

ENGINEERING STATEMENT
RE DTV BROADCAST ENGINEERING DATA
FOR APPLICATION FOR LICENSE
FCC FILE NO. BMPCDT-20110512AAW
ON BEHALF OF
WAND(TV) PARTNERSHIP
WAND-DT, DECATUR, ILLINOIS
CHANNEL 17 1000 KW ERP MAX H - 390.5 METERS HAAT
300 KW MAX V

OCTOBER 2011

COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

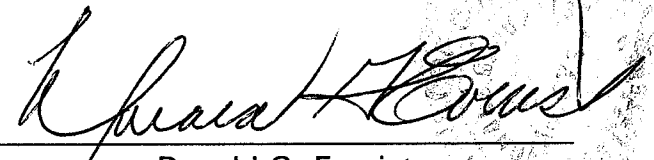
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1420 N Street, N.W., Suite One, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

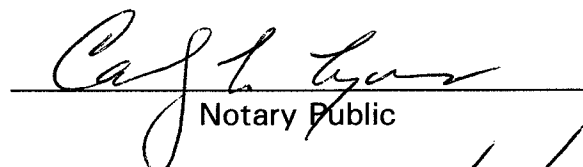
That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.



Donald G. Everist
District of Columbia
Professional Engineer
Registration No. 5714

Subscribed and sworn to before me this 28th day of October, 2011.



Notary Public

My Commission Expires: 2/28/2013

This engineering statement has been prepared on behalf of WAND(TV) Partnership, licensee of WAND-DT, Decatur, Illinois. The purpose of this engineering statement accompanies its request to license construction permit BMPCDT-20110512AAW for digital television ("DTV") facilities.

WAND(TV) operated on NTSC Television Channel 17 with a maximum visual horizontal effective radiated power ("ERP") of 5000 kW directional (horizontal polarization) at a height above average terrain ("HAAT") of 393 meters. WAND-DT has been allocated DTV Channel 18 with facilities of 350 kW at a HAAT of 375 meters in the final DTV Table of Allotments.¹ WAND-DT is licensed for facilities of 500 kW directional ERP at a HAAT of 375 meters. WAND-DT licensed in MB Docket No. 10-264 is authorized to change from DTV Channel 18 to Channel 17 and operate with DTV facilities of 1000 kW directional (horizontal polarization and 300 kW vertical) at a HAAT of 390.5 meters.

The DTV antenna is top-mounted on an existing tower having a total overall structure height above ground of 400.5 meters (1314 feet). The DTV antenna replaced the existing analog antenna. The existing transmitter site is located approximately 2 miles south of Argenta, Illinois.

The geographic coordinates of the existing site are:

North Latitude: 39° 57' 07"

West Longitude: 88° 49' 55"

NAD-27

¹"In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service", MM Docket 87-268, Memorandum Opinion and Order on Reconsideration of the Seventh Report and Order and Eighth Report and Order (FCC 08-72) Released March 6, 2008.

Antenna Registration Number 1009651

Equipment Data
(existing)

Antenna: SPX, Type TFU-31JTH/VP-R T110/C150 (or equivalent) horizontally and vertically polarized antenna with 0.75° electrical beam tilt. The vertical plane pattern and other exhibits required by Section 73.625(c) are herein included in Exhibit E-1.

Transmission Line: Dielectric, 75 ohm Type No. 561 671-1B or equivalent—length 410 meters (1350 ft) with a manufacturer stated loss of 0.0804

Power Data

Transmitter output	47.3 kW	16.75 dBk
Transmission Line/ Efficiency Loss	77.9%	1.085 dB
Input power to the antenna	36.77 kW	15.66 dBk
Antenna power gain Hpol, Main Lobe	27.2	14.34 dB
Antenna power gain Vpol, Main Lobe	8.1	9.11 dB
Effective Radiated Power Hpol, Maximum	1000 kW	30.0 dBk
Effective Radiated Power Vpol, Maximum	300 kW	24.77 dBk

Elevation Data

Vertical dimension of Channel 17 top-mounted antenna with pedestal	21.5 meters 70.6 feet
Overall height above ground of the antenna structure (Including beacon and lightning protection)	400.5 meters 1314 feet
Center of radiation of Channel 17 antenna above ground	389.3 meters 1277.2 feet
Elevation of site above mean sea level	209.1 meters 686 feet
Center of radiation of Channel 17 antenna above mean sea level	589.4 meters 1963.3 feet
Overall height above mean sea level of the tower (including beacon)	609.6 meters 2000 feet
Antenna height above average terrain	390.5 meters

NOTE: Slight height differences result due to/from conversion to metric.

Special Operation Condition

WAND(TV) Partnership acknowledges that the grant of this DTV license is subject to the special operating condition specified in the outstanding construction permit. Therefore, WAND(TV) Partnership certifies that it has made a good faith effort to identify and notify potentially affected health care facilities within the WAND-DT service area authorized by the outstanding construction permit (FCC File No. BMPCDT-20110512AAW).

COHEN, DIPPELL AND EVERIST, P.C.

EXHIBIT E-1

ANTENNA MANUFACTURER DATA

WAND-DT, DECATUR, ILLINOIS



Proposal #: **C-04602-1**
 Call Letters: **WAND**

Antenna Type: **TFU-31JTH/VP-R T110/C150**
 Location: **Decatur, IL**

Channel: **17 DTV**

Electrical Specifications		Value		Remarks		
		Ratio	dBd			
RMS Gain at Main Lobe over Halfwave Dipole	Hpol					
	Vpol					
RMS Gain at Horizontal over Halfwave Dipole	Hpol					
	Vpol					
Peak Directional Gain over Halfwave Dipole	Hpol	27.2	14.34			
	Vpol	8.1	9.11			
Peak Directional Gain at Horizontal over Halfwave Dipole	Hpol	15.4	11.88			
	Vpol	4.6	6.63			
Circularity Directional		dB				
Axial Ratio		dB				
Beam Tilt		0.75 deg				
Average Power		50 kW	16.99 dBk			
Antenna Input: T/L		6 1/8 in	75.0 ohm	Type:	EIA/DCA	
Maximum Antenna Input VSWR				Notes:		
		Channel 1.10 : 1				
Patterns	Azimuth	T110-HPOL	C150-VPOL			
	Elevation	31J302075	31J302075-90			
Mechanical Specifications		Metric	English		Preliminary	w/adapter
Height with Lightning Protector	H4	21.1 m	69.1 ft			70.6 ft (21.5 m)
Height Less Lightning Protector	H2	19.8 m	65.1 ft	TIA/EIA-222-F.		66.6 ft (20.3 m)
Height of Center of Radiation	H3	9.9 m	32.6 ft			34.1 ft (10.4 m)
Basic Wind Speed	V	112.7 km/h	70 mi/h			
Force Coeff. x Projected Area	CaAc	7.4 m²	79.4 ft²	Above base flange		81.4 ft² (7.6 m²)
Moment Arm	D1	10.4 m	34.2 ft	Above base flange		34.8 ft (10.6 m)
Weight	W	5.1 t	11,300 lbs			12,300 lbs (5.6 t)
Antenna designed in accordance with AISC specifications for design of structural steel for building as prescribed by TIA/EIA-222-F.						

NOTE:

Prepared By : PSJ RMS Approved By : MPS
 Original Date : 5-Apr-11 Revision: 1 Rev. Date: 26-Apr-11 PSJ

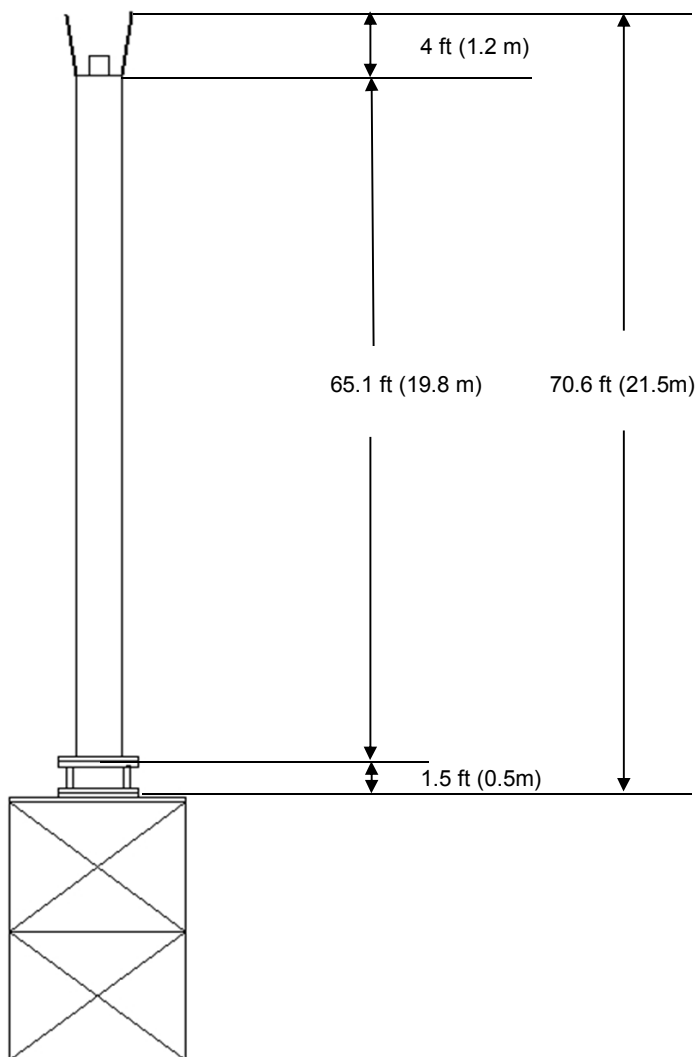
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Proposal #: **C-04602-1**
Call Letters: **WAND**

Antenna Type: **TFU-31JTH/VP-R T110/C150**
Location: **Decatur, IL**

Channel: **17 DTV**



Mechanical Specifications
TIA/EIA-222-F. @ 70 mi/h (112.7 km/h)

TFU-31JTH/VP-R T110/C150
Channel: D17

CaAc = 79.4 ft²(7.4 m²)
W = 11300 lbs(5.1 t)

With Adapter

CaAc = 81.4 ft² (7.6 m²)
W = 12,300 lbs(5.6 t)

PSJ-Top-Mount_2-1-11

Not to Scale

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Proposal Number	C-04602	Revision:	1
Date	26-Apr-11		
Call Letters	WAND	Channel	17
Location	Decatur, IL		
Customer			
Antenna Type	TFU-31JTH/VP-R T110/C150		

SYSTEM SUMMARY

Antenna:

			H Pol		V Pol
Type:	TFU-31JTH/VP-R T110/CERP:	1000 kW	(30.00 dBk)	300 kW	(24.77 dBk)
Channel:	17	Peak Gain*:	27.2 (14.34 dB)	8.1	(9.11 dB)
Location:	Decatur, IL	Input Power:	36.8 kW (15.66 dBk)		

Transmission Line:

Type:	EIA	Attenuation:	1.09 dB
Size:	8 3/16 in	Efficiency:	77.8%
Impedance:	75 ohm		
Length:	1,350 ft	411.5 m	

Transmitter:

Power Required: **47.3 kW (16.75 dBk)**

* Gain is with respect to half wave dipole.

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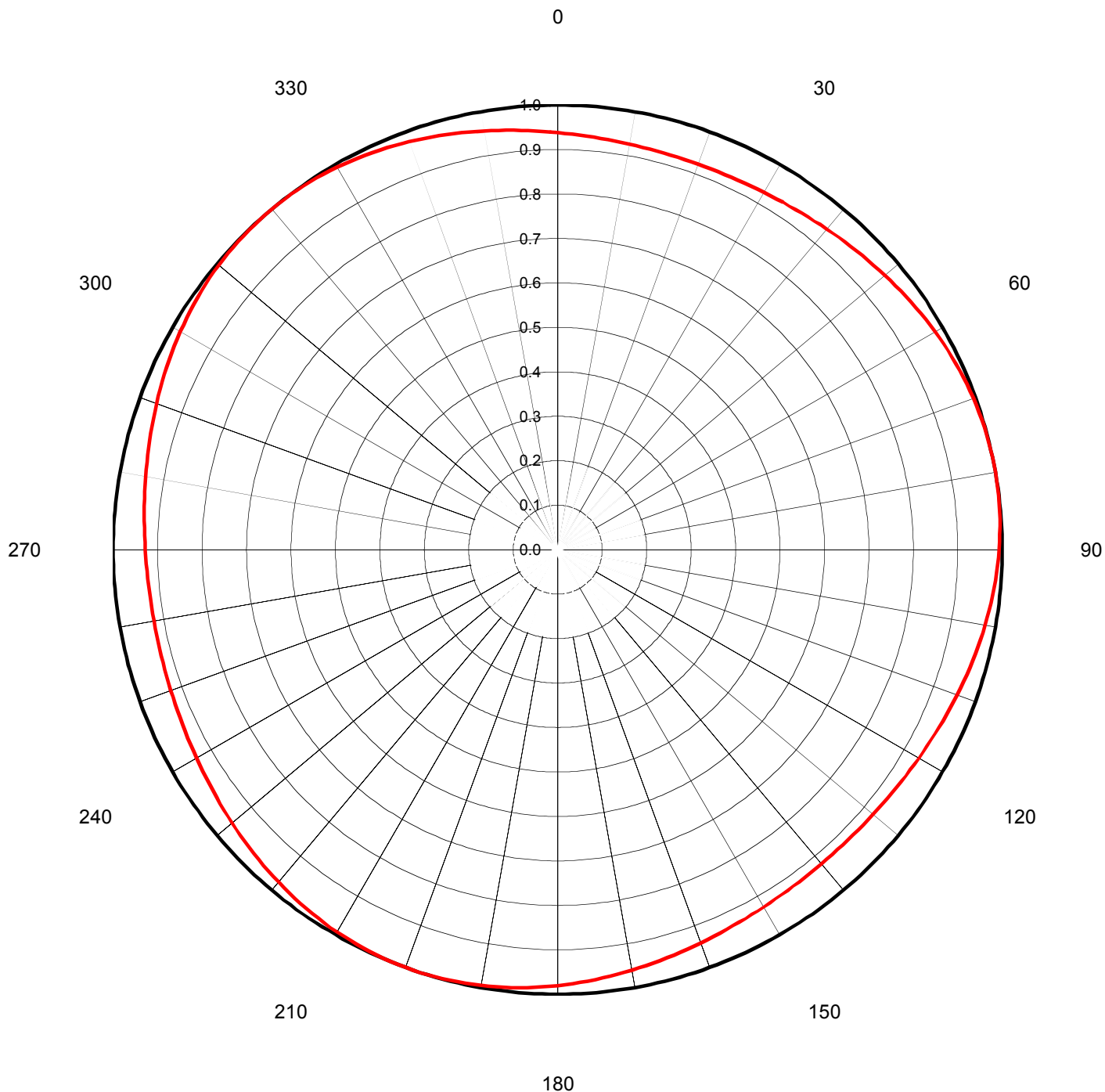
AZIMUTH PATTERN

Gain **1.10**
Calculated / Measured

(0.41 dB)
Calculated

Frequency
Drawing #

491.00 MHz
T110-HPOL





Proposal Number **C-04602** Revision: **1**
Date **26-Apr-11**
Call Letters **WAND** Channel **17**
Location **Decatur, IL**
Customer
Antenna Type **TFU-31JTH/VP-R T110/C160**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **T110-HPOL**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.938	45	0.950	90	0.993	135	0.923	180	0.980	225	0.967	270	0.928	315	0.999
1	0.937	46	0.952	91	0.992	136	0.923	181	0.982	226	0.964	271	0.929	316	1.000
2	0.935	47	0.954	92	0.990	137	0.923	182	0.984	227	0.962	272	0.930	317	1.000
3	0.934	48	0.956	93	0.989	138	0.922	183	0.986	228	0.960	273	0.931	318	1.000
4	0.932	49	0.958	94	0.987	139	0.922	184	0.987	229	0.958	274	0.932	319	1.000
5	0.931	50	0.960	95	0.986	140	0.922	185	0.989	230	0.956	275	0.934	320	1.000
6	0.930	51	0.962	96	0.984	141	0.923	186	0.990	231	0.954	276	0.935	321	1.000
7	0.929	52	0.964	97	0.982	142	0.923	187	0.992	232	0.952	277	0.937	322	1.000
8	0.928	53	0.967	98	0.980	143	0.923	188	0.993	233	0.950	278	0.938	323	0.999
9	0.927	54	0.969	99	0.978	144	0.924	189	0.994	234	0.948	279	0.940	324	0.999
10	0.926	55	0.971	100	0.977	145	0.924	190	0.995	235	0.947	280	0.941	325	0.998
11	0.925	56	0.973	101	0.975	146	0.925	191	0.996	236	0.945	281	0.943	326	0.997
12	0.925	57	0.975	102	0.973	147	0.925	192	0.997	237	0.943	282	0.945	327	0.996
13	0.924	58	0.977	103	0.971	148	0.926	193	0.998	238	0.941	283	0.947	328	0.995
14	0.924	59	0.978	104	0.969	149	0.927	194	0.999	239	0.940	284	0.948	329	0.994
15	0.923	60	0.980	105	0.967	150	0.928	195	0.999	240	0.938	285	0.950	330	0.993
16	0.923	61	0.982	106	0.964	151	0.929	196	1.000	241	0.937	286	0.952	331	0.992
17	0.923	62	0.984	107	0.962	152	0.930	197	1.000	242	0.935	287	0.954	332	0.990
18	0.922	63	0.986	108	0.960	153	0.931	198	1.000	243	0.934	288	0.956	333	0.989
19	0.922	64	0.987	109	0.958	154	0.932	199	1.000	244	0.932	289	0.958	334	0.987
20	0.922	65	0.989	110	0.956	155	0.934	200	1.000	245	0.931	290	0.960	335	0.986
21	0.923	66	0.990	111	0.954	156	0.935	201	1.000	246	0.930	291	0.962	336	0.984
22	0.923	67	0.992	112	0.952	157	0.937	202	1.000	247	0.929	292	0.964	337	0.982
23	0.923	68	0.993	113	0.950	158	0.938	203	0.999	248	0.928	293	0.967	338	0.980
24	0.924	69	0.994	114	0.948	159	0.940	204	0.999	249	0.927	294	0.969	339	0.978
25	0.924	70	0.995	115	0.947	160	0.941	205	0.998	250	0.926	295	0.971	340	0.977
26	0.925	71	0.996	116	0.945	161	0.943	206	0.997	251	0.925	296	0.973	341	0.975
27	0.925	72	0.997	117	0.943	162	0.945	207	0.996	252	0.925	297	0.975	342	0.973
28	0.926	73	0.998	118	0.941	163	0.947	208	0.995	253	0.924	298	0.977	343	0.971
29	0.927	74	0.999	119	0.940	164	0.948	209	0.994	254	0.924	299	0.978	344	0.969
30	0.928	75	0.999	120	0.938	165	0.950	210	0.993	255	0.923	300	0.980	345	0.967
31	0.929	76	1.000	121	0.937	166	0.952	211	0.992	256	0.923	301	0.982	346	0.964
32	0.930	77	1.000	122	0.935	167	0.954	212	0.990	257	0.923	302	0.984	347	0.962
33	0.931	78	1.000	123	0.934	168	0.956	213	0.989	258	0.922	303	0.986	348	0.960
34	0.932	79	1.000	124	0.932	169	0.958	214	0.987	259	0.922	304	0.987	349	0.958
35	0.934	80	1.000	125	0.931	170	0.960	215	0.986	260	0.922	305	0.989	350	0.956
36	0.935	81	1.000	126	0.930	171	0.962	216	0.984	261	0.923	306	0.990	351	0.954
37	0.937	82	1.000	127	0.929	172	0.964	217	0.982	262	0.923	307	0.992	352	0.952
38	0.938	83	0.999	128	0.928	173	0.967	218	0.980	263	0.923	308	0.993	353	0.950
39	0.940	84	0.999	129	0.927	174	0.969	219	0.978	264	0.924	309	0.994	354	0.948
40	0.941	85	0.998	130	0.926	175	0.971	220	0.977	265	0.924	310	0.995	355	0.947
41	0.943	86	0.997	131	0.925	176	0.973	221	0.975	266	0.925	311	0.996	356	0.945
42	0.945	87	0.996	132	0.925	177	0.975	222	0.973	267	0.925	312	0.997	357	0.943
43	0.947	88	0.995	133	0.924	178	0.977	223	0.971	268	0.926	313	0.998	358	0.941
44	0.948	89	0.994	134	0.924	179	0.978	224	0.969	269	0.927	314	0.999	359	0.940

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Proposal Number	C-04602	Revision:	1
Date	26-Apr-11		
Call Letters	WAND	Channel	17
Location	Decatur, IL		
Customer			
Antenna Type	TFU-31JTH/VP-R T110/C150		

AZIMUTH PATTERN/VERTICAL POLARIZATION

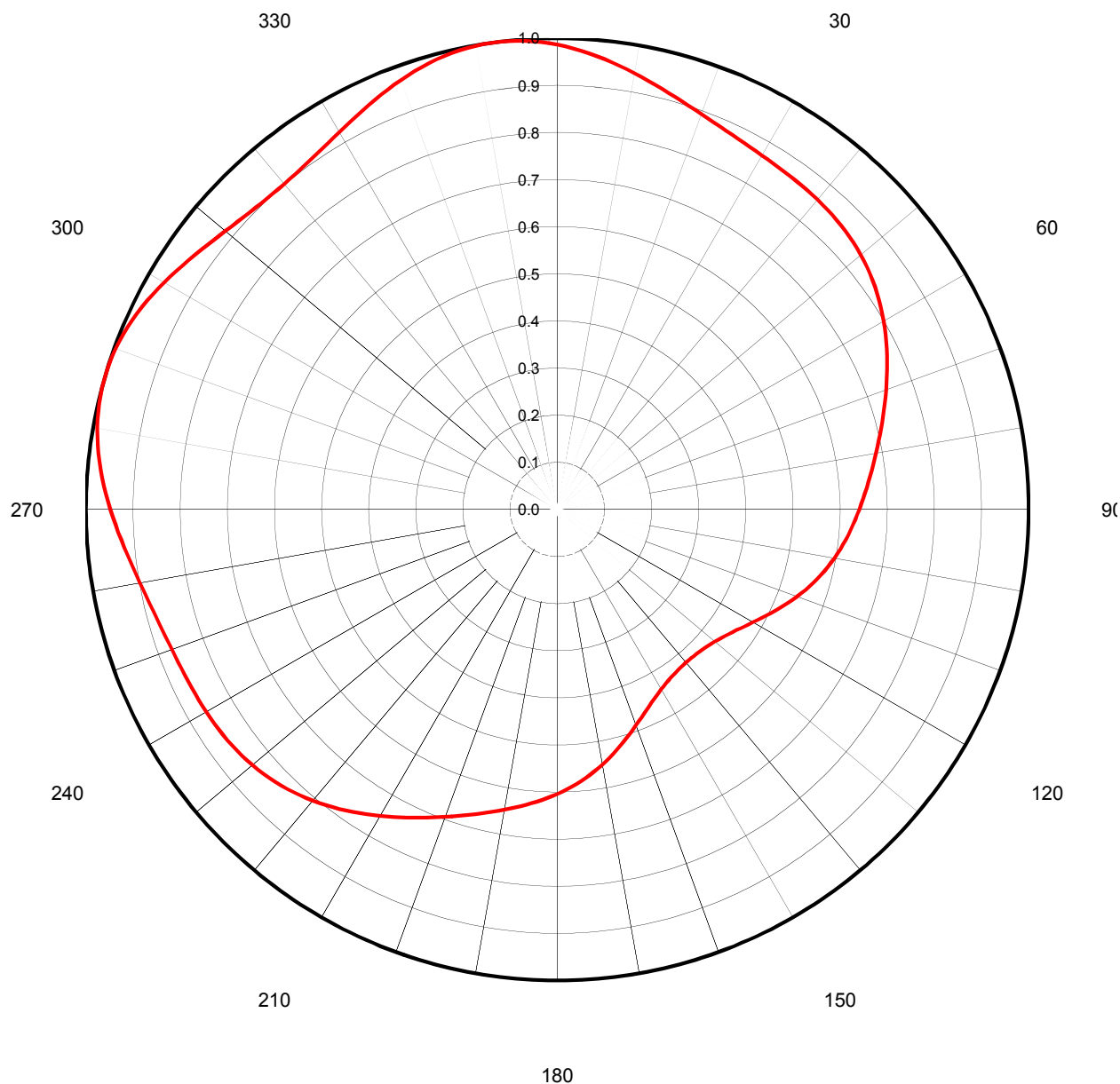
Pattern normalized to 1

Gain **1.50**
Calculated / Measured

(1.76 dB)
Calculated

Frequency **491.00 MHz**
Drawing # **C150-VPOL**

0





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Location **Decatur, IL**
Customer
Antenna Type **TFU-31JTH/VP-R T110/C150**

TABULATION OF AZIMUTH PATTERN/VERTICAL POLARIZATION

Pattern normalized to 1

Azimuth Pattern Drawing #: **C150-VPOL**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.986	45	0.852	90	0.641	135	0.427	180	0.604	225	0.829	270	0.948	315	0.905
1	0.983	46	0.850	91	0.637	136	0.426	181	0.609	226	0.832	271	0.953	316	0.904
2	0.979	47	0.848	92	0.633	137	0.425	182	0.613	227	0.836	272	0.958	317	0.903
3	0.975	48	0.846	93	0.628	138	0.425	183	0.618	228	0.839	273	0.963	318	0.902
4	0.970	49	0.843	94	0.624	139	0.425	184	0.622	229	0.842	274	0.968	319	0.902
5	0.966	50	0.841	95	0.620	140	0.425	185	0.626	230	0.845	275	0.973	320	0.902
6	0.961	51	0.837	96	0.615	141	0.425	186	0.630	231	0.847	276	0.977	321	0.902
7	0.956	52	0.834	97	0.611	142	0.426	187	0.635	232	0.849	277	0.981	322	0.903
8	0.951	53	0.831	98	0.606	143	0.426	188	0.639	233	0.851	278	0.985	323	0.905
9	0.946	54	0.827	99	0.602	144	0.428	189	0.643	234	0.853	279	0.988	324	0.906
10	0.940	55	0.823	100	0.597	145	0.429	190	0.647	235	0.854	280	0.991	325	0.909
11	0.935	56	0.819	101	0.592	146	0.431	191	0.652	236	0.856	281	0.994	326	0.911
12	0.930	57	0.814	102	0.587	147	0.433	192	0.656	237	0.857	282	0.996	327	0.914
13	0.925	58	0.809	103	0.582	148	0.435	193	0.660	238	0.858	283	0.997	328	0.917
14	0.920	59	0.805	104	0.576	149	0.438	194	0.665	239	0.859	284	0.999	329	0.921
15	0.915	60	0.799	105	0.571	150	0.441	195	0.670	240	0.860	285	1.000	330	0.925
16	0.910	61	0.794	106	0.565	151	0.444	196	0.674	241	0.861	286	1.000	331	0.929
17	0.906	62	0.789	107	0.559	152	0.448	197	0.679	242	0.861	287	1.000	332	0.933
18	0.901	63	0.783	108	0.553	153	0.452	198	0.684	243	0.862	288	0.999	333	0.938
19	0.897	64	0.778	109	0.547	154	0.456	199	0.689	244	0.863	289	0.998	334	0.942
20	0.893	65	0.772	110	0.541	155	0.461	200	0.694	245	0.864	290	0.997	335	0.947
21	0.889	66	0.766	111	0.535	156	0.466	201	0.700	246	0.865	291	0.995	336	0.951
22	0.886	67	0.760	112	0.529	157	0.471	202	0.705	247	0.866	292	0.993	337	0.956
23	0.883	68	0.754	113	0.522	158	0.477	203	0.711	248	0.867	293	0.990	338	0.961
24	0.880	69	0.748	114	0.516	159	0.482	204	0.716	249	0.869	294	0.987	339	0.965
25	0.877	70	0.742	115	0.510	160	0.488	205	0.722	250	0.870	295	0.984	340	0.970
26	0.875	71	0.737	116	0.503	161	0.494	206	0.728	251	0.872	296	0.980	341	0.974
27	0.873	72	0.731	117	0.497	162	0.500	207	0.734	252	0.874	297	0.976	342	0.978
28	0.871	73	0.725	118	0.491	163	0.506	208	0.739	253	0.876	298	0.972	343	0.982
29	0.869	74	0.719	119	0.485	164	0.513	209	0.745	254	0.879	299	0.968	344	0.985
30	0.868	75	0.713	120	0.479	165	0.519	210	0.751	255	0.881	300	0.963	345	0.989
31	0.867	76	0.708	121	0.474	166	0.525	211	0.757	256	0.884	301	0.958	346	0.991
32	0.865	77	0.702	122	0.469	167	0.532	212	0.763	257	0.888	302	0.954	347	0.994
33	0.864	78	0.697	123	0.463	168	0.538	213	0.769	258	0.891	303	0.949	348	0.996
34	0.863	79	0.692	124	0.459	169	0.544	214	0.775	259	0.895	304	0.944	349	0.998
35	0.863	80	0.687	125	0.454	170	0.550	215	0.780	260	0.899	305	0.940	350	0.999
36	0.862	81	0.682	126	0.450	171	0.556	216	0.786	261	0.903	306	0.935	351	1.000
37	0.861	82	0.677	127	0.446	172	0.562	217	0.792	262	0.908	307	0.931	352	1.000
38	0.860	83	0.672	128	0.443	173	0.568	218	0.797	263	0.912	308	0.927	353	1.000
39	0.859	84	0.667	129	0.440	174	0.574	219	0.802	264	0.917	309	0.923	354	0.999
40	0.858	85	0.663	130	0.437	175	0.579	220	0.807	265	0.922	310	0.919	355	0.998
41	0.857	86	0.658	131	0.434	176	0.584	221	0.812	266	0.927	311	0.916	356	0.997
42	0.856	87	0.654	132	0.432	177	0.590	222	0.816	267	0.932	312	0.913	357	0.995
43	0.855	88	0.649	133	0.430	178	0.595	223	0.821	268	0.938	313	0.910	358	0.992
44	0.854	89	0.645	134	0.428	179	0.599	224	0.825	269	0.943	314	0.907	359	0.989

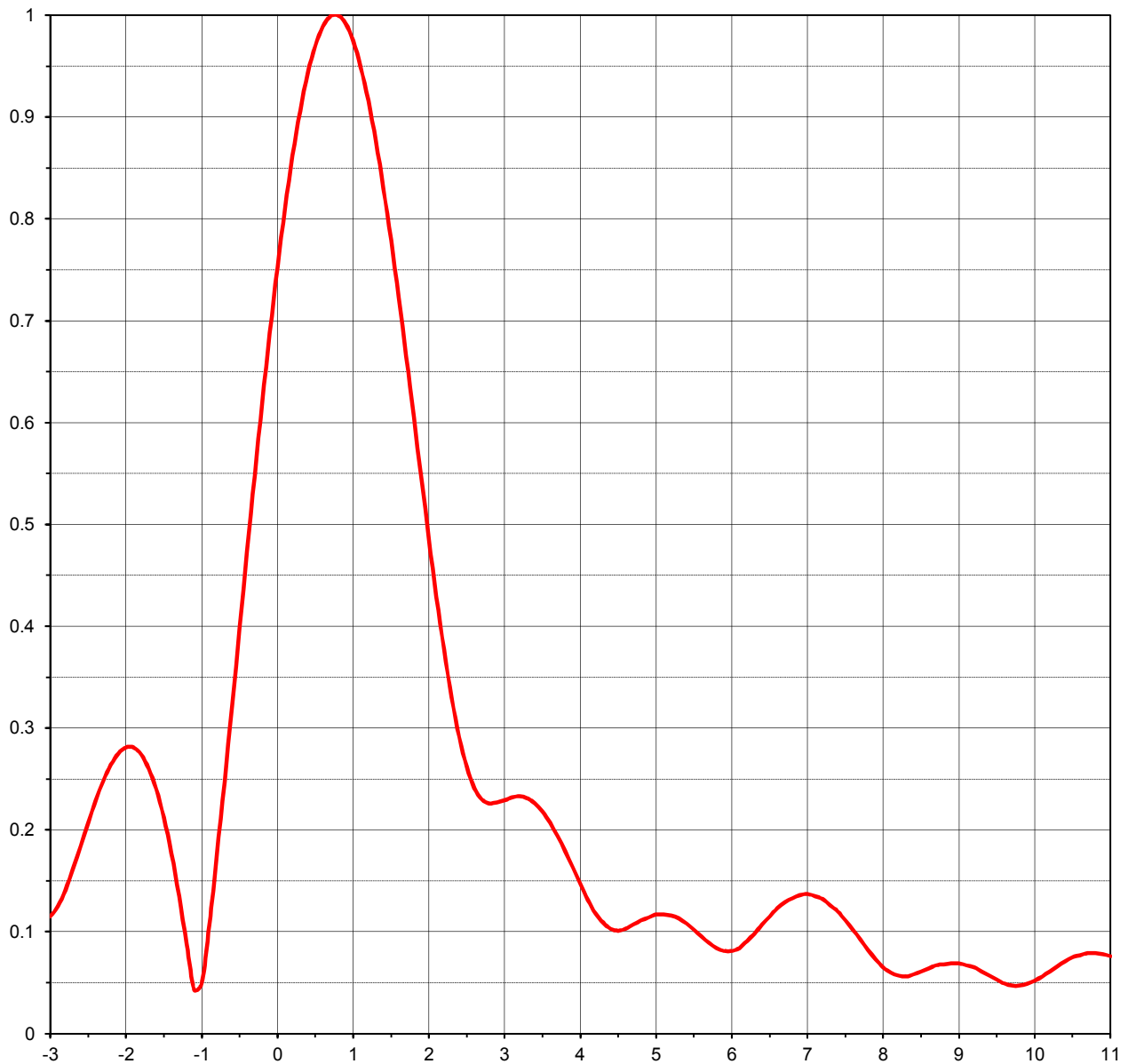
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Proposal Number	C-04602	Revision:	1
Date	26-Apr-11		
Call Letters	WAND	Channel	17
Location	Decatur, IL		
Customer			
Antenna Type	TFU-31JTH/VP-R T110/C150		

ELEVATION PATTERN

RMS Gain at Main Lobe	30.20 (14.80 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	17.10 (12.33 dB)	Frequency	491.00 MHz
Calculated / Measured	Calculated	Drawing #	31J302075



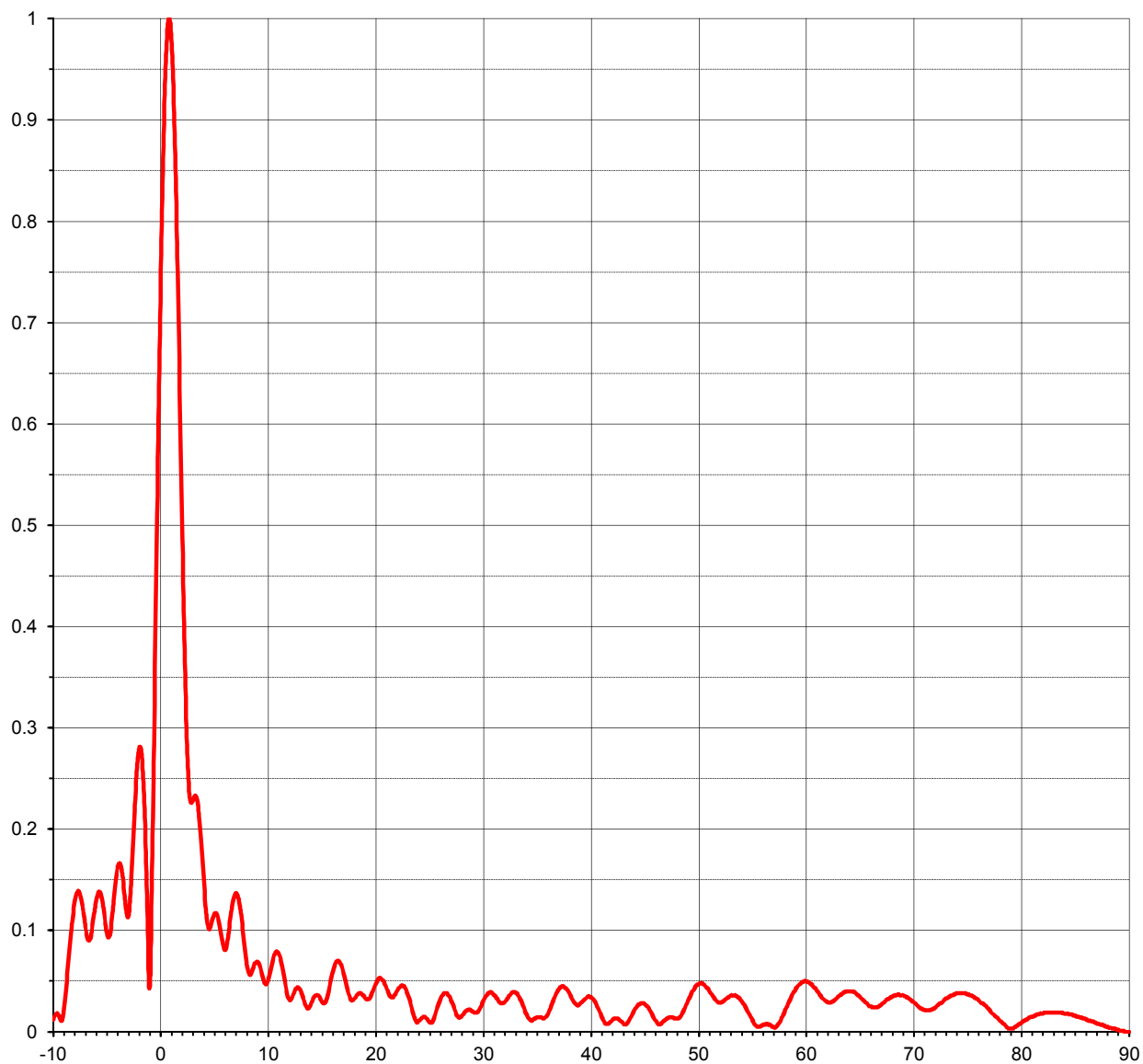
Degrees Below Horizontal



Proposal Number	C-04602	Revision:	1
Date	26-Apr-11		
Call Letters	WAND	Channel	17
Location	Decatur, IL		
Customer			
Antenna Type	TFU-31JTH/VP-R T110/C150		

ELEVATION PATTERN

RMS Gain at Main Lobe	30.20 (14.80 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	17.10 (12.33 dB)	Frequency	491.00 MHz
Calculated / Measured	Calculated	Drawing #	31J302075-90





Proposal Number **C-04602** Revision: **1**
 Date **26-Apr-11**
 Call Letters **WAND** Channel **17**
 Location **Decatur, IL**
 Customer
 Antenna Type **TFU-31JTH/VP-R T110/C150**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **31J302075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.012	2.4	0.291	10.6	0.075	30.5	0.038	51.0	0.042	71.5	0.021
-9.5	0.016	2.6	0.241	10.8	0.079	31.0	0.037	51.5	0.034	72.0	0.024
-9.0	0.024	2.8	0.226	11.0	0.078	31.5	0.030	52.0	0.029	72.5	0.028
-8.5	0.081	3.0	0.229	11.5	0.057	32.0	0.029	52.5	0.031	73.0	0.033
-8.0	0.129	3.2	0.233	12.0	0.032	32.5	0.036	53.0	0.035	73.5	0.036
-7.5	0.135	3.4	0.226	12.5	0.039	33.0	0.039	53.5	0.036	74.0	0.038
-7.0	0.102	3.6	0.207	13.0	0.042	33.5	0.032	54.0	0.031	74.5	0.038
-6.5	0.095	3.8	0.179	13.5	0.027	34.0	0.019	54.5	0.023	75.0	0.037
-6.0	0.131	4.0	0.147	14.0	0.026	34.5	0.011	55.0	0.013	75.5	0.035
-5.5	0.132	4.2	0.118	14.5	0.036	35.0	0.014	55.5	0.005	76.0	0.031
-5.0	0.096	4.4	0.103	15.0	0.031	35.5	0.014	56.0	0.006	76.5	0.027
-4.5	0.117	4.6	0.103	15.5	0.032	36.0	0.016	56.5	0.007	77.0	0.022
-4.0	0.164	4.8	0.111	16.0	0.056	36.5	0.029	57.0	0.005	77.5	0.016
-3.5	0.147	5.0	0.117	16.5	0.070	37.0	0.041	57.5	0.008	78.0	0.011
-3.0	0.115	5.2	0.116	17.0	0.061	37.5	0.045	58.0	0.018	78.5	0.006
-2.8	0.141	5.4	0.108	17.5	0.039	38.0	0.039	58.5	0.030	79.0	0.003
-2.6	0.184	5.6	0.095	18.0	0.032	38.5	0.029	59.0	0.040	79.5	0.005
-2.4	0.229	5.8	0.084	18.5	0.038	39.0	0.027	59.5	0.047	80.0	0.009
-2.2	0.264	6.0	0.081	19.0	0.035	39.5	0.032	60.0	0.050	80.5	0.012
-2.0	0.281	6.2	0.091	19.5	0.033	40.0	0.034	60.5	0.047	81.0	0.015
-1.8	0.274	6.4	0.107	20.0	0.046	40.5	0.029	61.0	0.042	81.5	0.017
-1.6	0.240	6.6	0.123	20.5	0.053	41.0	0.017	61.5	0.034	82.0	0.018
-1.4	0.177	6.8	0.133	21.0	0.045	41.5	0.008	62.0	0.030	82.5	0.019
-1.2	0.088	7.0	0.137	21.5	0.034	42.0	0.011	62.5	0.030	83.0	0.019
-1.0	0.049	7.2	0.132	22.0	0.039	42.5	0.013	63.0	0.034	83.5	0.019
-0.8	0.175	7.4	0.120	22.5	0.046	43.0	0.009	63.5	0.038	84.0	0.018
-0.6	0.322	7.6	0.102	23.0	0.038	43.5	0.009	64.0	0.040	84.5	0.017
-0.4	0.473	7.8	0.082	23.5	0.020	44.0	0.019	64.5	0.039	85.0	0.016
-0.2	0.620	8.0	0.065	24.0	0.010	44.5	0.027	65.0	0.034	85.5	0.014
0.0	0.752	8.2	0.057	24.5	0.015	45.0	0.028	65.5	0.029	86.0	0.012
0.2	0.862	8.4	0.058	25.0	0.010	45.5	0.022	66.0	0.025	86.5	0.010
0.4	0.943	8.6	0.064	25.5	0.014	46.0	0.012	66.5	0.024	87.0	0.008
0.6	0.989	8.8	0.068	26.0	0.030	46.5	0.007	67.0	0.027	87.5	0.007
0.8	1.000	9.0	0.069	26.5	0.038	47.0	0.012	67.5	0.032	88.0	0.005
1.0	0.975	9.2	0.065	27.0	0.033	47.5	0.014	68.0	0.035	88.5	0.003
1.2	0.916	9.4	0.057	27.5	0.019	48.0	0.013	68.5	0.037	89.0	0.002
1.4	0.830	9.6	0.049	28.0	0.015	48.5	0.017	69.0	0.036	89.5	0.001
1.6	0.723	9.8	0.047	28.5	0.021	49.0	0.028	69.5	0.033	90.0	0.000
1.8	0.605	10.0	0.049	29.0	0.020	49.5	0.040	70.0	0.029		
2.0	0.486	10.2	0.056	29.5	0.019	50.0	0.047	70.5	0.024		
2.2	0.377	10.4	0.066	30.0	0.029	50.5	0.047	71.0	0.021		

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TECHNICAL SPECIFICATIONS Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

1. Channel _____

2. Operating Constants

Transmitter power output (average power at input to transmission line, after any filter attached to the transmitter, if used)		Transmission line power loss	
	kW	dBk	dB
Antenna Input power	Maximum antenna power gain	Effective radiated power (average power)	
dBk	dB	kW	dBk

3. Antenna Data

Manufacturer	Model
--------------	-------

CERTIFICATION

- | | | | |
|----|---|--|--------------------------------|
| 4. | Main Studio Location. The main studio location complies with 47 C.F.R. Section 73.1125. | <input type="checkbox"/> Yes <input type="checkbox"/> No | See Explanation in Exhibit No. |
| 5. | Constructed Facility. The facility was constructed as authorized in the underlying construction permit or complies with 47 C.F.R. Section 73.1690. | <input type="checkbox"/> Yes <input type="checkbox"/> No | See Explanation in Exhibit No. |
| 6. | Special Operating Conditions. The facility was constructed in compliance with all special operating conditions, terms, and obligations described in the construction permit. | <input type="checkbox"/> Yes <input type="checkbox"/> No | See Explanation in Exhibit No. |
| | An exhibit may be required. Review the underlying construction permit. | Exhibit No. | |
| 7. | Transmitter. The transmitter complies with 47 C.F.R. Section 73.1660. | <input type="checkbox"/> Yes <input type="checkbox"/> No | See Explanation in Exhibit No. |

FCC Form 302-DTV (Page 4)

APPLICATION FILED PURSUANT TO 47 C.F.R. SECTIONS 73.1675(c) or 73.1690(c).

Only applicants filing this application pursuant to 47 C.F.R. Sections 73.1675(c) or 73.1690(c) must complete the following section.

8. **Changing transmitter power output.** Is this application being filed to authorize a change in transmitter power output caused by the replacement of an omnidirectional antenna with another omnidirectional antenna or an alteration of the transmission line system? See 47 C.F.R. Sections 73.1690(c)(1) and (c)(10). ☐ Yes ☐ No

9. **Replacing a directional antenna.** Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(3) to replace a directional antenna with another directional antenna? ☐ Yes ☐ No

If "Yes" to the above, the applicant certifies the following:

- a. **Pattern of Directional Antenna.** The proposed theoretical antenna pattern complies with 47 C.F.R. Section 73.1690(c)(3). **Exhibit is required.** ☐ Yes ☐ No

See Explanation in Exhibit No.

Exhibit No.
10. Use a **formerly licensed main facility as an auxiliary facility.** Is this application being filed pursuant to 47 C.F.R. Section 73.1675(c)(1) to request authorization to use a formerly licensed main facility as an auxiliary facility and/or change the ERP of the proposed auxiliary facility? ☐ Yes ☐ No

If "Yes" to the above, the applicant certifies the following:

- a. **Auxiliary antenna service area.** The proposed auxiliary facility complies with 47 C.F.R. Section 73.1675(a). **Exhibit is required.** ☐ Yes ☐ No

See Explanation in Exhibit No.
- b. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radio frequency electromagnetic exposure limits for controlled and uncontrolled environments). ☐ Yes ☐ No

See Explanation in Exhibit No.

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radio frequency electromagnetic exposure in excess of FCC guidelines.

11. **Change the license status.** Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(9) to change the license status from commercial to noncommercial or from noncommercial to commercial? ☐ Yes ☐ No

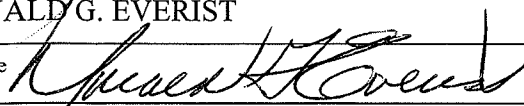
Exhibit No.

If "Yes" to the above, submit an exhibit providing full particulars. For applications changing license status from commercial to noncommercial, include Section II of FCC Form 340 as an exhibit to this application.

PREPARER'S CERTIFICATION ON PAGE 6 MUST BE COMPLETED AND SIGNED.

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name DONALD G. EVERIST		Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature 		Date October 28, 2011	
Mailing Address Cohen, Dippell and Everist, P.C., 1420 N Street, NW, Suite One			
City Washington		State or Country (if foreign address) DC	ZIP Code 20005
Telephone Number (include area code) (202) 898-0111		E-Mail Address (if available) cde@attglobal.net	

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