

**June 2018**  
**FM Translator K256CX**  
**Pasadena, CA Channel 256D**  
**Allocation Study**

**Allocation Study**

The attached spacing study shows the spacing between the proposed translator site and the location of cochannel and adjacent channel stations and proposals. This study was made with the Commission's Class A spacing requirements, and individual situations were examined to determine the lack of prohibited contour overlap per the requirements of §74.1204 of the Rules. The attached allocation study map demonstrates compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204.

### ***KYSR 254B Los Angeles***

The proposed translator transmitter site is located within the 60 dBu protected contour of second-adjacent channel station KYSR 254B Los Angeles. The following calculation, performed using the *Living Way* methodology, demonstrates interference protection to that station.

Protected Station	Distance & Bearing to Proposal	Station ERP and HAAT on that azimuth	Station Field Strength at Proposal	Corresponding Translator Interfering Contour	Distance to Translator Interfering Contour
KYSR 254B	36.40 km 91 deg True	75 kW 354 meters	77.44 dBu F(50,50)	117.44 dBu	148.8 meters Free Space

The aerial photo of the proposed transmitter site (below) depicts the 117.44 dBu contour from the proposed facility. There is no population within this contour. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to KYSR.



***KKLA-FM 258B Los Angeles***

The proposed translator transmitter site is located within the 60 dBu protected contour of second-adjacent channel station KKLA-FM 258B Los Angeles. The following calculation, performed using the *Living Way* methodology, demonstrates interference protection to that station.

Protected Station	Distance & Bearing to Proposal	Station ERP and HAAT on that azimuth	Station Field Strength at Proposal	Corresponding Translator Interfering Contour	Distance to Translator Interfering Contour
KKLA 258B	13.59 km 154 deg True	1.01 kW 1501 meters	83.31 dBu F(50,50)	123.31 dBu	75.7 meters Free Space

The 123.31 dBu contour from the proposed facility extends only 76 meters from the antenna and does not reach ground level. There is no population within this contour. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to KKLA-FM.

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SEARCH PARAMETERS                               FM Database Date: 180601
Channel: 256A      99.1 MHz                      Page 1
Latitude: 34 6 50
Longitude: 117 59 50
Safety Zone: 50 km
Job Title: K256CX PASADENA

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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KTCN LIC	ACTON CA	202A BLED-40313ADT	202A 88.3	0.100 -96.0	DA 34-28-10 118-06-42	345.1	40.82 30.82	10 CLEAR
KCSN LIC	NORTHRIDGE CA	203B1 BLED-20905AAM	203B1 88.5	0.370 501.0	DA 34-19-10 118-33-15	294.2	56.16 44.16	12 CLEAR
KCSN-FM1 LIC	WEST LOS ANGELES CA	203D BLFTB-30115ADF	203D 88.5	0.800 0.0	DA 34-03-42 118-24-57	261.6	39.07 0.00	0 BOOST
KYSR LIC	LOS ANGELES CA	254B BMLH-90709ACO	254B 98.7	75.000 360.0	34-07-08 118-23-30	271.0	36.40 -32.60	69 SHORT
KHHT LIC	METTLER CA	255A BLH-61122AEV	255A 98.9	0.225 502.0	DA 34-54-11 118-54-14	316.8 SS	120.81 48.81	72 CLEAR
K256CX LIC	BEAUMONT CA	256D BLFT-80424AAX	256D 99.1	0.250 143.0	DA 34-06-50 117-59-50	0.0	0.00 0.00	0 TRANS
K256CX APP	BEAUMONT CA	256D BSTA-71117AAV	256D 99.1	0.250 0.0	34-06-50 117-59-50	0.0	0.00 0.00	0 TRANS
KWSV-LP LIC	CHATSWORTH CA	256D BLFTB-70724AAA	256D 99.1	0.006 0.0	DA 34-15-24 118-38-25	285.2	61.36 0.00	0 BOOST
KLBP-LP CP MOD	LONG BEACH CA	256L1 BMPL-60601AHB	256L1 99.1	0.100 12.0	33-44-47 118-16-45	212.6	48.39 -18.61	67 SHORT
KFEP-LP APP	LOS ANGELES CA	256L1 BMPL-70628AAS	256L1 99.1	0.100 -9.5	34-05-21 118-20-14	265.1	31.49 -35.51	67 SHORT
KFEP-LP CP	LOS ANGELES CA	256L1 BNPL-31114BEK	256L1 99.1	0.002 276.1	34-07-34 118-22-03	272.4	34.19 -32.81	67 SHORT
KLDB-LP CP MOD	LOS ANGELES CA	256L1 BMPL-70329AAA	256L1 99.1	0.100 -17.0	33-59-58 118-27-55	253.7	45.04 -21.96	67 SHORT
KZUT-LP LIC	LOS ANGELES CA	256L1 BMLL-71010AAQ	256L1 99.1	0.003 190.0	34-07-32 118-22-11	272.3	34.39 -32.61	67 SHORT
KBUU-LP LIC	MALIBU CA	256L1 BLL-71213ABD	256L1 99.1	0.071 36.0	34-02-26 118-47-20	263.8	73.52 6.52	67 CLOSE

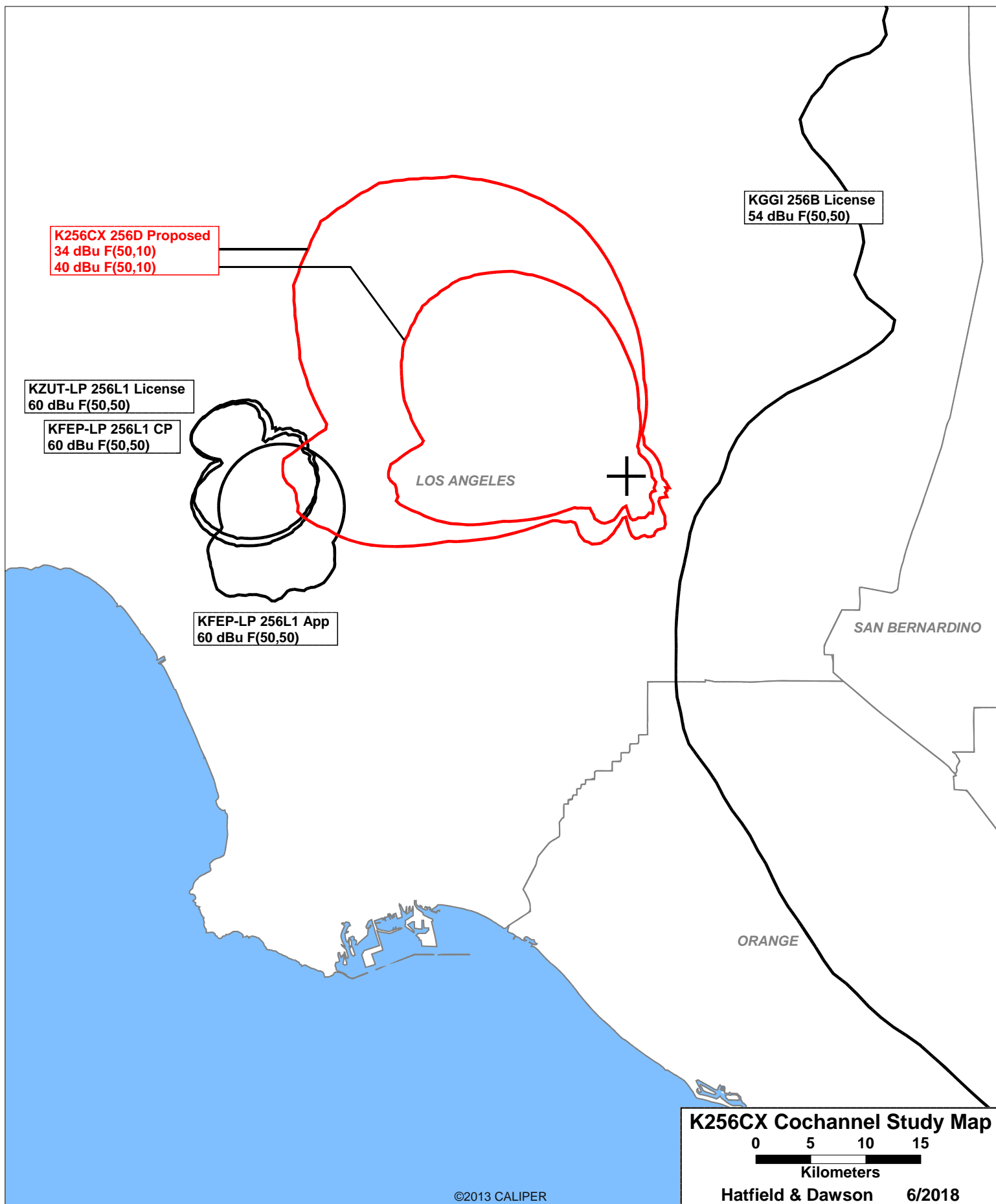
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SEARCH PARAMETERS                               FM Database Date: 180601
Channel: 256A      99.1 MHz                      Page 2
Latitude: 34 6 50
Longitude: 117 59 50
Safety Zone: 50 km
Job Title: K256CX PASADENA

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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KJBU-LP CP	OXNARD CA	BNPL-31113AKO	256L1 99.1	0.100 8.6	34-11-04 119-09-37	274.5	107.55 40.55	67 CLEAR
K256CU LIC	PALM SPRINGS CA	BLFT-70329AAF	256D 99.1	0.054 DA 383.0	33-51-55 116-26-10	100.4	146.86 0.00	0 TRANS
K256BS LIC	PALMDALE CA	BLFT-50707ABO	256D 99.1	0.010 DA 763.0	34-32-51 118-12-47	337.7	52.04 0.00	0 TRANS
KGGI LIC	RIVERSIDE CA	BLH-910802KF	256B 99.1	2.550 562.0	34-14-04 117-08-24	80.1	80.16 -97.84	178 SHORT
KXFM LIC	SANTA MARIA CA	BLH-910429KE	256B 99.1	2.300 581.0	34-54-37 120-11-08	294.4	219.51 41.51	178 CLEAR
KWSV-LP LIC	SIMI VALLEY CA	BMLL-50413AAO	256L1 99.1	0.100 6.1	34-16-55 118-39-17	287.4	63.41 -3.59	67 SHORT
KWSV-LP CP	SIMI VALLEY CA	BPL-70717AAT	256L1 99.1	0.100 11.0	34-16-55 118-39-17	287.4	63.41 -3.59	67 SHORT
KTPC-LP LIC	VENICE CA	BLL-71010AAE	256L1 99.1	0.050 -17.0	33-59-58 118-27-55	253.7	45.04 -21.96	67 SHORT
K257EX LIC	BORON CA	BLFT-70817ACV	257D 99.3	0.020 46.0	35-00-04 117-39-04	17.7	103.42 0.00	0 TRANS
KKLA-FM LIC	LOS ANGELES CA	BMLH-60325AAB	258B 99.5	10.000 DA 902.0	34-13-26 118-03-44	334.0 SS	13.59 -55.41	69 SHORT
NEW-T APP	MORENO VALLEY CA	BNPFT-80131AEJ	258D 99.5	0.050 DA 0.0	34-00-41 117-11-03	98.4	75.92 0.00	0 TRANS
NEW-T APP	MORENO VALLEY CA	BNPFT-80418AHZ	258D 99.5	0.099 DA 161.0	34-00-41 117-11-03	98.4	75.92 0.00	0 TRANS

===== END OF FM SPACING STUDY FOR CHANNEL 256 =====



**June 2018**  
**FM Translator K256CX**  
**Pasadena, CA Channel 256D**  
**RF Exposure Study**

**Facilities Proposed**

The proposed operation will be on Channel 256D (99.1 MHz) with a maximum lobe effective radiated power of 250 watts. Operation is proposed with an antenna to be mounted on an existing tower with FCC Antenna Structure Registration Number 1012885. This is one of the towers in the KRDC(AM) array.

**RF Exposure Calculations**

OET Bulletin 65 Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01) states in part that:

When performing an evaluation for compliance with the FCC's RF guidelines all significant contributors to the ambient RF environment should be considered. . . For purposes of such consideration, significance can be taken to mean any transmitter producing more than 5% of the applicable exposure limit (in terms of power density or the square of the electric or magnetic field strength) at accessible locations.

As will be demonstrated below, the proposed operation of K256CX will produce less than 5% of the applicable exposure limit for both controlled and uncontrolled environments. Thus, the proposed facility is categorically excluded from the requirement of further study. Therefore, pursuant to §1.1307(b)(3) of the Commission's Rules no calculations are required for the other FM and TV facilities in the vicinity, and precise calculations are made only with regard to the levels from this proposal.

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

*D* is the distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 500 meters. Values past this point are increasingly negligible.

Hatfield & Dawson Consulting Engineers

Calculations of the power density produced by the K256CX antenna system have been made assuming that the antenna will radiate 100% power straight down to a point 2 meters above ground at the base of the tower (96 meters below the antenna). Under this worst-case assumption, the highest calculated ground level power density from K256CX occurs at the base of the antenna support structure. At this point the power density is calculated to be  $0.9 \mu\text{W}/\text{cm}^2$ , which is 0.45% of  $200 \mu\text{W}/\text{cm}^2$  (the FCC standard for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation of K256CX alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 1000 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicants proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.

#### **AM Station KRDC**

The translator antenna will be installed on one of the towers used by AM station KRDC 1110 kHz. KRDC operates with 50 kilowatts directional daytime, 20 kilowatts directional nighttime. The radiators are 132 electrical degrees tall, or 36.7% of the station wavelength. Using Tables 1-4 in OET Bulletin No. 65, the fencing distance requirement for this station is 4 meters from the tower base. The towers are fenced to at least this distance.