



Proposal Number

Date

**12-Oct-06**

Call Letters

**KQED**

Channel

**30**

Location

**San Francisco, CA**

Customer

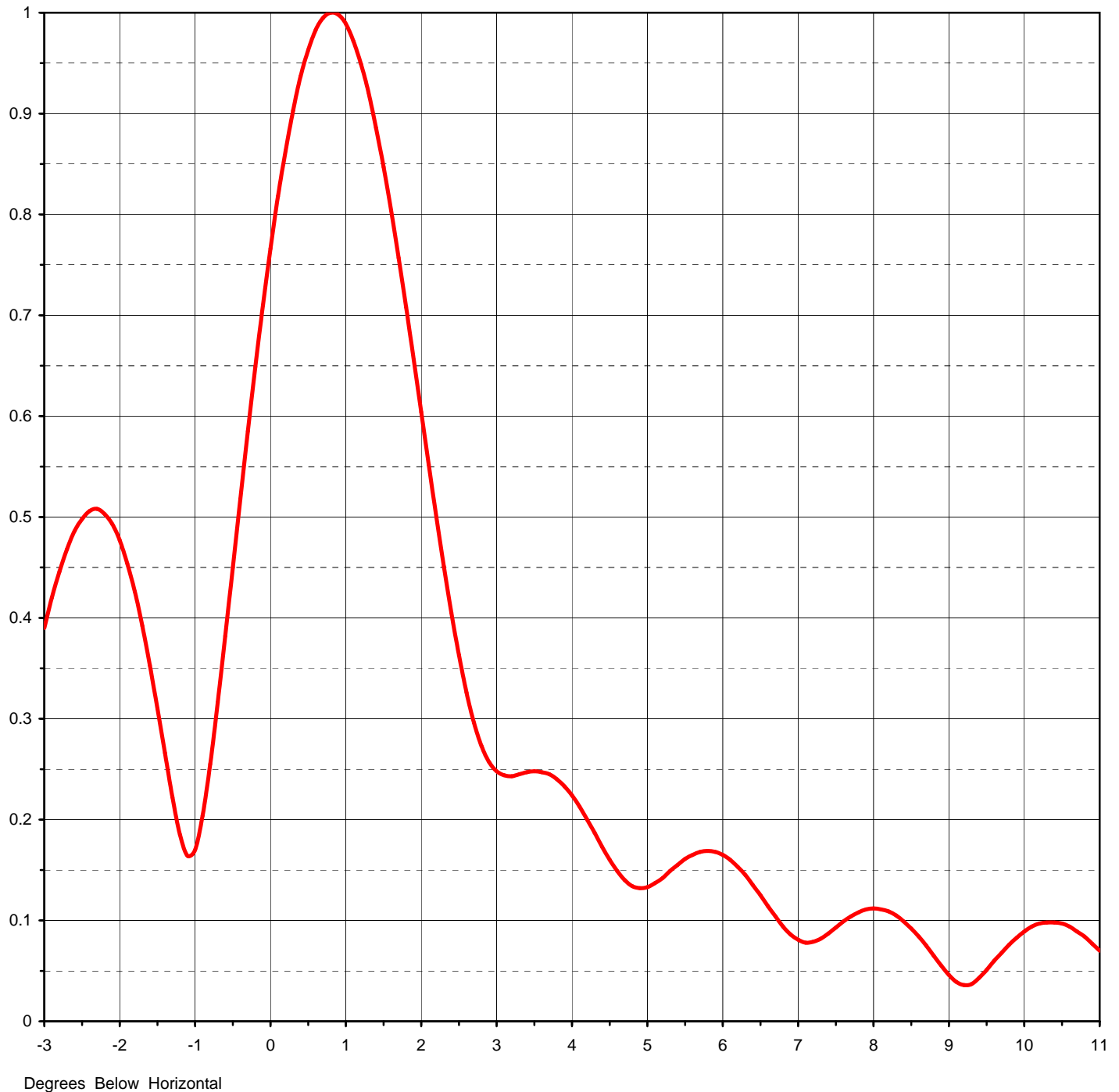
Antenna Type

**TUA-C4SP-12/40U-2-S**

## ELEVATION PATTERN

RMS Gain at Main Lobe **22.2 ( 13.47 dB )**  
RMS Gain at Horizontal **13.0 ( 11.14 dB )**  
Calculated / Measured **Calculated**

Beam Tilt **0.75 deg**  
Frequency **569.00 MHz**  
Drawing # **12U222075**







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**San Francisco, CA**

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Antenna Type

**TUA-C4SP-12/40U-2-S**

## ELEVATION PATTERN

RMS Gain at Main Lobe **22.2 ( 13.47 dB )**

Beam Tilt **0.75 deg**

RMS Gain at Horizontal **13.0 ( 11.14 dB )**

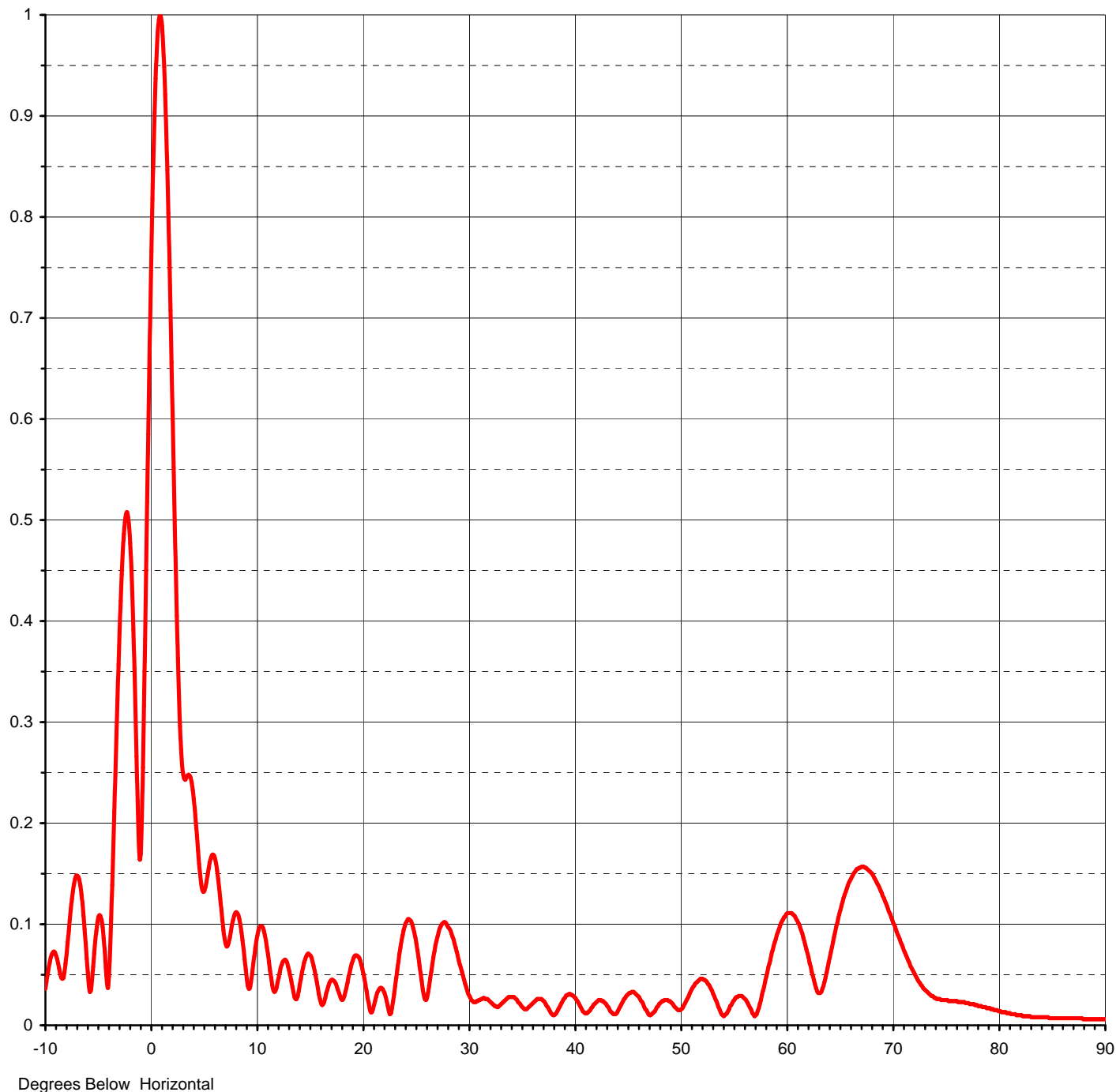
Frequency

**569.00 MHz**

Calculated / Measured **Calculated**

Drawing #

**12U222075-90**







Proposal Number

Date **12-Oct-06**

Call Letters **KQED** Channel **30**

Location **San Francisco, CA**

Customer

Antenna Type **TUA-C4SP-12/40U-2-S**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **12U222075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.036	2.4	0.405	10.6	0.097	30.5	0.023	51.0	0.034	71.5	0.062
-9.5	0.067	2.6	0.326	10.8	0.089	31.0	0.025	51.5	0.042	72.0	0.051
-9.0	0.069	2.8	0.273	11.0	0.077	31.5	0.027	52.0	0.046	72.5	0.042
-8.5	0.047	3.0	0.248	11.5	0.040	32.0	0.024	52.5	0.043	73.0	0.035
-8.0	0.071	3.2	0.243	12.0	0.042	32.5	0.019	53.0	0.034	73.5	0.030
-7.5	0.125	3.4	0.247	12.5	0.063	33.0	0.020	53.5	0.021	74.0	0.027
-7.0	0.148	3.6	0.247	13.0	0.058	33.5	0.025	54.0	0.010	74.5	0.025
-6.5	0.120	3.8	0.240	13.5	0.033	34.0	0.028	54.5	0.014	75.0	0.025
-6.0	0.052	4.0	0.224	14.0	0.034	34.5	0.026	55.0	0.024	75.5	0.024
-5.5	0.058	4.2	0.200	14.5	0.062	35.0	0.019	55.5	0.029	76.0	0.024
-5.0	0.107	4.4	0.173	15.0	0.070	35.5	0.016	56.0	0.027	76.5	0.023
-4.5	0.086	4.6	0.149	15.5	0.054	36.0	0.021	56.5	0.019	77.0	0.022
-4.0	0.049	4.8	0.134	16.0	0.026	36.5	0.026	57.0	0.009	77.5	0.021
-3.5	0.211	5.0	0.133	16.5	0.027	37.0	0.025	57.5	0.021	78.0	0.019
-3.0	0.390	5.2	0.142	17.0	0.044	37.5	0.018	58.0	0.043	78.5	0.018
-2.8	0.446	5.4	0.155	17.5	0.041	38.0	0.010	58.5	0.065	79.0	0.017
-2.6	0.486	5.6	0.165	18.0	0.026	38.5	0.016	59.0	0.085	79.5	0.015
-2.4	0.506	5.8	0.169	18.5	0.037	39.0	0.026	59.5	0.101	80.0	0.014
-2.2	0.503	6.0	0.165	19.0	0.061	39.5	0.031	60.0	0.110	80.5	0.013
-2.0	0.477	6.2	0.153	19.5	0.069	40.0	0.028	60.5	0.111	81.0	0.012
-1.8	0.426	6.4	0.135	20.0	0.056	40.5	0.020	61.0	0.104	81.5	0.011
-1.6	0.353	6.6	0.114	20.5	0.027	41.0	0.012	61.5	0.091	82.0	0.010
-1.4	0.266	6.8	0.094	21.0	0.016	41.5	0.015	62.0	0.071	82.5	0.009
-1.2	0.185	7.0	0.081	21.5	0.034	42.0	0.022	62.5	0.049	83.0	0.008
-1.0	0.170	7.2	0.079	22.0	0.034	42.5	0.025	63.0	0.032	83.5	0.008
-0.8	0.255	7.4	0.087	22.5	0.014	43.0	0.021	63.5	0.039	84.0	0.008
-0.6	0.382	7.6	0.099	23.0	0.031	43.5	0.013	64.0	0.062	84.5	0.008
-0.4	0.518	7.8	0.108	23.5	0.071	44.0	0.012	64.5	0.092	85.0	0.007
-0.2	0.649	8.0	0.112	24.0	0.098	44.5	0.022	65.0	0.114	85.5	0.007
0.0	0.766	8.2	0.109	24.5	0.104	45.0	0.030	65.5	0.132	86.0	0.007
0.2	0.863	8.4	0.099	25.0	0.087	45.5	0.033	66.0	0.145	86.5	0.007
0.4	0.937	8.6	0.084	25.5	0.051	46.0	0.029	66.5	0.154	87.0	0.007
0.6	0.983	8.8	0.065	26.0	0.025	46.5	0.021	67.0	0.157	87.5	0.007
0.8	1.000	9.0	0.046	26.5	0.053	47.0	0.011	67.5	0.155	88.0	0.006
1.0	0.989	9.2	0.036	27.0	0.084	47.5	0.013	68.0	0.150	88.5	0.006
1.2	0.949	9.4	0.043	27.5	0.100	48.0	0.021	68.5	0.140	89.0	0.006
1.4	0.886	9.6	0.060	28.0	0.099	48.5	0.025	69.0	0.128	89.5	0.006
1.6	0.804	9.8	0.068	28.5	0.088	49.0	0.024	69.5	0.115	90.0	0.006
1.8	0.708	10.0	0.083	29.0	0.069	49.5	0.018	70.0	0.101		
2.0	0.604	10.2	0.094	29.5	0.049	50.0	0.015	70.5	0.088		
2.2	0.500	10.4	0.098	30.0	0.031	50.5	0.023	71.0	0.074		



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Antenna Type

**TUA-C4SP-12/40U-2-S**

## AZIMUTH PATTERN

Gain

**1.9**

**( 2.67 dB)**

Frequency

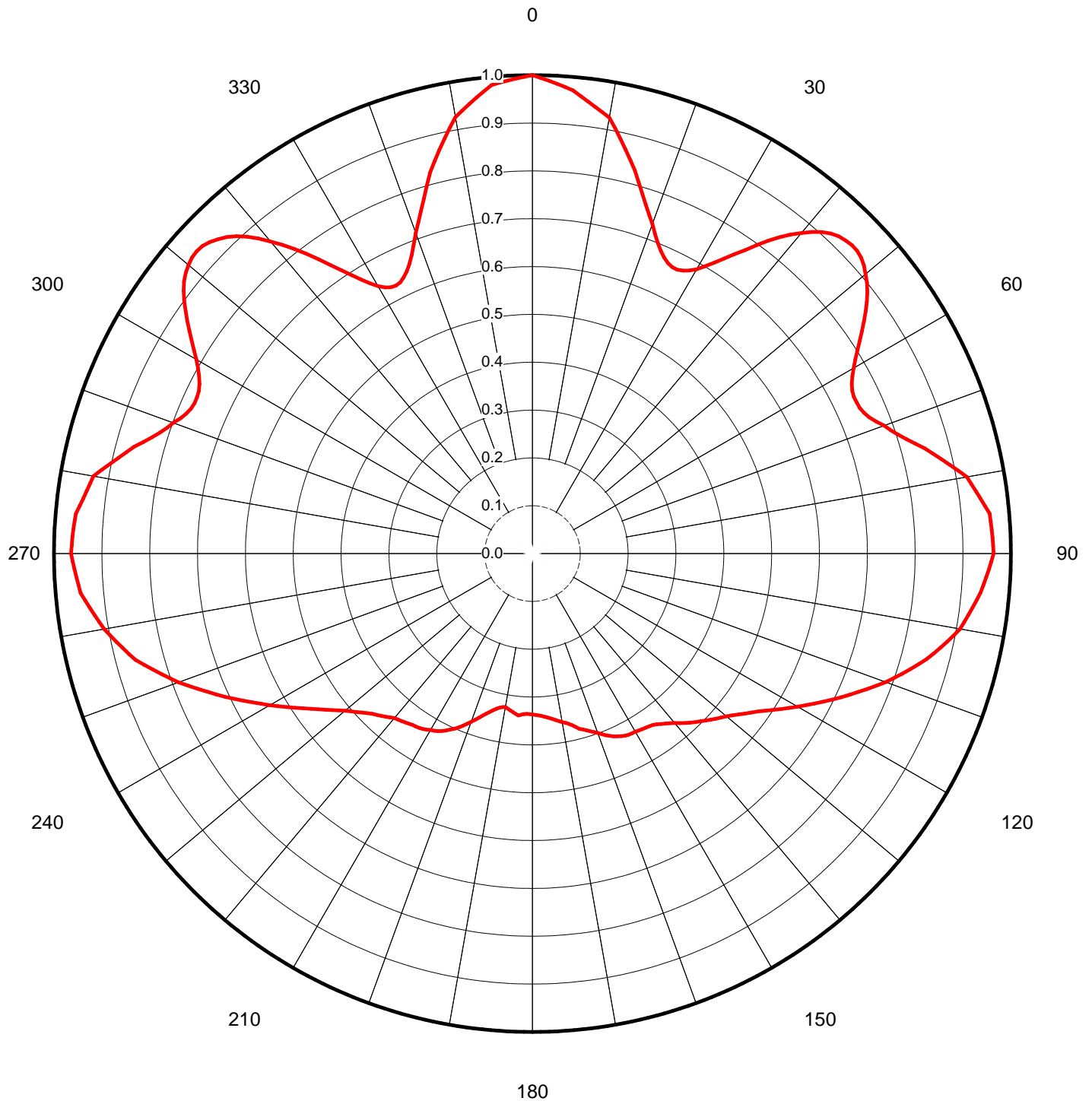
**569.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**TUA-C4SP-5690**







Proposal Number

Date

**12-Oct-06**

Call Letters

**KQED**

Channel

**30**

Location

**San Francisco, CA**

Customer

Antenna Type

**TUA-C4SP-12/40U-2-S**

## AZIMUTH PATTERN (dB)

Gain

**1.9**

**( 2.67 dB)**

Frequency

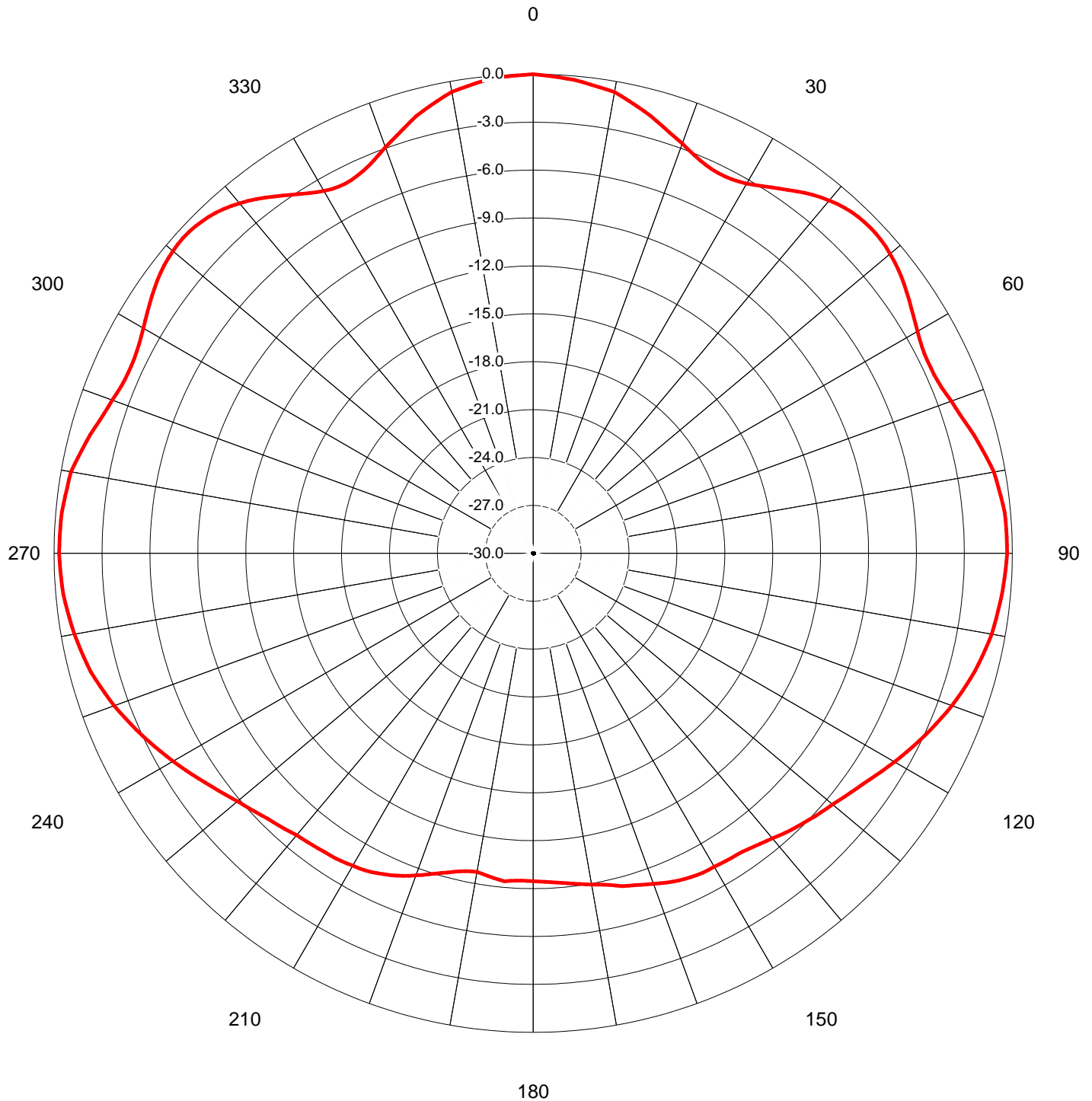
**569.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**TUA-C4SP-5690**







Proposal Number

Date

Call Letters

Location

Customer

Antenna Type

12-Oct-06

KQED

Channel

30

San Francisco, CA

TUA-C4SP-12/40U-2-S

**TABULATION OF AZIMUTH PATTERN**Azimuth Pattern Drawing #: **TUA-C4SP-5690**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	1.000	45	0.925	90	0.964	135	0.496	180	0.336	225	0.474	270	0.964	315	0.929
1	0.994	46	0.928	91	0.959	136	0.490	181	0.336	226	0.480	271	0.963	316	0.920
2	0.989	47	0.928	92	0.954	137	0.483	182	0.335	227	0.487	272	0.962	317	0.907
3	0.983	48	0.924	93	0.950	138	0.477	183	0.336	228	0.495	273	0.961	318	0.891
4	0.978	49	0.918	94	0.945	139	0.470	184	0.338	229	0.503	274	0.959	319	0.873
5	0.972	50	0.909	95	0.940	140	0.462	185	0.340	230	0.511	275	0.958	320	0.852
6	0.962	51	0.900	96	0.933	141	0.456	186	0.337	231	0.521	276	0.952	321	0.831
7	0.952	52	0.888	97	0.927	142	0.451	187	0.334	232	0.531	277	0.946	322	0.808
8	0.943	53	0.875	98	0.920	143	0.446	188	0.331	233	0.542	278	0.941	323	0.784
9	0.934	54	0.861	99	0.914	144	0.441	189	0.328	234	0.554	279	0.936	324	0.760
10	0.925	55	0.846	100	0.908	145	0.438	190	0.326	235	0.566	280	0.932	325	0.736
11	0.906	56	0.831	101	0.897	146	0.436	191	0.327	236	0.578	281	0.917	326	0.715
12	0.886	57	0.815	102	0.886	147	0.434	192	0.329	237	0.592	282	0.902	327	0.694
13	0.866	58	0.801	103	0.875	148	0.433	193	0.333	238	0.605	283	0.888	328	0.675
14	0.847	59	0.787	104	0.864	149	0.431	194	0.337	239	0.620	284	0.875	329	0.659
15	0.828	60	0.775	105	0.853	150	0.430	195	0.342	240	0.634	285	0.862	330	0.646
16	0.807	61	0.764	106	0.839	151	0.430	196	0.348	241	0.648	286	0.846	331	0.636
17	0.786	62	0.756	107	0.826	152	0.429	197	0.354	242	0.663	287	0.831	332	0.630
18	0.767	63	0.750	108	0.812	153	0.427	198	0.361	243	0.678	288	0.818	333	0.628
19	0.749	64	0.747	109	0.799	154	0.425	199	0.367	244	0.693	289	0.808	334	0.631
20	0.733	65	0.748	110	0.786	155	0.421	200	0.374	245	0.709	290	0.799	335	0.637
21	0.715	66	0.749	111	0.770	156	0.418	201	0.381	246	0.724	291	0.788	336	0.646
22	0.700	67	0.753	112	0.755	157	0.414	202	0.388	247	0.739	292	0.780	337	0.658
23	0.687	68	0.760	113	0.740	158	0.410	203	0.395	248	0.755	293	0.775	338	0.674
24	0.677	69	0.770	114	0.726	159	0.404	204	0.401	249	0.771	294	0.773	339	0.692
25	0.670	70	0.782	115	0.711	160	0.399	205	0.406	250	0.787	295	0.773	340	0.713
26	0.666	71	0.792	116	0.697	161	0.395	206	0.412	251	0.801	296	0.776	341	0.732
27	0.666	72	0.804	117	0.682	162	0.390	207	0.417	252	0.815	297	0.781	342	0.753
28	0.670	73	0.818	118	0.668	163	0.386	208	0.421	253	0.829	298	0.789	343	0.776
29	0.677	74	0.833	119	0.654	164	0.382	209	0.424	254	0.844	299	0.799	344	0.800
30	0.686	75	0.849	120	0.640	165	0.379	210	0.426	255	0.859	300	0.811	345	0.826
31	0.700	76	0.863	121	0.626	166	0.373	211	0.429	256	0.869	301	0.825	346	0.845
32	0.717	77	0.877	122	0.613	167	0.368	212	0.432	257	0.879	302	0.840	347	0.866
33	0.735	78	0.892	123	0.600	168	0.364	213	0.435	258	0.889	303	0.855	348	0.886
34	0.755	79	0.907	124	0.587	169	0.360	214	0.436	259	0.899	304	0.870	349	0.906
35	0.774	80	0.922	125	0.575	170	0.358	215	0.437	260	0.909	305	0.885	350	0.926
36	0.797	81	0.929	126	0.565	171	0.354	216	0.440	261	0.916	306	0.900	351	0.937
37	0.819	82	0.936	127	0.556	172	0.351	217	0.442	262	0.924	307	0.913	352	0.949
38	0.839	83	0.944	128	0.547	173	0.348	218	0.444	263	0.932	308	0.924	353	0.960
39	0.858	84	0.951	129	0.538	174	0.346	219	0.446	264	0.940	309	0.932	354	0.972
40	0.875	85	0.959	130	0.529	175	0.343	220	0.449	265	0.948	310	0.938	355	0.983
41	0.891	86	0.960	131	0.522	176	0.342	221	0.454	266	0.951	311	0.943	356	0.986
42	0.904	87	0.961	132	0.516	177	0.340	222	0.459	267	0.954	312	0.944	357	0.990
43	0.915	88	0.962	133	0.509	178	0.338	223	0.464	268	0.958	313	0.943	358	0.993
44	0.922	89	0.963	134	0.503	179	0.337	224	0.469	269	0.961	314	0.938	359	0.997