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**SONSHINE FAMILY TELEVISION CORPORATION**

**LICENSEE OF WBPH-DT**

**DTV CHANNEL 9**

**BETHLEHEM, PENNSYLVANIA**

**FAC ID# 60850**

**FCC FILE # BPCDT-20080619ALA**

**APPLICATION FOR A MINOR MODIFICATION OF CP TO CHANGE  
TRANSMITTER LOCATION, HAAT, AND DIRECTIONAL ANTENNA  
PATTERN**

**DIRECTIONAL ANTENNA EXHIBIT 43**

**January 4, 2010**

**SONSHINE FAMILY TELEVISION CORPORATION**

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**DTV CHANNEL 9**

**BETHLEHEM, PENNSYLVANIA**

**FAC ID# 60850**

**FCC FILE # BPCDT-20080619ALA**

**ANTENNA DATA ENGINEERING EXHIBIT 43**

This application is for a minor modification of a CP for WBPH-DT (BPCDT-20080619ALA) to change transmitter location, change HAAT, and change directional antenna pattern.

The proposed new pattern data is included herein and includes tabulations of the azimuth and elevation patterns along with azimuth and elevation plots.

**SONSHINE FAMILY TV  
WBPH-DT**

**EXHIBIT 43 - TABLE 1**

PSI PSIVLP6BPHEC-9 (ROTATION INCLUDED)

**10 Degree**

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	80.60	19.063
10	1.000	80.60	19.063
20	1.000	80.60	19.063
30	1.000	80.60	19.063
40	1.000	80.60	19.063
50	0.975	76.62	18.843
60	0.975	76.62	18.843
70	1.000	80.60	19.063
80	1.000	80.60	19.063
90	1.000	80.60	19.063
100	1.000	80.60	19.063
110	1.000	80.60	19.063
120	1.000	80.60	19.063
130	0.997	80.12	19.037
140	0.981	77.57	18.897
150	0.952	73.05	18.636
160	0.910	66.74	18.244
170	0.855	58.92	17.703
180	0.793	50.69	17.049
190	0.745	44.74	16.506
200	0.701	39.61	15.978
210	0.682	37.49	15.739
220	0.680	37.27	15.714
230	0.693	38.71	15.878
240	0.700	39.49	15.965
250	0.693	38.71	15.878
260	0.68	37.27	15.714
270	0.682	37.49	15.739
280	0.701	39.61	15.978
290	0.745	44.74	16.506
300	0.793	50.69	17.049
310	0.855	58.92	17.703
320	0.91	66.74	18.244
330	0.952	73.05	18.636
340	0.981	77.57	18.897
350	0.997	80.12	19.037

**Cardinal**

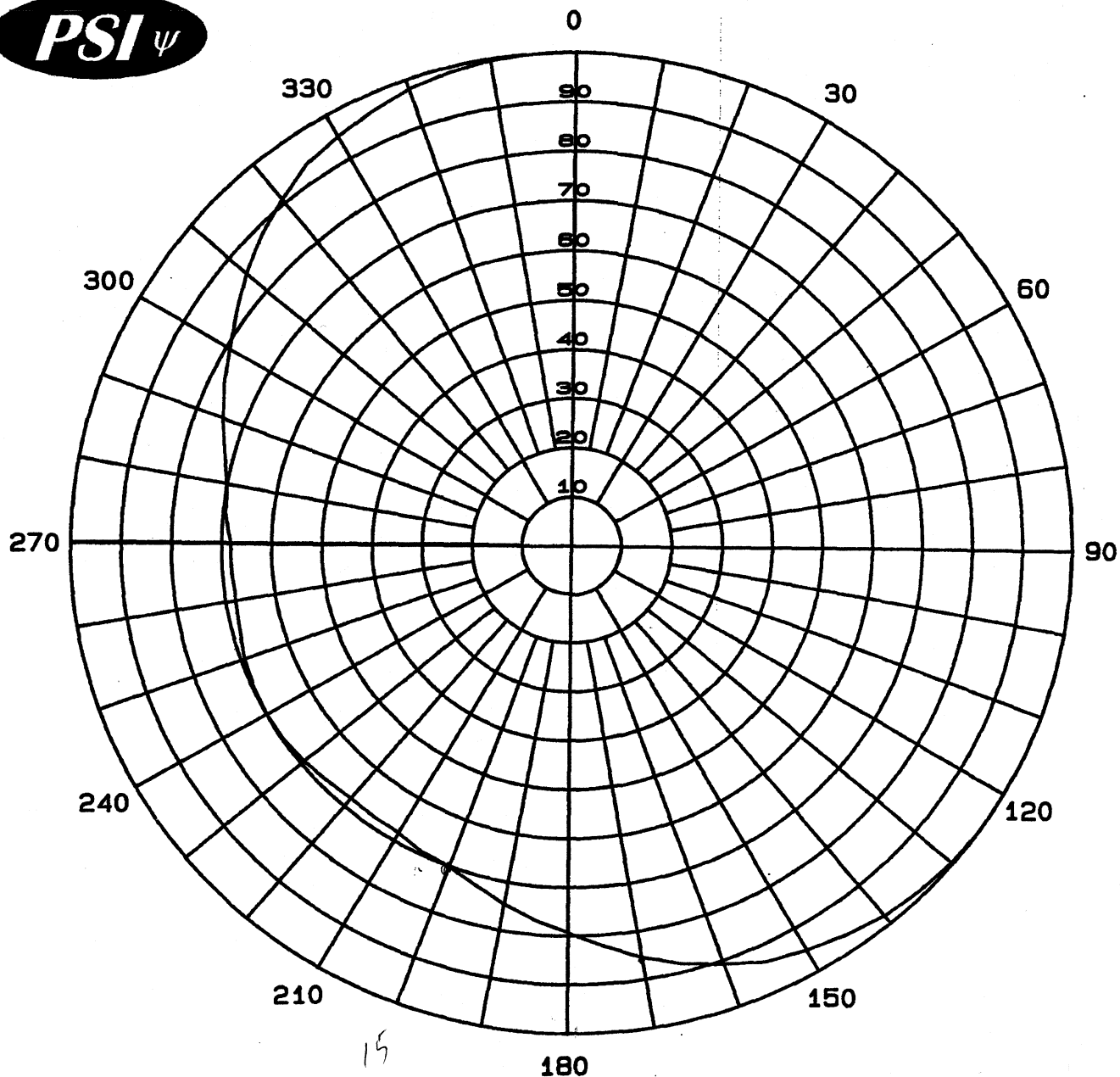
Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	80.60	19.063
45	1.000	80.60	19.063
90	1.000	80.60	19.063
135	0.989	78.84	18.967
180	0.793	50.69	17.049
225	0.687	38.04	15.802
270	0.682	37.49	15.739
315	0.883	62.84	17.983

**Maxima**

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	80.60	19.063
70	1.000	80.60	19.063
120	1.000	80.60	19.063

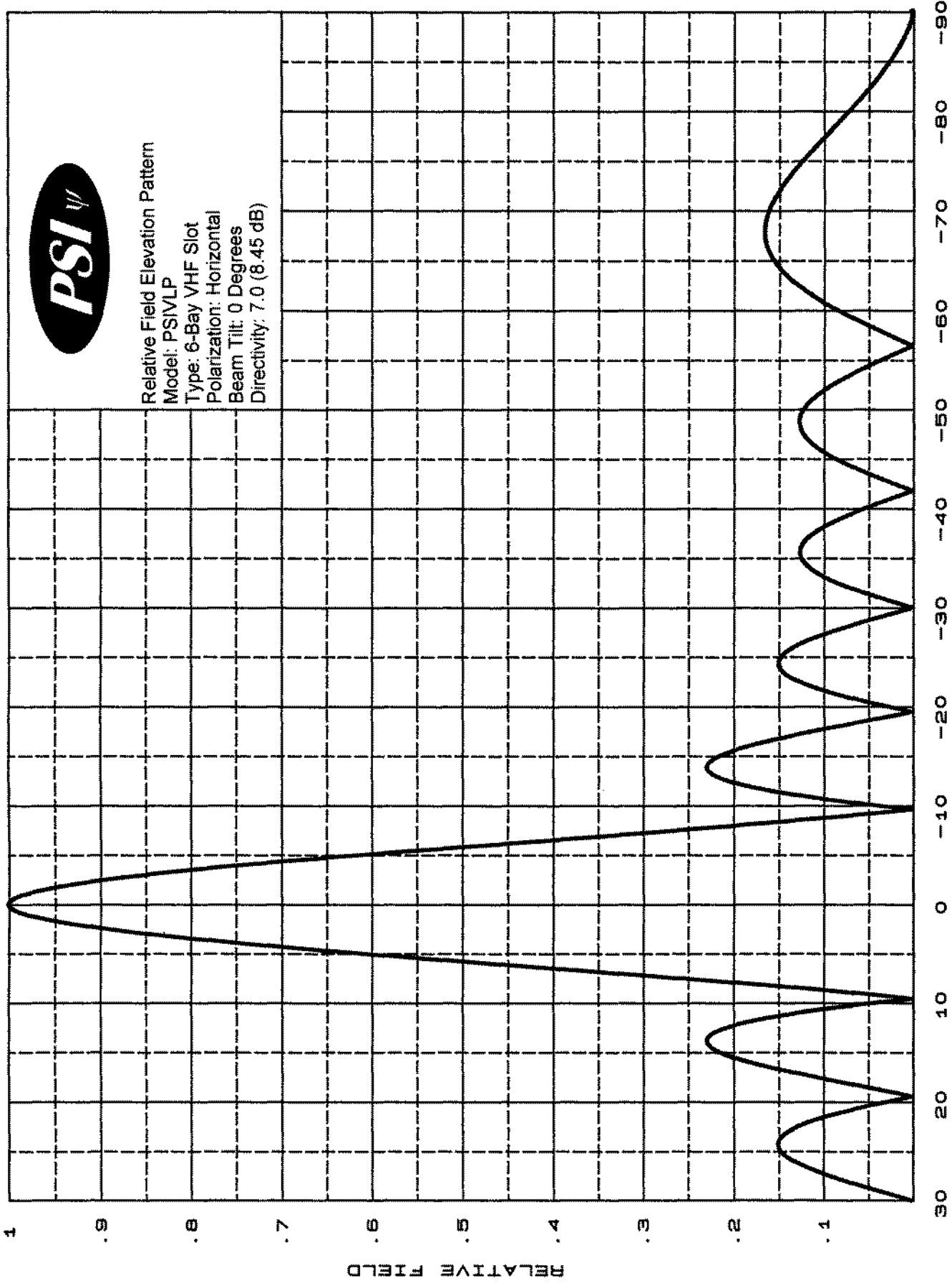
**Minima**

Angle	Field	ERP (kW)	ERP (dBk)
220	0.680	37.27	15.714
260	0.680	37.27	15.714



Calculated Relative Field  
Azimuth Plane Pattern  
Antenna: PSIVLP6BPHEC-9  
Type: 6-Bay VHF Slot Antenna  
Polarization: Horizontal  
Peak Gain: 8.84 (9.46 dB)  
WBPH-DT Channel 9  
Date: 5/30/08

**Propagation Systems Inc.**  
**PO Box 113**  
**Ebensburg, PA 15931**



Relative Field Elevation Pattern  
Model: PSMLP  
Type: 6-Bay VHF Slot  
Polarization: Horizontal  
Beam Tilt: 0 Degrees  
Directivity: 7.0 (8.45 dB)

DEGREES BELOW HORIZONTAL

**PROPAGATION SYSTEMS INC.**

Relative Field Tabulation

Elevation Pattern

Antenna: PSIVLP6

Directivity: 7.0 (8.45 dB)

Angle	Relative Field	Angle	Relative Field	Angle	Relative Field
-90	0.001	-50	0.122	-10	0.041
-89	0.002	-49	0.127	-9	0.066
-88	0.007	-48	0.125	-8	0.192
-87	0.012	-47	0.118	-7	0.329
-86	0.018	-46	0.105	-6	0.472
-85	0.026	-45	0.086	-5	0.611
-84	0.034	-44	0.063	-4	0.739
-83	0.042	-43	0.035	-3	0.847
-82	0.052	-42	0.006	-2	0.930
-81	0.061	-41	0.024	-1	0.982
-80	0.071	-40	0.054	0	1.000
-79	0.082	-39	0.080	1	0.982
-78	0.092	-38	0.102	2	0.930
-77	0.103	-37	0.118	3	0.848
-76	0.113	-36	0.125	4	0.739
-75	0.123	-35	0.125	5	0.611
-74	0.133	-34	0.115	6	0.472
-73	0.141	-33	0.097	7	0.330
-72	0.149	-32	0.070	8	0.192
-71	0.156	-31	0.037	9	0.066
-70	0.161	-30	0.001	10	0.041
-69	0.164	-29	0.038	11	0.126
-68	0.165	-28	0.075	12	0.186
-67	0.164	-27	0.108	13	0.220
-66	0.161	-26	0.133	14	0.228
-65	0.155	-25	0.147	15	0.215
-64	0.146	-24	0.149	16	0.182
-63	0.135	-23	0.138	17	0.137
-62	0.120	-22	0.113	18	0.083
-61	0.103	-21	0.076	19	0.026
-60	0.084	-20	0.028	20	0.028
-59	0.062	-19	0.026	21	0.076
-58	0.039	-18	0.083	22	0.113
-57	0.014	-17	0.137	23	0.138
-56	0.011	-16	0.182	24	0.149
-55	0.035	-15	0.215	25	0.147
-54	0.058	-14	0.228	26	0.133
-53	0.080	-13	0.220	27	0.108
-52	0.098	-12	0.186	28	0.075
-51	0.112	-11	0.126	29	0.038
				30	0.001