A Unit of SPX Corporation

Raymond, ME

A

GAGE CODE

08441

DRAWING NO:

PATTERN P11

2:41:50 PM

SHEET: 1 OF 1