

WMMF-LD, FI 36239, VERO BEACH, FL

MINOR MOD TO FCC FILE #0000135697

VINIONS, LLC

The within application is for a minor modification to the above-entitled filing. It consists only of a change of antenna from an 8 bay Epol antenna to a 12 bay Epol antenna; same model and manufacturer. Pattern data is attached.

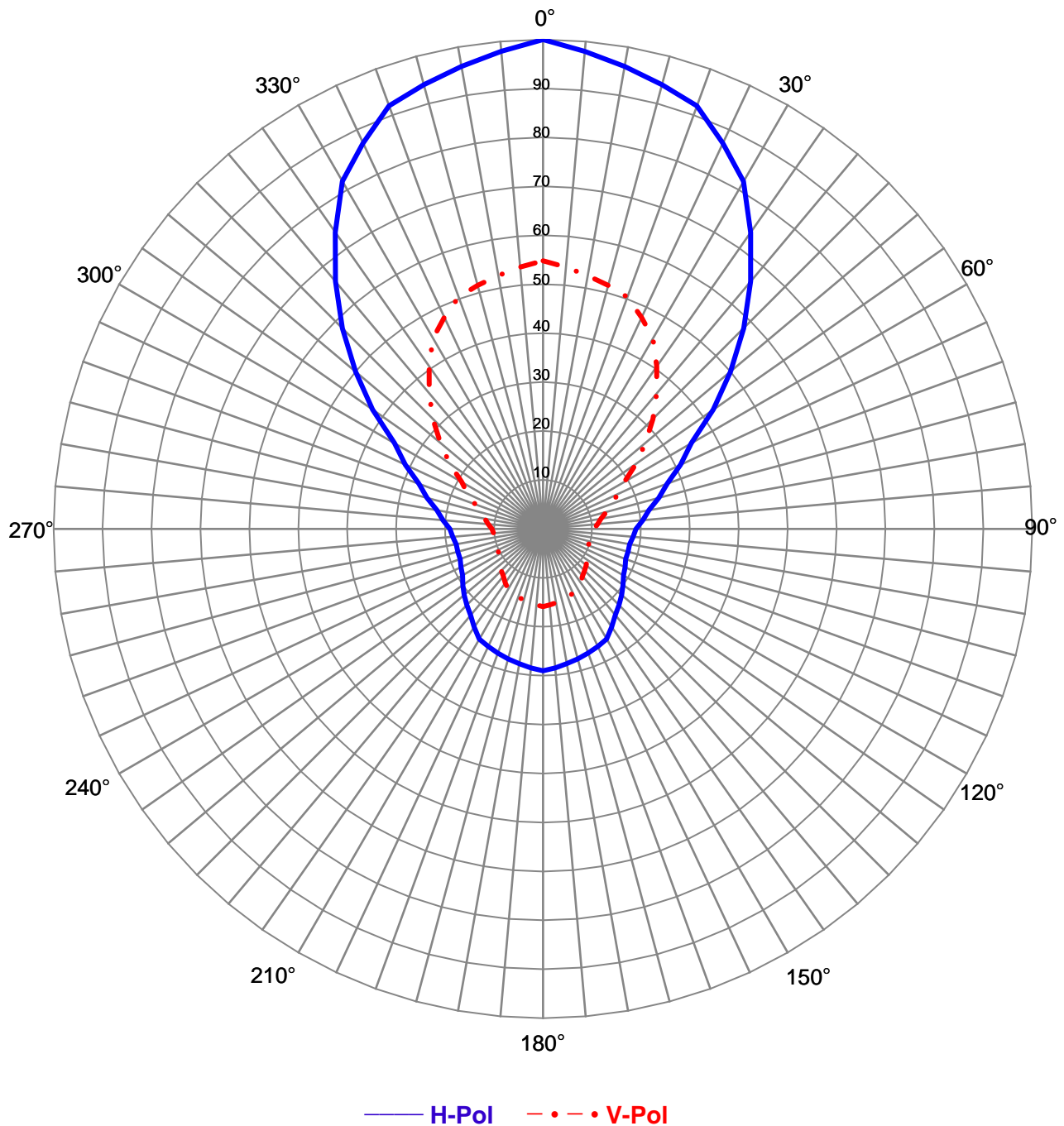
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Technical Consultant

May 23, 2021



Relative Field Azimuth Plane Pattern



Pattern Type:	Relative Field	Type:	12-Bay UHF Slot
Antenna Model:	PSILP12BC-19-EP	Channel:	19
Polarization:	Elliptical (70/30)	Pattern:	BC
Gain (h-pol):	40.99 (16.13 dB)	Reference:	WMMF-LP
Gain (v-pol):	12.30 (10.90 dB)	Date:	1/27/2021



PROPAGATION SYSTEMS INC.

Relative Field Tabulation

Antenna Model: PSILP8BC-19-EP

Peak Gain (H-pol): 40.99 (16.13 dBd)

Angle	Relative Field	Power Gain	Gain dB
0	1.000	40.99	16.13
10	0.960	37.78	15.77
20	0.920	34.69	15.40
30	0.820	27.56	14.40
40	0.660	17.86	12.52
50	0.500	10.25	10.11
60	0.350	5.02	7.01
70	0.270	2.99	4.75
80	0.220	1.98	2.98
90	0.190	1.48	1.70
100	0.180	1.33	1.23
110	0.180	1.33	1.23
120	0.190	1.48	1.70
130	0.210	1.81	2.57
140	0.230	2.17	3.36
150	0.260	2.77	4.43
160	0.270	2.99	4.75
170	0.280	3.21	5.07
180	0.290	3.45	5.37
190	0.280	3.21	5.07
200	0.270	2.99	4.75
210	0.260	2.77	4.43
220	0.230	2.17	3.36
230	0.210	1.81	2.57
240	0.190	1.48	1.70
250	0.180	1.33	1.23
260	0.180	1.33	1.23
270	0.190	1.48	1.70
280	0.220	1.98	2.98
290	0.270	2.99	4.75
300	0.350	5.02	7.01
310	0.500	10.25	10.11
320	0.660	17.86	12.52
330	0.820	27.56	14.40
340	0.920	34.69	15.40
350	0.960	37.78	15.77



PROPAGATION SYSTEMS INC.

Relative Field Tabulation

Antenna Model: PSILP8BC-19-EP

Peak Gain (V-pol): 12.30 (10.90 dBd)

Angle	Relative Field	Power Gain	Gain dB
0	0.548	12.30	10.90
10	0.526	11.34	10.55
20	0.504	10.41	10.18
30	0.449	8.27	9.18
40	0.362	5.36	7.29
50	0.274	3.08	4.88
60	0.192	1.51	1.78
70	0.148	0.90	-0.47
80	0.121	0.60	-2.25
90	0.104	0.44	-3.52
100	0.099	0.40	-3.99
110	0.099	0.40	-3.99
120	0.104	0.44	-3.52
130	0.115	0.54	-2.65
140	0.126	0.65	-1.86
150	0.142	0.83	-0.80
160	0.148	0.90	-0.47
170	0.153	0.96	-0.16
180	0.159	1.03	0.15
190	0.153	0.96	-0.16
200	0.148	0.90	-0.47
210	0.142	0.83	-0.80
220	0.126	0.65	-1.86
230	0.115	0.54	-2.65
240	0.104	0.44	-3.52
250	0.099	0.40	-3.99
260	0.099	0.40	-3.99
270	0.104	0.44	-3.52
280	0.121	0.60	-2.25
290	0.148	0.90	-0.47
300	0.192	1.51	1.78
310	0.274	3.08	4.88
320	0.362	5.36	7.29
330	0.449	8.27	9.18
340	0.504	10.41	10.18
350	0.526	11.34	10.55