

Horizontal Polarization AZIMUTH PATTERN

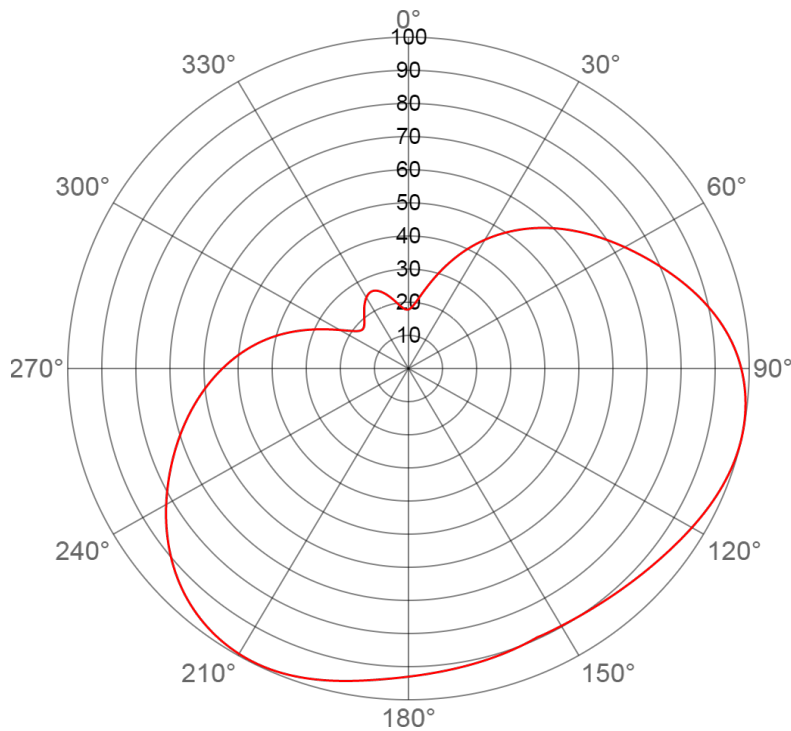


Exhibit No.

Date **28 Jun 2017**

Call Letters **WSEE**

Channel **21**

Antenna Type **TLP-24TLP (C)**

Location **ERIE PA**

Customer

Gain **1.9 (2.79 dB)**
Calculated

Drawing # **TLP-M**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.178	36	0.512	72	0.845	108	0.994	144	0.903	180	0.930	216	0.982	252	0.711	288	0.358	324	0.221
1	0.180	37	0.522	73	0.854	109	0.992	145	0.901	181	0.932	217	0.979	253	0.702	289	0.347	325	0.226
2	0.182	38	0.532	74	0.863	110	0.990	146	0.900	182	0.935	218	0.975	254	0.693	290	0.335	326	0.231
3	0.185	39	0.542	75	0.873	111	0.987	147	0.899	183	0.937	219	0.971	255	0.684	291	0.324	327	0.235
4	0.189	40	0.552	76	0.882	112	0.985	148	0.899	184	0.940	220	0.967	256	0.675	292	0.313	328	0.240
5	0.194	41	0.561	77	0.890	113	0.982	149	0.898	185	0.942	221	0.962	257	0.666	293	0.302	329	0.244
6	0.200	42	0.571	78	0.899	114	0.979	150	0.897	186	0.945	222	0.957	258	0.657	294	0.291	330	0.247
7	0.206	43	0.580	79	0.907	115	0.976	151	0.897	187	0.948	223	0.952	259	0.648	295	0.280	331	0.250
8	0.214	44	0.590	80	0.916	116	0.973	152	0.896	188	0.951	224	0.946	260	0.639	296	0.270	332	0.253
9	0.221	45	0.599	81	0.923	117	0.970	153	0.896	189	0.954	225	0.940	261	0.630	297	0.260	333	0.255
10	0.229	46	0.608	82	0.931	118	0.967	154	0.896	190	0.958	226	0.934	262	0.620	298	0.250	334	0.256
11	0.238	47	0.617	83	0.938	119	0.964	155	0.895	191	0.961	227	0.927	263	0.611	299	0.241	335	0.257
12	0.248	48	0.626	84	0.945	120	0.960	156	0.897	192	0.964	228	0.920	264	0.602	300	0.232	336	0.256
13	0.257	49	0.635	85	0.951	121	0.957	157	0.898	193	0.967	229	0.913	265	0.593	301	0.224	337	0.255
14	0.267	50	0.644	86	0.957	122	0.954	158	0.900	194	0.971	230	0.906	266	0.583	302	0.216	338	0.253
15	0.278	51	0.653	87	0.963	123	0.951	159	0.901	195	0.974	231	0.898	267	0.574	303	0.209	339	0.251
16	0.289	52	0.662	88	0.968	124	0.947	160	0.902	196	0.977	232	0.890	268	0.565	304	0.203	340	0.248
17	0.300	53	0.671	89	0.972	125	0.944	161	0.904	197	0.980	233	0.882	269	0.555	305	0.197	341	0.245
18	0.311	54	0.680	90	0.977	126	0.941	162	0.905	198	0.983	234	0.874	270	0.546	306	0.192	342	0.241
19	0.322	55	0.688	91	0.981	127	0.938	163	0.906	199	0.985	235	0.865	271	0.536	307	0.188	343	0.236
20	0.334	56	0.697	92	0.984	128	0.935	164	0.907	200	0.988	236	0.857	272	0.527	308	0.184	344	0.232
21	0.346	57	0.706	93	0.987	129	0.933	165	0.908	201	0.990	237	0.848	273	0.517	309	0.182	345	0.227
22	0.357	58	0.715	94	0.990	130	0.930	166	0.910	202	0.992	238	0.839	274	0.507	310	0.180	346	0.222
23	0.369	59	0.724	95	0.993	131	0.927	167	0.911	203	0.993	239	0.830	275	0.497	311	0.179	347	0.217
24	0.381	60	0.733	96	0.995	132	0.925	168	0.912	204	0.994	240	0.821	276	0.487	312	0.179	348	0.212
25	0.393	61	0.742	97	0.996	133	0.922	169	0.913	205	0.995	241	0.812	277	0.477	313	0.180	349	0.207
26	0.404	62	0.751	98	0.998	134	0.920	170	0.914	206	0.996	242	0.803	278	0.467	314	0.182	350	0.202
27	0.415	63	0.760	99	0.999	135	0.918	171	0.916	207	0.996	243	0.794	279	0.457	315	0.184	351	0.198
28	0.427	64	0.769	100	1.000	136	0.916	172	0.917	208	0.996	244	0.784	280	0.446	316	0.187	352	0.194
29	0.438	65	0.778	101	1.000	137	0.914	173	0.918	209	0.996	245	0.775	281	0.436	317	0.190	353	0.190
30	0.449	66	0.788	102	1.000	138	0.912	174	0.920	210	0.995	246	0.766	282	0.425	318	0.194	354	0.186
31	0.460	67	0.797	103	1.000	139	0.910	175	0.921	211	0.993	247	0.757	283	0.414	319	0.198	355	0.183
32	0.470	68	0.807	104	0.999	140	0.908	176	0.923	212	0.992	248	0.748	284	0.403	320	0.202	356	0.181
33	0.481	69	0.816	105	0.998	141	0.907	177	0.925	213	0.990	249	0.739	285	0.392	321	0.207	357	0.179
34	0.491	70	0.826	106	0.997	142	0.905	178	0.926	214	0.988	250	0.730	286	0.381	322	0.211	358	0.178
35	0.502	71	0.835	107	0.996	143	0.904	179	0.928	215	0.985	251	0.720	287	0.370	323	0.216	359	0.178

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ELEVATION PATTERN

Exhibit No.

Date **28 Jun 2017**

Call Letters **WSEE**

Channel **21**

Antenna Type **TLP-24TLP (C)**

Location **ERIE PA**

Customer

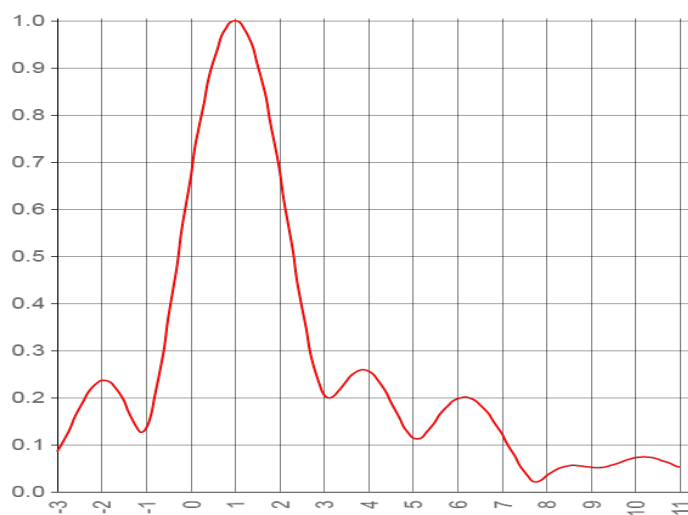
RMS Gain at Main Lobe **23.0 (13.62 dB)**

RMS Gain at Horizontal **10.3 (10.14 dB)**

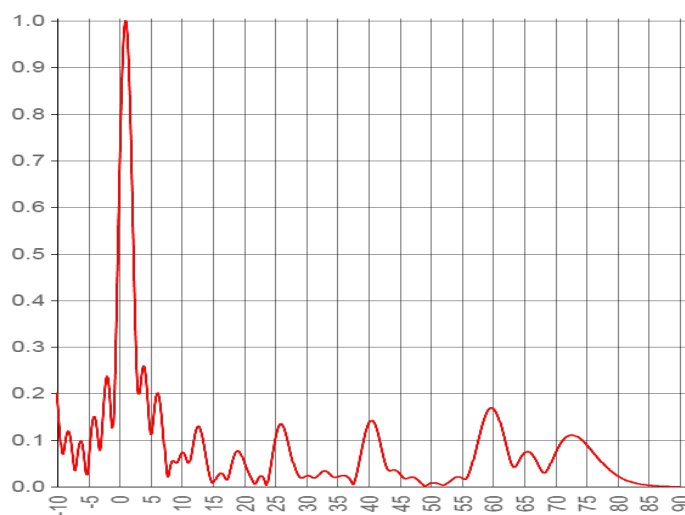
Calculated

Beam Tilt **1 Degrees**

Drawing # **24L230100**



Degrees below horizontal



Degrees below horizontal

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10	0.202	10	0.072	30	0.023	50	0.008	70	0.072
-9	0.073	11	0.052	31	0.020	51	0.007	71	0.096
-8	0.113	12	0.104	32	0.025	52	0.003	72	0.108
-7	0.039	13	0.123	33	0.034	53	0.011	73	0.110
-6	0.095	14	0.057	34	0.024	54	0.020	74	0.103
-5	0.049	15	0.008	35	0.021	55	0.019	75	0.090
-4	0.150	16	0.027	36	0.024	56	0.023	76	0.075
-3	0.085	17	0.018	37	0.016	57	0.066	77	0.059
-2	0.236	18	0.046	38	0.022	58	0.120	78	0.045
-1	0.134	19	0.077	39	0.084	59	0.159	79	0.033
0	0.670	20	0.054	40	0.134	60	0.168	80	0.023
1	1.000	21	0.023	41	0.135	61	0.144	81	0.016
2	0.681	22	0.009	42	0.087	62	0.095	82	0.011
3	0.207	23	0.022	43	0.039	63	0.048	83	0.007
4	0.256	24	0.023	44	0.036	64	0.051	84	0.005
5	0.115	25	0.101	45	0.028	65	0.071	85	0.003
6	0.197	26	0.135	46	0.017	66	0.073	86	0.002
7	0.122	27	0.101	47	0.021	67	0.054	87	0.001
8	0.033	28	0.048	48	0.014	68	0.031	88	0.001
9	0.052	29	0.020	49	0.001	69	0.042	89	0.000

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WSEE (Erie, PA) Proposed Ch. 21 Facility

Parameters:		Maxima:	
ERP:	84.5 kW	N100E	19.27 dBk
RCAMSL:	614.0 m	Minima:	
HAAT:	271.0 m	N000E	4.28 dBk

Directional Antenna dBk Table				
Bearing	Pattern Azimuth	Relative Field	ERP (dBk)	Distance to Noise-Limited Contour (km)
N000E	0	0.178	4.28	65.1
	10	0.229	6.47	
	20	0.334	9.74	
	30	0.449	12.31	
	40	0.552	14.11	
N045E	45	0.599	14.82	68.4
	50	0.644	15.45	
	60	0.733	16.57	
	70	0.826	17.61	
	80	0.916	18.51	
N090E	90	0.977	19.07	71.1
	100	1.000	19.27	
	110	0.990	19.18	
	120	0.960	18.91	
	128	0.935	18.68	
N135E	130	0.930	18.64	70.0
	133	0.922	18.56	
	135	0.918	18.53	
	140	0.908	18.43	
	150	0.897	18.32	
N180E	160	0.902	18.37	72.5
	170	0.914	18.49	
	180	0.930	18.64	
	190	0.958	18.90	
	200	0.988	19.16	
N225E	210	0.995	19.23	72.0
	220	0.967	18.98	
	225	0.940	18.73	
	230	0.906	18.41	
	240	0.821	17.56	
N270E	250	0.730	16.54	74.8
	260	0.639	15.38	
	270	0.546	14.01	
	280	0.446	12.26	
	290	0.335	9.77	
N315E	300	0.232	6.58	66.6
	303	0.209	5.67	
	304	0.203	5.42	
	310	0.180	4.37	
	315	0.184	4.56	
	320	0.202	5.38	
	330	0.247	7.12	
	340	0.248	7.16	
	350	0.202	5.38	