

**Larry H. Will, P.E.**

**Broadcast Engineering**

---

1055 Powderhorn Drive  
Glen Mills, PA 19342-9504

PH (610) 399-1826  
FAX (610) 399-0995  
E-Mail [lhwill@verizon.net](mailto:lhwill@verizon.net)

**SONSHINE FAMILY TELEVISION CORPORATION**

**LICENSEE OF WBPH-DT**

**DTV CHANNEL 9**

**BETHLEHEM, PENNSYLVANIA**

**FAC ID# 60850**

**FCC FILE # BPCDT-20080619ALA**

**APPLICATION FOR A MINOR AMENDMENT TO A PENDING  
APPLICATION TO FURTHER INCREASE POWER AND CHANGE  
DIRECTIONAL ANTENNA**

**DIRECTIONAL ANTENNA EXHIBIT 43**

**October 2, 2008**

**SONSHINE FAMILY TELEVISION CORPORATION**

**LICENSEE OF WBPH-DT**

**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 pending application for a pending application for a Construction Permit for WBPH-DT (BPCDT-20080619ALA) to increase ERP from 30 kW (DA) to 89 kW (DA) on Channel 9 utilizing a different directional antenna pattern than currently authorized.

The proposed 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 (NO ROTATION)

**10 Degree**

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	89.00	19.494
10	1.000	89.00	19.494
20	1.000	89.00	19.494
30	1.000	89.00	19.494
40	1.000	89.00	19.494
50	0.975	84.61	19.274
60	0.975	84.61	19.274
70	1.000	89.00	19.494
80	1.000	89.00	19.494
90	1.000	89.00	19.494
100	1.000	89.00	19.494
110	1.000	89.00	19.494
120	0.841	62.95	17.990
130	0.750	50.06	16.995
140	0.660	38.77	15.885
150	0.603	32.36	15.100
160	0.581	30.04	14.777
170	0.513	23.42	13.696
180	0.447	17.78	12.500
190	0.408	14.82	11.707
200	0.387	13.33	11.248
210	0.369	12.12	10.834
220	0.369	12.12	10.834
230	0.369	12.12	10.834
240	0.395	13.89	11.426
250	0.382	12.99	11.135
260	0.382	12.99	11.135
270	0.382	12.99	11.135
280	0.387	13.33	11.248
290	0.420	15.70	11.959
300	0.446	17.70	12.481
310	0.531	25.09	13.996
320	0.631	35.44	15.494
330	0.708	44.61	16.495
340	0.794	56.11	17.490
350	0.9	72.09	18.579

**Cardinal**

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	89.00	19.494
45	1.000	89.00	19.494
90	1.000	89.00	19.494
135	0.705	44.24	16.458
180	0.447	17.78	12.500
225	0.369	12.12	10.834
270	0.382	12.99	11.135
315	0.581	30.04	14.777

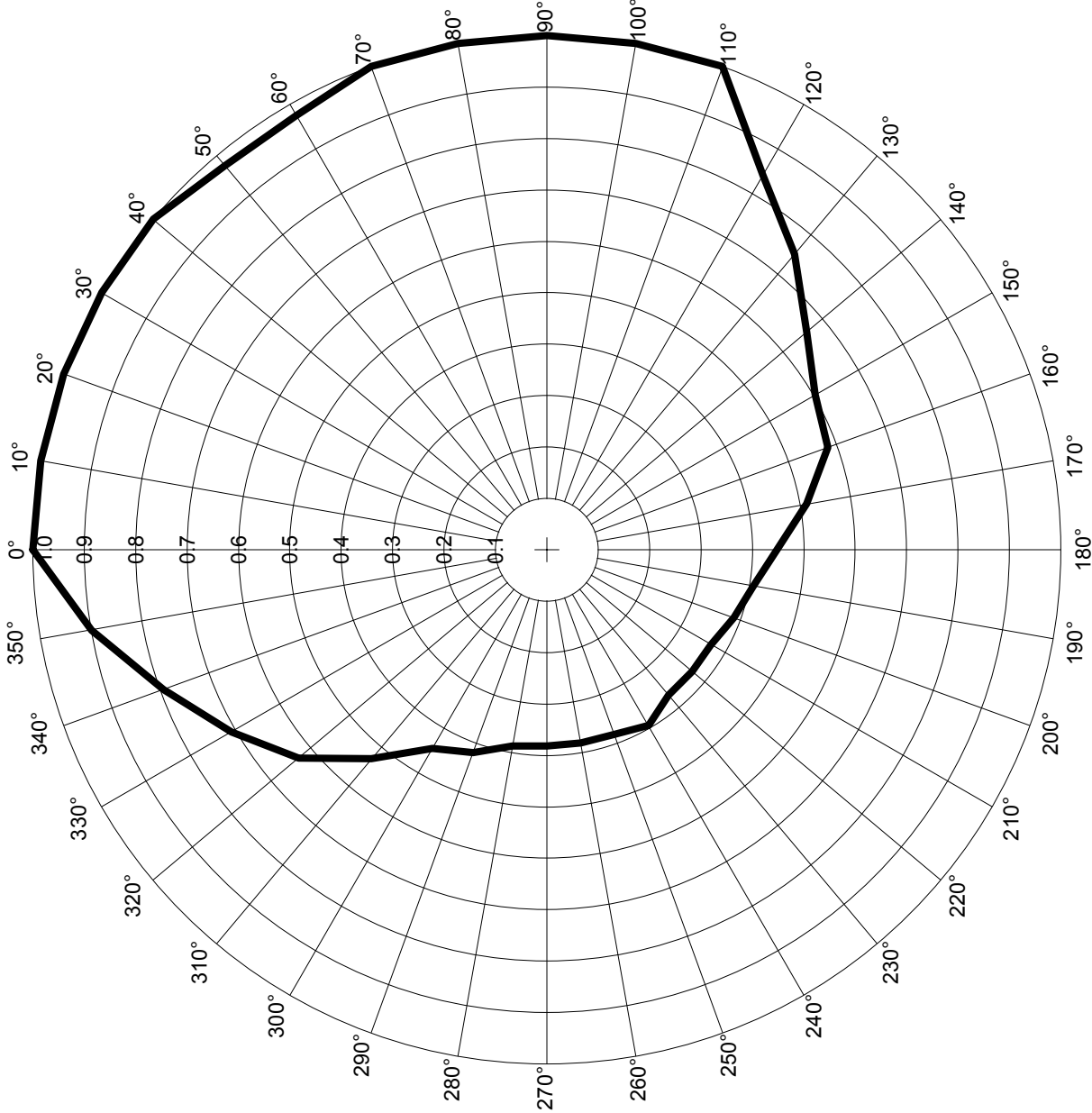
**Maxima**

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	89.00	19.494
60	1.000	89.00	19.494
110	1.000	89.00	19.494

**Minima**

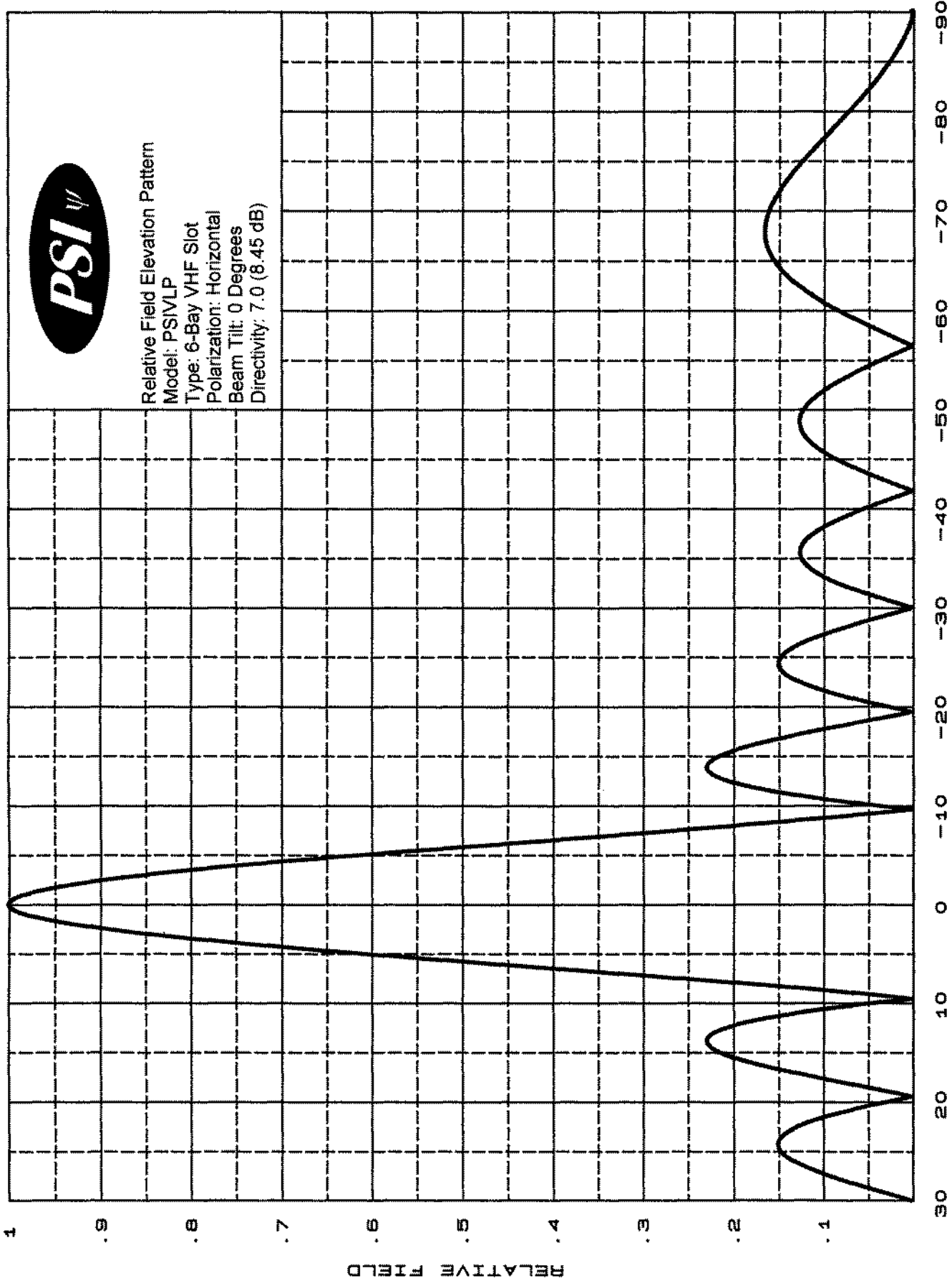
Angle	Field	ERP (kW)	ERP (dBk)
210	0.369	12.12	10.834
220	0.369	12.12	10.834
230	0.369	12.12	10.834

HORIZONTAL PLANE PATTERN



Pattern file: WBPH\_PSIVLP6BPHECA-9\_89kw.pat

Relative Intensity



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