



Antenna Model:

**TUA-C2-4/8M-1-K**

Proposal Number: **C-71630**  
Date: **27-Oct-20**  
Customer:  
Location: **Monterey, CA**

### Electrical Specifications

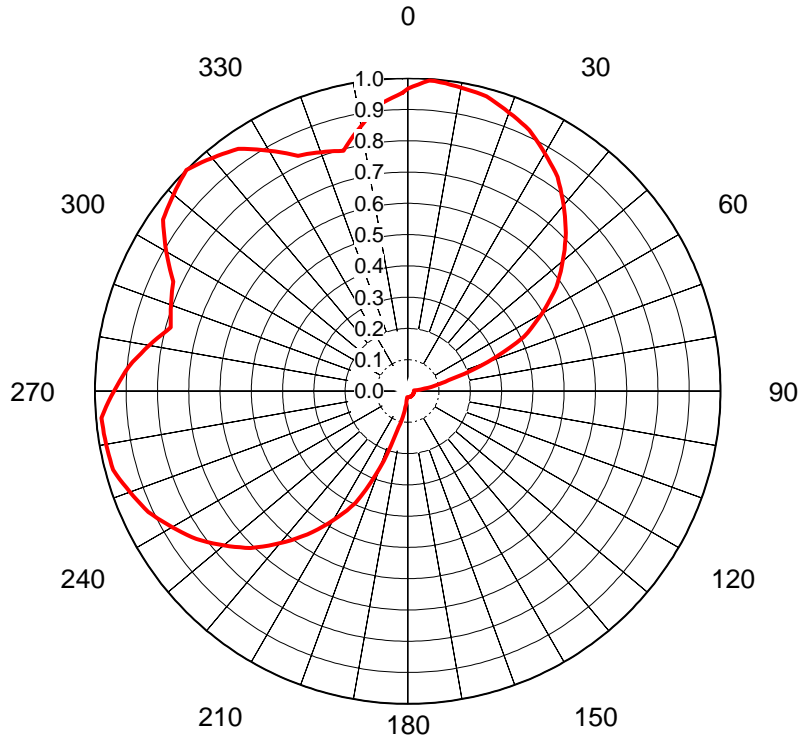
Polarization: **Horizontal**  
Azimuth Pattern: **Directional**  
Antenna Input: **1-5/8"** **50 Ohm** **EIA/DCA**  
VSWR: **Channel** **1.10 : 1**  
Bandwidth: **MHz**  
Rated Input Power: **5 kW** **(6.99 dBk)** **Maximum Average Power**

### Mechanical Specifications

Mounting: **Side Mounted**  
Environmental Protection: **Panel Cover**  
Height: **14.6 ft (4.5m)**  
Weight: **275 lb (0.1t)** **Excludes Mounts**  
Effective Projected Area: **52.3 ft² (4.9m²)** **TIA-222-G** **Basic Wind Speed: 90 m/h (144.8 km/h)**

### Channel Specifications

Call	CH	Freq	Hpol ERP	TPO	Peak Main Lobe Hpol Gain	Peak at Horizontal Hpol Gain
K300M	30	569 MHz	4.93 kW (6.93 dBk)	0.300 kW (-5.23 dBk)	19.61 (12.93dB)	19.61 (12.93dB)



## AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No. **C-71630**  
Date **27-Oct-20**  
Call Letters **K300M**  
Channel **30**  
Frequency **569 MHz**  
Antenna Type **TUA-C2-4/8M-1-K**  
Gain **2.25 (3.53dB)**  
Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.967	36	0.823	72	0.218	108	0.020	144	0.020	180	0.020	216	0.575	252	0.957	288	0.797
1	0.974	37	0.811	73	0.190	109	0.020	145	0.020	181	0.020	217	0.590	253	0.963	289	0.801
2	0.981	38	0.799	74	0.162	110	0.020	146	0.020	182	0.020	218	0.605	254	0.969	290	0.805
3	0.988	39	0.787	75	0.135	111	0.020	147	0.020	183	0.020	219	0.620	255	0.975	291	0.810
4	0.995	40	0.775	76	0.123	112	0.020	148	0.020	184	0.020	220	0.635	256	0.976	292	0.814
5	0.995	41	0.763	77	0.112	113	0.020	149	0.020	185	0.020	221	0.650	257	0.977	293	0.818
6	0.993	42	0.751	78	0.101	114	0.020	150	0.020	186	0.031	222	0.665	258	0.977	294	0.823
7	0.991	43	0.739	79	0.089	115	0.020	151	0.020	187	0.042	223	0.680	259	0.978	295	0.827
8	0.989	44	0.727	80	0.078	116	0.020	152	0.020	188	0.053	224	0.695	260	0.979	296	0.840
9	0.987	45	0.715	81	0.066	117	0.020	153	0.020	189	0.064	225	0.710	261	0.980	297	0.853
10	0.985	46	0.701	82	0.054	118	0.020	154	0.020	190	0.075	226	0.721	262	0.981	298	0.865
11	0.983	47	0.688	83	0.043	119	0.020	155	0.020	191	0.086	227	0.733	263	0.981	299	0.878
12	0.981	48	0.674	84	0.032	120	0.020	156	0.020	192	0.097	228	0.744	264	0.982	300	0.891
13	0.979	49	0.661	85	0.020	121	0.020	157	0.020	193	0.108	229	0.756	265	0.983	301	0.904
14	0.977	50	0.647	86	0.020	122	0.020	158	0.020	194	0.119	230	0.767	266	0.974	302	0.917
15	0.975	51	0.634	87	0.020	123	0.020	159	0.020	195	0.130	231	0.779	267	0.965	303	0.929
16	0.970	52	0.621	88	0.020	124	0.020	160	0.020	196	0.156	232	0.790	268	0.957	304	0.942
17	0.964	53	0.607	89	0.020	125	0.020	161	0.020	197	0.183	233	0.802	269	0.948	305	0.955
18	0.959	54	0.594	90	0.020	126	0.020	162	0.020	198	0.209	234	0.813	270	0.939	306	0.960
19	0.953	55	0.580	91	0.020	127	0.020	163	0.020	199	0.236	235	0.825	271	0.930	307	0.964
20	0.947	56	0.563	92	0.020	128	0.020	164	0.020	200	0.262	236	0.834	272	0.921	308	0.969
21	0.942	57	0.546	93	0.020	129	0.020	165	0.020	201	0.289	237	0.843	273	0.913	309	0.973
22	0.937	58	0.529	94	0.020	130	0.020	166	0.020	202	0.315	238	0.852	274	0.904	310	0.978
23	0.931	59	0.512	95	0.020	131	0.020	167	0.020	203	0.342	239	0.861	275	0.895	311	0.982
24	0.925	60	0.495	96	0.020	132	0.020	168	0.020	204	0.368	240	0.870	276	0.884	312	0.987
25	0.920	61	0.478	97	0.020	133	0.020	169	0.020	205	0.395	241	0.879	277	0.873	313	0.991
26	0.911	62	0.461	98	0.020	134	0.020	170	0.020	206	0.412	242	0.888	278	0.862	314	0.996
27	0.903	63	0.444	99	0.020	135	0.020	171	0.020	207	0.428	243	0.897	279	0.851	315	1.000
28	0.895	64	0.427	100	0.020	136	0.020	172	0.020	208	0.444	244	0.906	280	0.840	316	0.994
29	0.886	65	0.410	101	0.020	137	0.020	173	0.020	209	0.461	245	0.915	281	0.828	317	0.989
30	0.877	66	0.382	102	0.020	138	0.020	174	0.020	210	0.477	246	0.921	282	0.817	318	0.984
31	0.869	67	0.355	103	0.020	139	0.020	175	0.020	211	0.494	247	0.927	283	0.806	319	0.978
32	0.860	68	0.327	104	0.020	140	0.020	176	0.020	212	0.511	248	0.933	284	0.795	320	0.973
33	0.852	69	0.300	105	0.020	141	0.020	177	0.020	213	0.527	249	0.939	285	0.784	321	0.967
34	0.844	70	0.273	106	0.020	142	0.020	178	0.020	214	0.544	250	0.945	286	0.788	322	0.961
35	0.835	71	0.245	107	0.020	143	0.020	179	0.020	215	0.560	251	0.951	287	0.793	323	0.956

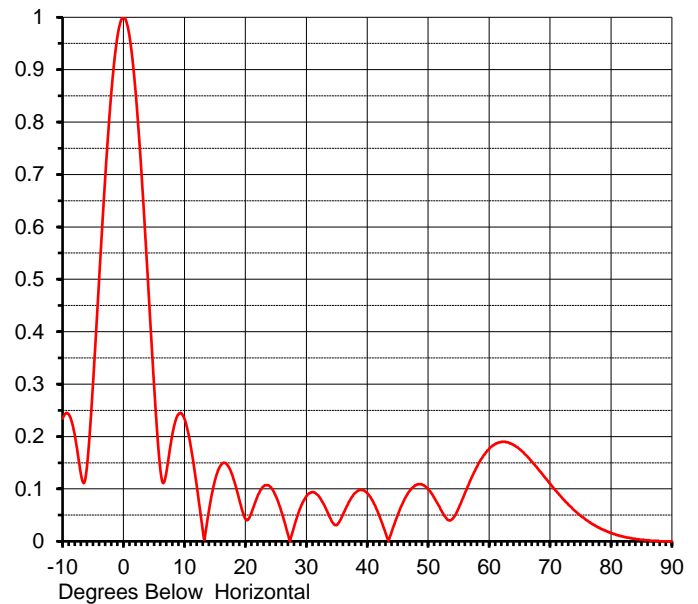
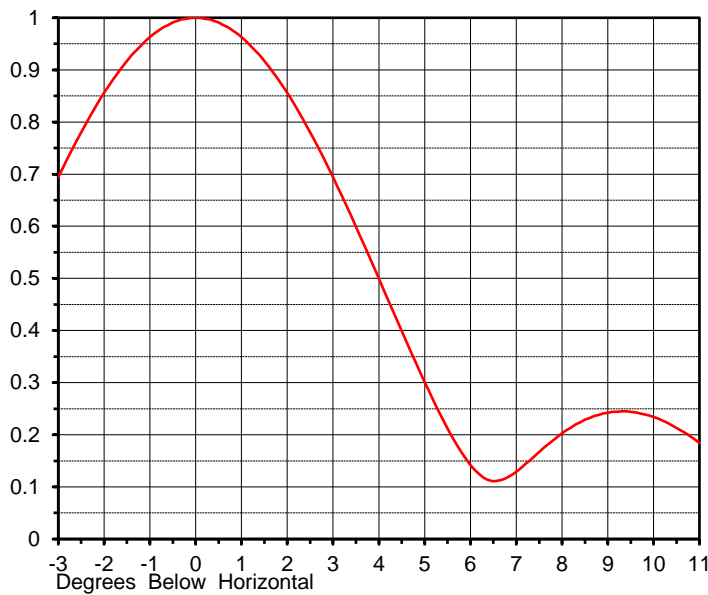
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## ELEVATION PATTERN

Proposal No. **C-71630**  
 Date **27-Oct-20**  
 Call Letters **K300M**  
 Channel **30**  
 Frequency **569 MHz**  
 Antenna Type **TUA-C2-4/8M-1-K**

RMS Directivity at Main Lobe **8.7 ( 9.40 dB )**  
 RMS Directivity at Horizontal **8.7 ( 9.40 dB )**  
**Calculated**

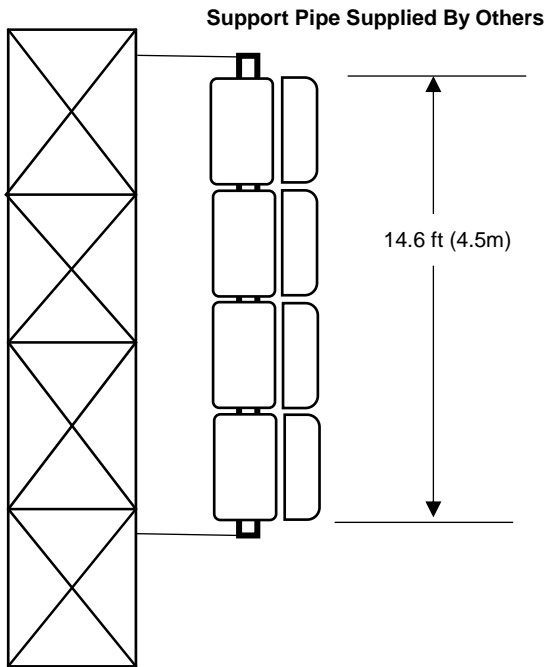
Beam Tilt **0.00 deg**  
 Pattern Number **04U087000**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.234	10.0	0.234	30.0	0.086	50.0	0.100	70.0	0.110
-9.0	0.242	11.0	0.184	31.0	0.094	51.0	0.083	71.0	0.096
-8.0	0.203	12.0	0.108	32.0	0.087	52.0	0.062	72.0	0.083
-7.0	0.129	13.0	0.022	33.0	0.068	53.0	0.044	73.0	0.070
-6.0	0.142	14.0	0.057	34.0	0.043	54.0	0.043	74.0	0.059
-5.0	0.301	15.0	0.116	35.0	0.031	55.0	0.063	75.0	0.049
-4.0	0.500	16.0	0.146	36.0	0.051	56.0	0.091	76.0	0.040
-3.0	0.694	17.0	0.146	37.0	0.075	57.0	0.118	77.0	0.033
-2.0	0.856	18.0	0.121	38.0	0.092	58.0	0.142	78.0	0.026
-1.0	0.963	19.0	0.080	39.0	0.098	59.0	0.162	79.0	0.021
0.0	1.000	20.0	0.043	40.0	0.092	60.0	0.176	80.0	0.016
1.0	0.963	21.0	0.054	41.0	0.075	61.0	0.186	81.0	0.012
2.0	0.856	22.0	0.086	42.0	0.048	62.0	0.190	82.0	0.009
3.0	0.694	23.0	0.105	43.0	0.016	63.0	0.189	83.0	0.007
4.0	0.500	24.0	0.105	44.0	0.018	64.0	0.184	84.0	0.005
5.0	0.301	25.0	0.086	45.0	0.050	65.0	0.176	85.0	0.003
6.0	0.142	26.0	0.054	46.0	0.077	66.0	0.165	86.0	0.002
7.0	0.129	27.0	0.013	47.0	0.097	67.0	0.152	87.0	0.001
8.0	0.203	28.0	0.028	48.0	0.107	68.0	0.139	88.0	0.000
9.0	0.242	29.0	0.063	49.0	0.108	69.0	0.124	89.0	0.000
								90.0	0.000

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## MECHANICAL SPECIFICATIONS



Proposal No. **C-71630**  
 Date **27-Oct-20**  
 Call Letters **K30OM**  
 Channel **30**  
 Frequency **569 MHz**  
 Antenna Type **TUA-C2-4/8M-1-K**

### Preliminary Specifications

#### Side Mounted

#### Without ice TIA-222-G

Basic Wind Speed 90 m/h (144.8 km/h)

Structure Class II

Exposure Category C

Topography Category 1

#### Mechanical Specifications

Height	H2	14.6 ft (4.5m)	
Height of Center of Radiation	H3	7.3 ft (2.2m)	
Effective Projected Area	(EPA) <sub>A</sub>	52.3 ft <sup>2</sup> (4.9m <sup>2</sup> )	Mounts Excluded
Weight	W	275 lb (0.1t)	Mounts Excluded

Antenna designed in accordance with AISC specifications for design of structural steel as prescribed by TIA-222-G

Prepared by: CAB

Date: 27-Oct-20

ME:

EE:

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## Summary

Proposal No.	<b>C-71630</b>
Date	<b>27-Oct-20</b>
Call Letters	<b>K30OM</b>
Channel	<b>30</b>
Frequency	<b>569 MHz</b>
Antenna Type	<b>TUA-C2-4/8M-1-K</b>

## Antenna

		Hpol
ERP:	<b>4.93 kW</b>	<b>( 6.93 dBk )</b>
Peak Gain*	19.61	( 12.93 dB )

<b>Antenna Input Power</b>	<b>0.251 kW</b>	<b>-( 6.00 dBk )</b>
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## Transmission Line

Type:	<b>Flexline Air</b>	Attenuation:	<b>( 0.77 dB )</b>
Size:	<b>1-5/8"</b>	Efficiency:	<b>83.8%</b>
Impedance:	<b>50 Ohm</b>		
Length:	<b>150 ft</b>	<b>45.7 m</b>	

## Transmitter Output

<b>0.300 kW</b>	<b>-( 5.23 dBk )</b>
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Transmitter filter losses not included

\* Directivity and Gain are with respect to half wave dipole. The gain includes feed system losses

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