



Proposal #: **DCA-9330-2**

Antenna Type: **TUD-O5-16/80H-2-B**

Channel: **26 DTV**

Call Letters:

Location: **Knoxville, TN**

31 DTV

Electrical Specifications		Value		Remarks	
		Ratio	dB		
RMS Gain at Main Lobe over Halfwave Dipole	Hpol	31.0	14.91	D26;	D31: 31.5 (14.98 dB)
	Vpol				
RMS Gain at Horizontal over Halfwave Dipole	Hpol	14.0	11.46	D26;	D31: 12.8 (11.07 dB)
	Vpol				
Peak Directional Gain over Halfwave Dipole	Hpol				
	Vpol				
Peak Directional Gain at Horizontal over Halfwave Dipole	Hpol				
	Vpol				
Circularity		+/- 2.0 dB			
Axial Ratio		dB			
Beam Tilt		0.75 deg		D26;	D31: 0.75 deg
Average Power					
Antenna Input:	T/L 2 x	7 3/16 in	75.0 ohm	Type:	EIA/DCA
Maximum Antenna Input VSWR				D31: Channel: 1.10 : 1	
		Channel	1.10 : 1		
Patterns	Azimuth	TUD-O5-26	TUD-O5-31	D26 D31	
	Elevation	16U310075-B26	16U310075-B26-90		
		16U315075-B31	16U315075-B31-90		
Mechanical Specifications		Metric	English		
Height with Lightning Protector	H4				
Height Less Lightning Protector	H2				
Height of Center of Radiation	H3				
Basic Wind Speed	V				
Force Coeff. x Projected Area	CaAc				
Moment Arm	D1				
Force Coeff. x Projected Area	CaAc				
Moment Arm	D3				
Pole Bury Length	D2				
Weight	W				
Radome					
Antenna designed in accordance with AISC specifications for design of structural steel for building as prescribed by TIA/EIA-222-F.					

NOTE:

Prepared By :

SRR

Approved By :

RN

Original Date : 31-Mar-01

Revision: 2

Rev. Date: 5-Nov-01

Proposal Number	DCA-9330	Revision:	2
Date	5-Nov-01		
Call Letters		Channel	26
Location	Knoxville, TN		
Customer	Spectrasite		
Antenna Type	TUD-O5-16/80H-2-B		



SYSTEM SUMMARY

Antenna:

Type:	TUD-O5-16/80H-2-B	ERP:	898 kW	(29.53 dBk)
Channel:	26	Gain*:	31.0	(14.91 dB)
Location:	Knoxville, TN	Input Power:	29.0 kW	(14.62 dBk)

H Pol

Transmission Line:

Type:	EHT	Attenuation:	1.20 dB
Size:	8-3/16 in	Efficiency:	75.8%
Impedance:	75 ohm		
Length:	1,428 ft	435.3 m	61

Combiner:	DCA	Attenuation:	0.25 dB
		Efficiency:	94.4%

Combiner Input:

Power Required: **40.5 kW** (16.07 dBk)

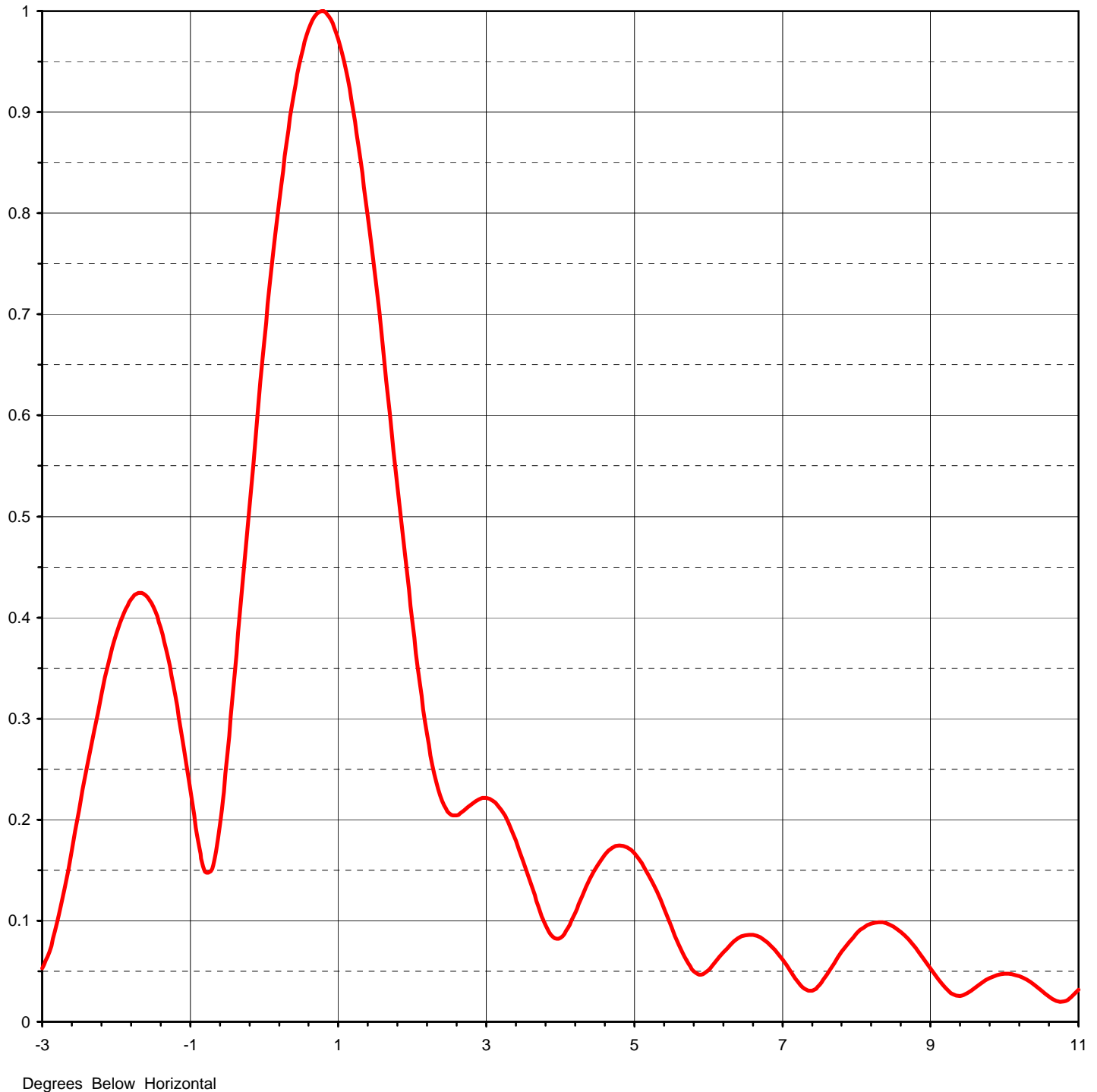
* Gain is with respect to half wave dipole.



Proposal Number	DCA-9330	Revision:	2
Date	5-Nov-01		
Call Letters		Channel	26
Location	Knoxville, TN		
Customer	Spectrasite		
Antenna Type	TUD-O5-16/80H-2-B		

ELEVATION PATTERN

RMS Gain at Main Lobe	31.00 (14.91 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	14.00 (11.46 dB)	Frequency	545.00 MHz
Calculated / Measured	Calculated	Drawing #	16U310075-B26



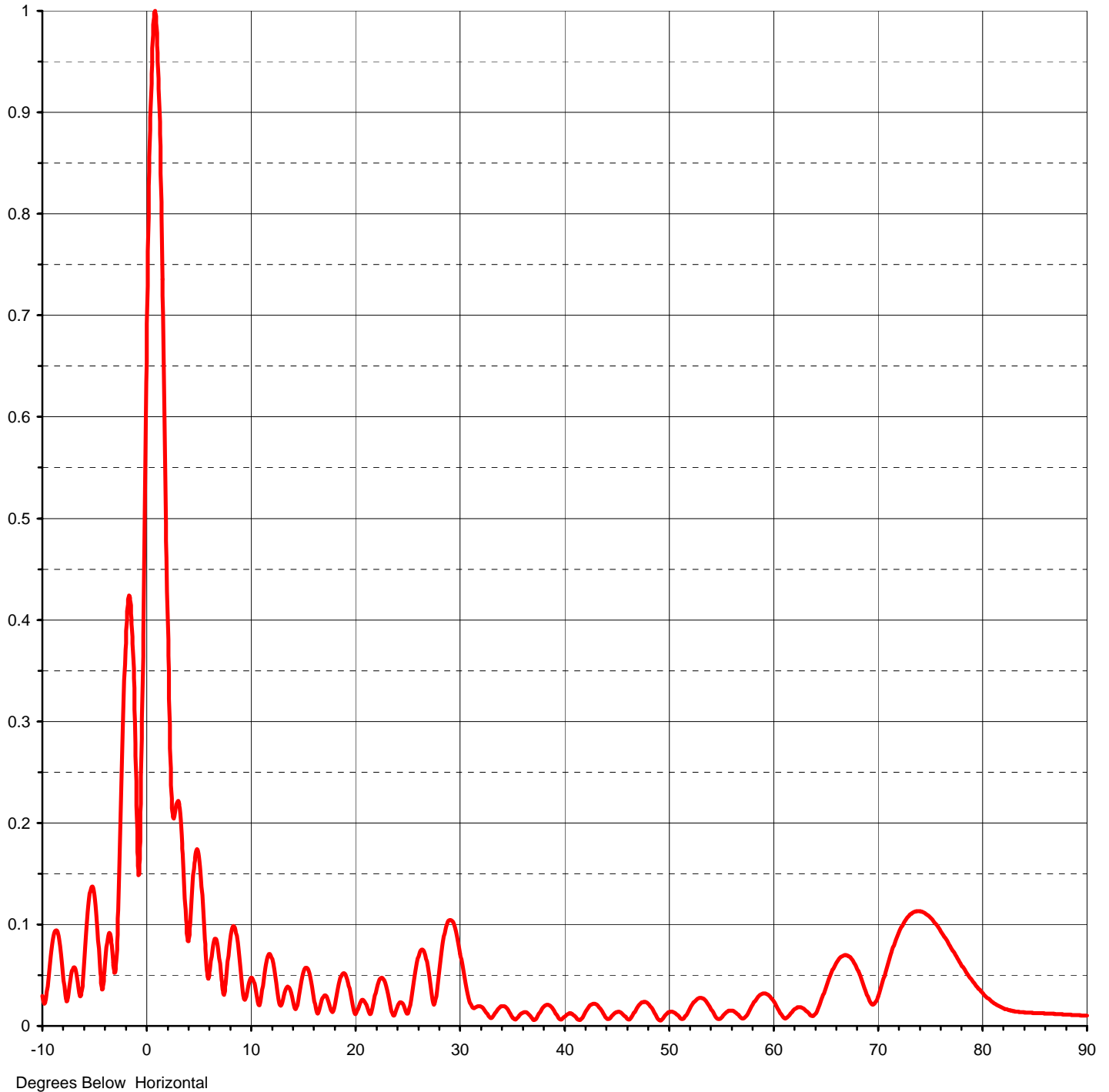


Proposal Number	DCA-9330	Revision:	2
Date	5-Nov-01		
Call Letters		Channel	26
Location	Knoxville, TN		
Customer	Spectrasite		
Antenna Type	TUD-O5-16/80H-2-B		

ELEVATION PATTERN

RMS Gain at Main Lobe	31.00 (14.91 dB)
RMS Gain at Horizontal	14.00 (11.46 dB)
Calculated / Measured	Calculated

Beam Tilt	0.75 deg
Frequency	545.00 MHz
Drawing #	16U310075-B26-90





Proposal Number **DCA-9330** Revision: **2**
 Date **5-Nov-01**
 Call Letters Channel **26**
 Location **Knoxville, TN**
 Customer **Spectrasite**
 Antenna Type **TUD-O5-16/80H-2-B**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **16U310075-B26-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.030	2.4	0.219	10.6	0.031	30.5	0.049	51.0	0.009	71.5	0.079
-9.5	0.039	2.6	0.204	10.8	0.021	31.0	0.024	51.5	0.007	72.0	0.092
-9.0	0.084	2.8	0.215	11.0	0.025	31.5	0.018	52.0	0.016	72.5	0.102
-8.5	0.091	3.0	0.221	11.5	0.061	32.0	0.019	52.5	0.024	73.0	0.109
-8.0	0.050	3.2	0.210	12.0	0.069	32.5	0.015	53.0	0.027	73.5	0.112
-7.5	0.031	3.4	0.179	12.5	0.042	33.0	0.008	53.5	0.026	74.0	0.113
-7.0	0.058	3.6	0.137	13.0	0.021	33.5	0.013	54.0	0.019	74.5	0.111
-6.5	0.035	3.8	0.096	13.5	0.038	34.0	0.019	54.5	0.010	75.0	0.107
-6.0	0.063	4.0	0.083	14.0	0.029	34.5	0.018	55.0	0.007	75.5	0.101
-5.5	0.127	4.2	0.108	14.5	0.021	35.0	0.010	55.5	0.013	76.0	0.093
-5.0	0.128	4.4	0.141	15.0	0.049	35.5	0.007	56.0	0.015	76.5	0.085
-4.5	0.060	4.6	0.165	15.5	0.056	36.0	0.013	56.5	0.013	77.0	0.077
-4.0	0.060	4.8	0.174	16.0	0.034	36.5	0.013	57.0	0.008	77.5	0.068
-3.5	0.090	5.0	0.167	16.5	0.013	37.0	0.007	57.5	0.010	78.0	0.060
-3.0	0.053	5.2	0.144	17.0	0.029	37.5	0.009	58.0	0.019	78.5	0.052
-2.8	0.097	5.4	0.100	17.5	0.024	38.0	0.018	58.5	0.027	79.0	0.045
-2.6	0.170	5.6	0.076	18.0	0.016	38.5	0.021	59.0	0.032	79.5	0.038
-2.4	0.249	5.8	0.050	18.5	0.042	39.0	0.016	59.5	0.031	80.0	0.032
-2.2	0.324	6.0	0.051	19.0	0.052	39.5	0.008	60.0	0.026	80.5	0.027
-2.0	0.383	6.2	0.068	19.5	0.037	40.0	0.008	60.5	0.017	81.0	0.023
-1.8	0.418	6.4	0.083	20.0	0.013	40.5	0.012	61.0	0.009	81.5	0.020
-1.6	0.422	6.6	0.086	20.5	0.022	41.0	0.010	61.5	0.009	82.0	0.017
-1.4	0.390	6.8	0.079	21.0	0.023	41.5	0.006	62.0	0.015	82.5	0.016
-1.2	0.323	7.0	0.062	21.5	0.012	42.0	0.012	62.5	0.018	83.0	0.014
-1.0	0.229	7.2	0.041	22.0	0.032	42.5	0.020	63.0	0.017	83.5	0.014
-0.8	0.148	7.4	0.031	22.5	0.047	43.0	0.022	63.5	0.012	84.0	0.013
-0.6	0.196	7.6	0.047	23.0	0.040	43.5	0.017	64.0	0.011	84.5	0.013
-0.4	0.343	7.8	0.069	23.5	0.016	44.0	0.009	64.5	0.024	85.0	0.013
-0.2	0.511	8.0	0.087	24.0	0.016	44.5	0.008	65.0	0.038	85.5	0.013
0.0	0.673	8.2	0.097	24.5	0.023	45.0	0.013	65.5	0.052	86.0	0.012
0.2	0.812	8.4	0.098	25.0	0.012	45.5	0.013	66.0	0.062	86.5	0.012
0.4	0.918	8.6	0.089	25.5	0.033	46.0	0.008	66.5	0.068	87.0	0.012
0.6	0.982	8.8	0.073	26.0	0.064	46.5	0.009	67.0	0.070	87.5	0.012
0.8	1.000	9.0	0.053	26.5	0.075	47.0	0.017	67.5	0.065	88.0	0.011
1.0	0.973	9.2	0.034	27.0	0.058	47.5	0.023	68.0	0.056	88.5	0.011
1.2	0.902	9.4	0.026	27.5	0.024	48.0	0.023	68.5	0.043	89.0	0.011
1.4	0.797	9.6	0.034	28.0	0.046	48.5	0.016	69.0	0.029	89.5	0.010
1.6	0.669	9.8	0.039	28.5	0.086	49.0	0.007	69.5	0.021	90.0	0.010
1.8	0.530	10.0	0.046	29.0	0.104	49.5	0.007	70.0	0.029		
2.0	0.396	10.2	0.047	29.5	0.100	50.0	0.013	70.5	0.046		
2.2	0.285	10.4	0.042	30.0	0.077	50.5	0.014	71.0	0.063		