

**Application for Modification**  
**Post – Repack Construction Permit**  
**Engineering Exhibit**

**KOPX-TV – Oklahoma City, OK**

Facility ID: 2566

Licensee "ION MEDIA OKLAHOMA CITY LICENSE, LLC" is currently authorized to operate on Post-Repack DTV channel 18. The Antenna Structure Registration Number is 1045226 with a Latitude of 35° 35' 52.1" N+ and a Longitude of 097° 29' 23.2" W-.

The purpose of this application is to request authority to modify the construction permit (0000026989) to operate from Antenna Structure Registration Number 1043710 with a Latitude of 35° 34' 7.0" N+ and a Longitude of 097° 29' 21.0" W-. The HAAT is 467.3 m (AGL 470.20 m) with an AMSL of 819.8 m. An ERP of 200 kW will be utilized. Due to the close proximity of transmit locations this application's contour creates very minimal areas of contour expansion and retraction providing similar coverage.

The station is filing this request to change towers because the station is moving to a new tower location. To the extent necessary, the station requests an exemption or waiver of any current freeze on the filing of construction permit modifications as needed to process and approve this application.

**Antenna System**

An Omni-directional top 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. Any vertical component will not exceed the horizontal pattern in any direction. Elevation and Azimuth patterns are attached.

**RF Hazard (Environmental)**

Human Exposure measurements were calculated using the OET- 65 equation and the outcome is compliant with FCC 1.1310. Furthermore, the calculation is under 5% of the limit categorically excluding the application from further environmental evaluations.

Calculated Maximum	Calculated Exposure	Percent of Limit
mW/cm <sup>2</sup>	mW/cm <sup>2</sup>	
0.331	0.000442	0.13%

The station will coordinate with other(s) to comply with access, antenna and/or tower issues related to RF Exposure

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**§73.616 Interference Caused**

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2018-07-18 indicates that there is no excessive new interference created. This study used cell spacing of 2 km and a profile spacing of 1 km.

**§73.622 Maximum ERP and Antenna Height**

The application does not exceed the maximum ERP for the specified HAAT.

**§73.623 DTV Allotments**

The application does not change the DTV Table of Allotments.

**§73.625 Coverage of Principal Community**

The application's ERP will sufficiently cover Oklahoma City, Oklahoma. RF coverage analysis attached.

**§73.1030 Radio, Research and Receiving Locations**

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2018-07-18 indicates that no excessive interference to any "protected" locations. As such, no coordination or notification is required.

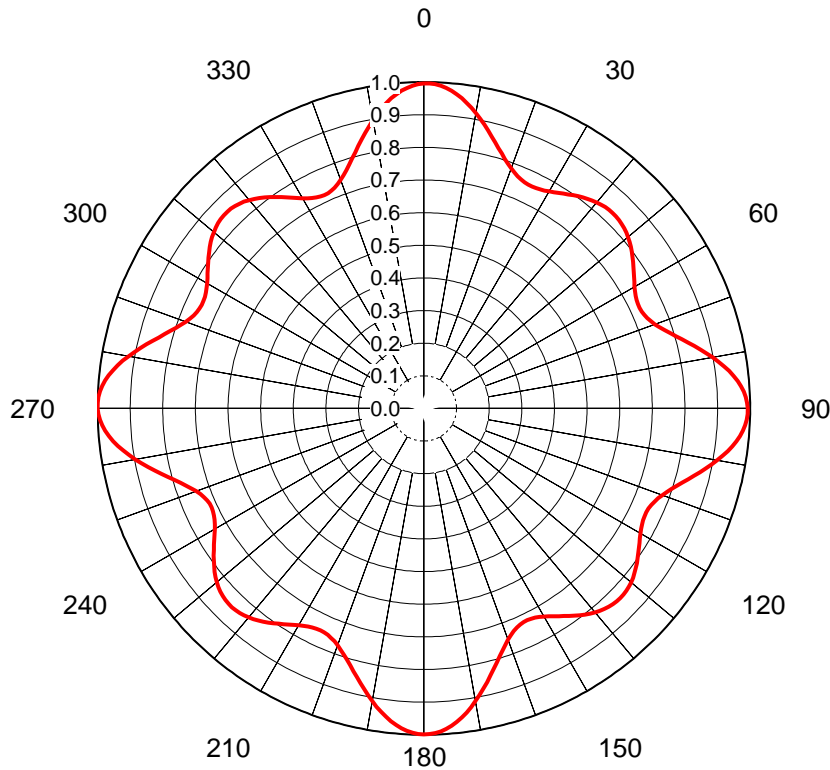
**§73.1650 International Agreements**

The application's transmit location is 1430.3 km from Canada. As such, no coordination or notification is required.

The application's transmit location is 740.9 km from Mexico. As such, no coordination or notification is required.

## AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-70627-1**  
 Date **12-Jun-17**  
 Call Letters **KOPX**  
 Channel **18**  
 Frequency **497 MHz**  
 Antenna Type **TUM25-O4-16/64H-1-R-T**  
 Gain **1.42 (1.53dB)**  
 Calculated  
 Circularity **+/- 2.0 dB**



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.996	36	0.804	72	0.776	108	0.798	144	0.785	180	0.999	216	0.811	252	0.766	288	0.799	324	0.800
1	0.996	37	0.810	73	0.789	109	0.787	145	0.776	181	0.998	217	0.818	253	0.780	289	0.787	325	0.791
2	0.994	38	0.815	74	0.803	110	0.777	146	0.768	182	0.995	218	0.825	254	0.795	290	0.777	326	0.781
3	0.990	39	0.820	75	0.819	111	0.769	147	0.759	183	0.990	219	0.831	255	0.812	291	0.768	327	0.771
4	0.984	40	0.824	76	0.835	112	0.762	148	0.751	184	0.983	220	0.836	256	0.829	292	0.761	328	0.761
5	0.977	41	0.828	77	0.851	113	0.757	149	0.743	185	0.974	221	0.840	257	0.846	293	0.756	329	0.752
6	0.968	42	0.830	78	0.867	114	0.754	150	0.737	186	0.964	222	0.844	258	0.864	294	0.753	330	0.744
7	0.958	43	0.832	79	0.883	115	0.752	151	0.731	187	0.952	223	0.846	259	0.881	295	0.751	331	0.737
8	0.946	44	0.833	80	0.899	116	0.752	152	0.726	188	0.939	224	0.847	260	0.898	296	0.752	332	0.730
9	0.933	45	0.832	81	0.915	117	0.754	153	0.723	189	0.926	225	0.847	261	0.915	297	0.753	333	0.726
10	0.919	46	0.831	82	0.929	118	0.757	154	0.722	190	0.911	226	0.845	262	0.930	298	0.757	334	0.723
11	0.904	47	0.829	83	0.943	119	0.761	155	0.723	191	0.896	227	0.843	263	0.945	299	0.761	335	0.721
12	0.889	48	0.826	84	0.955	120	0.766	156	0.725	192	0.880	228	0.839	264	0.958	300	0.767	336	0.722
13	0.874	49	0.822	85	0.965	121	0.772	157	0.730	193	0.864	229	0.834	265	0.969	301	0.774	337	0.725
14	0.859	50	0.817	86	0.975	122	0.779	158	0.736	194	0.849	230	0.828	266	0.979	302	0.781	338	0.730
15	0.844	51	0.812	87	0.982	123	0.786	159	0.744	195	0.834	231	0.821	267	0.987	303	0.789	339	0.737
16	0.830	52	0.805	88	0.987	124	0.793	160	0.754	196	0.819	232	0.813	268	0.993	304	0.798	340	0.745
17	0.817	53	0.798	89	0.991	125	0.800	161	0.766	197	0.806	233	0.805	269	0.998	305	0.806	341	0.756
18	0.804	54	0.791	90	0.993	126	0.807	162	0.780	198	0.793	234	0.796	270	1.000	306	0.814	342	0.768
19	0.793	55	0.783	91	0.992	127	0.813	163	0.794	199	0.782	235	0.786	271	1.000	307	0.821	343	0.782
20	0.783	56	0.775	92	0.990	128	0.819	164	0.810	200	0.773	236	0.776	272	0.998	308	0.828	344	0.797
21	0.774	57	0.767	93	0.986	129	0.825	165	0.827	201	0.765	237	0.767	273	0.994	309	0.835	345	0.813
22	0.768	58	0.760	94	0.980	130	0.829	166	0.844	202	0.758	238	0.757	274	0.988	310	0.840	346	0.830
23	0.762	59	0.752	95	0.973	131	0.832	167	0.861	203	0.754	239	0.748	275	0.980	311	0.845	347	0.847
24	0.759	60	0.746	96	0.963	132	0.835	168	0.878	204	0.751	240	0.740	276	0.971	312	0.849	348	0.864
25	0.757	61	0.740	97	0.952	133	0.836	169	0.895	205	0.751	241	0.733	277	0.960	313	0.851	349	0.881
26	0.757	62	0.735	98	0.941	134	0.837	170	0.911	206	0.751	242	0.726	278	0.948	314	0.852	350	0.898
27	0.758	63	0.732	99	0.927	135	0.836	171	0.927	207	0.753	243	0.722	279	0.934	315	0.852	351	0.914
28	0.760	64	0.730	100	0.913	136	0.834	172	0.941	208	0.757	244	0.719	280	0.919	316	0.851	352	0.929
29	0.763	65	0.729	101	0.899	137	0.831	173	0.954	209	0.762	245	0.718	281	0.904	317	0.848	353	0.943
30	0.768	66	0.730	102	0.884	138	0.827	174	0.966	210	0.767	246	0.718	282	0.888	318	0.845	354	0.956
31	0.773	67	0.734	103	0.868	139	0.822	175	0.976	211	0.774	247	0.721	283	0.873	319	0.840	355	0.967
32	0.779	68	0.739	104	0.853	140	0.816	176	0.984	212	0.781	248	0.726	284	0.857	320	0.833	356	0.976
33	0.785	69	0.745	105	0.838	141	0.809	177	0.991	213	0.788	249	0.733	285	0.841	321	0.826	357	0.984
34	0.791	70	0.754	106	0.824	142	0.802	178	0.996	214	0.796	250	0.742	286	0.826	322	0.818	358	0.990
35	0.798	71	0.764	107	0.811	143	0.794	179	0.998	215	0.804	251	0.753	287	0.812	323	0.810	359	0.994

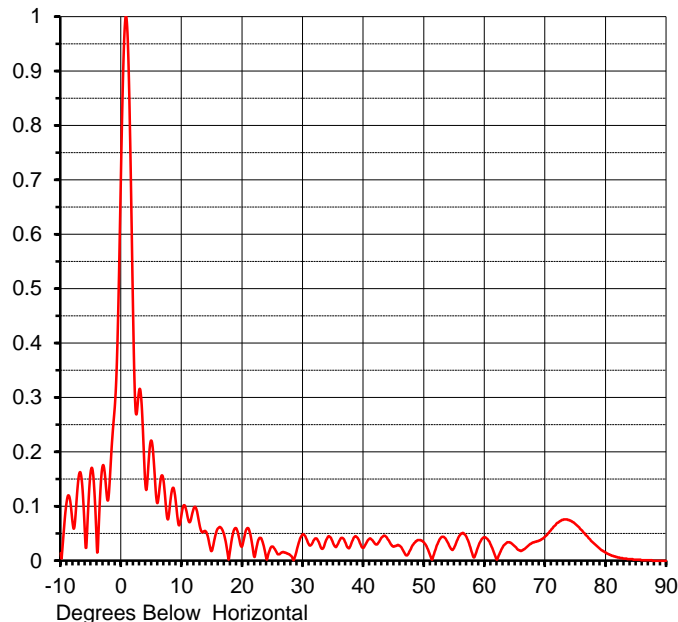
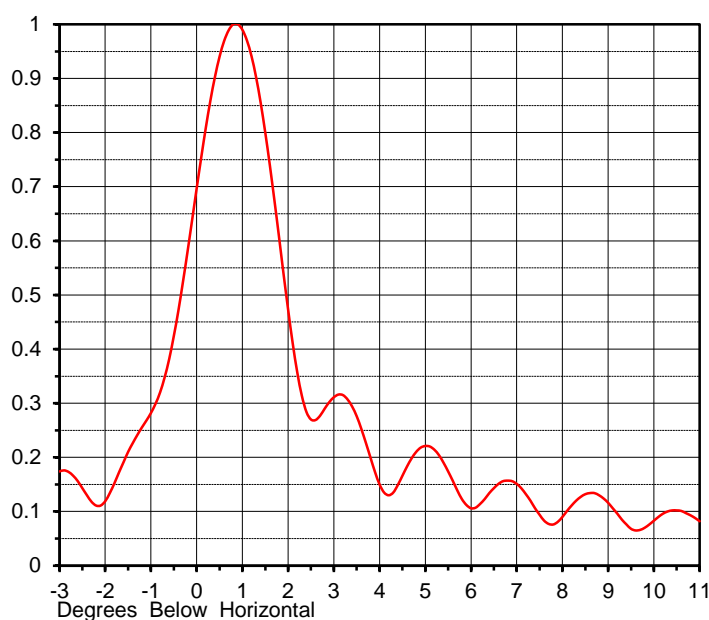
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## ELEVATION PATTERN

Proposal No. **C-70627-1**  
 Date **12-Jun-17**  
 Call Letters **KOPX**  
 Channel **18**  
 Frequency **497 MHz**  
 Antenna Type **TUM25-O4-16/64H-1-R-T**

RMS Directivity at Main Lobe **28.8 ( 14.59 dB )**  
 RMS Directivity at Horizontal **16.4 ( 12.15 dB )**  
**Calculated**

Beam Tilt **0.75 deg**  
 Pattern Number **16U288075**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.014	10.0	0.090	30.0	0.049	50.0	0.033	70.0	0.045
-9.0	0.111	11.0	0.077	31.0	0.029	51.0	0.009	71.0	0.058
-8.0	0.065	12.0	0.098	32.0	0.041	52.0	0.026	72.0	0.070
-7.0	0.158	13.0	0.061	33.0	0.023	53.0	0.044	73.0	0.076
-6.0	0.045	14.0	0.053	34.0	0.042	54.0	0.031	74.0	0.074
-5.0	0.168	15.0	0.020	35.0	0.031	55.0	0.026	75.0	0.067
-4.0	0.015	16.0	0.060	36.0	0.037	56.0	0.049	76.0	0.056
-3.0	0.176	17.0	0.046	37.0	0.033	57.0	0.043	77.0	0.044
-2.0	0.134	18.0	0.023	38.0	0.033	58.0	0.010	78.0	0.032
-1.0	0.299	19.0	0.059	39.0	0.042	59.0	0.029	79.0	0.022
0.0	0.754	20.0	0.029	40.0	0.024	60.0	0.043	80.0	0.015
1.0	0.970	21.0	0.059	41.0	0.041	61.0	0.029	81.0	0.009
2.0	0.411	22.0	0.007	42.0	0.030	62.0	0.002	82.0	0.006
3.0	0.316	23.0	0.042	43.0	0.043	63.0	0.026	83.0	0.004
4.0	0.135	24.0	0.002	44.0	0.039	64.0	0.034	84.0	0.003
5.0	0.220	25.0	0.026	45.0	0.026	65.0	0.026	85.0	0.002
6.0	0.107	26.0	0.012	46.0	0.027	66.0	0.018	86.0	0.001
7.0	0.143	27.0	0.015	47.0	0.010	67.0	0.026	87.0	0.001
8.0	0.101	28.0	0.009	48.0	0.027	68.0	0.034	88.0	0.000
9.0	0.106	29.0	0.022	49.0	0.038	69.0	0.037	89.0	0.000
								90.0	0.000

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**KOPX-APP**

Latitude: 35-34-07 N  
Longitude: 097-29-21 W  
ERP: 200.00 kW  
Channel: 18  
Frequency: 497.0 MHz  
HAAT: 467.26 m  
AMSL: 819.8 m  
Horiz. Pattern: Directional  
Vert. Pattern: Yes  
Elec Tilt: 0.75  
Prop Model: None

Contour Legend

- Dipole Adjusted Noise Limited (0000026989)
- Dipole Adjusted Noise Limited (App)
- 48 dBu Service (App)

V-Soft C Calculation by S. Clark

