Horizontal Polarization
AZIMUTH PATTERN
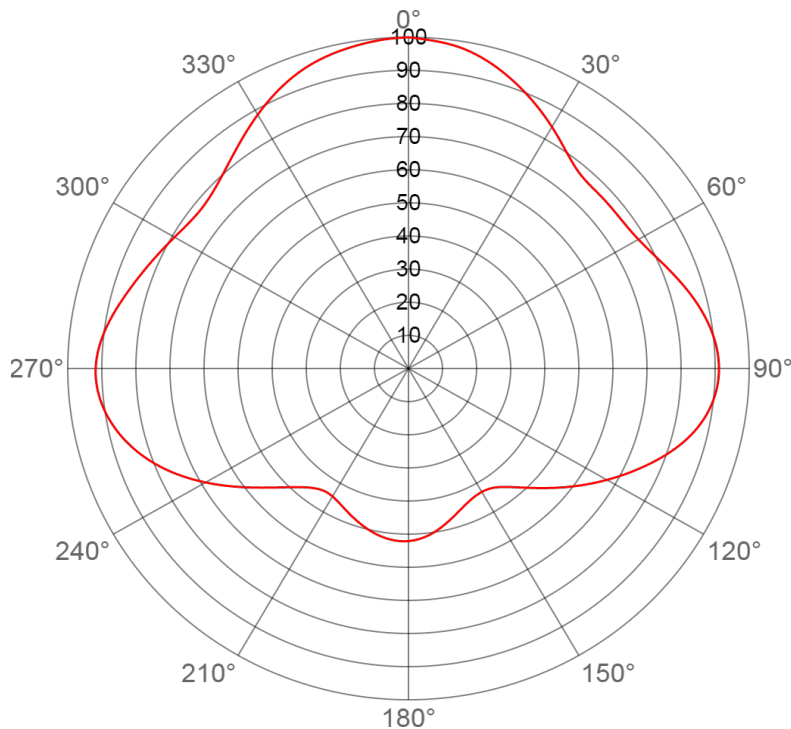
Exhibit No.	
Date	**1 Jul 2017**
Call Letters	**WPTO**
Channel	**29**
Antenna Type	**TFU-24DSB-H**
Location	**OXFORD OH**
Customer	
Gain	**1.7 (2.30 dB)**
	Calculated
Drawing #	**DSB-H**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	1.000	36	0.797	72	0.841	108	0.810	144	0.443	180	0.521	216	0.450	252	0.830	288	0.844	324	0.842
1	0.998	37	0.791	73	0.847	109	0.800	145	0.439	181	0.522	217	0.453	253	0.839	289	0.839	325	0.849
2	0.996	38	0.785	74	0.853	110	0.788	146	0.436	182	0.522	218	0.458	254	0.848	290	0.834	326	0.856
3	0.994	39	0.780	75	0.858	111	0.777	147	0.433	183	0.522	219	0.463	255	0.856	291	0.830	327	0.863
4	0.993	40	0.776	76	0.864	112	0.766	148	0.432	184	0.521	220	0.468	256	0.864	292	0.825	328	0.870
5	0.991	41	0.773	77	0.870	113	0.754	149	0.431	185	0.520	221	0.475	257	0.872	293	0.821	329	0.878
6	0.989	42	0.770	78	0.875	114	0.742	150	0.430	186	0.519	222	0.482	258	0.879	294	0.816	330	0.885
7	0.986	43	0.769	79	0.880	115	0.731	151	0.430	187	0.517	223	0.490	259	0.885	295	0.812	331	0.892
8	0.984	44	0.768	80	0.885	116	0.719	152	0.431	188	0.515	224	0.498	260	0.891	296	0.808	332	0.899
9	0.980	45	0.768	81	0.890	117	0.707	153	0.432	189	0.513	225	0.507	261	0.896	297	0.804	333	0.906
10	0.977	46	0.768	82	0.894	118	0.696	154	0.434	190	0.511	226	0.517	262	0.901	298	0.800	334	0.913
11	0.972	47	0.768	83	0.898	119	0.684	155	0.436	191	0.508	227	0.527	263	0.906	299	0.796	335	0.919
12	0.968	48	0.768	84	0.901	120	0.673	156	0.438	192	0.505	228	0.537	264	0.909	300	0.793	336	0.926
13	0.962	49	0.768	85	0.904	121	0.661	157	0.441	193	0.502	229	0.548	265	0.912	301	0.789	337	0.932
14	0.957	50	0.768	86	0.906	122	0.650	158	0.444	194	0.499	230	0.560	266	0.915	302	0.786	338	0.938
15	0.951	51	0.768	87	0.909	123	0.638	159	0.448	195	0.496	231	0.571	267	0.917	303	0.783	339	0.944
16	0.945	52	0.768	88	0.910	124	0.627	160	0.452	196	0.492	232	0.584	268	0.918	304	0.781	340	0.949
17	0.938	53	0.769	89	0.911	125	0.615	161	0.456	197	0.489	233	0.596	269	0.918	305	0.779	341	0.954
18	0.931	54	0.769	90	0.911	126	0.604	162	0.460	198	0.485	234	0.609	270	0.918	306	0.777	342	0.958
19	0.924	55	0.770	91	0.911	127	0.593	163	0.464	199	0.481	235	0.622	271	0.917	307	0.776	343	0.963
20	0.917	56	0.771	92	0.910	128	0.582	164	0.468	200	0.477	236	0.635	272	0.915	308	0.776	344	0.967
21	0.910	57	0.772	93	0.909	129	0.571	165	0.473	201	0.474	237	0.648	273	0.913	309	0.776	345	0.970
22	0.903	58	0.774	94	0.906	130	0.560	166	0.477	202	0.470	238	0.661	274	0.911	310	0.777	346	0.973
23	0.896	59	0.776	95	0.904	131	0.550	167	0.482	203	0.466	239	0.675	275	0.907	311	0.779	347	0.976
24	0.888	60	0.779	96	0.900	132	0.539	168	0.486	204	0.463	240	0.688	276	0.904	312	0.781	348	0.979
25	0.881	61	0.783	97	0.896	133	0.529	169	0.491	205	0.459	241	0.701	277	0.900	313	0.784	349	0.982
26	0.873	62	0.786	98	0.891	134	0.519	170	0.495	206	0.456	242	0.714	278	0.895	314	0.787	350	0.984
27	0.865	63	0.791	99	0.886	135	0.510	171	0.499	207	0.453	243	0.727	279	0.890	315	0.791	351	0.986
28	0.858	64	0.795	100	0.880	136	0.500	172	0.503	208	0.450	244	0.740	280	0.885	316	0.795	352	0.989
29	0.850	65	0.800	101	0.873	137	0.492	173	0.506	209	0.448	245	0.752	281	0.880	317	0.800	353	0.991
30	0.842	66	0.805	102	0.866	138	0.483	174	0.509	210	0.446	246	0.765	282	0.875	318	0.805	354	0.993
31	0.834	67	0.811	103	0.858	139	0.475	175	0.512	211	0.445	247	0.777	283	0.870	319	0.811	355	0.994
32	0.827	68	0.817	104	0.850	140	0.467	176	0.515	212	0.444	248	0.788	284	0.865	320	0.816	356	0.996
33	0.819	69	0.823	105	0.841	141	0.460	177	0.517	213	0.444	249	0.799	285	0.859	321	0.822	357	0.997
34	0.811	70	0.828	106	0.831	142	0.454	178	0.519	214	0.445	250	0.810	286	0.854	322	0.829	358	0.998
35	0.804	71	0.835	107	0.821	143	0.448	179	0.520	215	0.447	251	0.820	287	0.849	323	0.835	359	0.999

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Dielectric®

ELEVATION PATTERN

Exhibit No.
Date   **1 Jul 2017**
Call Letters   **WPTO**
Channel   **29**
Antenna Type   **TFU-24DSB-H**
Location   **OXFORD OH**
Customer

RMS Gain at Main Lobe   **24.0 (13.80 dB)**   Beam Tilt   **1 Degrees**
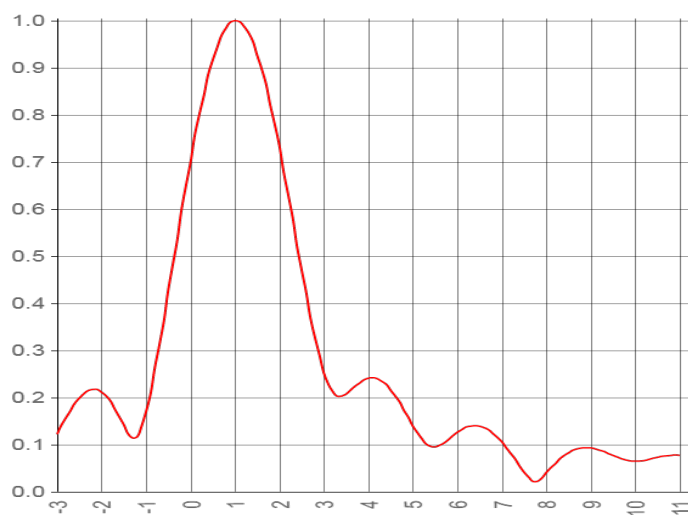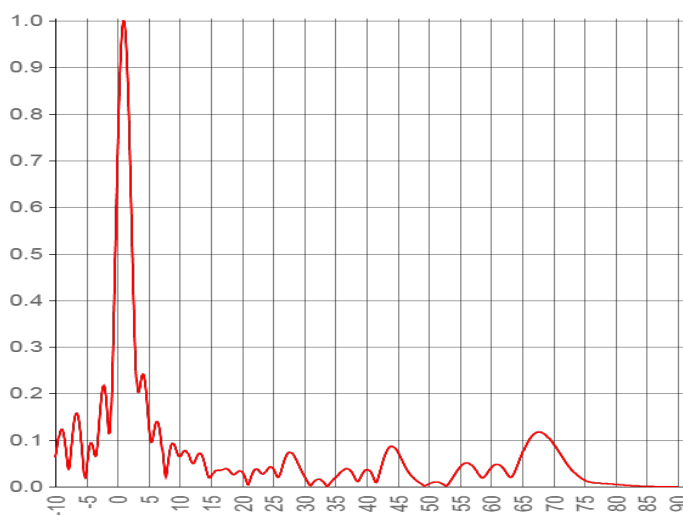RMS Gain at Horizontal   **11.9 (10.75 dB)**   Drawing #   **24B240100**
                             Calculated

Degrees below horizontal   Degrees below horizontal

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10	0.063	10	0.065	30	0.023	50	0.006	70	0.092
-9	0.123	11	0.077	31	0.002	51	0.010	71	0.073
-8	0.045	12	0.051	32	0.015	52	0.008	72	0.053
-7	0.134	13	0.070	33	0.011	53	0.004	73	0.036
-6	0.127	14	0.051	34	0.005	54	0.023	74	0.023
-5	0.035	15	0.020	35	0.019	55	0.042	75	0.014
-4	0.088	16	0.035	36	0.032	56	0.051	76	0.010
-3	0.122	17	0.037	37	0.038	57	0.045	77	0.008
-2	0.212	18	0.034	38	0.023	58	0.027	78	0.007
-1	0.169	19	0.028	39	0.018	59	0.022	79	0.006
0	0.704	20	0.032	40	0.037	60	0.040	80	0.005
1	1.000	21	0.004	41	0.023	61	0.048	81	0.004
2	0.731	22	0.035	42	0.025	62	0.039	82	0.003
3	0.254	23	0.031	43	0.068	63	0.021	83	0.002
4	0.241	24	0.036	44	0.087	64	0.037	84	0.001
5	0.141	25	0.039	45	0.075	65	0.070	85	0.001
6	0.126	26	0.023	46	0.049	66	0.098	86	0.001
7	0.105	27	0.062	47	0.027	67	0.114	87	0.000
8	0.040	28	0.072	48	0.014	68	0.117	88	0.000
9	0.093	29	0.049	49	0.004	69	0.108	89	0.000

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WPTO (Oxford, OH) Proposed Ch. 29 Facility

Parameters:		**Maxima:**	
		N000E	27.28 dBk
ERP:	535.0 kW		
RCAMSL:	490.3 m	**Minima:**	
HAAT:	279.0 m	N150E	19.95 dBk

Directional Antenna dBk Table

Bearing	Pattern Azimuth	Relative Field	ERP (dBk)	Distance to Noise-Limited Contour (km)
N000E	0	1.000	27.28	87.4
	10	0.977	27.08	
	20	0.917	26.53	
	30	0.842	25.79	
	40	0.776	25.08	
N045E	45	0.768	24.99	83.9
	50	0.768	24.99	
	60	0.779	25.11	
	70	0.828	25.64	
	80	0.885	26.22	
N090E	90	0.911	26.47	92.9
	100	0.880	26.17	
	110	0.788	25.21	
	120	0.673	23.84	
	130	0.560	22.25	
N135E	135	0.510	21.43	81.9
	140	0.467	20.67	
	150	0.430	19.95	
	160	0.452	20.39	
	170	0.495	21.18	
N180E	180	0.521	21.62	80.7
	190	0.511	21.45	
	200	0.477	20.85	
	210	0.446	20.27	
	220	0.468	20.69	
N225E	225	0.507	21.38	78.9
	230	0.560	22.25	
	240	0.688	24.04	
	250	0.810	25.45	
	260	0.891	26.28	
N270E	270	0.918	26.54	85.3
	280	0.885	26.22	
	290	0.834	25.71	
	300	0.793	25.27	
	310	0.777	25.09	
N315E	315	0.791	25.25	82.0
	320	0.816	25.52	
	330	0.885	26.22	
	340	0.949	26.83	
	350	0.984	27.14	