

CANYON LAKE BROADCASTING
EXHIBIT 11 TECHNICAL STATEMENT
KHJS

Escuela Radial JS is seeking to modify the CP of KHJS -LP, BNPL - 20131107APH, Facility ID 194842.

This application complies with the requirements of the US/Mexico Treaty.

Applicant is proposing to locate the antenna on a new tower with location coordinates of:

(NAD27)
29 – 32 – 16 N,
98 – 29 – 29 W.

Elevation is 262 meters.

Tower ASRN 1048424.

Tower has an overall height of 24.6 meters.

RCAGL 21 meters.

The only changes is location, antenna height above ground level, HAAT and site elevation. The same antenna that was specified in the application for the CP will be utilized in this application.

Exhibit 11 – This Technical Statement including spacing study and other supporting exhibits.

EXHIBIT 11
Channel Study

Callsign	State	City	Freq	Channel	ERP_w	Class	Status	Distance_km	Sep	Clr
KISS-FM	TX	SAN ANTONIO	99.5	258	97700	C0	LIC	36.58	84	-47.4
KISS-FM	TX	SAN ANTONIO	99.5	258	0	C0	USE	36.58	84	-47.4
NEW	TX	SAN ANTONIO	98.9	255	8.4	LP100	APP	14.27	14	0.3
KLMO-FM	TX	DILLEY	98.9	255	92000	C1	LIC	101.11	100	1.1
NEW	TX	HARPER	99.1	256	23000	C3	CP	86.08	78	8.1
	TX	HARPER	99.1	256	0	C3	USE	101.73	78	23.7
KLMO-FM1	TX	DEVINE	98.9	255	2	D	CP	39.62	13	26.6
KUTX	TX	LEANDER	98.9	255	29000	C2	LIC	113.68	80	33.7
KUTX	TX	LEANDER	98.9	255	25000	C2	LIC	113.68	80	33.7
K256BX	TX	LUCKENBACH	99.1	256	62	D	LIC	68.31	32	36.3

Second Channel Adjacent Wavier Request

KHJS's new proposed location is approximately 195 meters @ 327 degrees from the current CP of KHJS. See attached aerial photo of both sites.

The LPFM station's F(50,10) contour to KISS is 120.7 dbu. There are no roadways or buildings inside this contour. KHJS will continue to utilize a Shively 6812 , 2 bay antenna, however due to a lower RCAGL, the 120.7 dbu contour will be 0.8 meters above ground at a point that is 9.4 meters from the tower. As shown in the table below, this contour does not reach the reach the ground. Therefore, this application is in compliance with 73.807(e)(1) Second adjacent channel wavier.

CANYON LAKE BROADCASTING

Angle of Depression	Antenna REL (mv)	ERP watts	Distance to interfering Contour from antenna (m)	Horizl Distance of F(50,10) from tower (m)	Vert Distance	CLEARANCE
0	1	100.0	65	65.0	0.0	21.0
5	0.969	93.9	63	62.7	5.5	15.5
10	0.881	77.6	58	57.4	10.1	10.9
15	0.745	55.5	49	47.7	12.8	8.2
20	0.576	33.2	38	36.1	13.1	7.9
25	0.389	15.1	25	22.9	10.7	10.3
30	0.203	4.1	13	11.4	6.6	14.4
35	0.032	0.1	2	1.7	1.2	19.8
40	0.112	1.3	7	5.6	4.7	16.3
45	0.224	5.0	15	10.3	10.3	10.7
50	0.299	8.9	20	13.1	15.7	5.3
55	0.339	11.5	22	12.6	18.1	2.9
60	0.347	12.0	23	11.3	19.5	1.5
65	0.328	10.8	22	9.4	20.2	0.8
70	0.288	8.3	19	6.4	17.6	3.4
75	0.231	5.3	15	3.9	14.5	6.5
80	0.162	2.6	11	1.8	10.4	10.6
85	0.085	0.7	5	0.4	4.5	16.5
90	0	0.0	0	0.0	0.0	21.0

Exhibit 14 – EPA / RFE.

$$S = \frac{33.4 (F^2) ERP}{R^2}$$

where: S = power density in $\mu\text{W}/\text{cm}^2$
F = relative field factor (relative numeric gain)
ERP = power in watts
R = distance in meters

From the pattern tabulation table, the greatest relative field value below the main beam occurs at 60 degrees.

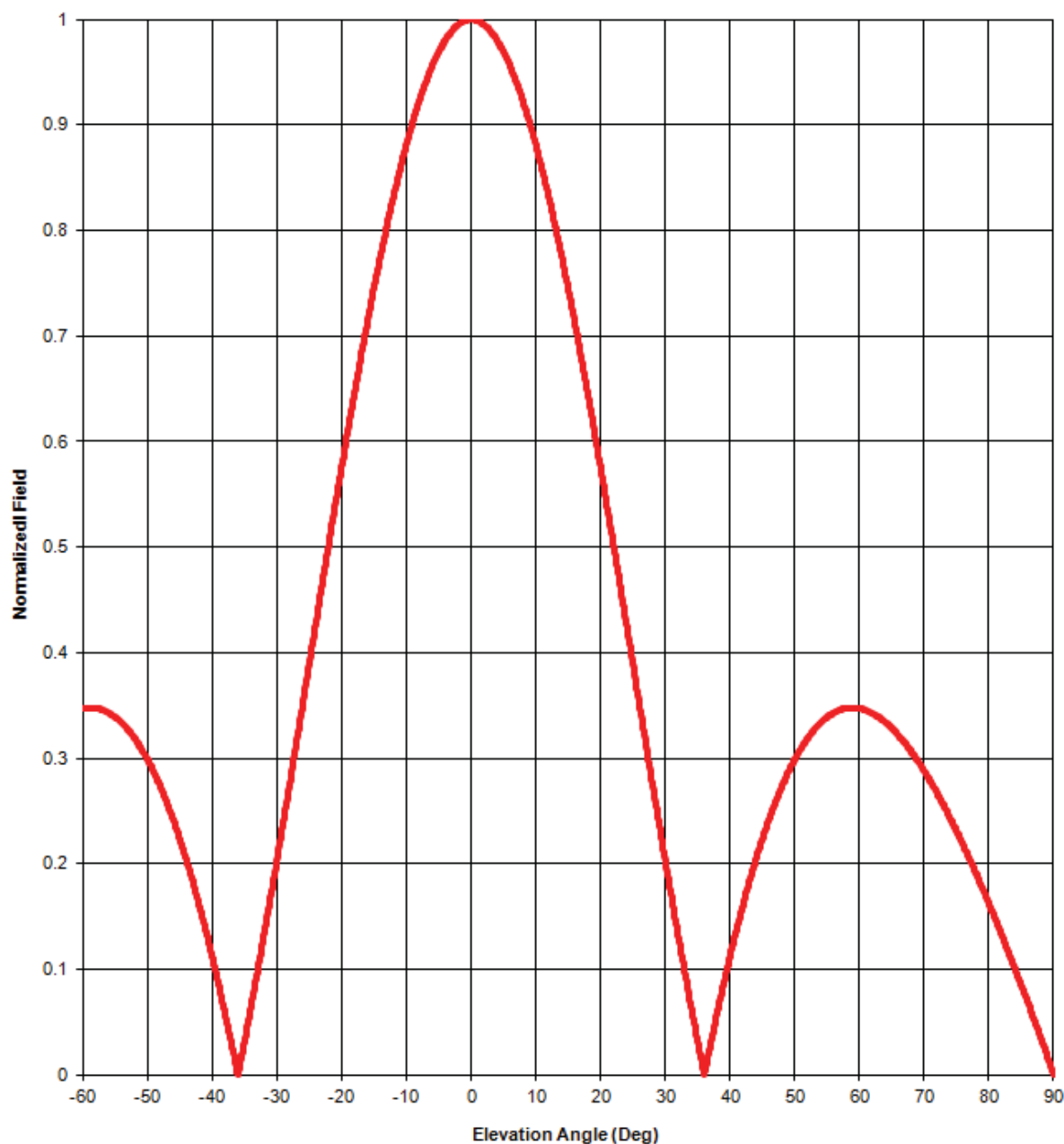
F = 0.35 relative field
ERP = 200 watts
R = 19 meters

For this proposal, the calculated power density is:

$S = 2.3 \mu\text{W}/\text{cm}^2$, or 1.13% of uncontrolled public access limit of $200 \mu\text{W}/\text{cm}^2$. This is less than 5%, therefore no further analysis required.

Applicant will cease transmission from this location whenever there are workmen on the tower.

Elevation pattern



Antenna model: 6812b, 2-bay full-wave-spaced

Test frequency: 98.1 MHz

Gain (maximum):

Power	dB
1.00	0.02 dB

Document No. 6812b 2-bay fw (130701)

A Division of Howell Laboratories, Inc., P. O. Box 389, Bridgton, Maine 04009 USA

(207) 647-3327

1-888-SHIVELY

Fax: (207)647-8273

An Employee-Owned Company

www.shively.com

sales@shively.com

Certified to ISO-9001

Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field
1	0.999	19	0.612	37	0.029	55	0.339	73	0.256
2	0.995	20	0.576	38	0.058	56	0.343	74	0.244
3	0.989	21	0.539	39	0.086	57	0.346	75	0.231
4	0.980	22	0.502	40	0.112	58	0.348	76	0.218
5	0.969	23	0.465	41	0.137	59	0.348	77	0.205
6	0.956	24	0.427	42	0.161	60	0.347	78	0.191
7	0.941	25	0.389	43	0.183	61	0.345	79	0.177
8	0.923	26	0.352	44	0.204	62	0.343	80	0.162
9	0.903	27	0.314	45	0.224	63	0.339	81	0.148
10	0.881	28	0.277	46	0.242	64	0.334	82	0.132
11	0.858	29	0.240	47	0.258	65	0.328	83	0.117
12	0.832	30	0.203	48	0.273	66	0.322	84	0.101
13	0.805	31	0.168	49	0.287	67	0.315	85	0.085
14	0.776	32	0.132	50	0.299	68	0.306	86	0.069
15	0.745	33	0.098	51	0.310	69	0.298	87	0.052
16	0.714	34	0.065	52	0.319	70	0.288	88	0.036
17	0.681	35	0.032	53	0.327	71	0.278	89	0.018
18	0.647	36	0.001	54	0.334	72	0.267	90	0.000

Elevation Pattern Tabulation

Antenna model: 6812b, 2-bay full-wave-spaced



Relative Field at 0° Depression = 1.000

Exhibit 11 Figure 2 Page 2 Manufacturer Elevation Pattern

EXHIBIT 11

KHJS CP and KHJS Proposed locations

Legend

-  KHJS prop
-  KHJS-LP - CP

KHJS prop

KHJS-LP - CP

Gulfdale Dr

Google earth

© 2015 Google




100 m



EXHIBIT 11

120.7 dbu @ 60 degrees - 11.3 meters
120.7 dbu @ 65 degrees - 9.4 meters

Legend

-  KHJS 11.3 meters
-  KHJS 9.4 meters
-  KHJS prop

KHJS prop

Google earth

© 2015 Google

40 m

