



5114 PRINCETON GLENDALE ROAD
HAMILTON, OH 45011-2415
513-887-0714 PHONE AND FAX

Marlene H. Dortch
Federal Communications Commission
Washington, DC 20554

Re: Facility 93070

Please find enclosed the following documentation required for our program test authority as per our construction permit for WMWX in Miamitown, OH on 88.9. The enclosed documentation includes:

1. A certification from our engineer that the antenna was properly installed
2. A complete antenna proof of performance from PSI, the antenna manufacturer.
3. A certification from a local surveyor that the antenna was installed and oriented at the proper azimuth as per our CP..

Please be aware that WMWX will be unattended. For access to the tower site please call William Spry, President of Spryex Communication, Inc. at least 3 hours in advance to ensure that he can have sufficient notice to meet an inspector at the site. The unmanned and unattended studio location is at the tower site located at the corner of St. Rt. 1 and St. Peters Road in Brookville, Indiana. William Spry's contact phone numbers are:

Office 513-887-0590
Cell 513-886-9934

The public inspection file is residing at the office address of 5114 Princeton-Glendale Rd., Hamilton, OH 45011-2415.

Sincerely,

A handwritten signature in black ink, appearing to read "William Spry", is written over a horizontal line.

William Spry
Spryex Communications, Inc.

MAILED ON

8/10/2006



Propagation Systems, Inc.

Quality Broadcast Antenna Systems

**Directional FM Antenna
WMWX-FM
Spryex Communications, Inc.
Miamitown, OH**

A standard model PSIFM antenna with parasitic elements was modified and used in conjunction with a model of the customer's lattice type triangular tower to create the necessary directional radiation pattern. The final antenna consists of four radiating elements each secured to the tower leg with a custom-mounting bracket. The antenna bays are full wavelength spaced and there is one horizontal parasitic element and one vertical parasitic element per bay. The antenna array is end fed. Each radiating element receives equal power and phase.

Pattern testing was performed using a 1/3-scale model element and tower. The azimuth plane measurements were taken on a ground reflection test range. This type of test range utilizes the reflected signal and direct signal from the source antenna to form an interference pattern on the antenna under test. The antenna and tower under test was mounted to a turntable that allowed the structure to be rotated 360° in the azimuth plane. The source antenna was located approximately 75 ft. from the antenna under test. The source height above ground was adjusted to peak the first lobe of the interference pattern at the antenna under test.

The test antenna was mounted in the center of rotation of the turntable. The antenna and mounting structure were rotated clockwise while data was recorded in a counter clockwise direction. All feed cables to the antenna were secured and grounded during pattern measurements. A Hewlett Packard 8753A-network analyzer operating at 266.7 MHz was used as both the source and receiver. The level of the received signal was compared with a standard dipole to establish the directivity of the final pattern. The final pattern measured does not exceed the envelope pattern and is 85% of the envelope RMS.

The antenna is to be mounted 68.6 meters (225 ft) above ground level per the construction permit. It may be necessary to adjust the antenna center of radiation to avoid mounting conflicts with tower members. A deviation of +2/-4 meters from the approved center of radiation is allowed. No other antenna can be installed within 10 ft of any radiating element. The antenna is to be mounted to the southeast tower leg, positioned 102.3° True and certified by a licensed surveyor. It is recommended that a broadcast engineer is present to supervise the installation of the antenna and that he or she certifies the antenna has been installed according to the enclosed instructions.

An input power level of 1.198 kW will be required at the antenna input in order to reach the licensed 4.6 kW ERP. The transmitter output power requirements are dependent upon the transmission line size and length used to feed the antenna. The final length of transmission line must be determined after installation.

Antenna Specifications

Antenna Model	PSIFM-4-DA
Type	4-bay directional FM antenna
Bay Spacing	Full wavelength spaced elements
Frequency	88.9 MHz
Polarization	Circular
Envelope RMS	.775
Composite RMS	.658
Gain (h-pol)	3.84 (5.84 dB)
Gain (v-pol)	3.84 (5.84 dB)
Input	1-5/8" EIA end fed input
Power rating	12 kW
Length	42.9 ft.
Weight	596 lbs.
Wind Area	58.9 sq. ft.

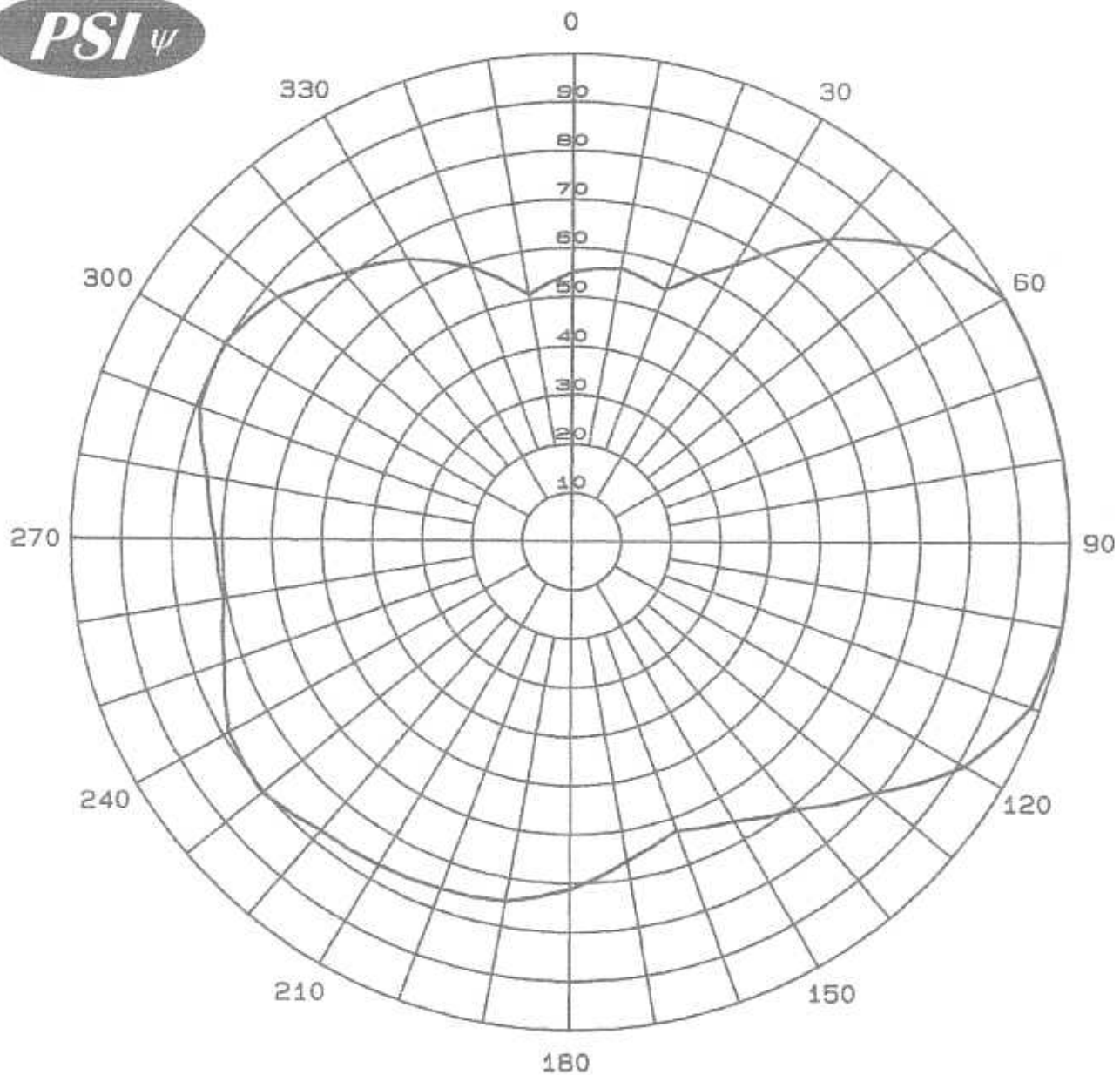
Statement of Certification

This is to certify the antenna has been designed, fabricated and tested under my supervision and it meets the required envelope pattern limitations set forth in the stations construction permit.



7/20/06

Douglas A. Ross
President
Propagation Systems Inc.



Maximum Envelope
Azimuth Plane Pattern
Antenna: PSIFM-4-DA
Type: 4-Bay Directional FM
Polarization: Circular
Peak ERP: 4.6 kW (6.63 dBk)
Frequency: 88.9 MHz
WMWX Miamitown, OH

Propagation Systems Inc.
PO Box 113
Ebensburg, PA 15931

Maximum Envelope Tabulation

Antenna: PSIFM-4-DA
Spryex Communications, Inc.

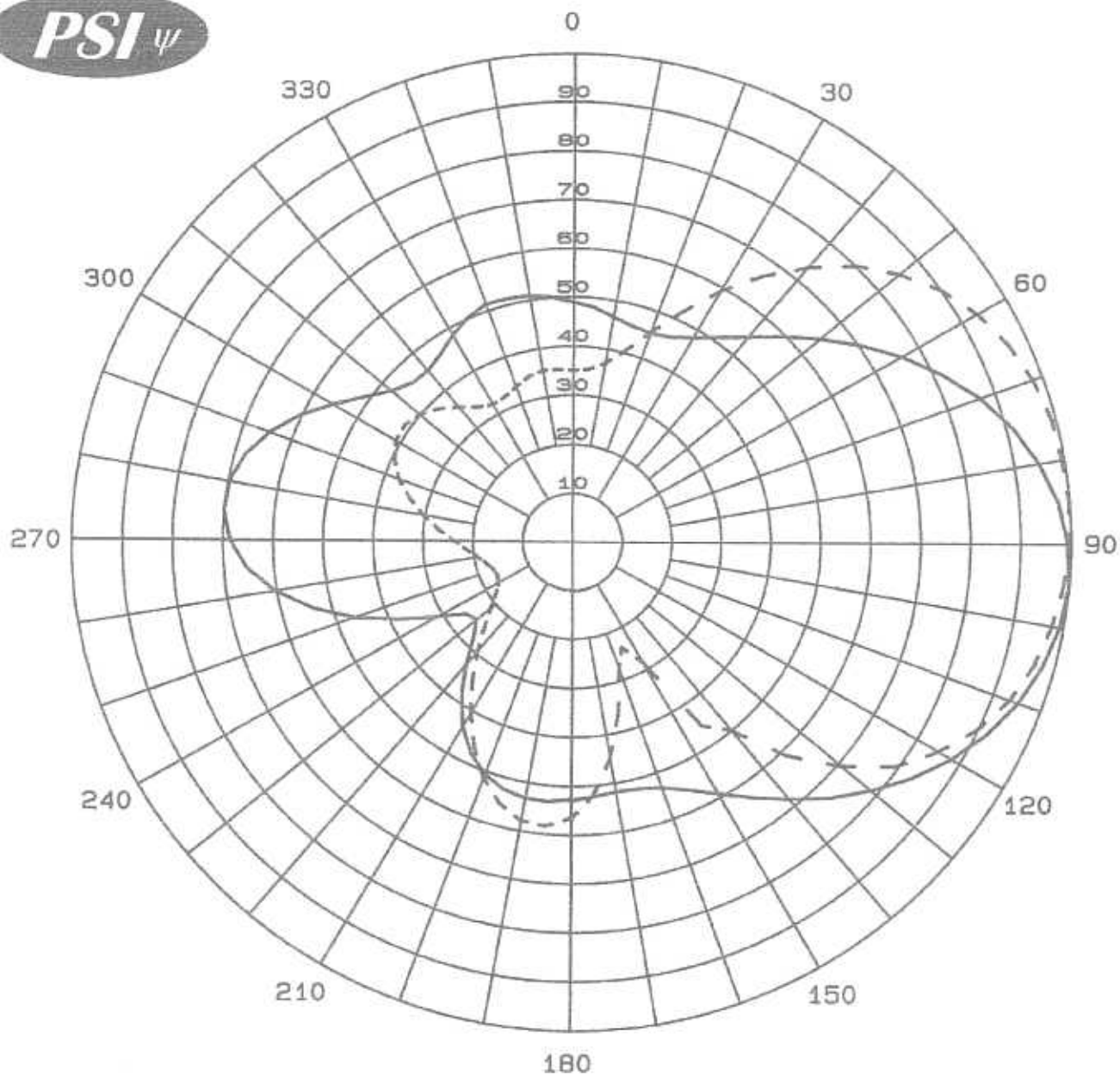
Station: New FM

Frequency: 88.9 MHz

Location: Miamitown, OH

Maximum ERP: 4.6 kW (6.63 dBk)

Angle	Relative Field	ERP (kW)	ERP (dBk)
0	0.550	1.39	1.43
10	0.567	1.48	1.70
20	0.545	1.37	1.36
30	0.652	1.96	2.91
40	0.811	3.03	4.81
50	0.935	4.02	6.04
60	1.000	4.60	6.63
70	1.000	4.60	6.63
80	1.000	4.60	6.63
90	1.000	4.60	6.63
100	1.000	4.60	6.63
110	0.983	4.44	6.48
120	0.913	3.83	5.84
130	0.795	2.91	4.63
140	0.710	2.32	3.65
150	0.657	1.99	2.98
160	0.626	1.80	2.56
170	0.662	2.02	3.04
180	0.711	2.33	3.66
190	0.748	2.57	4.11
200	0.757	2.64	4.21
210	0.766	2.70	4.31
220	0.775	2.76	4.41
230	0.804	2.97	4.73
240	0.787	2.85	4.55
250	0.737	2.50	3.98
260	0.705	2.29	3.59
270	0.713	2.34	3.69
280	0.740	2.52	4.01
290	0.793	2.89	4.61
300	0.803	2.97	4.72
310	0.770	2.73	4.36
320	0.712	2.33	3.68
330	0.664	2.03	3.07
340	0.596	1.63	2.13
350	0.510	1.20	0.78



Measured Relative Field
Azimuth Plane Pattern
Antenna: PSIFM-4-DA
Type: 4-Bay Directional FM
H-pol Gain (solid): 3.84 (5.84 dB)
V-pol Gain (dash): 3.84 (5.84 dB)
Frequency: 88.9 MHz
WMWX Miamitown, OH

Propagation Systems Inc.
PO Box 113
Ebensburg, PA 15931

Measured Relative Field Tabulation

Antenna: PSIFM-4-DA
 Spryex Communications, Inc.
 Station: WMWX
 Frequency: 88.9 MHz
 Location: Miamitown, OH

Horizontal Polarization

Angle	Relative Field	Power Gain	Gain (dB)
0	0.490	0.922	-0.35
10	0.466	0.835	-0.78
20	0.454	0.791	-1.02
30	0.482	0.892	-0.50
40	0.549	1.159	0.64
50	0.649	1.615	2.08
60	0.763	2.235	3.49
70	0.870	2.906	4.63
80	0.950	3.463	5.39
90	0.994	3.793	5.79
100	0.993	3.783	5.78
110	0.953	3.484	5.42
120	0.880	2.974	4.73
130	0.785	2.366	3.74
140	0.682	1.788	2.52
150	0.591	1.342	1.28
160	0.531	1.084	0.35
170	0.517	1.024	0.10
180	0.527	1.066	0.28
190	0.532	1.085	0.36
200	0.505	0.979	-0.09
210	0.436	0.730	-1.37
220	0.330	0.418	-3.79
230	0.249	0.238	-6.23
240	0.311	0.371	-4.30
250	0.463	0.822	-0.85
260	0.602	1.393	1.44
270	0.685	1.800	2.55
280	0.697	1.867	2.71
290	0.645	1.597	2.03
300	0.555	1.182	0.73
310	0.475	0.865	-0.63
320	0.453	0.788	-1.03
330	0.484	0.900	-0.46
340	0.515	1.018	0.08
350	0.510	0.999	-0.01

Maximum Value

Field 1.00
 Gain 3.84 (5.84 dB)
 Azimuth Bearing 95 degrees

Minimum Field

Field 0.249
 Gain .238 (-6.23 dB)
 Azimuth Bearing 230 degrees

Vertical Polarization

Angle	Relative Field	Power Gain	Gain (dB)
0	0.349	0.468	-3.30
10	0.370	0.526	-2.79
20	0.455	0.794	-1.00
30	0.591	1.339	1.27
40	0.734	2.069	3.16
50	0.854	2.803	4.48
60	0.936	3.367	5.27
70	0.981	3.693	5.67
80	0.996	3.806	5.81
90	0.997	3.816	5.82
100	0.977	3.663	5.64
110	0.934	3.353	5.25
120	0.850	2.774	4.43
130	0.708	1.924	2.84
140	0.501	0.963	-0.16
150	0.282	0.306	-5.15
160	0.277	0.295	-5.30
170	0.448	0.771	-1.13
180	0.564	1.221	0.87
190	0.578	1.284	1.09
200	0.513	1.009	0.04
210	0.405	0.629	-2.02
220	0.295	0.334	-4.76
230	0.212	0.173	-7.62
240	0.170	0.111	-9.55
250	0.168	0.108	-9.66
260	0.192	0.141	-8.51
270	0.237	0.215	-6.67
280	0.303	0.352	-4.54
290	0.370	0.526	-2.79
300	0.410	0.645	-1.91
310	0.401	0.618	-2.09
320	0.357	0.488	-3.12
330	0.322	0.397	-4.01
340	0.336	0.433	-3.64
350	0.354	0.480	-3.18

Maximum Value

Field 1.00
 Gain 3.84 (5.84 dB)
 Azimuth Bearing 95 degrees

Minimum Field

Field 0.237
 Gain .216 (-6.66 dB)
 Azimuth Bearing 155 degrees

ERP Tabulation

Antenna: PSIFM-4-DA
 Spryex Communications, Inc.
 Station: WMWX
 Frequency: 88.9 MHz
 Location: Miamitown, OH
 Maximum ERP: 4.6 kW (6.63 dBk)

Horizontal Polarization

Angle	Relative Field	ERP (kW)	ERP (dBk)
0	0.490	1.10	0.43
10	0.466	1.00	0.00
20	0.454	0.95	-0.23
30	0.482	1.07	0.29
40	0.549	1.39	1.43
50	0.649	1.94	2.87
60	0.763	2.68	4.28
70	0.870	3.48	5.42
80	0.950	4.15	6.18
90	0.994	4.54	6.57
100	0.993	4.53	6.56
110	0.953	4.17	6.20
120	0.880	3.56	5.52
130	0.785	2.83	4.52
140	0.682	2.14	3.31
150	0.591	1.61	2.06
160	0.531	1.30	1.14
170	0.517	1.23	0.89
180	0.527	1.28	1.06
190	0.532	1.30	1.14
200	0.505	1.17	0.69
210	0.436	0.87	-0.58
220	0.330	0.50	-3.01
230	0.249	0.29	-5.45
240	0.311	0.44	-3.52
250	0.463	0.99	-0.06
260	0.602	1.67	2.23
270	0.685	2.16	3.34
280	0.697	2.24	3.50
290	0.645	1.91	2.82
300	0.555	1.42	1.51
310	0.475	1.04	0.16
320	0.453	0.94	-0.25
330	0.484	1.08	0.32
340	0.515	1.22	0.86
350	0.510	1.20	0.78

Maximum Value (H-pol)

Field 1.00
 ERP 4.6 kW (6.63 dBk)
 Azimuth Bearing 95 degrees

Minimum Field (H-pol)

Field 0.249
 ERP .285 kW (-5.45 dBk)
 Azimuth Bearing 230 degrees

Vertical Polarization

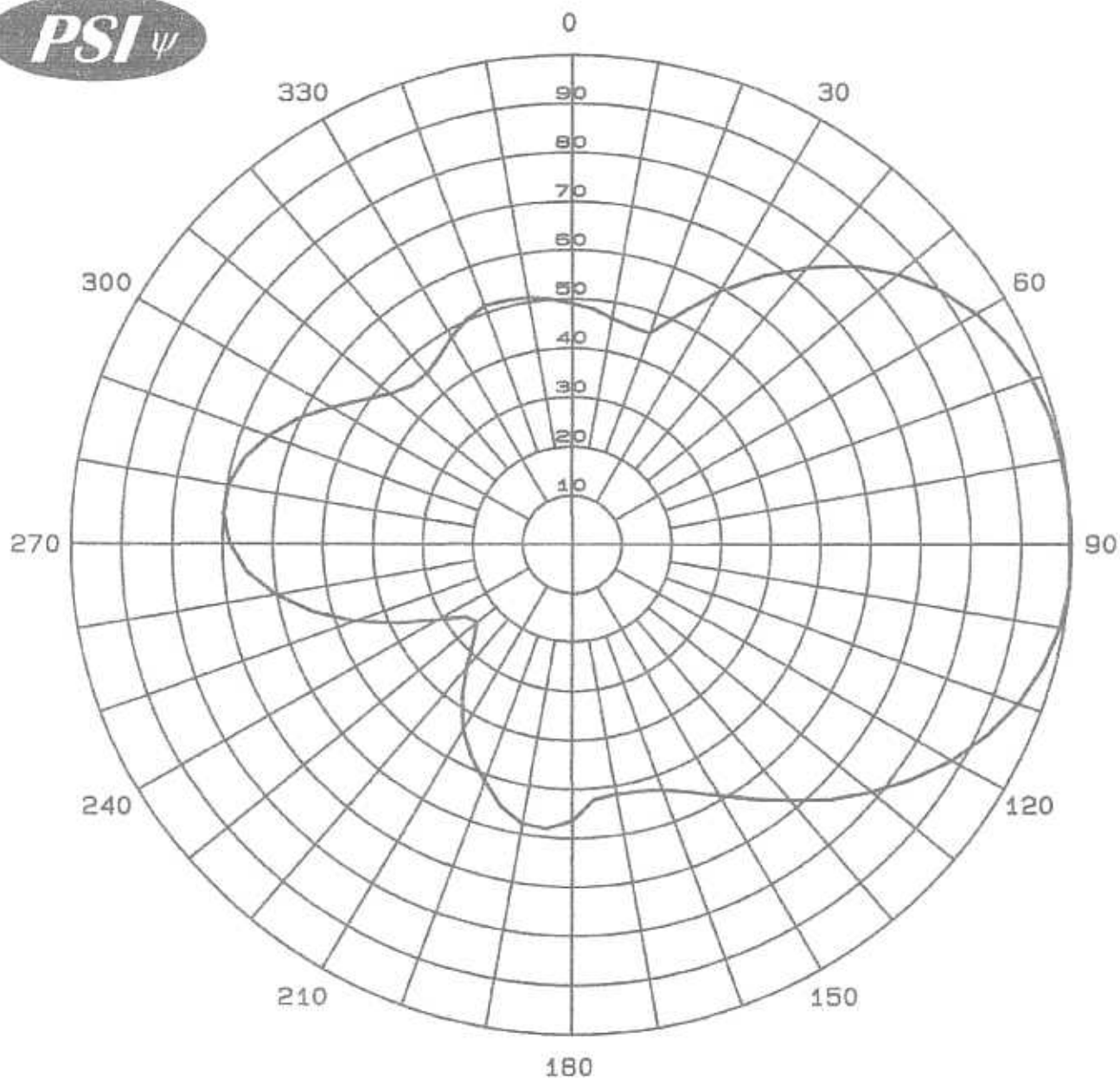
Angle	Relative Field	ERP (kW)	ERP (dBk)
0	0.349	0.58	-2.51
10	0.370	0.63	-2.00
20	0.455	0.95	-0.22
30	0.591	1.60	2.05
40	0.734	2.48	3.94
50	0.854	3.36	5.26
60	0.936	4.03	6.06
70	0.981	4.42	6.46
80	0.996	4.56	6.59
90	0.997	4.57	6.60
100	0.977	4.39	6.42
110	0.934	4.02	6.04
120	0.850	3.32	5.22
130	0.708	2.31	3.63
140	0.501	1.15	0.62
150	0.282	0.37	-4.36
160	0.277	0.35	-4.52
170	0.448	0.92	-0.34
180	0.564	1.46	1.65
190	0.578	1.54	1.87
200	0.513	1.21	0.82
210	0.405	0.75	-1.23
220	0.295	0.40	-3.97
230	0.212	0.21	-6.83
240	0.170	0.13	-8.77
250	0.168	0.13	-8.88
260	0.192	0.17	-7.72
270	0.237	0.26	-5.88
280	0.303	0.42	-3.76
290	0.370	0.63	-2.01
300	0.410	0.77	-1.12
310	0.401	0.74	-1.31
320	0.357	0.58	-2.33
330	0.322	0.48	-3.22
340	0.336	0.52	-2.85
350	0.354	0.58	-2.40

Maximum Value (V-pol)

Field 1.00
 ERP 4.6 kW (6.63 dBk)
 Azimuth Bearing 95 degrees

Minimum Field (V-pol)

Field 0.237
 ERP .258 kW (-5.88 dBk)
 Azimuth Bearing 155 degrees



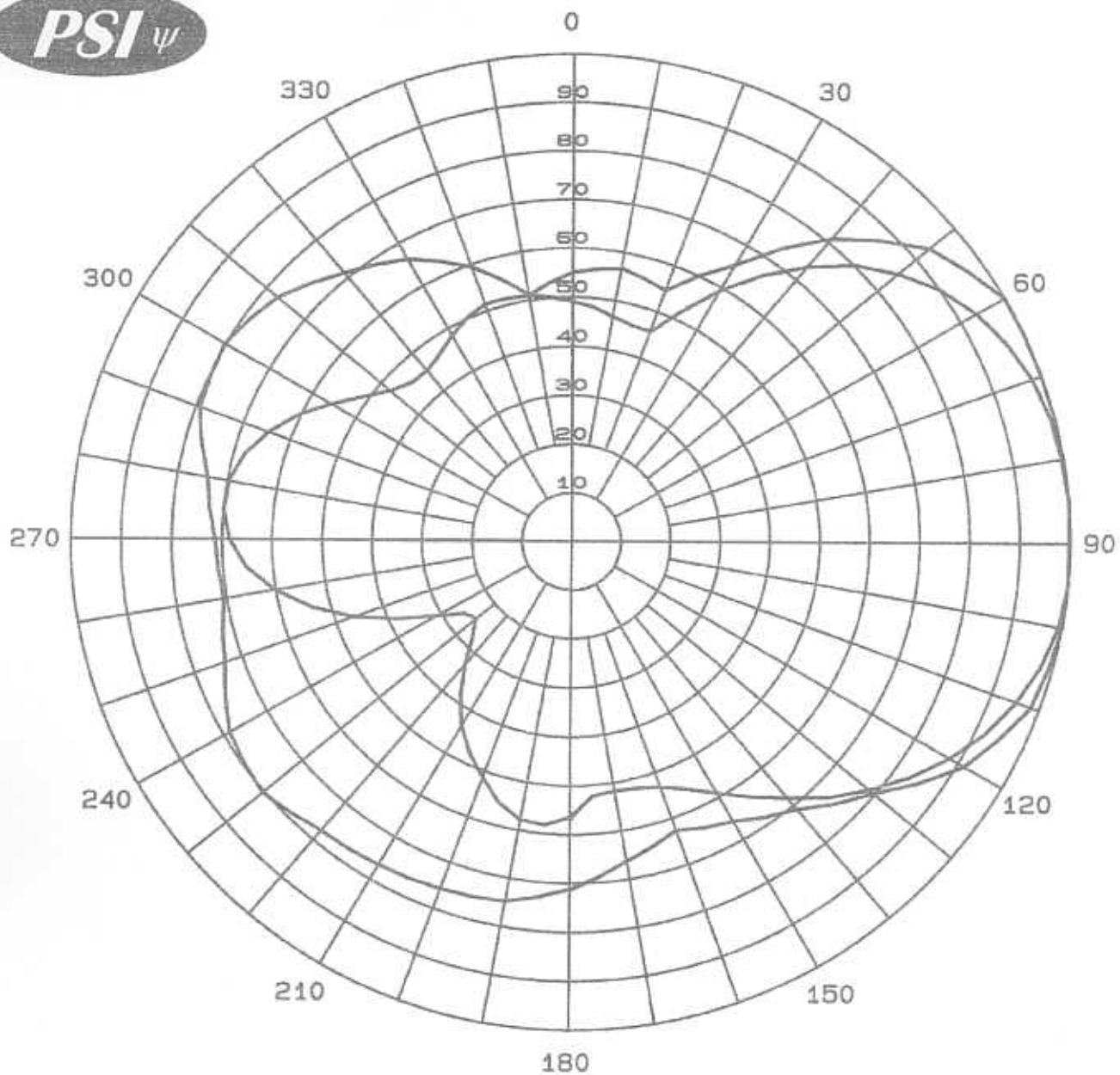
Measured Relative Field
Composite Pattern
Antenna: PSIFM-4-DA
Type: 4-Bay Directional FM
Polarization: Circular
Peak ERP: 4.6 kW (6.63 dBk)
Frequency: 88.9 MHz
WMWX Miamitown, OH

Propagation Systems Inc.
PO Box 113
Ebensburg, PA 15931

Composite Pattern Tabulation

Antenna: PSIFM-4-DA
Spryex Communications, Inc.
Station: New FM
Frequency: 88.9 MHz
Location: Miamitown, OH
Maximum ERP: 4.6 kW (6.63 dBk)

Angle	Relative Field	ERP (kW)	ERP (dBk)
0	0.642	1.90	2.78
10	0.767	2.70	4.32
20	0.850	3.33	5.22
30	0.917	3.87	5.87
40	0.955	4.20	6.23
50	0.961	4.24	6.28
60	0.961	4.25	6.28
70	0.947	4.12	6.15
80	0.941	4.07	6.10
90	0.951	4.18	6.19
100	0.970	4.33	6.36
110	0.993	4.54	6.57
120	1.000	4.60	6.63
130	0.993	4.53	6.56
140	0.986	4.47	6.51
150	0.995	4.56	6.59
160	0.992	4.53	6.56
170	0.999	4.59	6.62
180	0.983	4.45	6.48
190	0.977	4.39	6.43
200	0.960	4.24	6.27
210	0.910	3.81	5.81
220	0.854	3.35	5.25
230	0.778	2.79	4.45
240	0.686	2.17	3.36
250	0.565	1.47	1.67
260	0.512	1.21	0.81
270	0.438	0.88	-0.54
280	0.389	0.70	-1.57
290	0.356	0.58	-2.34
300	0.350	0.56	-2.49
310	0.362	0.60	-2.20
320	0.375	0.65	-1.89
330	0.392	0.71	-1.51
340	0.423	0.82	-0.85
350	0.490	1.10	0.43

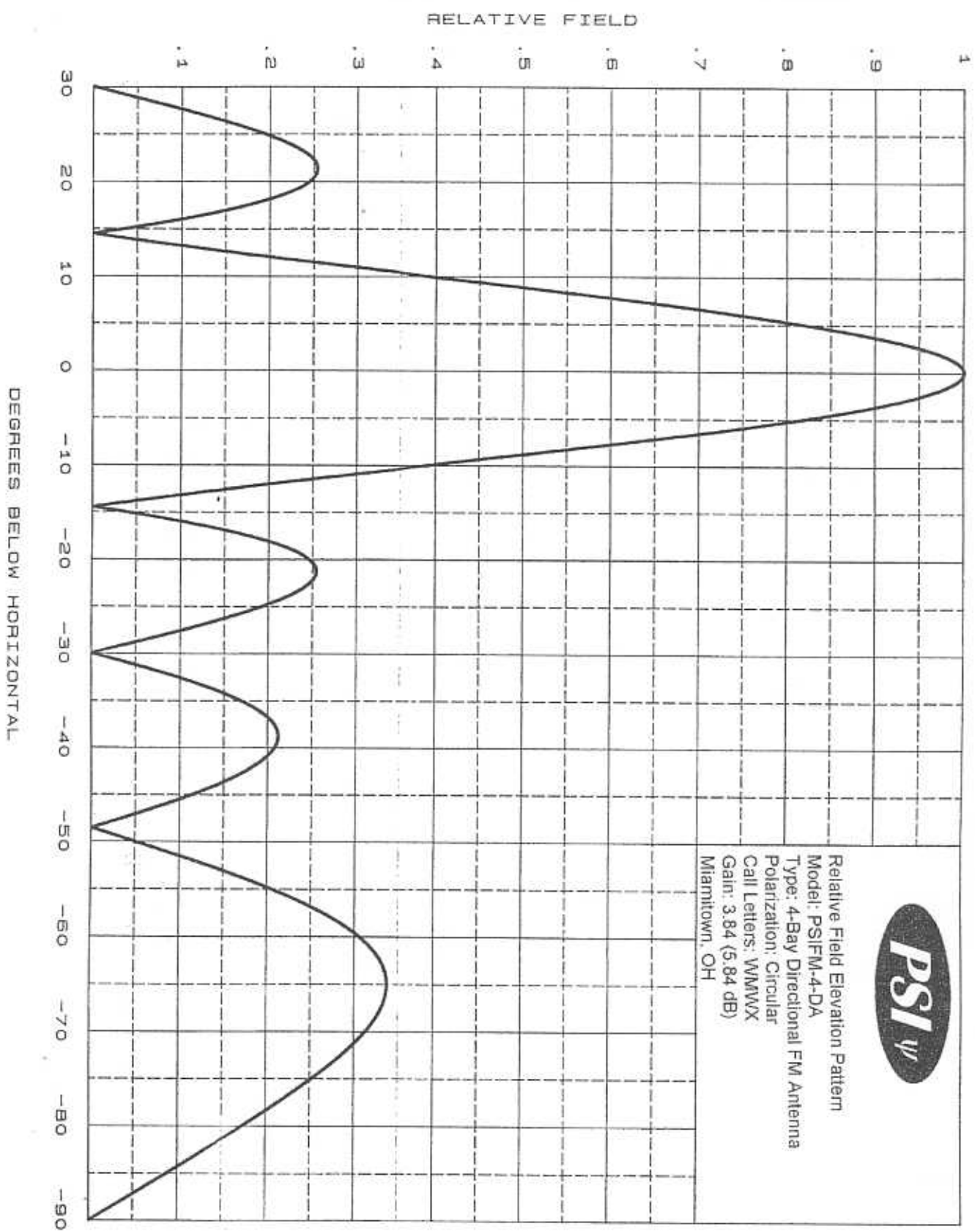


Maximum Envelope and
Composite Pattern
Antenna: PSIFM-4-DA
Type: 4-Bay Directional FM
Polarization: Circular
Peak ERP: 4.6 kW (6.63 dBk)
Frequency: 88.9 MHz
WMWX Miamitown, OH

Propagation Systems Inc.
PO Box 113
Ebensburg, PA 15931



Relative Field Elevation Pattern
Model: PSIFM-4-DA
Type: 4-Bay Directional FM Antenna
Polarization: Circular
Call Letters: WMMWX
Gain: 3.84 (5.84 dB)
Miamitown, OH



CH1 MEM

10g MAG

10 dB/

REF 0 dB

1: -44.352 dB

PRM

COR

[dB]

88.900 000 MHz

2: -26.447 dB

88.648 MHz

3: -26.432 dB

89.23 MHz

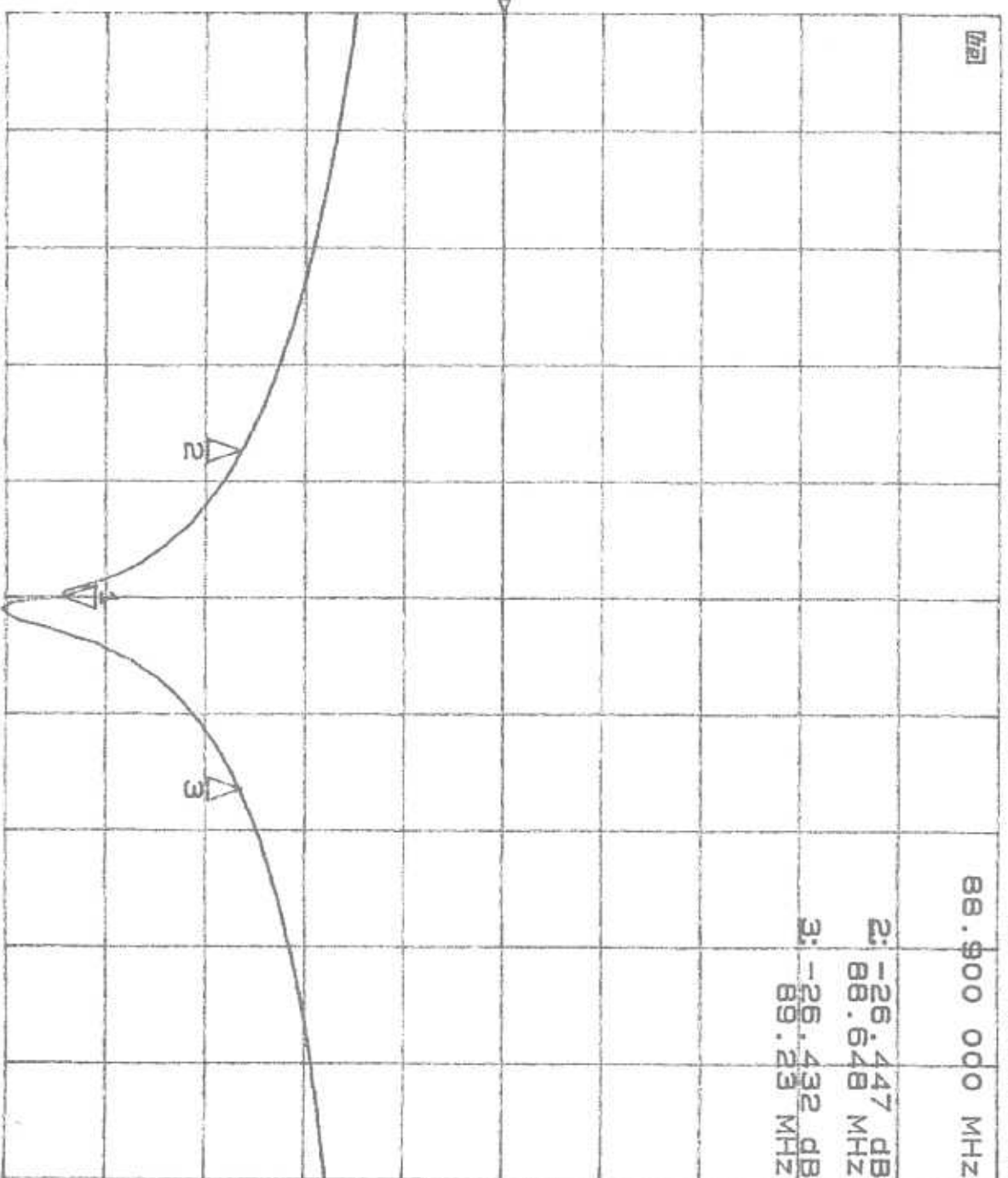
↑

START

87.900 000 MHz

STOP

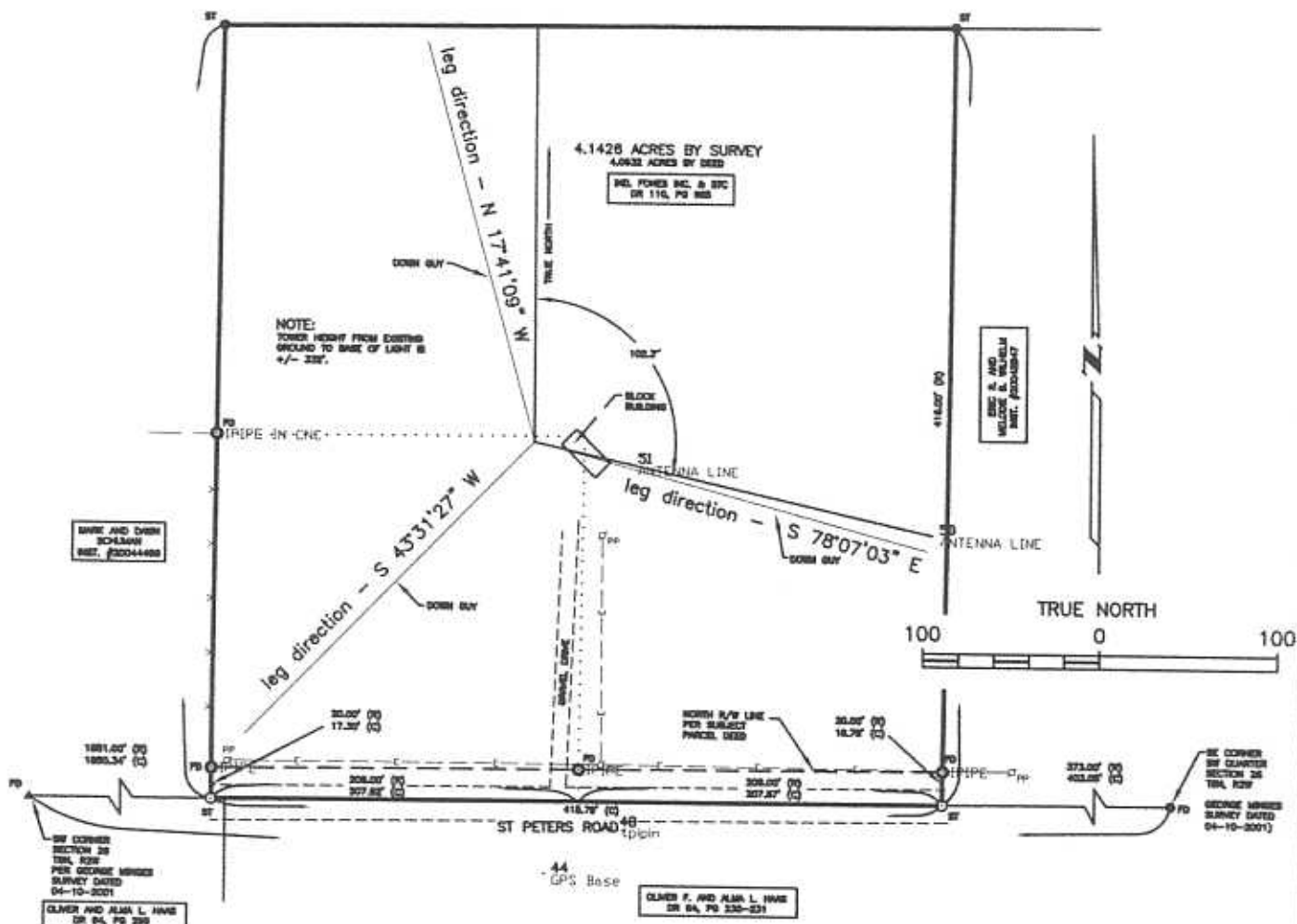
89.900 000 MHz



NOTE: BASIS OF ROTATION IS TRUE NORTH AS ACQUIRED BY GPS OBSERVATIONS MAY 19, 2006.

NOTE: POINT NUMBER 50 AND 51 IS BASELINE PLACED ON THE GROUND WITH CAPPED 3/8" REBARS. THIS BASE LINE IS 102.3' FROM TRUE NORTH AS REQUESTED BY BILL SPRY OF SPRY GROUP MULTIMEDIA, LLC.

ERIC S. AND
MELISSA S. WELSH
MET. #20043102



LAND SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A LAND SURVEYOR REGISTERED IN COMPLIANCE WITH THE LAWS OF THE STATE OF INDIANA; AND I DO HEREBY FURTHER CERTIFY THAT THE ANTENNA MOUNTED ON THE TOWER IS POINTING TOWARDS 102.3' FROM TRUE NORTH AND THIS PLAT DEPICTS A SURVEY MADE BY ME OR UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SIGNED 2ND THIS DAY OF AUGUST, 2006.

ROBERT G. SEIG



LEGEND

- BOUNDARY LINE
- FENCE LINE
- CHAINED ELECTRIC
- PD ● REBAR FOUND
- PD ○ IRON PIPE FOUND
- PD ▲ SPRIG FOUND
- ST ● SET FLUSH 3/4" REBAR W/ YELLOW PLASTIC CAP STAMPED "RGS LS 20200007"
- ST ○ SET W/O HIL
- (C) CALCULATED BEARING AND/OR DISTANCE
- (D) RECORD BEARING AND/OR DISTANCE

REVISION	DESCRIPTION	BY



SEIG & ASSOCIATES, INC.
Mapping, Construction Layout and Land Surveying
13150 North Penntown Road
Sunman, IN 47041
Fax: 812-823-6701
PHONE: 812-823-6700

ETC SOUTHGATE TOWER
TOWER LOCATION

CLIENT
SPRY GROUP MULTIMEDIA, LLC.
5114 PRINCETON GLENDALE ROAD
HAMILTON, OH 45011
PHONE: 513-887-0590

ALL RIGHTS RESERVED

EXCEPT FOR USES EXPRESSLY PERMITTED IN WRITING, THIS DOCUMENT IS SOLELY THE PROPERTY OF SEIG & ASSOCIATES, INC.

DATE: 05-22-2006

SCALE: 1" = 100'

DRAWN: RGS

CHK'D: RGS

PN: 06-056.SPRY

ACAD: ETC.DWG

SHEET: **P1**

August 9, 2006

I hereby certify that the WMWX-FM Miamitown, Ohio (88.9 Mhz) directional antenna (Model Number PSIFM-4-DA) supplied by Propagation Systems Inc. has been properly assembled and installed per the manufacturers instructions. After installation, equipment performance measurements were successfully completed as specified in Section 73.1590 of the Federal Communications Commission's Rules. In addition, a licensed surveyor's statement has been attached that certifies proper orientation of the WMWX-FM antenna.

Respectfully Submitted By,

Richard C. Pogson CSRE
Diversified Communications Systems
Phone: 814-756-3053
E-Mail rpogson@aol.com