



Antenna Model:

TFU-33JTH/VP-R 06

Proposal Number: **C-70914-3**
Date: **12-Sep-17**
Customer: **Nexstar**
Location: **Abilene, TX**

Electrical Specifications

Polarization: **Elliptical**
Azimuth Pattern: **Omni**
Antenna Input: **6-1/8"** **75 Ohm** **EIA/DCA**
VSWR: **Channel** **1.08 : 1** **Band** **1.08 : 1**
Bandwidth: **6 MHz**
Rated Input Power: **50 kW** **(16.99 dBk)** **Maximum Average Power**

Mechanical Specifications

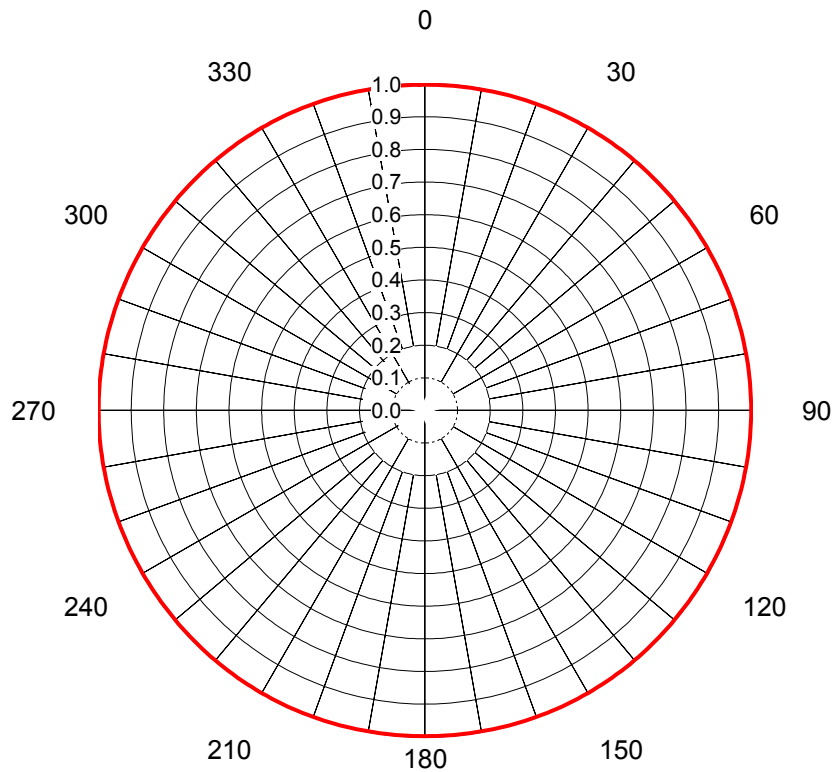
Mounting: **Top Mounted**
Environmental Protection: **Full Radome**
Height: **59.9 ft (18.3m)** **less Lightning Protector** **63.9 ft (19.5m) with Lightning Protector**
Weight: **10100 lb (4.6t)**
Effective Projected Area: **71.2 ft² (6.6m²)** **TIA-222-G** **Basic Wind Speed: 90 m/h (144.8 km/h)**

Channel Specifications

Call	CH	Freq	Hpol ERP	Vpol ERP	TPO	RMS Main Lobe Hpol Gain	RMS Main Lobe Vpol Gain	RMS at Horizontal Hpol Gain	RMS at Horizontal Vpol Gain
KTAB	30	569 MHz	1000.0 kW (30.00 dBk)	330.0 kW (25.19 dBk)	49.1 kW (16.91 dBk)	24.59 (13.91dB)	8.11 (9.09dB)	12.75 (11.05dB)	4.21 (6.24dB)

AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-70914-3**
 Date **12-Sep-17**
 Call Letters **KTAB**
 Channel **30**
 Frequency **569 MHz**
 Antenna Type **TFU-33JTH/VP-R 06**
 Gain **1 (0.01dB)**
 Calculated
 Circularity **+/- 1.0 dB**

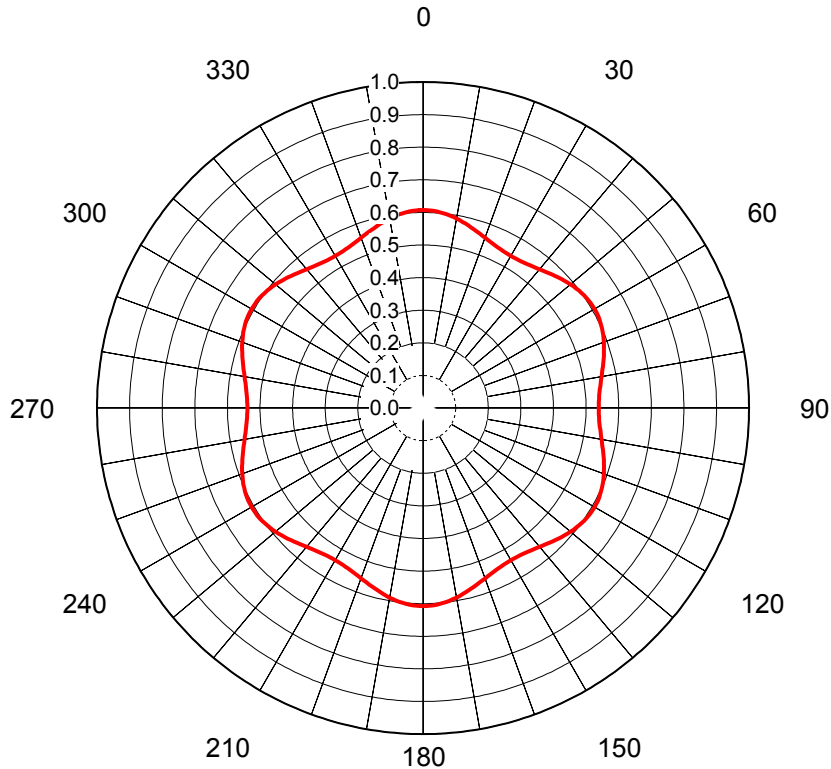


Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.998	36	1.000	72	0.999	108	0.999	144	1.000	180	0.998	216	1.000	252	0.999	288	0.999	324	1.000
1	0.998	37	1.000	73	0.999	109	0.999	145	1.000	181	0.998	217	1.000	253	0.999	289	0.999	325	1.000
2	0.998	38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

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AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-70914-3**
 Date **12-Sep-17**
 Call Letters **KTAB**
 Channel **30**
 Frequency **569 MHz**
 Antenna Type **TFU-33JTH/VP-R 06**
 Gain **1.12 (0.5dB)**
 Calculated
 Circularity **+/- 1.0 dB**



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.607	36	0.545	72	0.584	108	0.584	144	0.545	180	0.607	216	0.545	252	0.584	288	0.584
1	0.607	37	0.548	73	0.580	109	0.587	145	0.543	181	0.607	217	0.548	253	0.580	289	0.587
2	0.607	38	0.550	74	0.577	110	0.590	146	0.542	182	0.607	218	0.550	254	0.577	290	0.590
3	0.606	39	0.553	75	0.573	111	0.593	147	0.540	183	0.606	219	0.553	255	0.573	291	0.593
4	0.604	40	0.556	76	0.569	112	0.596	148	0.540	184	0.604	220	0.556	256	0.569	292	0.596
5	0.603	41	0.559	77	0.566	113	0.599	149	0.539	185	0.603	221	0.559	257	0.566	293	0.599
6	0.601	42	0.562	78	0.562	114	0.601	150	0.539	186	0.601	222	0.562	258	0.562	294	0.601
7	0.599	43	0.566	79	0.559	115	0.603	151	0.539	187	0.599	223	0.566	259	0.559	295	0.603
8	0.596	44	0.569	80	0.556	116	0.604	152	0.540	188	0.596	224	0.569	260	0.556	296	0.604
9	0.593	45	0.573	81	0.553	117	0.606	153	0.540	189	0.593	225	0.573	261	0.553	297	0.606
10	0.590	46	0.577	82	0.550	118	0.607	154	0.542	190	0.590	226	0.577	262	0.550	298	0.607
11	0.587	47	0.580	83	0.548	119	0.607	155	0.543	191	0.587	227	0.580	263	0.548	299	0.607
12	0.584	48	0.584	84	0.545	120	0.607	156	0.545	192	0.584	228	0.584	264	0.545	300	0.607
13	0.580	49	0.587	85	0.543	121	0.607	157	0.548	193	0.580	229	0.587	265	0.543	301	0.607
14	0.577	50	0.590	86	0.542	122	0.607	158	0.550	194	0.577	230	0.590	266	0.542	302	0.607
15	0.573	51	0.593	87	0.540	123	0.606	159	0.553	195	0.573	231	0.593	267	0.540	303	0.606
16	0.569	52	0.596	88	0.540	124	0.604	160	0.556	196	0.569	232	0.596	268	0.540	304	0.604
17	0.566	53	0.599	89	0.539	125	0.603	161	0.559	197	0.566	233	0.599	269	0.539	305	0.603
18	0.562	54	0.601	90	0.539	126	0.601	162	0.562	198	0.562	234	0.601	270	0.539	306	0.601
19	0.559	55	0.603	91	0.539	127	0.599	163	0.566	199	0.559	235	0.603	271	0.539	307	0.599
20	0.556	56	0.604	92	0.540	128	0.596	164	0.569	200	0.556	236	0.604	272	0.540	308	0.596
21	0.553	57	0.606	93	0.540	129	0.593	165	0.573	201	0.553	237	0.606	273	0.540	309	0.593
22	0.550	58	0.607	94	0.542	130	0.590	166	0.577	202	0.550	238	0.607	274	0.542	310	0.590
23	0.548	59	0.607	95	0.543	131	0.587	167	0.580	203	0.548	239	0.607	275	0.543	311	0.587
24	0.545	60	0.607	96	0.545	132	0.584	168	0.584	204	0.545	240	0.607	276	0.545	312	0.584
25	0.543	61	0.607	97	0.548	133	0.580	169	0.587	205	0.543	241	0.607	277	0.548	313	0.580
26	0.542	62	0.607	98	0.550	134	0.577	170	0.590	206	0.542	242	0.607	278	0.550	314	0.577
27	0.540	63	0.606	99	0.553	135	0.573	171	0.593	207	0.540	243	0.606	279	0.553	315	0.573
28	0.540	64	0.604	100	0.556	136	0.569	172	0.596	208	0.540	244	0.604	280	0.556	316	0.569
29	0.539	65	0.603	101	0.559	137	0.566	173	0.599	209	0.539	245	0.603	281	0.559	317	0.566
30	0.539	66	0.601	102	0.562	138	0.562	174	0.601	210	0.539	246	0.601	282	0.562	318	0.562
31	0.539	67	0.599	103	0.566	139	0.559	175	0.603	211	0.539	247	0.599	283	0.566	319	0.559
32	0.540	68	0.596	104	0.569	140	0.556	176	0.604	212	0.540	248	0.596	284	0.569	320	0.556
33	0.540	69	0.593	105	0.573	141	0.553	177	0.606	213	0.540	249	0.593	285	0.573	321	0.553
34	0.542	70	0.590	106	0.577	142	0.550	178	0.607	214	0.542	250	0.590	286	0.577	322	0.550
35	0.543	71	0.587	107	0.580	143	0.548	179	0.607	215	0.543	251	0.587	287	0.580	323	0.548

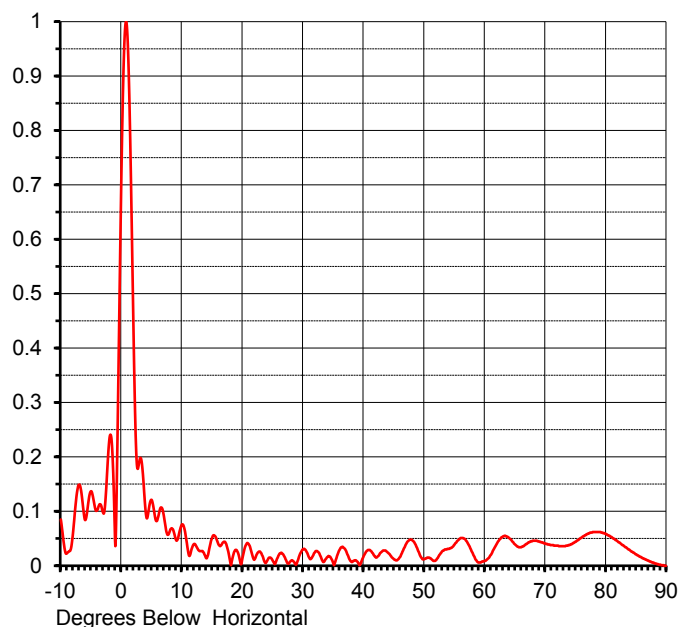
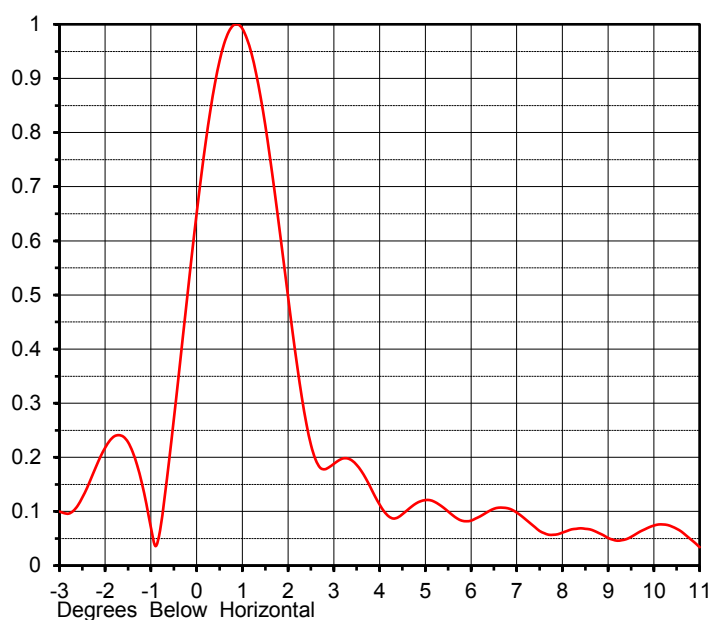
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ELEVATION PATTERN

Proposal No. **C-70914-3**
 Date **12-Sep-17**
 Call Letters **KTAB**
 Channel **30**
 Frequency **569 MHz**
 Antenna Type **TFU-33JTH/VP-R 06**

RMS Directivity at Main Lobe **32.7 (15.15 dB)**
 RMS Directivity at Horizontal **17.0 (12.30 dB)**
Calculated

Beam Tilt **0.75 deg**
 Pattern Number **33J327075**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.085	10.0	0.076	30.0	0.030	50.0	0.012	70.0	0.041
-9.0	0.023	11.0	0.027	31.0	0.015	51.0	0.014	71.0	0.038
-8.0	0.059	12.0	0.040	32.0	0.026	52.0	0.011	72.0	0.037
-7.0	0.149	13.0	0.027	33.0	0.014	53.0	0.027	73.0	0.036
-6.0	0.084	14.0	0.014	34.0	0.016	54.0	0.031	74.0	0.038
-5.0	0.137	15.0	0.052	35.0	0.004	55.0	0.039	75.0	0.044
-4.0	0.102	16.0	0.040	36.0	0.029	56.0	0.051	76.0	0.052
-3.0	0.097	17.0	0.044	37.0	0.029	57.0	0.045	77.0	0.059
-2.0	0.231	18.0	0.005	38.0	0.007	58.0	0.023	78.0	0.062
-1.0	0.036	19.0	0.029	39.0	0.007	59.0	0.006	79.0	0.062
0.0	0.720	20.0	0.015	40.0	0.018	60.0	0.009	80.0	0.058
1.0	0.973	21.0	0.040	41.0	0.029	61.0	0.020	81.0	0.052
2.0	0.430	22.0	0.012	42.0	0.016	62.0	0.041	82.0	0.044
3.0	0.194	23.0	0.024	43.0	0.026	63.0	0.054	83.0	0.036
4.0	0.100	24.0	0.008	44.0	0.024	64.0	0.051	84.0	0.028
5.0	0.121	25.0	0.009	45.0	0.012	65.0	0.039	85.0	0.021
6.0	0.087	26.0	0.020	46.0	0.016	66.0	0.034	86.0	0.014
7.0	0.092	27.0	0.015	47.0	0.040	67.0	0.041	87.0	0.009
8.0	0.064	28.0	0.009	48.0	0.047	68.0	0.046	88.0	0.005
9.0	0.048	29.0	0.006	49.0	0.027	69.0	0.044	89.0	0.002
								90.0	0.000

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MECHANICAL SPECIFICATIONS

Proposal No. **C-70914-3**
 Date **12-Sep-17**
 Call Letters **KTAB**
 Channel **30**
 Frequency **569 MHz**
 Antenna Type **TFU-33JTH/VP-R 06**

Preliminary Specifications

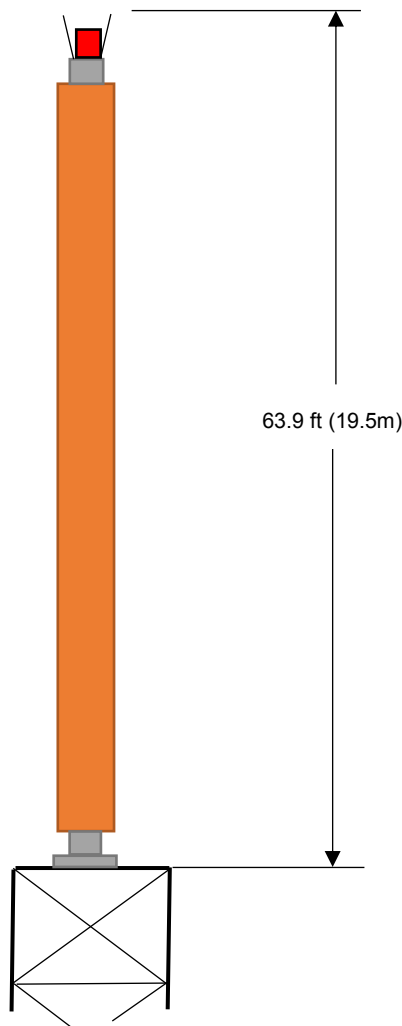
Top Mounted

With ice TIA-222-G

Height AGL(z) 748 ft (228 m)
 Basic Wind Speed 90 m/h (144.8 km/h)

Structure Class II
 Exposure Category C
 Topography Category 3
 Height of Crest 200 ft (61 m)

Design Ice 0.75 in $t_{iz} = 2.05$ in
 Wind Speed w/Ice 40 m/h (64.4 km/h)



Mechanical Specifications

		without ice	with ice
Height with Lightning Protector	H4	63.9 ft (19.5m)	
Height less Lightning Protector	H2	59.9 ft (18.3m)	
Height of Center of Radiation	H3	30 ft (9.1m)	
Effective Projected Area	(EPA) _S	71.2 ft² (6.6m²)	183 ft² (17m²)
Moment Arm	D1	31.4 ft (9.6m)	32.4 ft (9.9m)

Weight	W	10100 lb (4.6t)	14600 lb (6.6t)
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Antenna designed in accordance with AISC specifications for design of structural steel as prescribed by TIA-222-G

Prepared by: DLS
 Rev. No.3 by: JBC

Date: 12-Sep-17
 Date: 12-Sep-17

ME: EE:

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Summary

Proposal No. **C-70914-3**
Date **12-Sep-17**
Call Letters **KTAB**
Channel **30**
Frequency **569 MHz**
Antenna Type **TFU-33JTH/VP-R 06**

Antenna

	Hpol	Vpol
ERP:	1000.0 kW (30.00 dBk)	330.0 kW (25.19 dBk)
RMS Gain*	24.59 (13.91 dB)	8.11 (9.09 dB)

Antenna Input Power **40.7 kW (16.09 dBk)**

Transmission Line

Type:	Rigid	Attenuation:	(0.82 dB)
Size:	8-3/16"	Efficiency:	82.8%
Impedance:	75 Ohm		
Length:	945 ft	288.0 m	

Transmitter Output

49.1 kW (16.91 dBk)

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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