

Comprehensive Technical Statement

In support of

Playa Del Sol Broadcasters

Application for Minor Change for FM Translator K238AK
102.7 MHz, Channel 274, FCC Facility ID # 147714
Palm Desert, CA

Displacement Waiver Requested

Introduction

Applicant proposes the following changes to the captioned FM Translator:

- Frequency
- Effective radiated power
- Directional antenna orientation

A waiver is requested to change to non-mutually-exclusive channel due to the authorization of another broadcast station in the area on the first adjacent channel. Full details are provided at the end of this technical statement.

Data Sources

Distances were calculated using the FCC method defined in 73.208 of the Commission's Rules.

All contours shown in this report were generated using antenna center above mean sea level, NAD-27 coordinates, and the FCC online HAAT calculator, which uses 30-second terrain data.

Field strength tabulations were generated using USGS03 three-second terrain data.

Dates shown on maps indicate the CDBS database date at the time this statement was prepared.

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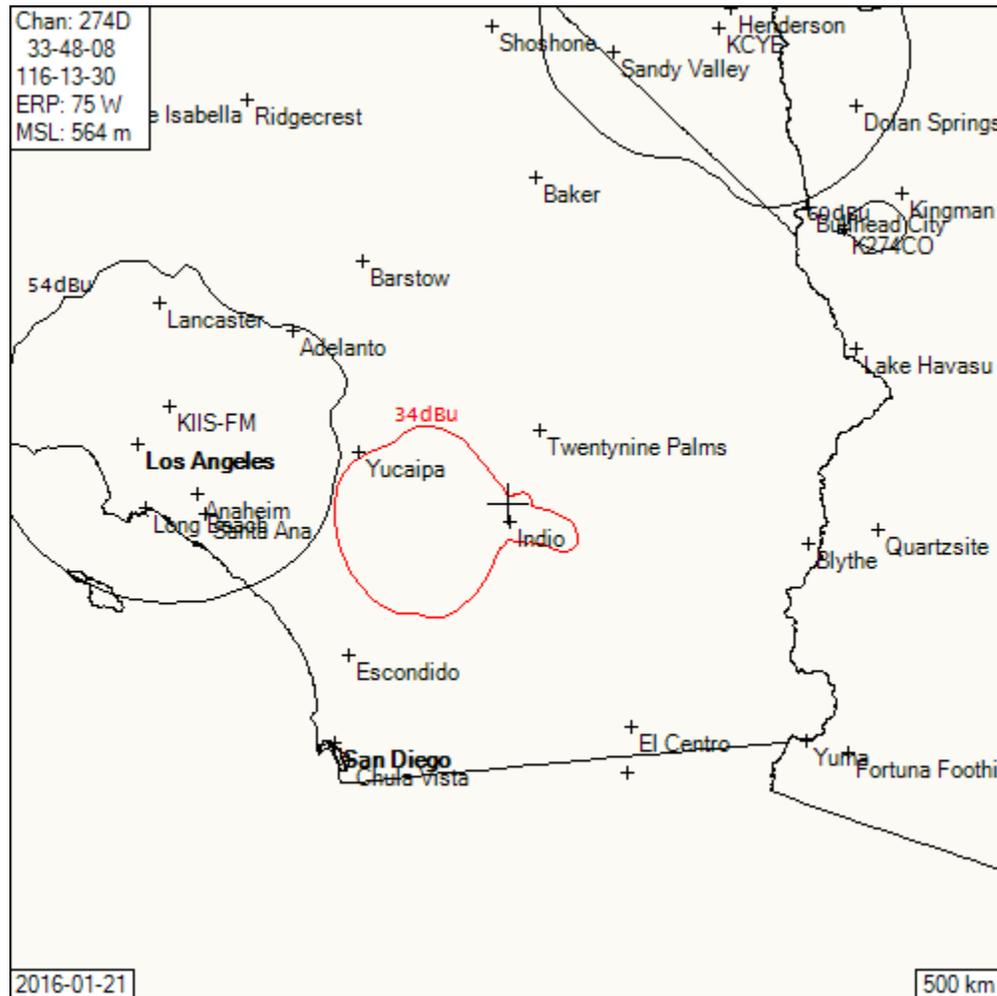
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Detailed Interference Study

The following collection of maps and the narrative accompanying each show conclusively that no prohibited interference will occur between the proposed facility and any potentially conflicting facility or proposal.

Map 1 – Co-channel Outbound Interference



The proposed 34 dBu f(50,10) contour is close to the protected 54 dBu f(50m,50) contour of KISS-FM, FCC Facility ID # 19218. A tabulation is provided on the next page, showing that the contours do not overlap.

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az	eRel	kW	terht	eah	km	lat	lon	km	brg	eRel	kW	terht	eah	fs	margin
267	0.984	0.073	71	493	87.32	33 45 27.06	117 10 11.22	97.79	122.0	0.984	7.747	646	1156	52.94	1.06
268	0.986	0.073	72	492	87.33	33 46 16.36	117 10 14.62	96.91	121.3	0.983	7.724	662	1140	53.14	0.86
269	0.988	0.073	73	491	87.32	33 47 05.71	117 10 16.44	96.08	120.5	0.981	7.700	680	1122	53.31	0.69
270	0.990	0.074	74	491	87.32	33 47 55.08	117 10 17.19	95.29	119.7	0.980	7.681	699	1103	53.46	0.54
271	0.992	0.074	74	490	87.31	33 48 44.45	117 10 16.92	94.54	118.9	0.979	7.675	719	1083	53.60	0.40
272	0.994	0.074	75	489	87.30	33 49 33.80	117 10 15.56	93.83	118.1	0.979	7.669	740	1062	53.70	0.30
273	0.996	0.074	77	487	87.26	33 50 23.08	117 10 12.04	93.20	117.3	0.979	7.662	760	1042	53.78	0.22
274	0.998	0.075	79	485	87.16	33 51 12.16	117 10 05.19	92.66	116.4	0.978	7.655	779	1023	53.83	0.17
275	1.000	0.075	81	483	87.06	33 52 01.06	117 09 56.94	92.19	115.5	0.978	7.648	798	1004	53.86	0.14
276	0.998	0.075	84	481	86.80	33 52 49.31	117 09 41.91	91.90	114.6	0.977	7.641	817	985	53.80	0.20
277	0.996	0.074	87	477	86.51	33 53 37.04	117 09 24.30	91.70	113.6	0.977	7.633	835	967	53.71	0.29
278	0.993	0.074	90	474	86.17	33 54 24.16	117 09 03.98	91.60	112.6	0.976	7.626	851	951	53.61	0.39
279	0.991	0.074	94	470	85.77	33 55 10.52	117 08 40.56	91.60	111.7	0.976	7.618	863	939	53.49	0.51
280	0.989	0.073	99	465	85.33	33 55 56.03	117 08 14.20	91.72	110.7	0.975	7.610	874	928	53.34	0.66
281	0.987	0.073	104	460	84.81	33 56 40.52	117 07 44.43	91.95	109.7	0.975	7.598	884	918	53.14	0.86
282	0.985	0.073	111	454	84.22	33 57 23.73	117 07 10.53	92.32	108.8	0.973	7.576	895	907	52.87	1.13

As a Class B station, KIIS-FM is protected to the 54 dBu f(50,50) contour. The permitted interfering contour from the proposal is 34 dBu f(50,10).

The first six columns show the calculation of distance to the proposed 34 dBu f(50,10) contour, followed by the latitude and longitude of the point described by the azimuth and distance from the proposal. The following columns show the calculation of the f(50,50) signal from KIIS-FM at each location, and the margin below the 54 dBu limit. A negative margin would indicate prohibited overlap.

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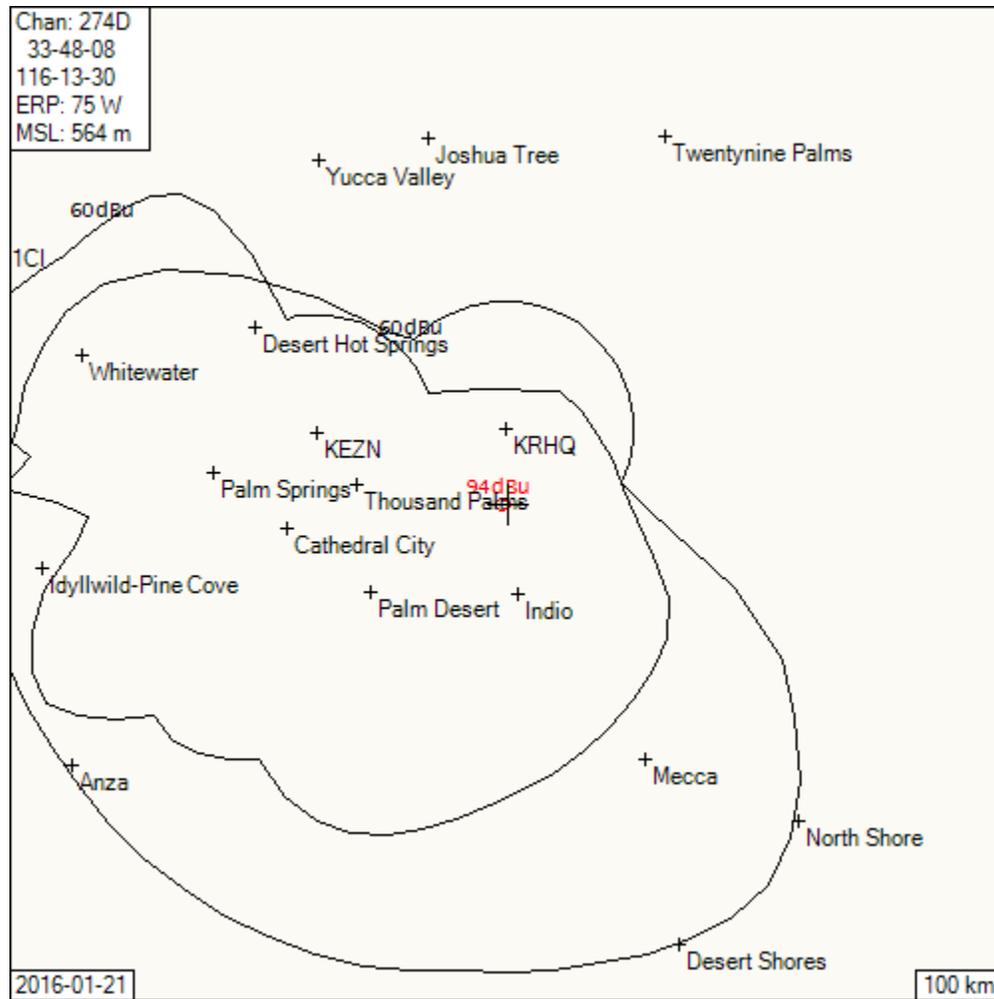
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Map 3 – Second/Third Adjacent Outbound Interference Detail



The proposed transmitter site is within the protected 60 dBu f(50,50) contours of KRHQ, FCC Facility ID # 43132, and KEZN, FCC Facility ID # 11747. The transmitter site is a remote mountaintop, with no major roads or habitable structures in the vicinity.

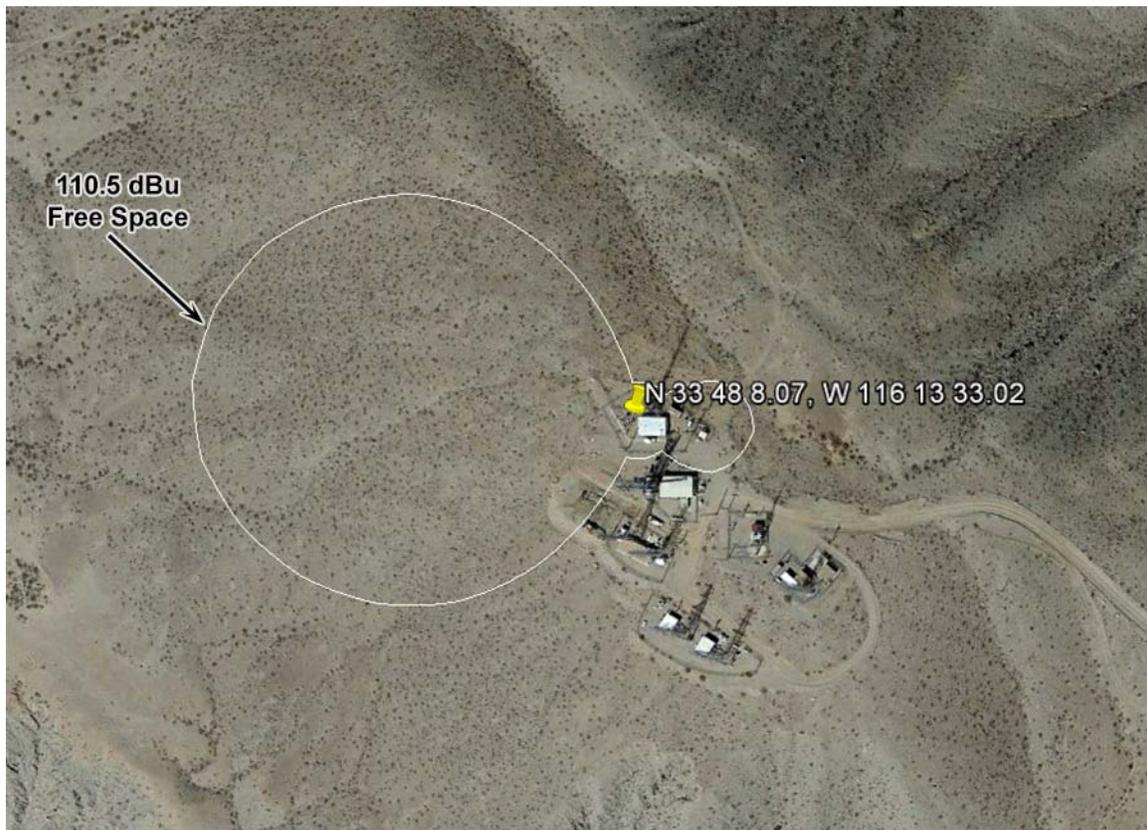
The KRHQ signal at the site is 91.6 dBu. The KEZN signal at the site is 70.5 dBu. KEZN is lower and therefore more critical. The permissible signal is 110.5 dBu, which occurs at a maximum of 182 meters in the main lobe, and closer-in everywhere else.

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The 110.5 dBu contour is shown plotted on a Google Earth image below:



There is no population in the interference area. The only buildings are unoccupied communications shelters.

Therefore, the proposal satisfies the requirements of 74.1204(d), which permits interference in unpopulated areas.

IF Separation requirements

The proposed ERP is 75 W. The proposed facility is therefore exempt from IF separation requirements under 47 C.F.R 74.1204 (g), which exempts proposals under 100 W from IF considerations.

Channel 6 Interference

The proposed facility is not on a channel that is implicated in channel 6 interference.

International

The distance between the proposed transmitter site and the Canadian border is 1,689 km. Coordination and notification are not required.

The distance between the proposed transmitter site and the Mexican border is 132 km. The power limit toward Mexico for proposals within 125 km of the border is 50 Watts.

The maximum ERP proposed toward any point on the border (101° to 211°) is 12.4 Watts, at 211° (relative field 0.408, or -7.8 dB).

The proposed 34dbu f(50,10) contour (red polygon) does not cross the border:

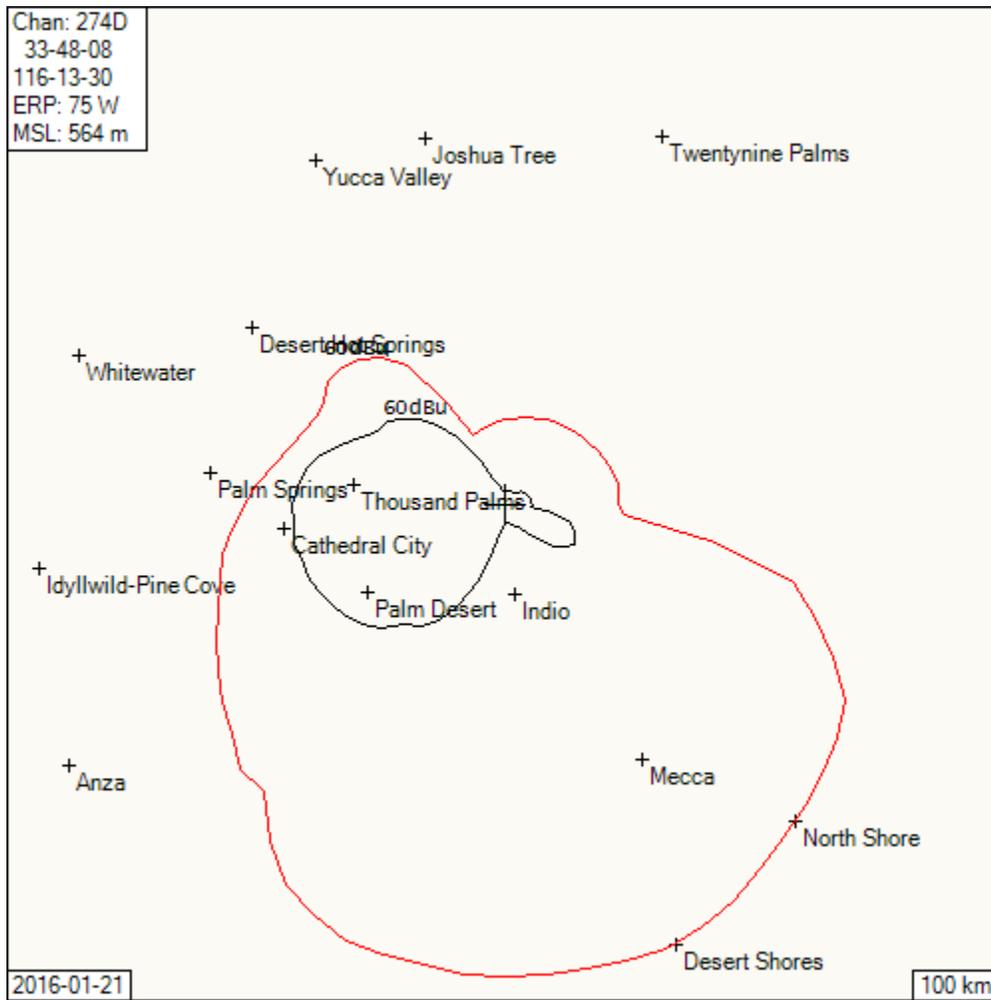


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Fill-In Translator



The proposed primary station is KRCK-FM HD-2. KRCK-FM is commonly owned with K238AK. The proposed 60 dBu f(50,50) contour (black polygon) is entirely contained within the 60 dBu f(50,50) contour of KRCK-FM. Therefore, the proposal is for fill-in service.

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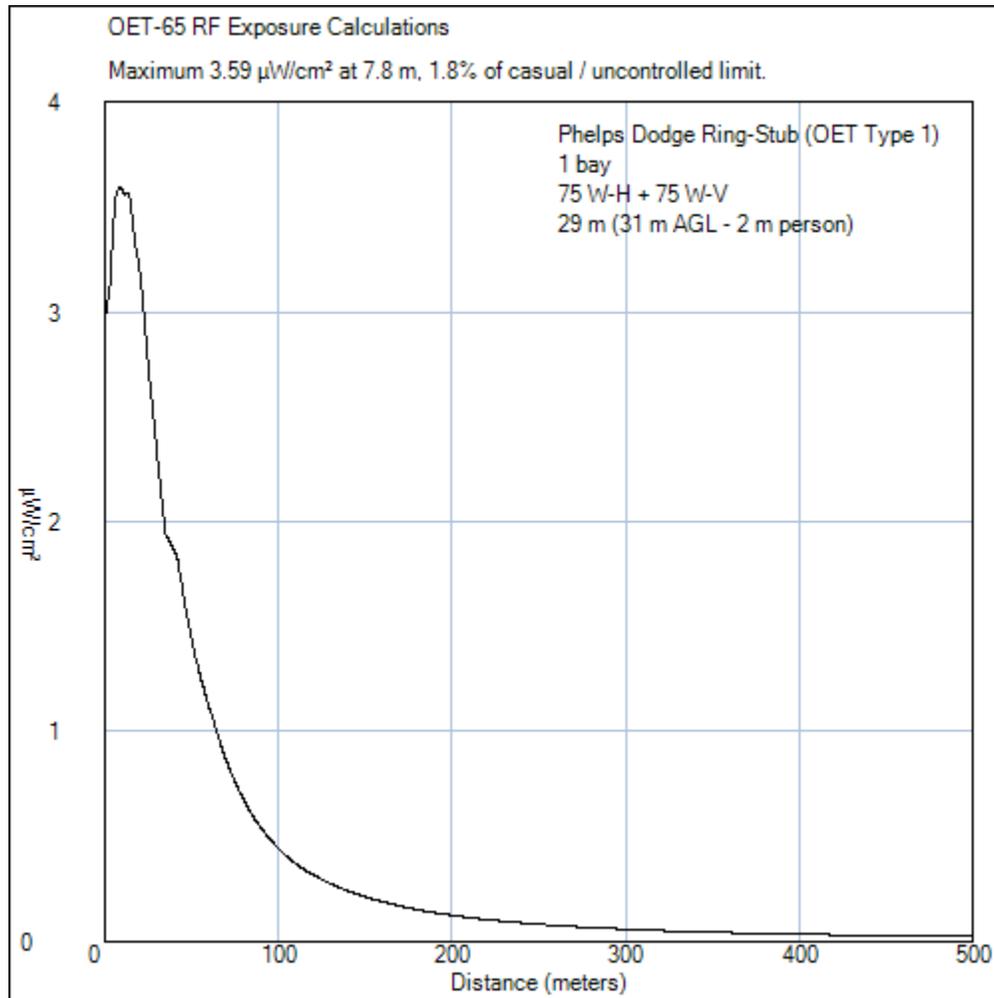
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Transmitter Location

There will be no change to the transmitter location. The antenna height will remain the same, and there will be no change to the tower height.

RF Exposure

The proposed ERP is 75 W-H + 75 W-V. The antenna is 31 m above the ground. Using the worst-case OET Type1 antenna, the maximum RF exposure is less than 2% of the limit for casual/uncontrolled exposure:



Appropriate access controls are provided. Warning signs provide notification to authorized personnel of hazardous areas.

The applicant agrees to coordinate with other users of the site to reduce power or shut down in order to protect workers at the site.

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Form 349 Tech Box Data

Channel 274

Primary Station Facility ID 52808
KRCK-FM HD2
Mecca, CA

Delivery Method Microwave

Coordinates (NAD-27) 33 48 08 N Lat
116 13 30 W Lon

Coordinates (NAD-83) 33 48 08.3 N Lat
116 13 32.6 W Lon

ASR None, not required

Site Elevation AMSL 533 m

Overall Tower Height AGL 52 m

Radiation Center AGL 31m

Effective Radiated Power 75 W-H + 75 W-V

Antenna type Directional

Manufacturer / Model SCA CA2FM-CP

CA2-FM-CP @ 270

Rotation 0

az	eRel										
0	0.030	10	0.032	20	0.037	30	0.046	40	0.065	50	0.142
60	0.202	70	0.234	80	0.250	90	0.260	100	0.250	110	0.234
120	0.202	130	0.142	140	0.065	150	0.046	160	0.037	170	0.032
180	0.030	190	0.045	200	0.187	210	0.388	220	0.570	230	0.715
240	0.829	250	0.920	260	0.979	270	1.000	280	0.979	290	0.920
300	0.829	310	0.715	320	0.570	330	0.388	340	0.187	350	0.045

Supplemental Radials

211 0.408

The antenna will be oriented so the main lobe (relative field 1.000) is directed at 270°. The relative field values are provided as rotated. No additional rotation is to be added.

Displacement Waiver Request

The applicant requests a change to a channel that is not mutually exclusive (MX), and therefore would ordinarily be a major change for K238AK.

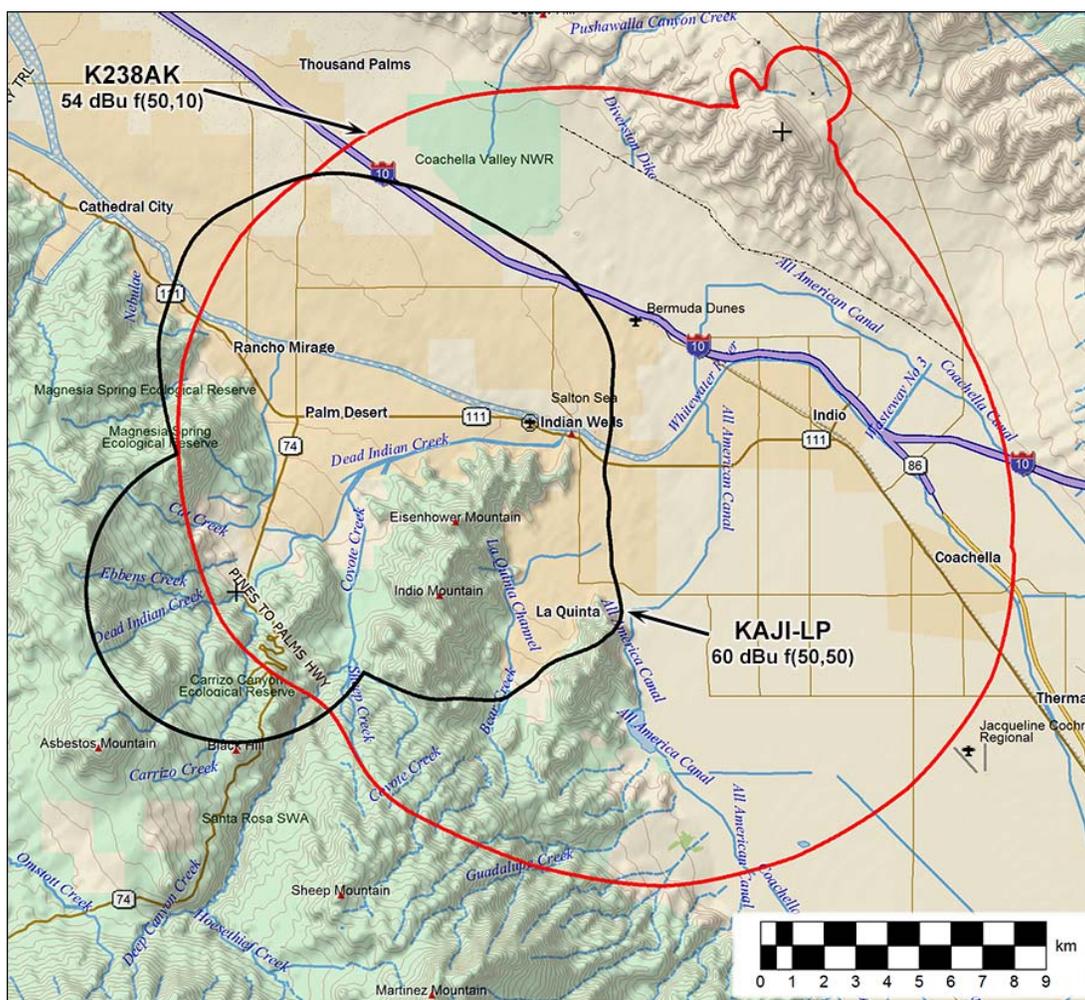
Such a change may be approved under a "Displacement Waiver" for an FM translator when a newly-authorized facility would receive prohibited interference from the incumbent translator, and where no MX channel is available for the translator.

Displacing Station

The newly-authorized station is KAJI-LP, FCC Facility ID # 194937.

KAJI-LP is fully spaced to K238AK under the LPFM rules.

Prohibited Overlap to KAJI-LP:



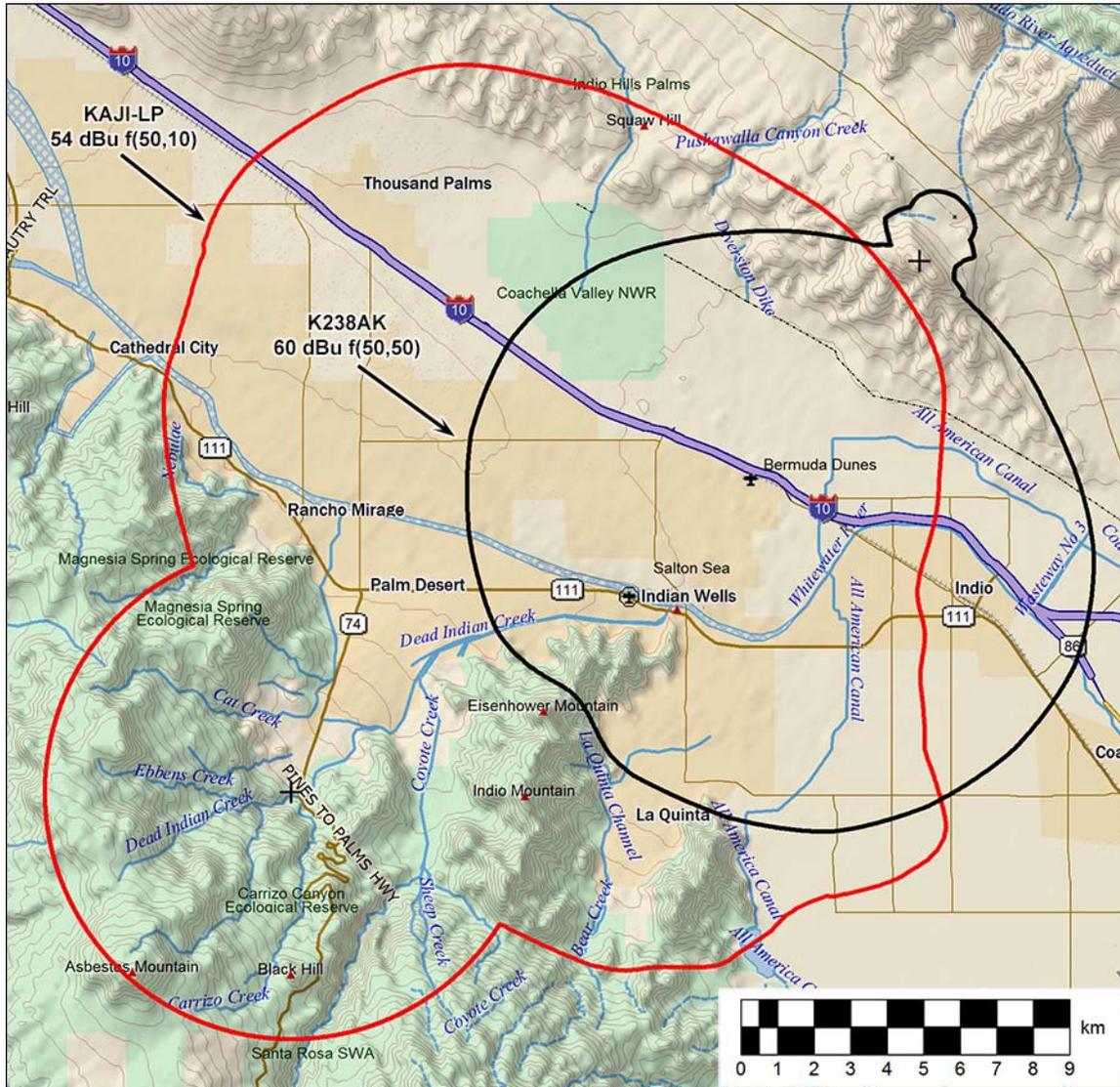
The KAJI-LP 60 dBu f(50,50) contour (black polygon) will be grossly overlapped by the interfering 54 dBu f(50,10) contour of K238AK (red polygon).

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Major Interference to K238AK:



The K238AK 60 dBu f(50,50) contour (black polygon) will be grossly overlapped by the KAJI-LP 54 dBu f(50,10) contour (red polygon).

The mutual overlap shown on the two maps will result in destructive interference to both facilities.

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No Alternate Channel Available for the Displacing Station:

An LPFM study produced no alternate fully-spaced channel for KAJI-LP at its authorized transmitter site.

No MX Channel for K238AK

The following MX channels for K238AK are unavailable for the reasons described:

- 235: Prohibited overlap with KLOB (FCC Facility ID # 21786)
- 235: Prohibited overlap with NEW (FCC Facility ID # 195561)
- 236: Prohibited overlap with KFRG (FCC Facility ID # 1241)
- 236: Prohibited overlap with NEW (FCC Facility ID # 195561)
- 237: Prohibited overlap with KAJI-LP (FCC Facility ID # 194937)
- 238: Prohibited overlap with KAJI-LP (FCC Facility ID # 194937)
- 239: Prohibited overlap with KJJZ (FCC Facility ID # 165313)
- 240: Prohibited overlap with KJJZ (FCC Facility ID # 165313)
- 241: Prohibited overlap with KJJZ (FCC Facility ID # 165313)
- 291: Prohibited overlap with KPLM (FCC Facility ID # 54360)
- 292: Prohibited overlap with KPLM (FCC Facility ID # 54360)

The applicant has identified channel 274 as a technically acceptable alternate, as demonstrated elsewhere in this document.

The situation comports with the requirements of a displacement waiver, and requests leave to displace to channel 274D as a minor change

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