

ENGINEERING EXHIBIT

Digital Television Station

Application for Minor Modification of Construction Permit

prepared for

Gray Television Licensee, LLC
KAZS(DT) Yuma, AZ
Facility ID 776268
Ch. 27 100 kW 434 m

Gray Television Licensee, LLC (“Gray”), is the permittee of digital television station KAZS, Channel 27, Facility ID 776268, Yuma AZ (file# 0000212367). KAZS is an unbuilt new full power television station which arose from FCC Auction 112. KAZS is authorized to operate at 100 kW effective radiated power (“ERP”) with a directional antenna at 475 meters height above average terrain (“HAAT”). *Gray* herein seeks a modification of the CP to specify a different transmitting location, a reduction antenna height, and a different antenna make and model.

Gray proposes to construct the KAZS facility by installing a side-mounted transmitting antenna on the tower structure is associated with FCC Antenna Structure Registration (“ASR”) number 1211506. No increase to the overall structure height will result.

The site proposed herein for KAZS is located 0.26 km from ASR number 1002110, the currently authorized site. The proposed site is also located 0.55 km from ASR number 1225054, the site adopted in MB Docket 22-420¹ regarding a channel substitution for KAZS. All three tower structures are atop Black Mountain.

The proposed antenna is an elliptically polarized directional Dielectric model TFU-16DSB-VP-M-R (30 percent vertical polarization), to be centered 95.4 meters above ground level. The maximum horizontally polarized ERP is 100 kW and the maximum vertically polarized ERP is 30 kW. The vertically polarized component will not exceed the horizontally polarized

¹*Amendment of Section 73.622(j), Table of Allotments, Television Broadcast Stations (Yuma, AZ)*, MB Docket No. 22-420, RM 11937, DA 23-146, released February 24, 2023.

component at any azimuth. The directional antenna's azimuthal patterns are depicted in Figures 1 and 1A for horizontal and vertical polarization, respectively. The antenna's elevation pattern is provided in Figure 2.

Figure 3 supplies a map that demonstrates compliance with §73.625(a)(1) regarding coverage of the entire principal community.

The proposed 100 kW ERP and directional antenna pattern match the technical parameters adopted in MB Docket 22-420. The change to an adjacent site introduces a 0.55 km lateral shift in antenna location. The proposed antenna's height above mean sea level decreases by 19.6 meters and the HAAT decreases by 17.7 meters below the MB Docket 22-420 parameters. As depicted in Figure 4, the resulting noise limited service contour ("NLSC") expands beyond that of MB Docket 22-420 along a few azimuths but is otherwise a close match and mostly encompassed by that of MB Docket 22-420.

Interference study per FCC OET Bulletin 69² shows that the proposal complies with the 0.5 percent limit of new interference caused to pertinent nearby full service and Class A television stations as required by §73.616. The interference study output report is provided as Table 1.

The proposed site is located 37.7 km from the US – Mexico border. The TVStudy analysis shows that no Mexican stations would receive any additional interference from the proposal. Figure 4 shows that the proposed NLSC is not extended beyond that of MB Docket 22-420 over any part of Mexico.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10), and

²FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). This analysis employed the FCC's current "TVStudy" software with the default application processing template settings, 2 km cell size, and 1 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCC's implementation of TVStudy show excellent correlation.

considering the antenna relative field in downward elevations (Figure 2), the graph in Figure 5 depicts calculated power density levels attributable to the proposed facility at locations near the site at a height of two meters above ground level. The maximum calculated RF electromagnetic field attributable to the proposed facility is 4.2 percent of the general population / uncontrolled MPE limit at any location two meters above ground level. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

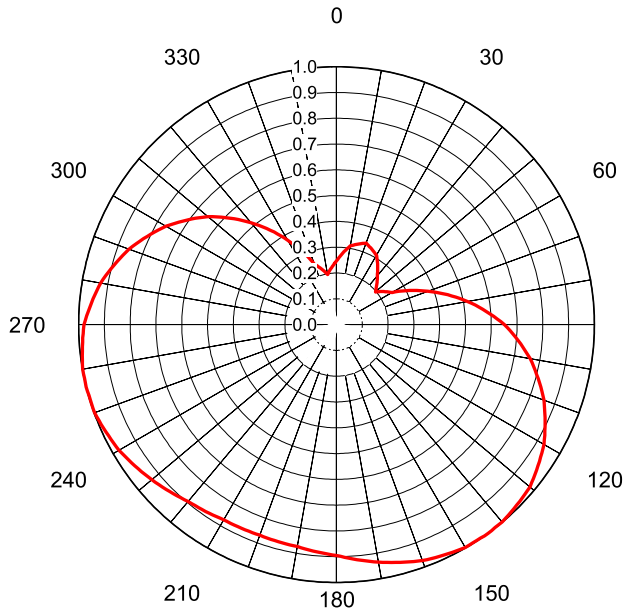
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field.

List of Attachments

Figure 1, 1A	Antenna Azimuthal Pattern
Figure 2	Antenna Elevation Pattern
Figure 3	Proposed Coverage Contours
Figure 4	Coverage Contour Comparison
Figure 5	Calculated RF Electromagnetic Field
Table 1	TVStudy Analysis of Proposal
Form 2100	Saved Version of Engineering Sections of FCC Form at Time of Upload

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E.	August 29, 2023	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-80032**
Date **11-Apr-23**
Call Letters
Channel **27**
Frequency **551 MHz**
Antenna Type **TFU- 16DSB-VP-M-R**
Gain **1.8 (2.54dB)**
Calculated

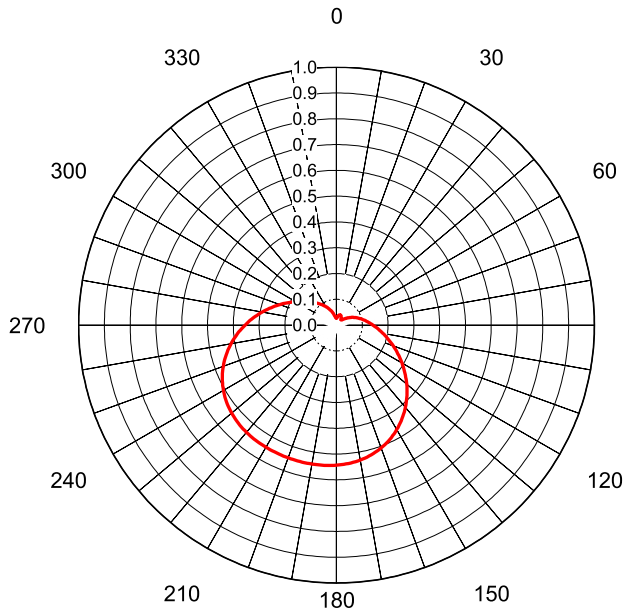
Pattern Number **TLP-M-27 Hpol**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.246	36	0.272	72	0.405	108	0.837	144	1.000	180	0.895	216	0.887	252	0.998	288	0.871
1	0.252	37	0.265	73	0.419	109	0.847	145	1.000	181	0.893	217	0.889	253	0.998	289	0.863
2	0.259	38	0.259	74	0.433	110	0.856	146	0.998	182	0.891	218	0.891	254	0.998	290	0.856
3	0.265	39	0.252	75	0.447	111	0.863	147	0.998	183	0.889	219	0.893	255	1.000	291	0.847
4	0.272	40	0.246	76	0.460	112	0.871	148	0.998	184	0.887	220	0.895	256	1.000	292	0.837
5	0.278	41	0.241	77	0.474	113	0.878	149	0.998	185	0.885	221	0.899	257	1.000	293	0.828
6	0.284	42	0.236	78	0.488	114	0.885	150	0.998	186	0.882	222	0.903	258	0.999	294	0.819
7	0.291	43	0.231	79	0.502	115	0.893	151	0.996	187	0.880	223	0.907	259	0.999	295	0.810
8	0.297	44	0.226	80	0.516	116	0.900	152	0.993	188	0.878	224	0.911	260	0.999	296	0.800
9	0.304	45	0.222	81	0.530	117	0.907	153	0.991	189	0.876	225	0.915	261	0.997	297	0.791
10	0.310	46	0.217	82	0.543	118	0.914	154	0.988	190	0.874	226	0.919	262	0.995	298	0.782
11	0.313	47	0.212	83	0.557	119	0.922	155	0.986	191	0.874	227	0.923	263	0.993	299	0.772
12	0.315	48	0.207	84	0.570	120	0.929	156	0.984	192	0.873	228	0.927	264	0.991	300	0.763
13	0.318	49	0.202	85	0.584	121	0.934	157	0.981	193	0.873	229	0.931	265	0.989	301	0.752
14	0.320	50	0.197	86	0.597	122	0.939	158	0.979	194	0.872	230	0.935	266	0.987	302	0.741
15	0.323	51	0.202	87	0.611	123	0.944	159	0.976	195	0.872	231	0.939	267	0.985	303	0.729
16	0.326	52	0.207	88	0.624	124	0.949	160	0.974	196	0.871	232	0.943	268	0.983	304	0.718
17	0.328	53	0.213	89	0.638	125	0.954	161	0.970	197	0.871	233	0.947	269	0.981	305	0.707
18	0.331	54	0.218	90	0.651	126	0.959	162	0.966	198	0.870	234	0.951	270	0.979	306	0.696
19	0.333	55	0.223	91	0.662	127	0.964	163	0.962	199	0.870	235	0.955	271	0.974	307	0.685
20	0.336	56	0.228	92	0.673	128	0.969	164	0.958	200	0.869	236	0.958	272	0.969	308	0.673
21	0.333	57	0.233	93	0.685	129	0.974	165	0.955	201	0.870	237	0.962	273	0.964	309	0.662
22	0.331	58	0.239	94	0.696	130	0.979	166	0.951	202	0.870	238	0.966	274	0.959	310	0.651
23	0.328	59	0.244	95	0.707	131	0.981	167	0.947	203	0.871	239	0.970	275	0.954	311	0.638
24	0.326	60	0.249	96	0.718	132	0.983	168	0.943	204	0.871	240	0.974	276	0.949	312	0.624
25	0.323	61	0.262	97	0.729	133	0.985	169	0.939	205	0.872	241	0.976	277	0.944	313	0.611
26	0.320	62	0.275	98	0.741	134	0.987	170	0.935	206	0.872	242	0.979	278	0.939	314	0.597
27	0.318	63	0.287	99	0.752	135	0.989	171	0.931	207	0.873	243	0.981	279	0.934	315	0.584
28	0.315	64	0.300	100	0.763	136	0.991	172	0.927	208	0.873	244	0.984	280	0.929	316	0.570
29	0.313	65	0.313	101	0.772	137	0.993	173	0.923	209	0.874	245	0.986	281	0.922	317	0.557
30	0.310	66	0.326	102	0.782	138	0.995	174	0.919	210	0.874	246	0.988	282	0.914	318	0.543
31	0.304	67	0.339	103	0.791	139	0.997	175	0.915	211	0.876	247	0.991	283	0.907	319	0.530
32	0.297	68	0.351	104	0.800	140	0.999	176	0.911	212	0.878	248	0.993	284	0.900	320	0.516
33	0.291	69	0.364	105	0.810	141	0.999	177	0.907	213	0.880	249	0.996	285	0.893	321	0.502
34	0.284	70	0.377	106	0.819	142	0.999	178	0.903	214	0.882	250	0.998	286	0.885	322	0.488
35	0.278	71	0.391	107	0.828	143	1.000	179	0.899	215	0.885	251	0.998	287	0.878	323	0.474

Figure 1
Antenna Azimuthal Pattern
Horizontal Polarization
KAZS(DT) Yuma, AZ
Facility ID 776268
Ch. 27 100 kW 434 m

prepared for
Gray Television Licensee, LLC

August, 2023



AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-80032**
Date **11-Apr-23**
Call Letters
Channel **27**
Frequency **551 MHz**
Antenna Type **TFU- 16DSB-VP-M-R**
Gain **2.67 (4.27dB)**
Calculated

Pattern Number **TLP-M-27 Vpol**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.027	36	0.030	72	0.088	108	0.223	144	0.438	180	0.543	216	0.545	252	0.458	288	0.245
1	0.028	37	0.029	73	0.091	109	0.228	145	0.443	181	0.544	217	0.545	253	0.453	289	0.239
2	0.028	38	0.028	74	0.093	110	0.234	146	0.448	182	0.544	218	0.544	254	0.448	290	0.233
3	0.029	39	0.028	75	0.096	111	0.239	147	0.453	183	0.545	219	0.543	255	0.442	291	0.228
4	0.030	40	0.027	76	0.098	112	0.245	148	0.458	184	0.545	220	0.543	256	0.437	292	0.222
5	0.031	41	0.027	77	0.101	113	0.251	149	0.463	185	0.546	221	0.542	257	0.432	293	0.217
6	0.032	42	0.027	78	0.104	114	0.257	150	0.468	186	0.546	222	0.541	258	0.426	294	0.212
7	0.033	43	0.027	79	0.107	115	0.263	151	0.472	187	0.546	223	0.540	259	0.421	295	0.207
8	0.034	44	0.028	80	0.109	116	0.268	152	0.477	188	0.547	224	0.539	260	0.415	296	0.202
9	0.035	45	0.029	81	0.112	117	0.274	153	0.481	189	0.547	225	0.538	261	0.409	297	0.197
10	0.036	46	0.030	82	0.115	118	0.281	154	0.485	190	0.547	226	0.537	262	0.403	298	0.192
11	0.037	47	0.031	83	0.118	119	0.287	155	0.489	191	0.547	227	0.535	263	0.398	299	0.187
12	0.038	48	0.032	84	0.121	120	0.293	156	0.493	192	0.547	228	0.534	264	0.392	300	0.182
13	0.039	49	0.034	85	0.124	121	0.299	157	0.497	193	0.547	229	0.532	265	0.386	301	0.178
14	0.039	50	0.036	86	0.128	122	0.305	158	0.500	194	0.548	230	0.531	266	0.379	302	0.173
15	0.040	51	0.038	87	0.131	123	0.311	159	0.503	195	0.548	231	0.529	267	0.373	303	0.169
16	0.041	52	0.040	88	0.134	124	0.318	160	0.507	196	0.548	232	0.527	268	0.367	304	0.165
17	0.041	53	0.042	89	0.138	125	0.324	161	0.510	197	0.548	233	0.525	269	0.361	305	0.160
18	0.041	54	0.044	90	0.141	126	0.330	162	0.513	198	0.548	234	0.523	270	0.355	306	0.156
19	0.041	55	0.046	91	0.145	127	0.337	163	0.516	199	0.548	235	0.520	271	0.348	307	0.152
20	0.042	56	0.049	92	0.149	128	0.343	164	0.518	200	0.548	236	0.518	272	0.342	308	0.148
21	0.041	57	0.051	93	0.153	129	0.349	165	0.521	201	0.548	237	0.515	273	0.336	309	0.145
22	0.041	58	0.054	94	0.157	130	0.355	166	0.523	202	0.548	238	0.512	274	0.330	310	0.141
23	0.041	59	0.056	95	0.161	131	0.362	167	0.525	203	0.548	239	0.509	275	0.323	311	0.137
24	0.041	60	0.058	96	0.165	132	0.368	168	0.527	204	0.548	240	0.506	276	0.317	312	0.134
25	0.040	61	0.061	97	0.169	133	0.374	169	0.529	205	0.548	241	0.503	277	0.311	313	0.131
26	0.039	62	0.063	98	0.174	134	0.380	170	0.531	206	0.547	242	0.499	278	0.305	314	0.127
27	0.039	63	0.066	99	0.178	135	0.386	171	0.533	207	0.547	243	0.496	279	0.298	315	0.124
28	0.038	64	0.068	100	0.183	136	0.392	172	0.534	208	0.547	244	0.492	280	0.292	316	0.121
29	0.037	65	0.071	101	0.187	137	0.398	173	0.536	209	0.547	245	0.488	281	0.286	317	0.118
30	0.036	66	0.073	102	0.192	138	0.404	174	0.537	210	0.547	246	0.484	282	0.280	318	0.115
31	0.035	67	0.076	103	0.197	139	0.410	175	0.538	211	0.547	247	0.480	283	0.274	319	0.112
32	0.034	68	0.078	104	0.202	140	0.416	176	0.540	212	0.546	248	0.476	284	0.268	320	0.109
33	0.033	69	0.081	105	0.207	141	0.421	177	0.541	213	0.546	249	0.472	285	0.262	321	0.106
34	0.032	70	0.083	106	0.212	142	0.427	178	0.542	214	0.546	250	0.467	286	0.256	322	0.104
35	0.031	71	0.086	107	0.217	143	0.432	179	0.542	215	0.545	251	0.462	287	0.250	323	0.101



Figure 1A
Antenna Azimuthal Pattern
Vertical Polarization
KAZS(DT) Yuma, AZ
Facility ID 776268
Ch. 27 100 kW 434 m

prepared for
Gray Television Licensee, LLC

August, 2023

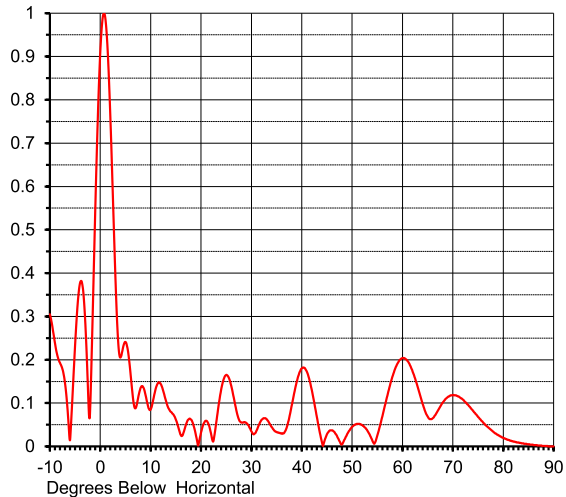
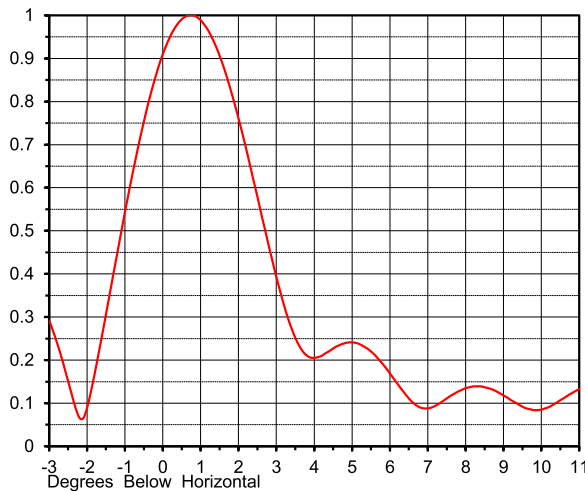
ELEVATION PATTERN

Proposal No. **C-80032**
 Date **11-Apr-23**
 Call Letters
 Channel **27**
 Frequency **551 MHz**
 Antenna Type **TFU- 16DSB-VP-M-R**

RMS Directivity at Main Lobe
 RMS Directivity at Horizontal

15.0 (11.77 dB)
12.4 (10.93 dB)
 Calculated

Beam Tilt **0.75 deg**
 Pattern Number **16L150075-27**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.305	10.0	0.085	30.0	0.035	50.0	0.045	70.0	0.118
-9.0	0.239	11.0	0.133	31.0	0.036	51.0	0.052	71.0	0.116
-8.0	0.193	12.0	0.144	32.0	0.061	52.0	0.049	72.0	0.108
-7.0	0.146	13.0	0.107	33.0	0.063	53.0	0.037	73.0	0.096
-6.0	0.014	14.0	0.080	34.0	0.045	54.0	0.014	74.0	0.082
-5.0	0.233	15.0	0.062	35.0	0.033	55.0	0.025	75.0	0.068
-4.0	0.378	16.0	0.026	36.0	0.030	56.0	0.069	76.0	0.055
-3.0	0.292	17.0	0.050	37.0	0.043	57.0	0.117	77.0	0.044
-2.0	0.089	18.0	0.062	38.0	0.094	58.0	0.161	78.0	0.034
-1.0	0.543	19.0	0.025	39.0	0.149	59.0	0.191	79.0	0.026
0.0	0.910	20.0	0.032	40.0	0.180	60.0	0.204	80.0	0.020
1.0	0.989	21.0	0.059	41.0	0.173	61.0	0.197	81.0	0.015
2.0	0.761	22.0	0.029	42.0	0.130	62.0	0.173	82.0	0.011
3.0	0.393	23.0	0.053	43.0	0.068	63.0	0.138	83.0	0.009
4.0	0.205	24.0	0.131	44.0	0.010	64.0	0.098	84.0	0.007
5.0	0.241	25.0	0.165	45.0	0.028	65.0	0.069	85.0	0.005
6.0	0.169	26.0	0.140	46.0	0.037	66.0	0.065	86.0	0.003
7.0	0.088	27.0	0.084	47.0	0.024	67.0	0.082	87.0	0.002
8.0	0.135	28.0	0.055	48.0	0.005	68.0	0.101	88.0	0.001
9.0	0.118	29.0	0.054	49.0	0.028	69.0	0.114	89.0	0.000
								90.0	0.000

Figure 2
Antenna Elevation Pattern
KAZS(DT) Yuma, AZ
Facility ID 776268
Ch. 27 100 kW 434 m

prepared for
Gray Television Licensee, LLC

August, 2023

Figure 3
Proposed Coverage Contours
KAZS(DT) Yuma, AZ
Facility ID 776268
Ch. 27 100 kW 434 m

prepared for
Gray Television Licensee, LLC

August, 2023

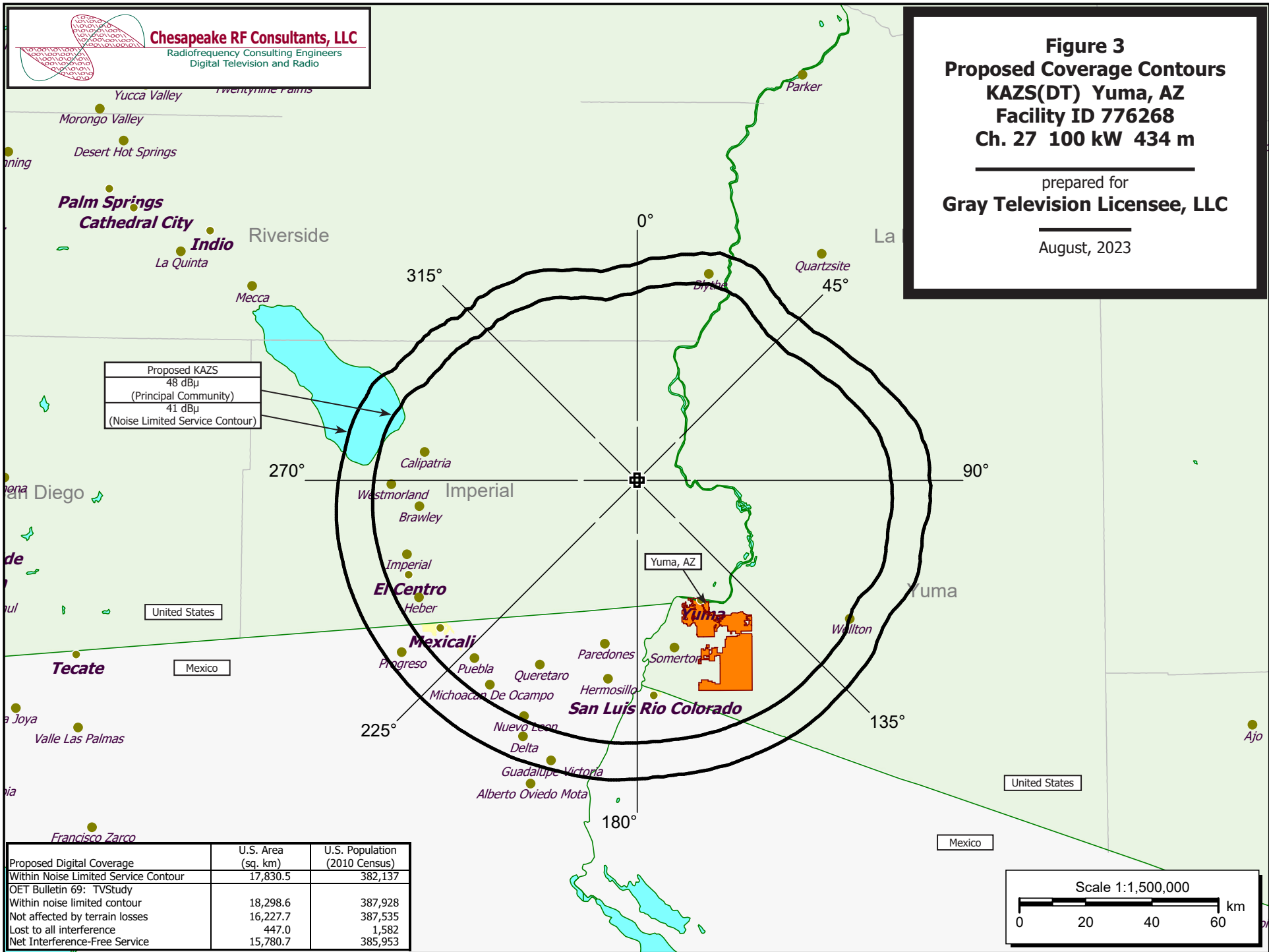


Figure 4
Coverage Contour Comparison
KAZS(DT) Yuma, AZ
Facility ID 776268
Ch. 27 100 kW 434 m

prepared for
Gray Television Licensee, LLC

August, 2023

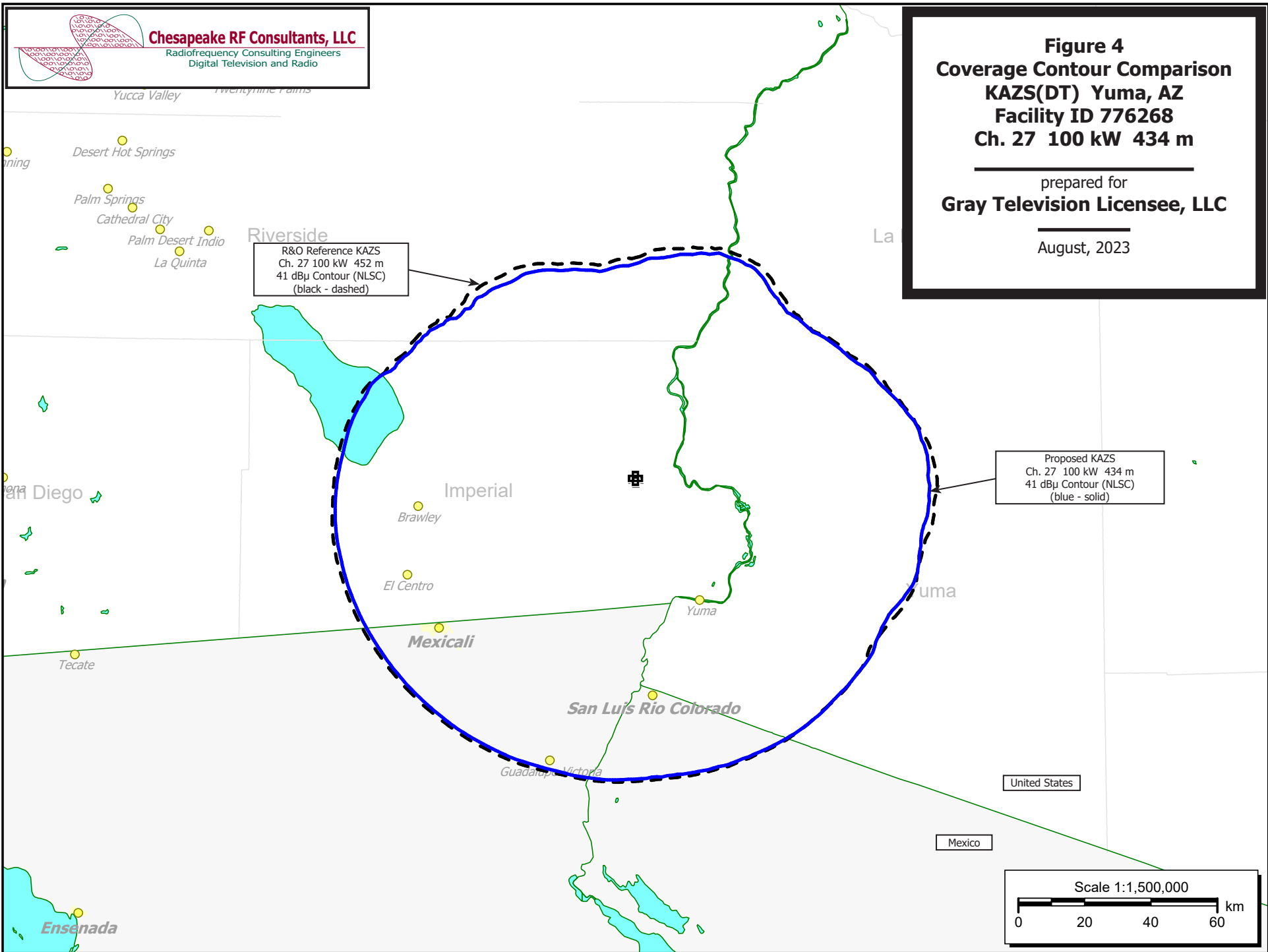


Figure 5
Calculated RF Electromagnetic Field
KAZS(DT) Yuma, AZ
Facility ID 776268
Ch. 27 100 kW 434 m

prepared for
Gray Television Licensee, LLC

August, 2023

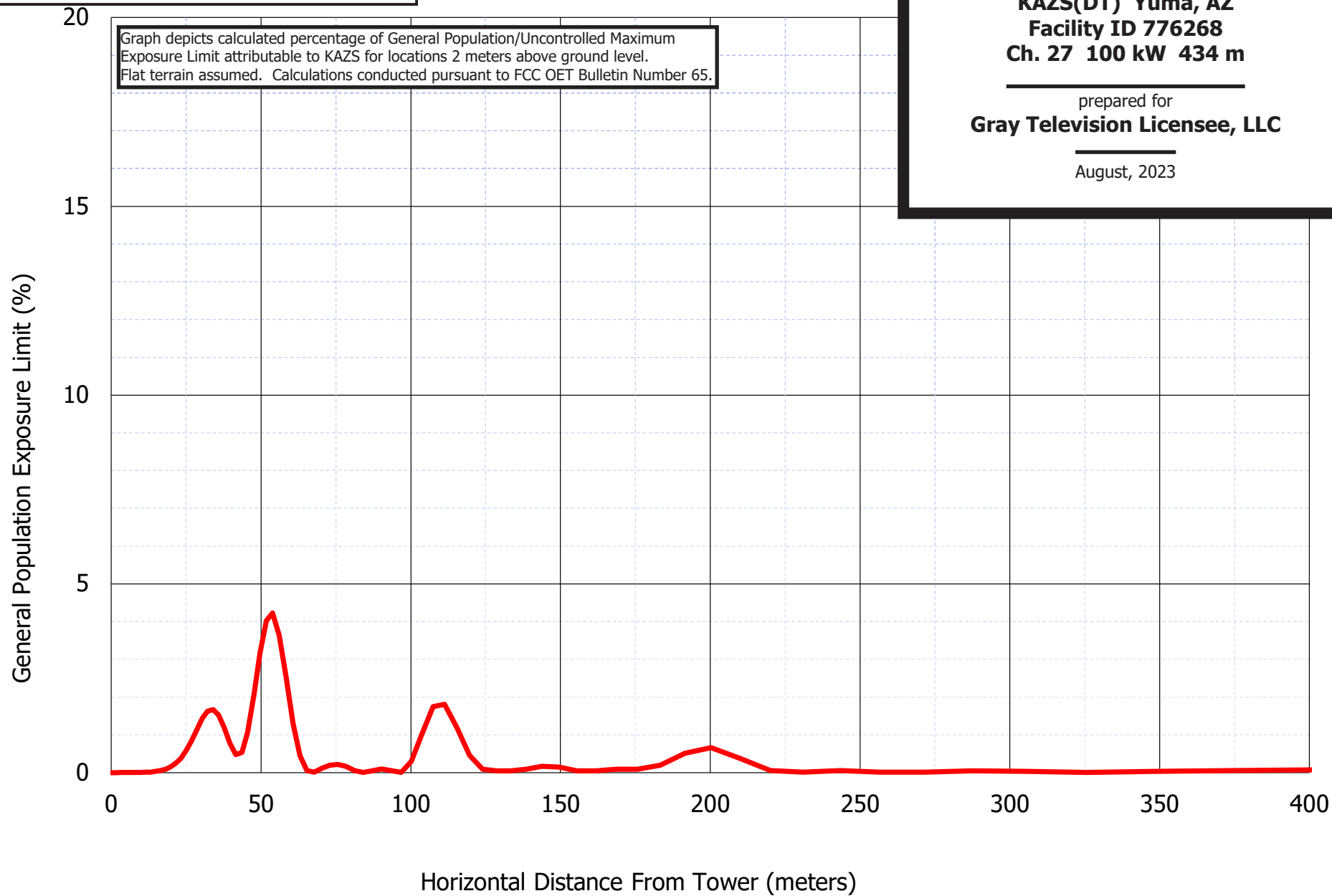


Table 1 KAZS TVStudy Analysis of Proposal
(page 1 of 3)



tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: KAZS 1211506_CP-MOD, Model: Longley-Rice
Start: 2023.08.29 15:00:59

Study created: 2023.08.29 15:00:59

Study build station data: LMS TV 2023-08-28

Proposal: KAZS D27 DT APP YUMA, AZ
File number: KAZS 1211506 CP-MOD
Facility ID: 776268
Station data: User record
Record ID: 80
Country: U.S.
Zone: II

Search options:
Non-U.S. records included
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KUTP	D26	DT	LIC	PHOENIX, AZ	BLCDT20130625AAK	259.2 km
Yes	KMIR-TV	D26	DT	LIC	PALM SPRINGS, CA	BLANK0000075143	174.4
No	KSWB-TV	D26	DT	LIC	SAN DIEGO, CA	BLANK0000068712	200.7
No	KTVW-CD	D27	DC	LIC	FLAGSTAFF/DONEY PARK, AZ	BLDTA20140421ACI	372.6
Yes	KASW	D27	DD	LIC	PHOENIX, AZ	BLANK0000204930	259.1
Yes	KVER-CD	D27	DC	LIC	INDIO, CA	BLANK0000074955	174.3
No	KPOM-CD	D27	DC	LIC	ONTARIO, CA	BLANK0000189414	326.0
No	KESQ-TV	D28	DT	LIC	PALM SPRINGS, CA	BLANK0000078362	174.4
No	XHEBC	D26	DT	LIC	ENSENADA, BN	BLANKBPFS20160301ABP	213.8
No	XHSFB	D26	DT	LIC	SAN FELIPE, BN	BLANKBPFS20151106AAJ	225.4
Yes	XHBJ	D27	DT	LIC	TIJUANA, BN	BLANKBPFS20160302ADP	215.5
No	XHAQ	D28	DT	LIC	MEXICALI, BN	BLANKBPFS20050721AFZ	78.5
No	XHJK	D28	DT	LIC	TIJUANA, BN	BLANKBPFS20091104ADT	215.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D27
Latitude: 33 3 2.10 N (NAD83)
Longitude: 114 49 40.90 W
Height AMSL: 711.1 m
HAAT: 433.9 m
Peak ERP: 100 kW
Antenna: KAZS Ch27 C-80032 0.0 deg
Elev Pattn: Generic
Elec Tilt: 0.75

40.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	6.05 kW	342.5 m	66.6 km
45.0	4.91	425.4	70.4
90.0	42.4	519.5	89.8
135.0	97.8	432.6	90.5
180.0	80.1	476.5	91.7
225.0	83.7	506.3	94.2
270.0	95.8	456.1	91.7
315.0	34.0	312.0	74.4

Distance to Canadian border: 1772.8 km

**Proposal is within coordination distance of Mexican border
Distance to Mexican border: 37.7 km

Conditions at FCC monitoring station: Douglas AZ
Bearing: 108.1 degrees Distance: 515.8 km

Proposal is not within the West Virginia quiet zone area

Table 1 KAZS TVStudy Analysis of Proposal
(page 2 of 3)



Conditions at Table Mountain receiving zone:
Bearing: 44.6 degrees Distance: 1159.4 km

Study cell size: 2.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

Interference to BLANK0000075143 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KMIR-TV	D26	DT	LIC	PALM SPRINGS, CA	BLANK0000075143	
Undesireds:	KAZS	D27	DT	BL	YUMA, AZ	DTVBL776268	174.0 km
	KAZS	D27	DT	APP	YUMA, AZ	KAZS 1211506 CP-MOD	174.4
	KVEA	D25	DT	LIC	CORONA, CA	BLANK0000136469	155.4
	KUVI-DT	D26	DT	LIC	BAKERSFIELD, CA	BLANK0000081232	273.8
	KSWB-TV	D26	DT	LIC	SAN DIEGO, CA	BLANK0000068712	138.2
	KSKJ-CD	D26	DC	LIC	VAN NUYS, CA	BLANK0000071612	154.8
	KTNV-TV	D26	DT	APP	LAS VEGAS, NV	BLANK0000145120	263.5
	KPOM-CD	D27	DC	LIC	ONTARIO, CA	BLANK0000189414	154.9
	XHEXT	D25	DT	LIC	MEXICALI, BN	BLANKBPFS20050721BFG	164.8

	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	24915.7	2,760,914	12602.4	730,764	12342.2	717,156	12350.2 717,156 -0.06 0.00
Undesired			Total IX	Unique IX, before		Unique IX, after	
KAZS D27 DT BL		48.0	0	48.0	0		
KAZS D27 DT APP		40.0	0			40.0	0
KVEA D25 DT LIC		40.1	8,838	8.0	335	8.0	335
KUVI-DT D26 DT LIC		12.0	0	0.0	0	0.0	0
KSWB-TV D26 DT LIC		104.2	12,535	48.1	4,037	48.1	4,037
KSKJ-CD D26 DC LIC		20.0	31	12.0	0	12.0	0
KTNV-TV D26 DT APP		100.0	499	64.0	463	64.0	463
KPOM-CD D27 DC LIC		16.0	490	4.0	234	4.0	234
XHEXT D25 DT LIC		4.0	0	4.0	0	4.0	0

Interference to BLANK0000204930 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KASW	D27	DD	LIC	PHOENIX, AZ	BLANK0000204930	
Undesireds:	KAZS	D27	DT	BL	YUMA, AZ	DTVBL776268	259.2 km
	KAZS	D27	DT	APP	YUMA, AZ	KAZS 1211506 CP-MOD	259.1
	KUTP	D26	DT	LIC	PHOENIX, AZ	BLCDT20130625AAK	0.1
	KTVW-CD	D27	DC	LIC	FLAGSTAFF/DONEY PARK, AZ	BLDTA20140421ACI	188.7
	KUAS-TV	D28	DT	LIC	TUCSON, AZ	BLEDT20030115ABS	158.8

	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	35441.3	4,174,437	28722.6	4,161,651	28538.3	4,161,631	28542.3 4,161,631 -0.01 0.00
Undesired			Total IX	Unique IX, before		Unique IX, after	
KAZS D27 DT BL		56.2	0	56.2	0		
KAZS D27 DT APP		52.1	0			52.1	0
KUTP D26 DT LIC		100.1	7	100.1	7	100.1	7
KTVW-CD D27 DC LIC		24.0	13	24.0	13	24.0	13
KUAS-TV D28 DT LIC		4.0	0	4.0	0	4.0	0

Interference to BLANK0000074955 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KVER-CD	D27	DC	LIC	INDIO, CA	BLANK0000074955	
Undesireds:	KAZS	D27	DT	BL	YUMA, AZ	DTVBL776268	173.9 km
	KAZS	D27	DT	APP	YUMA, AZ	KAZS 1211506 CP-MOD	174.3
	KMIR-TV	D26	DT	LIC	PALM SPRINGS, CA	BLANK0000075143	0.1

Table 1 KAZS TVStudy Analysis of Proposal
(page 3 of 3)



KPOM-CD	D27	DC	LIC	ONTARIO, CA	BLANK0000189414	154.9			
KESQ-TV	D28	DT	LIC	PALM SPRINGS, CA	BLANK0000078362	0.1			
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
7485.4	625,728	5161.3	446,703	5029.2	434,420	5013.2	435,341	0.32	-0.21
Undesired			Total IX	Unique IX, before		Unique IX, after			
KAZS D27 DT BL		71.9	1,340	55.9	949				
KAZS D27 DT APP		83.8	28			71.8	28		
KMIR-TV D26 DT LIC		60.1	7,010	8.0	27	16.1	418		
KPOM-CD D27 DC LIC		8.0	4,324	8.0	4,324	8.0	4,324		
KESQ-TV D28 DT LIC		52.1	6,592	4.0	0	4.0	0		

Interference to BLANKBPFS20160302ADP LIC scenario 1

Desired:	Call XHBJ	Chan D27	Svc DT	Status LIC	City, State TIJUANA, BN	File Number BLANKBPFS20160302ADP	Distance		
Undesireds:	KAZS	D27	DT	BL	YUMA, AZ	DTVBL776268	215.5 km		
	KAZS	D27	DT	APP	YUMA, AZ	KAZS 1211506 CP-MOD	215.5		
	KSWB-TV	D26	DT	LIC	SAN DIEGO, CA	BLANK0000068712	23.7		
	KPOM-CD	D27	DC	LIC	ONTARIO, CA	BLANK0000189414	212.6		
	XHJK	D28	DT	LIC	TIJUANA, BN	BLANKBPFS20091104ADT	0.1		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
5848.8	2,542,242	5151.2	2,449,279	3676.6	2,048,112	3688.7	2,048,180	-0.33	-0.00
(in U.S.)									
4815.4	1,742,743	3879.8	1,691,837	2847.5	1,648,382	2859.5	1,650,190	-0.42	-0.11
Undesired				Total IX	Unique IX, before		Unique IX, after		
KAZS D27 DT BL		24.1		68	16.1	68			(in U.S.)
KAZS D27 DT APP		8.0		0			4.0	0	(in U.S.)
KAZS D27 DT BL		20.1		1,808	12.1	1,808			
KAZS D27 DT APP		0.0		0			0.0	0	
KSWB-TV D26 DT LIC		937.4		379,110	596.9	355,938	600.9	355,938	(in U.S.)
KSWB-TV D26 DT LIC		584.5		16,812	173.1	398	173.1	398	
KPOM-CD D27 DC LIC		805.5		26,974	489.0	6,951	489.0	6,951	(in U.S.)
KPOM-CD D27 DC LIC		294.3		29,826	68.5	10,672	68.5	10,672	
XHJK D28 DT LIC		60.1		18,187	32.1	15,038	32.1	15,038	(in U.S.)
XHJK D28 DT LIC		754.5		14,185	294.7	11,401	294.7	11,401	

Interference to proposal scenario 1

Desired:	Call KAZS	Chan D27	Svc DT	Status APP	City, State YUMA, AZ	File Number KAZS 1211506 CP-MOD	Distance	
Undesireds:	KMIR-TV	D26	DT	LIC	PALM SPRINGS, CA	BLANK0000075143	174.4 km	
	KASW	D27	DD	LIC	PHOENIX, AZ	BLANK0000204930	259.1	
	KVER-CD	D27	DC	LIC	INDIO, CA	BLANK0000074955	174.3	
	XHAQ	D28	DT	LIC	MEXICALI, BN	BLANKBPFS20050721AFZ	78.5	
Service area		Terrain-limited			IX-free	Percent IX		
18298.6	387,928	16227.7		387,535	15736.8	385,953	3.03 0.41	
4065.9	1,057,876	4061.9		1,057,876	3985.5	1,021,187	1.88 3.47 (in Mexico)	
Undesired				Total IX	Unique IX	Prct Unique IX		
KMIR-TV	D26	DT	LIC	8.0	0	0.0	0	0.00 0.00
KASW	D27	DD	LIC	28.1	79	28.1	79	0.17 0.02
KVER-CD	D27	DC	LIC	418.9	1,503	371.1	1,503	2.29 0.39
XHAQ	D28	DT	LIC	83.8	0	43.9	0	0.27 0.00
XHAQ	D28	DT	LIC	76.4	36,689	76.4	36,689	1.88 3.47 (in Mexico)

Channel and
Facility
Information

Section	Question	Response
Facility ID	776268	
State	Arizona	
City	YUMA	
DTV Channel	27	
Facility Type	Facility Type	Commercial
	Station Type	Main
Zone	Zone	2

**Antenna Location
Data**

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1211506
Coordinates (NAD83)	Latitude	33° 03' 02.1" N+
	Longitude	114° 49' 40.9" W-
	Structure Type	TOWER-A free standing or guyed struct
	Overall Structure Height	152.4 meters
	Support Structure Height	135.0 meters
	Ground Elevation (AMSL)	615.7 meters
Antenna Data	Height of Radiation Center Above Ground Level	95.4 meters
	Height of Radiation Center Above Average Terrain	433.9 meters
	Height of Radiation Center Above Mean Sea Level	711.1 meters
	Effective Radiated Power	100 kW

**Antenna
Technical Data**

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	No
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	Dielectric
	Model	TFU-16DSB-VP-M-R
	Rotation	0 degrees
	Electrical Beam Tilt	0.75
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
DTV and DTS: Elevation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	0.246	90	0.651	180	0.895	270	0.979
10	0.310	100	0.763	190	0.874	280	0.929
20	0.336	110	0.856	200	0.869	290	0.856
30	0.310	120	0.929	210	0.874	300	0.763
40	0.246	130	0.979	220	0.895	310	0.651
50	0.197	140	0.999	230	0.935	320	0.516
60	0.249	150	0.998	240	0.974	330	0.377
70	0.377	160	0.974	250	0.998	340	0.249
80	0.516	170	0.935	260	0.999	350	0.197

Additional Azimuths

Degree	V _A
256	1.000
144	1.000