Dielectric®

Antenna Model: **TUA-C2-2/4M-1**

Proposal Number:	**C-70986**
Date:	**2-Apr-18**
Customer:	**NE Pennsylvania ED**
Location:	**Williamsport, PA**

Electrical Specifications

Polarization:	**Horizontal**				
Azimuth Pattern:	**Directional**				
Antenna Input:	**1-5/8"**	**50 Ohm**	**EIA/DCA**		
VSWR:	Channel	**1.10 : 1**		Band	**1.10 : 1**
Bandwidth:	**470 - 860 MHz**				
Rated Input Power:	**2 kW**	**(3.01 dBk)**	**Maximum combined average power**		

Mechanical Specifications

Mounting:	**Side Mounted**			
Environmental Protection:	**Panel Cover**			
Height:	**7 ft (2.1m)**			
Weight:	**120 lb (0.1t)**	Excludes Mounts		
Effective Projected Area:	**26.3 ft² (2.4m²)**	**TIA/EIA-222-F**	Basic Wind Speed:	**70 m/h (112.7 km/h)**

Channel Specifications

	Call	CH	Freq	Hpol ERP	TPO	Peak Main Lobe Hpol Gain	Peak at Horizontal Hpol Gain
1	WVIA LD	51	695 MHz	0.121 kW -(9.17 dBk)	0.012 kW -(19.04 dBk)	11.51 (10.61dB)	8.75 (9.42dB)
2	WVIA LD	17	491 MHz	0.121 kW -(9.17 dBk)	0.012 kW -(19.36 dBk)	12.04 (10.81dB)	10.59 (10.25dB)

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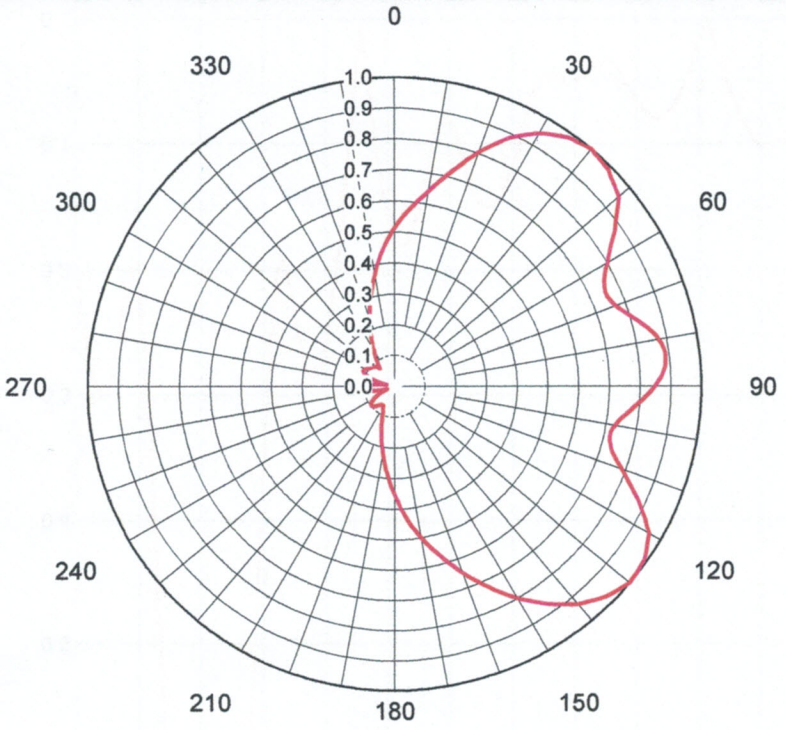

AZIMUTH PATTERN
Horizontal Polarization

Proposal No.	**C-70986**
Date	**8-Sep-17**
Call Letters	**WVIA LD**
Channel	**25**
Frequency	**539 MHz**
Antenna Type	**TUA**
Gain	**2.88 (4.59dB)**
	Calculated

for ch 51 => 18

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.514	36	0.986	72	0.786	108	0.756	144	0.881	180	0.354	216	0.075	252	0.035	288	0.080	324	0.094
1	0.526	37	0.989	73	0.798	109	0.771	145	0.869	181	0.340	217	0.076	253	0.041	289	0.087	325	0.099
2	0.539	38	0.992	74	0.810	110	0.788	146	0.855	182	0.326	218	0.078	254	0.048	290	0.093	326	0.106
3	0.551	39	0.996	75	0.822	111	0.802	147	0.842	183	0.312	219	0.079	255	0.054	291	0.098	327	0.113
4	0.563	40	0.999	76	0.835	112	0.818	148	0.828	184	0.299	220	0.081	256	0.061	292	0.103	328	0.120
5	0.575	41	0.996	77	0.847	113	0.836	149	0.814	185	0.285	221	0.083	257	0.067	293	0.107	329	0.127
6	0.588	42	0.994	78	0.857	114	0.855	150	0.801	186	0.272	222	0.086	258	0.072	294	0.111	330	0.134
7	0.601	43	0.991	79	0.867	115	0.875	151	0.785	187	0.259	223	0.088	259	0.077	295	0.113	331	0.143
8	0.614	44	0.989	80	0.874	116	0.891	152	0.770	188	0.246	224	0.090	260	0.080	296	0.113	332	0.152
9	0.627	45	0.987	81	0.881	117	0.907	153	0.754	189	0.233	225	0.092	261	0.084	297	0.113	333	0.161
10	0.641	46	0.979	82	0.886	118	0.924	154	0.739	190	0.220	226	0.094	262	0.087	298	0.112	334	0.170
11	0.656	47	0.972	83	0.888	119	0.940	155	0.724	191	0.208	227	0.095	263	0.089	299	0.111	335	0.179
12	0.670	48	0.966	84	0.888	120	0.956	156	0.709	192	0.197	228	0.096	264	0.090	300	0.110	336	0.190
13	0.686	49	0.960	85	0.886	121	0.963	157	0.693	193	0.186	229	0.097	265	0.089	301	0.108	337	0.201
14	0.702	50	0.955	86	0.882	122	0.971	158	0.678	194	0.175	230	0.099	266	0.092	302	0.107	338	0.212
15	0.718	51	0.939	87	0.877	123	0.978	159	0.663	195	0.164	231	0.098	267	0.093	303	0.105	339	0.223
16	0.734	52	0.922	88	0.869	124	0.985	160	0.648	196	0.155	232	0.097	268	0.093	304	0.102	340	0.234
17	0.751	53	0.906	89	0.860	125	0.992	161	0.633	197	0.146	233	0.095	269	0.092	305	0.100	341	0.247
18	0.768	54	0.891	90	0.848	126	0.994	162	0.618	198	0.137	234	0.094	270	0.090	306	0.099	342	0.260
19	0.786	55	0.877	91	0.837	127	0.995	163	0.602	199	0.128	235	0.092	271	0.087	307	0.098	343	0.273
20	0.804	56	0.859	92	0.824	128	0.997	164	0.587	200	0.120	236	0.089	272	0.083	308	0.097	344	0.287
21	0.820	57	0.842	93	0.811	129	0.998	165	0.572	201	0.113	237	0.085	273	0.077	309	0.096	345	0.300
22	0.836	58	0.827	94	0.797	130	1.000	166	0.558	202	0.107	238	0.082	274	0.071	310	0.095	346	0.314
23	0.853	59	0.814	95	0.783	131	0.995	167	0.544	203	0.101	239	0.077	275	0.063	311	0.094	347	0.327
24	0.869	60	0.802	96	0.770	132	0.989	168	0.529	204	0.095	240	0.073	276	0.055	312	0.092	348	0.341
25	0.886	61	0.788	97	0.758	133	0.984	169	0.515	205	0.089	241	0.068	277	0.046	313	0.091	349	0.355
26	0.897	62	0.777	98	0.746	134	0.979	170	0.500	206	0.085	242	0.062	278	0.038	314	0.089	350	0.369
27	0.909	63	0.767	99	0.737	135	0.973	171	0.486	207	0.082	243	0.056	279	0.030	315	0.088	351	0.384
28	0.920	64	0.760	100	0.730	136	0.965	172	0.472	208	0.079	244	0.050	280	0.026	316	0.087	352	0.399
29	0.932	65	0.755	101	0.723	137	0.956	173	0.458	209	0.076	245	0.044	281	0.026	317	0.085	353	0.414
30	0.943	66	0.752	102	0.720	138	0.947	174	0.443	210	0.073	246	0.037	282	0.031	318	0.082	354	0.429
31	0.951	67	0.752	103	0.719	139	0.939	175	0.428	211	0.073	247	0.031	283	0.038	319	0.079	355	0.444
32	0.959	68	0.755	104	0.722	140	0.930	176	0.414	212	0.073	248	0.027	284	0.047	320	0.075	356	0.458
33	0.967	69	0.760	105	0.727	141	0.918	177	0.399	213	0.073	249	0.025	285	0.057	321	0.080	357	0.473
34	0.975	70	0.767	106	0.734	142	0.906	178	0.384	214	0.073	250	0.027	286	0.065	322	0.084	358	0.487
35	0.983	71	0.776	107	0.744	143	0.893	179	0.369	215	0.073	251	0.030	287	0.073	323	0.089	359	0.500

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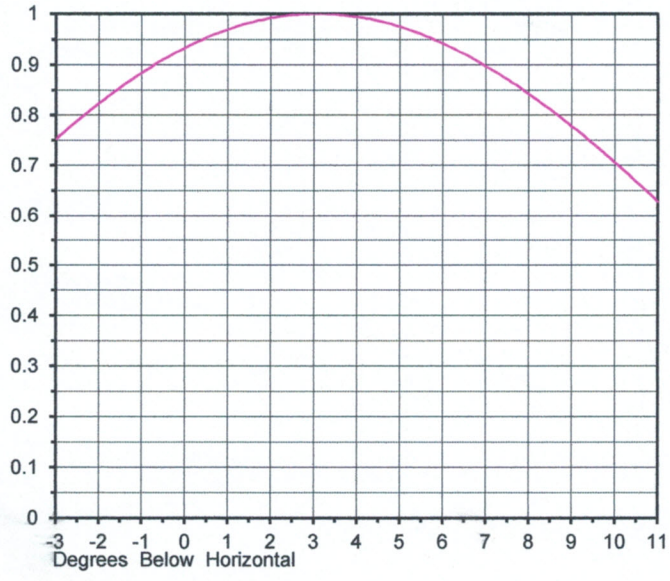
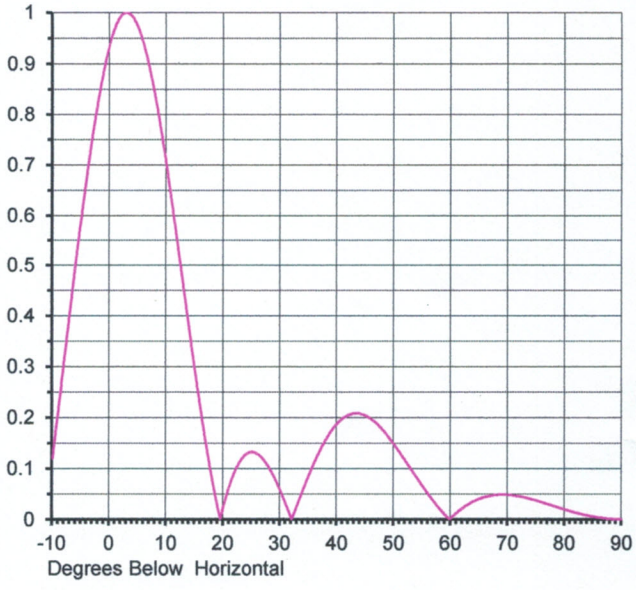
ELEVATION PATTERN

Proposal No.	**C-70986**
Date	**2-Apr-18**
Call Letters	**WVIA LD**
Channel	**17**
Frequency	**491 MHz**
Antenna Type	**TUA-C2-2/4M-1**

RMS Directivity at Main Lobe	**4.2 (6.21 dB)**	Beam Tilt	**3.00 deg**
RMS Directivity at Horizontal	**3.7 (5.68 dB)**	Pattern Number	**02U042300**

Calculated





Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.120	10.0	0.698	30.0	0.058	50.0	0.148	70.0	0.048
-9.0	0.213	11.0	0.620	31.0	0.030	51.0	0.132	71.0	0.047
-8.0	0.309	12.0	0.538	32.0	0.001	52.0	0.116	72.0	0.046
-7.0	0.405	13.0	0.455	33.0	0.028	53.0	0.099	73.0	0.043
-6.0	0.501	14.0	0.373	34.0	0.058	54.0	0.083	74.0	0.040
-5.0	0.593	15.0	0.293	35.0	0.086	55.0	0.066	75.0	0.037
-4.0	0.680	16.0	0.216	36.0	0.112	56.0	0.050	76.0	0.034
-3.0	0.760	17.0	0.145	37.0	0.136	57.0	0.036	77.0	0.030
-2.0	0.830	18.0	0.081	38.0	0.157	58.0	0.022	78.0	0.027
-1.0	0.890	19.0	0.024	39.0	0.175	59.0	0.009	79.0	0.023
0.0	0.938	20.0	0.025	40.0	0.188	60.0	0.003	80.0	0.020
1.0	0.972	21.0	0.064	41.0	0.199	61.0	0.013	81.0	0.016
2.0	0.993	22.0	0.094	42.0	0.205	62.0	0.022	82.0	0.013
3.0	1.000	23.0	0.116	43.0	0.208	63.0	0.029	83.0	0.010
4.0	0.993	24.0	0.128	44.0	0.208	64.0	0.036	84.0	0.008
5.0	0.972	25.0	0.133	45.0	0.204	65.0	0.041	85.0	0.005
6.0	0.938	26.0	0.129	46.0	0.197	66.0	0.044	86.0	0.003
7.0	0.892	27.0	0.119	47.0	0.188	67.0	0.047	87.0	0.002
8.0	0.836	28.0	0.103	48.0	0.176	68.0	0.048	88.0	0.001
9.0	0.771	29.0	0.082	49.0	0.163	69.0	0.049	89.0	0.000
								90.0	0.000