

Dielectric

Proposal #: **C-01769**
Call Letters: **KVIE-DT**

Antenna Type: **THV-5A9/VP-R O4**
Location: **Sacramento, CA**

Channel: **9 DTV**

5 Bay

Electrical Specifications		Value		Remarks	
		Ratio	dBd		
RMS Gain at Main Lobe over Halfwave Dipole	Hpol	4.35	6.38		
	Vpol	0.65	-1.87		
RMS Gain at Horizontal over Halfwave Dipole	Hpol	4.1	6.13		
	Vpol	0.6	-2.22		
Peak Directional Gain over Halfwave Dipole	Hpol				
	Vpol				
Peak Directional Gain at Horizontal over Halfwave Dipole	Hpol				
	Vpol				
Circularity		+/- 2.0 dB		Includes effect of T/L to top antenna	
Axial Ratio		dB			
Beam Tilt		1.50 deg			
Average Power		25 kW	13.98 dBk		
Antenna Input: T/L		4 1/16 in	50.0 ohm	Type: EIA/DCA	
Maximum Antenna Input VSWR		Channel 1.15 : 1		Notes:	
Patterns	Azimuth	THV-O4	THV-O4-V-POL		
	Elevation	05V050150	05V050150-90		
Mechanical Specifications		Metric	English	Preliminary	Full Stack
Height with Lightning Protector	H4	m	ft		93.3 ft
Height Less Lightning Protector	H2	11.0 m	36.1 ft	TIA/EIA-222-F.	90.3 ft
Height of Center of Radiation	H3	6.0 m	18.1 ft	Above tower top	66.7 Ch: 40
Basic Wind Speed	V	120.7 km/h	75 mi/h		
Force Coeff. x Projected Area	CaAc	7.5 m ²	81.1 ft ²	Above tower top	150 ft ²
Moment Arm	D1	5.5 m	18.1 ft	Above tower top	37.26 ft
Force Coeff. x Projected Area	CaAc	m ²	ft ²		ft ²
Moment Arm	D3	m	ft		ft
Pole Bury Length	D2	m	ft		
Weight	W	4.4 t	9800.0 lbs		18,402 lbs
Radome					
Antenna designed in accordance with AISC specifications for design of structural steel for building as prescribed by TIA/EIA-222-F.					

NOTE: **Bottom of stack supporting TFU-27ETT-R 4C200 C-01072-2**

Prepared By : **SWB** AL Approved By :

Original Date : **9-Aug-07**

Steve Brower

Digitally signed
by JLS
DN: CN = JLS, C
= US
Date:
2007.08.21
09:28:38 -04'00'

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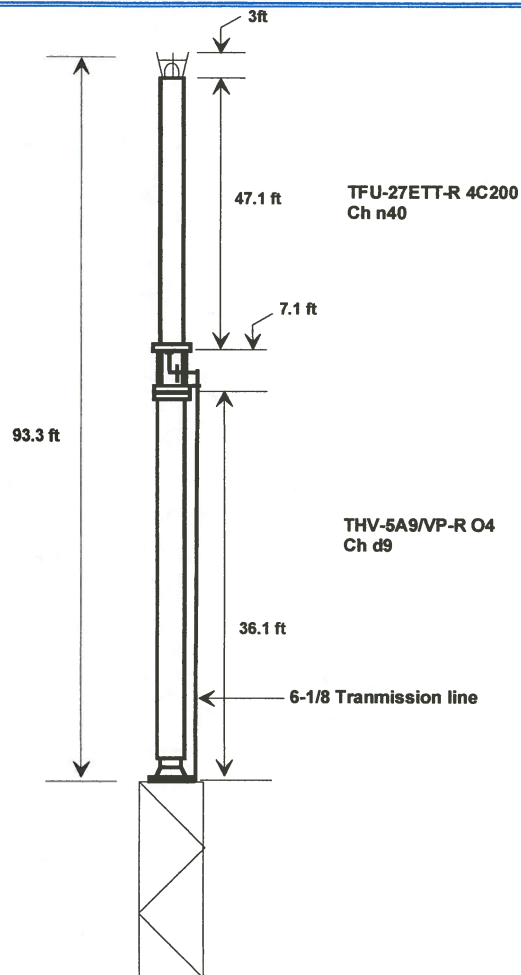
Channel: **9 DTV**

**Full Stack Loads
MECHANICAL DATA**

**CaAc = 150 ft²
D1 = 37.26ft**

Weight = 18,402 lbs

**EIA-222-F Specification
(75 mph basic wind speed)**



SWB-070809-4SK

NOT DRAWN TO SCALE

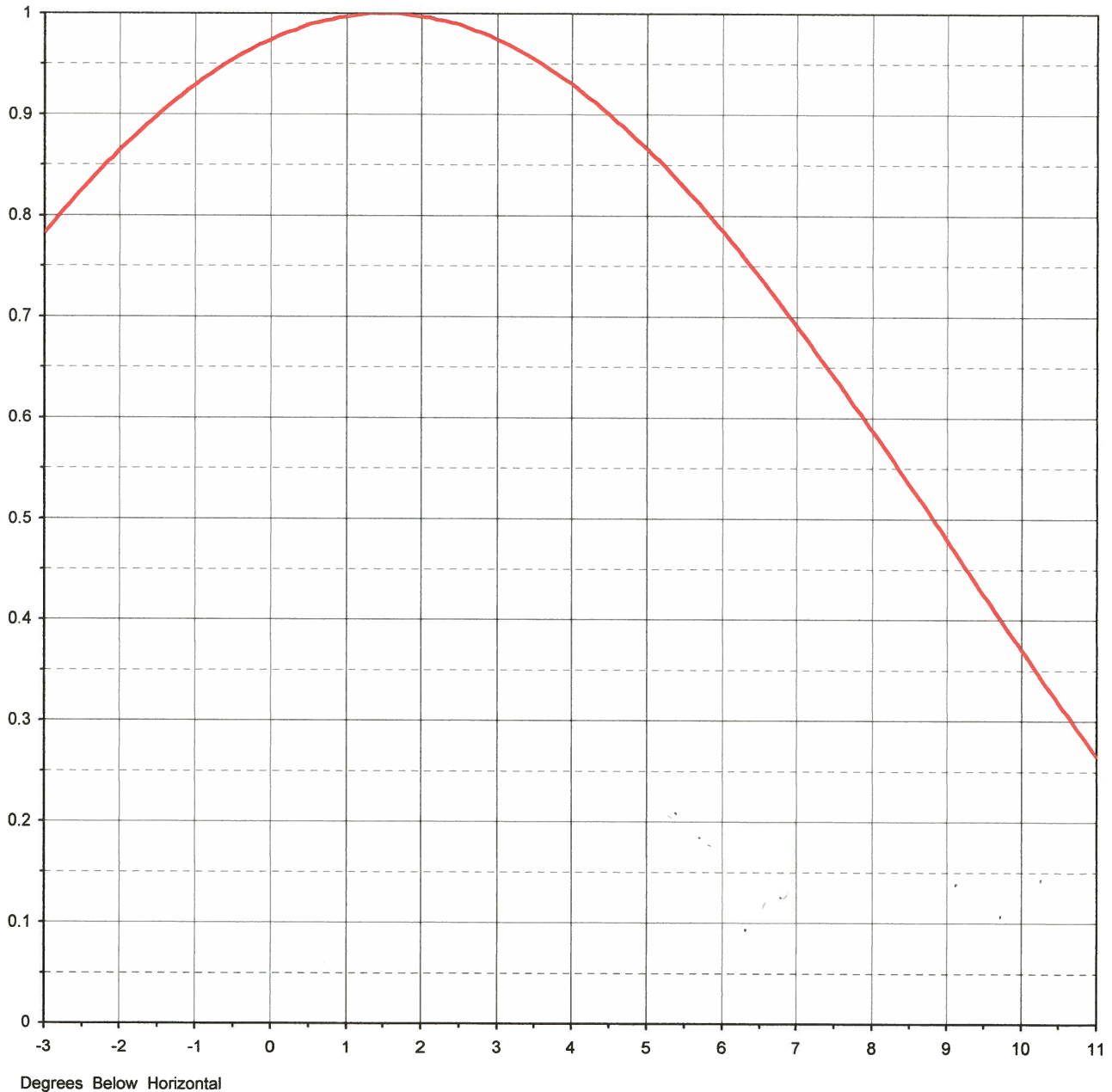
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ELEVATION PATTERN

RMS Gain at Main Lobe	5.00	(6.99 dB)	Beam Tilt	1.50 deg
RMS Gain at Horizontal	4.70	(6.72 dB)	Frequency	189.00 MHz
Calculated / Measured	Calculated		Drawing #	05V050150



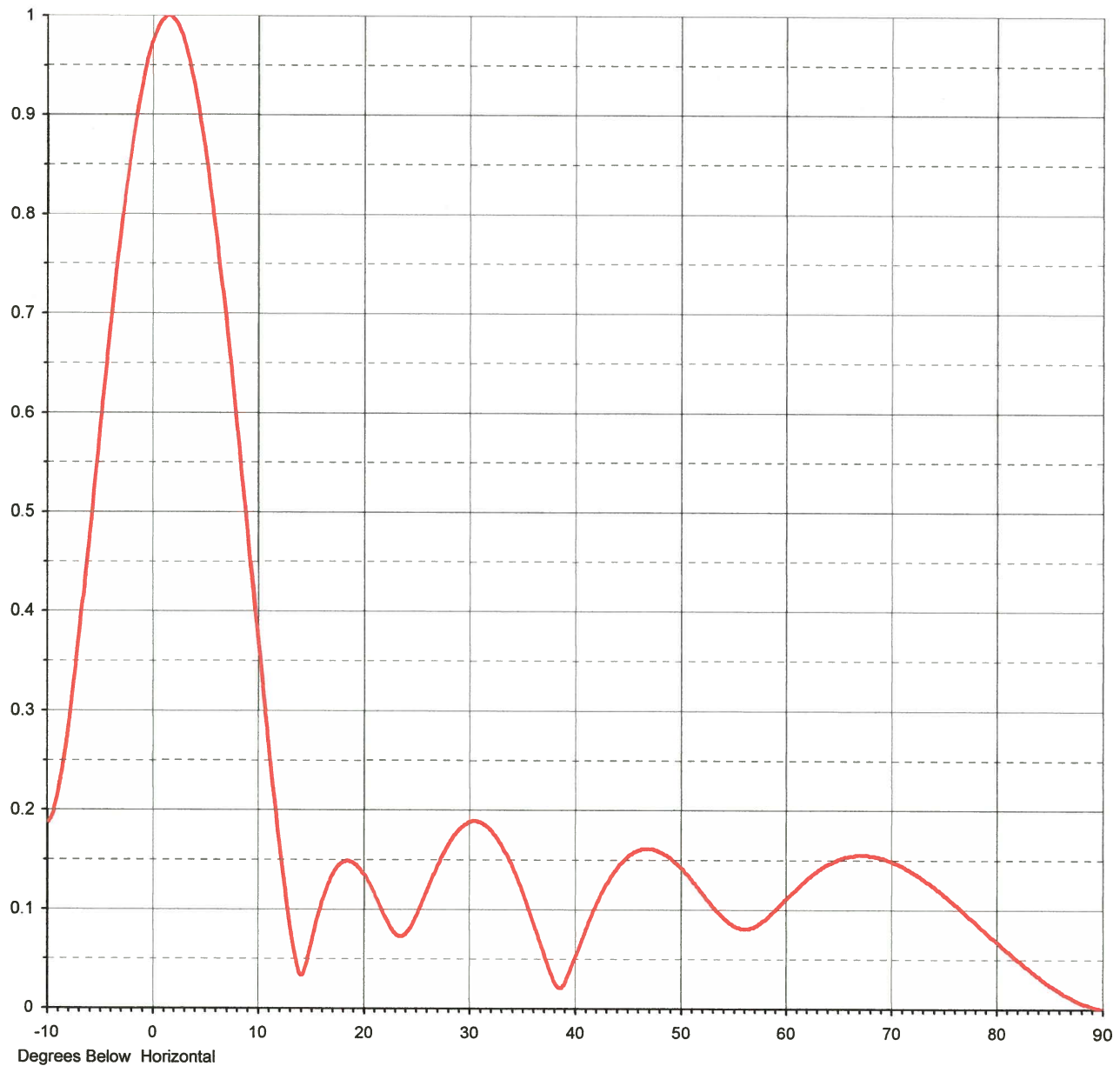
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ELEVATION PATTERN

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RMS Gain at Horizontal	4.70	(6.72 dB)	Frequency	189.00 MHz
Calculated / Measured	Calculated		Drawing #	05V050150-90



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 Customer
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TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **05V050150-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.187	2.4	0.991	10.6	0.317	30.5	0.189	51.0	0.131	71.5	0.141
-9.5	0.196	2.6	0.986	10.8	0.296	31.0	0.188	51.5	0.124	72.0	0.138
-9.0	0.216	2.8	0.981	11.0	0.275	31.5	0.185	52.0	0.118	72.5	0.134
-8.5	0.245	3.0	0.974	11.5	0.225	32.0	0.181	52.5	0.111	73.0	0.131
-8.0	0.283	3.2	0.967	12.0	0.177	32.5	0.175	53.0	0.104	73.5	0.127
-7.5	0.327	3.4	0.959	12.5	0.132	33.0	0.167	53.5	0.098	74.0	0.123
-7.0	0.374	3.6	0.950	13.0	0.091	33.5	0.157	54.0	0.093	74.5	0.119
-6.5	0.425	3.8	0.940	13.5	0.056	34.0	0.146	54.5	0.088	75.0	0.114
-6.0	0.478	4.0	0.930	14.0	0.035	34.5	0.133	55.0	0.084	75.5	0.110
-5.5	0.531	4.2	0.918	14.5	0.041	35.0	0.120	55.5	0.082	76.0	0.105
-5.0	0.585	4.4	0.906	15.0	0.063	35.5	0.105	56.0	0.081	76.5	0.101
-4.5	0.637	4.6	0.893	15.5	0.085	36.0	0.090	56.5	0.081	77.0	0.096
-4.0	0.688	4.8	0.880	16.0	0.104	36.5	0.075	57.0	0.083	77.5	0.092
-3.5	0.737	5.0	0.866	16.5	0.120	37.0	0.059	57.5	0.086	78.0	0.087
-3.0	0.783	5.2	0.851	17.0	0.133	37.5	0.043	58.0	0.089	78.5	0.082
-2.8	0.801	5.4	0.835	17.5	0.142	38.0	0.029	58.5	0.094	79.0	0.077
-2.6	0.818	5.6	0.819	18.0	0.147	38.5	0.021	59.0	0.099	79.5	0.072
-2.4	0.834	5.8	0.802	18.5	0.149	39.0	0.024	59.5	0.104	80.0	0.068
-2.2	0.850	6.0	0.785	19.0	0.148	39.5	0.036	60.0	0.110	80.5	0.063
-2.0	0.865	6.2	0.767	19.5	0.143	40.0	0.049	60.5	0.115	81.0	0.058
-1.8	0.879	6.4	0.748	20.0	0.137	40.5	0.063	61.0	0.120	81.5	0.054
-1.6	0.893	6.6	0.730	20.5	0.128	41.0	0.077	61.5	0.125	82.0	0.049
-1.4	0.906	6.8	0.710	21.0	0.118	41.5	0.090	62.0	0.130	82.5	0.045
-1.2	0.918	7.0	0.691	21.5	0.107	42.0	0.102	62.5	0.134	83.0	0.041
-1.0	0.929	7.2	0.671	22.0	0.095	42.5	0.114	63.0	0.138	83.5	0.037
-0.8	0.940	7.4	0.650	22.5	0.085	43.0	0.124	63.5	0.142	84.0	0.033
-0.6	0.950	7.6	0.629	23.0	0.077	43.5	0.133	64.0	0.145	84.5	0.029
-0.4	0.959	7.8	0.608	23.5	0.073	44.0	0.140	64.5	0.148	85.0	0.025
-0.2	0.967	8.0	0.587	24.0	0.075	44.5	0.147	65.0	0.151	85.5	0.021
0.0	0.974	8.2	0.566	24.5	0.081	45.0	0.152	65.5	0.152	86.0	0.018
0.2	0.981	8.4	0.544	25.0	0.091	45.5	0.156	66.0	0.154	86.5	0.015
0.4	0.986	8.6	0.523	25.5	0.103	46.0	0.159	66.5	0.154	87.0	0.012
0.6	0.991	8.8	0.501	26.0	0.116	46.5	0.161	67.0	0.155	87.5	0.009
0.8	0.994	9.0	0.479	26.5	0.129	47.0	0.161	67.5	0.155	88.0	0.006
1.0	0.997	9.2	0.457	27.0	0.141	47.5	0.161	68.0	0.154	88.5	0.004
1.2	0.999	9.4	0.435	27.5	0.153	48.0	0.159	68.5	0.153	89.0	0.002
1.4	1.000	9.6	0.414	28.0	0.163	48.5	0.156	69.0	0.152	89.5	0.001
1.6	1.000	9.8	0.403	28.5	0.172	49.0	0.153	69.5	0.151	90.0	0.000
1.8	0.999	10.0	0.381	29.0	0.179	49.5	0.148	70.0	0.149		
2.0	0.997	10.2	0.360	29.5	0.184	50.0	0.143	70.5	0.146		
2.2	0.994	10.4	0.338	30.0	0.188	50.5	0.137	71.0	0.144		

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