

Application for Minor Modification
Post – Repack Auxiliary Construction Permit
Engineering Exhibit

KPZN-TV – San Bernardino, CA

Facility ID: 58978

Licensee "ION TELEVISION LICENSE, LLC" is currently authorized to operate on DTV channel 24. The Antenna Structure Registration Number is 1036897 with a Latitude of 34° 13' 36" N+ and a Longitude of 118° 04' 02.2" W-.

The purpose of this application is to request authority to construct an auxiliary operation from Antenna Structure Registration Number 1036897 with a Latitude of 34° 13' 36" N+ and a Longitude of 118° 04' 02.2" W-. The HAAT is 878.27 m (AGL 34.4 m) with an AMSL of 1768.70 m. An ERP of 165 kW will be utilized.

KPZN-TV channel shares with KILM (TV), Inglewood, CA, Facility ID 63865. Accordingly, all relevant technical parameters in this application pertain to both stations. This includes, but not limited to, the RF Hazard statement and RF Coverage analysis.

Antenna System

A directional side-mounted antenna will be utilized. It will be affixed to an existing guyed tower structure and will not increase the overall height of the structure. Elevation and Azimuth patterns are attached.

RF Hazard (Environmental)

Compliance with RF Hazard (Environmental) is provided in the attached RF Hazard Statement.

Broadcast Facility

73.616 Interference Caused

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2021-12-16 indicates that there is no excessive new interference created. This study used cell spacing of 1km and a profile spacing of .5 km.

73.625 Coverage of Principal Community

The application's ERP will sufficiently cover San Bernardino, CA. RF coverage analysis attached.

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73.1030 Radio, Research and Receiving Locations

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2021-12-16 indicates that no excessive interference to any “protected” locations. As such, no coordination or notification is required.

73.1650 International Agreements

The application’s transmit location is 1620.4 km from Canada. As such, no coordination or notification is required.

The application’s transmit location is 190.4 km from Mexico. A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2021-12-16 indicates that this application causes no new interference to any Mexican stations.

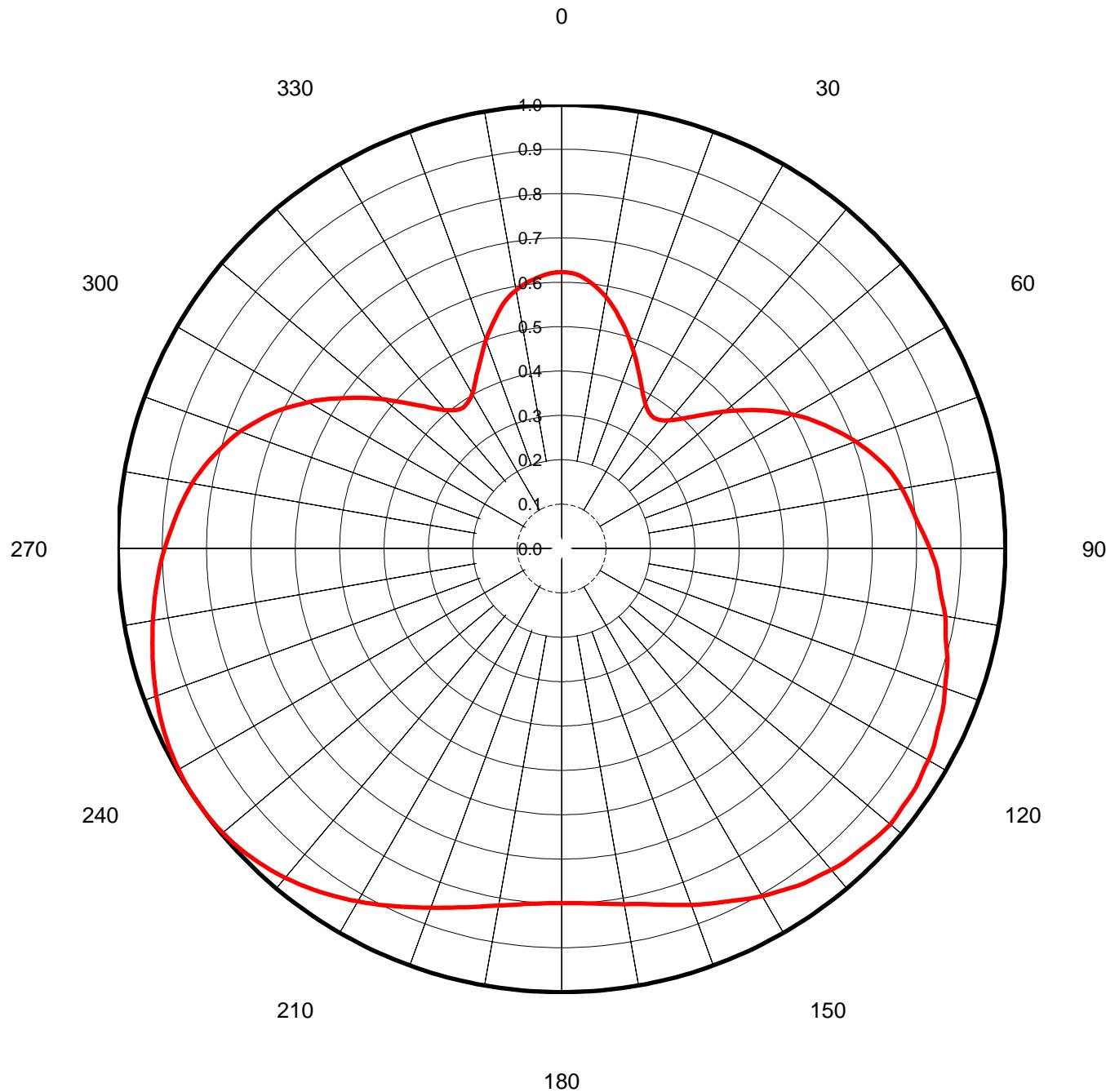
Date **9-Dec-21**
 Call Letters **KPZN** Channel **24**
 Location **San Bernadino, CA**
 Customer
 Antenna Type **TFU-WB**

Gain
 Calculated / Measured

Calculated

Frequency **533.00 MHz**
 Drawing #

AZIMUTH PATTERN: 0.00° Depression Angle



Mech. Tilt: -1.00°
 @
 Azimuth: 220 deg



Date
Call Letters
Location
Customer
Antenna Type

9-Dec-21
KPXN Channel
San Bernadino, CA
TFU-WB

24

TABULATION OF AZIMUTH PATTERN:

0.00° Depression Angle

Azimuth Pattern Drawing #:

Angle	Field																
0	0.623	45	0.421	90	0.830	135	0.957	180	0.799	225	0.986	270	0.895	315	0.457		
1	0.623	46	0.432	91	0.835	136	0.955	181	0.799	226	0.989	271	0.890	316	0.445		
2	0.621	47	0.444	92	0.841	137	0.954	182	0.800	227	0.991	272	0.885	317	0.434		
3	0.619	48	0.455	93	0.847	138	0.952	183	0.801	228	0.993	273	0.880	318	0.424		
4	0.616	49	0.468	94	0.850	139	0.949	184	0.802	229	0.995	274	0.875	319	0.415		
5	0.611	50	0.480	95	0.854	140	0.945	185	0.804	230	0.997	275	0.871	320	0.407		
6	0.605	51	0.493	96	0.857	141	0.941	186	0.806	231	0.998	276	0.866	321	0.401		
7	0.599	52	0.506	97	0.862	142	0.938	187	0.808	232	0.999	277	0.861	322	0.396		
8	0.592	53	0.518	98	0.867	143	0.935	188	0.811	233	1.000	278	0.856	323	0.391		
9	0.584	54	0.531	99	0.873	144	0.932	189	0.814	234	1.000	279	0.851	324	0.388		
10	0.576	55	0.544	100	0.878	145	0.928	190	0.817	235	1.000	280	0.846	325	0.387		
11	0.567	56	0.556	101	0.882	146	0.923	191	0.821	236	1.000	281	0.839	326	0.388		
12	0.557	57	0.568	102	0.885	147	0.918	192	0.824	237	0.999	282	0.833	327	0.390		
13	0.548	58	0.580	103	0.888	148	0.913	193	0.828	238	0.999	283	0.826	328	0.394		
14	0.537	59	0.592	104	0.893	149	0.909	194	0.833	239	0.998	284	0.819	329	0.397		
15	0.527	60	0.604	105	0.899	150	0.905	195	0.837	240	0.996	285	0.811	330	0.403		
16	0.517	61	0.615	106	0.905	151	0.900	196	0.842	241	0.995	286	0.803	331	0.409		
17	0.507	62	0.626	107	0.909	152	0.894	197	0.846	242	0.993	287	0.796	332	0.417		
18	0.496	63	0.636	108	0.912	153	0.888	198	0.851	243	0.991	288	0.788	333	0.426		
19	0.485	64	0.646	109	0.915	154	0.883	199	0.856	244	0.989	289	0.780	334	0.436		
20	0.474	65	0.656	110	0.919	155	0.878	200	0.862	245	0.987	290	0.771	335	0.445		
21	0.463	66	0.666	111	0.924	156	0.873	201	0.867	246	0.984	291	0.761	336	0.455		
22	0.452	67	0.676	112	0.929	157	0.869	202	0.873	247	0.981	292	0.751	337	0.465		
23	0.441	68	0.686	113	0.933	158	0.864	203	0.878	248	0.978	293	0.741	338	0.476		
24	0.430	69	0.696	114	0.936	159	0.859	204	0.884	249	0.975	294	0.731	339	0.488		
25	0.420	70	0.705	115	0.938	160	0.855	205	0.890	250	0.972	295	0.720	340	0.499		
26	0.410	71	0.714	116	0.942	161	0.850	206	0.895	251	0.968	296	0.709	341	0.510		
27	0.401	72	0.723	117	0.946	162	0.845	207	0.901	252	0.965	297	0.697	342	0.520		
28	0.392	73	0.731	118	0.950	163	0.840	208	0.907	253	0.961	298	0.684	343	0.530		
29	0.384	74	0.740	119	0.953	164	0.835	209	0.913	254	0.958	299	0.672	344	0.540		
30	0.378	75	0.748	120	0.954	165	0.831	210	0.918	255	0.954	300	0.660	345	0.551		
31	0.372	76	0.755	121	0.955	166	0.826	211	0.924	256	0.950	301	0.647	346	0.561		
32	0.367	77	0.763	122	0.958	167	0.823	212	0.930	257	0.946	302	0.634	347	0.570		
33	0.364	78	0.768	123	0.961	168	0.819	213	0.935	258	0.943	303	0.620	348	0.578		
34	0.362	79	0.773	124	0.963	169	0.817	214	0.940	259	0.939	304	0.605	349	0.585		
35	0.361	80	0.778	125	0.964	170	0.814	215	0.946	260	0.935	305	0.592	350	0.591		
36	0.362	81	0.783	126	0.964	171	0.811	216	0.951	261	0.931	306	0.578	351	0.597		
37	0.363	82	0.788	127	0.964	172	0.809	217	0.955	262	0.927	307	0.564	352	0.602		
38	0.367	83	0.792	128	0.965	173	0.807	218	0.960	263	0.924	308	0.551	353	0.606		
39	0.371	84	0.797	129	0.966	174	0.805	219	0.964	264	0.920	309	0.537	354	0.610		
40	0.377	85	0.801	130	0.967	175	0.803	220	0.969	265	0.916	310	0.523	355	0.613		
41	0.384	86	0.806	131	0.966	176	0.802	221	0.973	266	0.912	311	0.509	356	0.617		
42	0.392	87	0.812	132	0.964	177	0.801	222	0.976	267	0.908	312	0.495	357	0.619		
43	0.401	88	0.818	133	0.962	178	0.800	223	0.980	268	0.903	313	0.481	358	0.621		
44	0.411	89	0.824	134	0.960	179	0.799	224	0.983	269	0.899	314	0.469	359	0.623		

ELEVATION PATTERN

Proposal No.

9-Dec-21

Date

KPXN

Call Letters

24

Channel

533 MHz

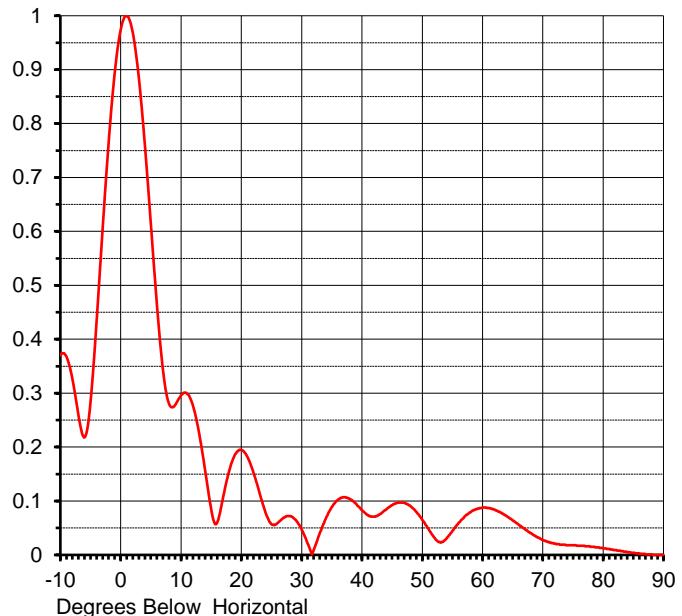
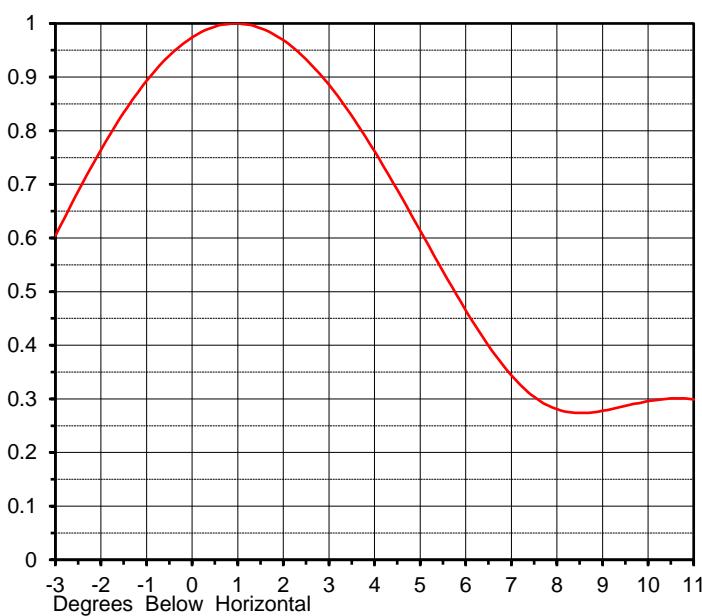
Frequency

TFU-8WB-R C160

RMS Directivity at Main Lobe
RMS Directivity at Horizontal

7.9 (8.96 dB)
7.5 (8.75 dB)
Calculated

Beam Tilt **1.05 deg**
Pattern Number **08W079105-24**



Angle Field

-10.0	0.370
-9.0	0.368
-8.0	0.326
-7.0	0.259
-6.0	0.218
-5.0	0.284
-4.0	0.432
-3.0	0.604
-2.0	0.764
-1.0	0.893
0.0	0.974
1.0	1.000
2.0	0.969
3.0	0.886
4.0	0.762
5.0	0.614
6.0	0.465
7.0	0.344
8.0	0.281
9.0	0.278

Angle Field

10.0	0.296
11.0	0.299
12.0	0.276
13.0	0.226
14.0	0.157
15.0	0.085
16.0	0.060
17.0	0.108
18.0	0.156
19.0	0.187
20.0	0.195
21.0	0.182
22.0	0.153
23.0	0.116
24.0	0.079
25.0	0.057
26.0	0.059
27.0	0.069
28.0	0.072
29.0	0.065

Angle Field

30.0	0.047
31.0	0.021
32.0	0.009
33.0	0.040
34.0	0.067
35.0	0.089
36.0	0.102
37.0	0.107
38.0	0.104
39.0	0.095
40.0	0.083
41.0	0.074
42.0	0.071
43.0	0.076
44.0	0.084
45.0	0.092
46.0	0.097
47.0	0.097
48.0	0.091
49.0	0.080

Angle Field

50.0	0.065
51.0	0.049
52.0	0.032
53.0	0.023
54.0	0.030
55.0	0.044
56.0	0.059
57.0	0.071
58.0	0.079
59.0	0.085
60.0	0.088
61.0	0.087
62.0	0.084
63.0	0.079
64.0	0.072
65.0	0.064
66.0	0.056
67.0	0.048
68.0	0.040
69.0	0.033

Angle Field

70.0	0.028
71.0	0.024
72.0	0.021
73.0	0.019
74.0	0.018
75.0	0.018
76.0	0.017
77.0	0.016
78.0	0.015
79.0	0.014
80.0	0.012
81.0	0.011
82.0	0.009
83.0	0.007
84.0	0.005
85.0	0.004
86.0	0.003
87.0	0.001
88.0	0.001
89.0	0.000
90.0	0.000

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KPXN - AUX APP
Latitude: 34-13-36 N
Longitude: 118-04-02.20 W
ERP: 165.00 kW
Channel: 24
Frequency: 533.0 MHz
AGL: 34.4 m
HAAT: 878.27 m
AMSL: 1768.7 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 1.05
Mech Tilt: 1.0
Tilt Azi: 220.0
Prop Model: None

