

Educational Media Foundation

5700 West Oaks Boulevard ♦ Rocklin ♦ California ♦ 95765

Exhibit 13

Santa Clarita, CA

Channel Study

REFERENCE		CH# 205D - 88.9 MHz, Pwr= 0.01 kW DA, HAAT= 665.3 M, COR= 1133 M								DISPLAY DATES	
34 19 47.0 N.		Average Protected F(50-50)= 14.4 km								DATA 03-27-18	
118 36 00.0 W.		Standard Directional								SEARCH 03-27-18	
CH CITY	CALL	TYPE STATE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
205A Lancaster	KTLLW	LIC	CN CA	34.9 215.2	70.71 BLED19970715KA	34 51 03.0 118 09 22.0	5.800 83	86.3 831	28.2 Educational Media Foundati	-30.3*	-11.5
205D Santa Clarita	K205EP!	LIC	DV CA	81.0 261.1	17.15 BLFT20110811AAD	34 21 12.8 118 24 57.0	0.010 617	17.15 1232	17.15 Educational Media Foundati	-47.9R	65.0M
205D Agoura Hills	@990129TH	APP	DC CA	190.6 10.6	28.65 BPFT19990129TH	34 04 33.0 118 39 27.0	0.010 628	39.6 863	10.7 Living Way Ministries, Inc	-11.6*	12.0
205A Los Angeles	KXLU	LIC	HN CA	156.9 337.0	43.26 BLED662	33 58 16.0 118 24 56.0	2.900 3	52.6 65	13.1 Loyola Marymount Universit	-10.0*	24.2
203B1 Northridge	KCSN	LIC	DCX CA	105.2 285.2	4.36 BLED20020905AAM	34 19 10.0 118 33 15.0	0.370 501	0.4 943	11.4 California State Universit	-1.7*	-7.1*
207B Pasadena	KPCC	LIC	CX CA	103.0 283.3	50.47 BMLD20090309ABE	34 13 36.0 118 03 58.0	0.600 891	1.7 1783	43.1 Pasadena Area Community Co	42.5	7.3
06--- Big Bear Lake	KZNO-LP	LI	CN CA	104.6 284.9	51.25 0000019005	34 12 46.1 118 03 41.6	0.500 -999	3.9 1680	36.1	40.0R	11.3M
207D Santa Clarita	KPCC-FM1	LIC	DC CA	75.8 256.0	25.76 BLFTB20121009AAM	34 23 10.0 118 19 42.0	0.003 0.1	0.1 1506	7.9 Pasadena Area Community Co	15.4	17.7
202B1 Thousand Oaks	KCLU-FM	LIC	DCX CA	248.7 68.5	34.10 BLED20020307ABN	34 13 05.0 118 56 42.0	3.200 158	1.0 393	16.0 California Lutheran Univer	32.4	18.1
06--- Big Bear Lake	KZNO-LP	CP	CN CA	104.5 284.8	51.25 0000011368	34 12 47.9 118 03 41.1	0.220 -999	3.9 1680	29.1	33.0R	18.2M
206A Oxnard	KCRU	LIC	DCX CA	240.4 60.2	48.68 BLED20040422ABU	34 06 47.0 119 03 34.0	0.850 260	24.7 405	16.5 Santa Monica Community Col	23.3	30.8
203D West Los Angeles	KCSN-FM1	LIC	DC CA	150.3 330.4	34.24 BLFTB20130115ADF	34 03 41.8 118 24 56.6	0.800 1.6	1.6 203	9.6 California State Universit	32.0	24.6
207D West Los Angeles	KPCC-FM3	LIC	DH CA	159.4 339.5	34.17 BLFTB20170403ACT	34 02 29.3 118 28 09.0	0.700 1.2	1.2 122	7.4 Pasadena Area Community Co	32.3	26.7
208A Ojai	KJAI	LIC	DCX CA	279.8 99.5	54.83 BLED20030305AAI	34 24 45.0 119 11 16.0	0.097 403	0.7 885	24.1 Southern California Public	53.5	30.8
204B Santa Barbara	KDRW	LIC	C CA	279.0 98.4	100.16 BMLD20030930AMQ	34 27 55.0 119 40 37.0	12.000 264	67.8 664	45.8 Santa Monica Community Col	31.7	53.0
207D West Los Angeles	KPCC-FM2	LIC	DH CA	159.4 339.5	34.17 BLFTB20170403ACU	34 02 29.3 118 28 09.0	0.350 0.0	0.0 122	1.6 Pasadena Area Community Co	33.5	32.6
202A Acton	KTCN	CP	DHX CA	70.7 251.0	47.51 BMPED20140224AAV	34 28 09.9 118 06 41.5	0.100 -96	0.6 1056	12.7 White Fox Horse Rescue	35.4	34.6
202A Acton	KTCN	CP	DHX CA	70.8 251.0	47.46 BMPED20140203ACN	34 28 09.0 118 06 43.0	0.100 -96	0.5 1056	12.6 White Fox Horse Rescue	35.4	34.7
06Z-- Camarillo	KUHD-LD	LI	D N CA	272.0 91.6	67.69 BLTVL-20100402ABY	34 20 56.9 119 20 07.0	0.999 -999	0.4 642	31.6	32.0R	35.7M
06--- Victorville	KCIO-LP	APP	D N CA	93.8 274.5	114.28 BLTVL-20090428AAP	34 15 19.0 117 21 42.8	0.499 -999	5.8 1716	9.4	15.2R	99.1M

Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM,
M= Margin in KM
Contour distances are on direct line to and from reference station. Reference Zone= East Zone 2A,
Co to 3rd adjacent.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E),
Beamtilt(Y,N,X)
***affixed to 'IN' or 'OUT' values = site inside restricted contour.
Reference station has protected zone issue: Mexico

**Proposed K205EP versus KTLW
Terrain Shielding / Alternate Showing for interfering contour.**

“FCC” Method

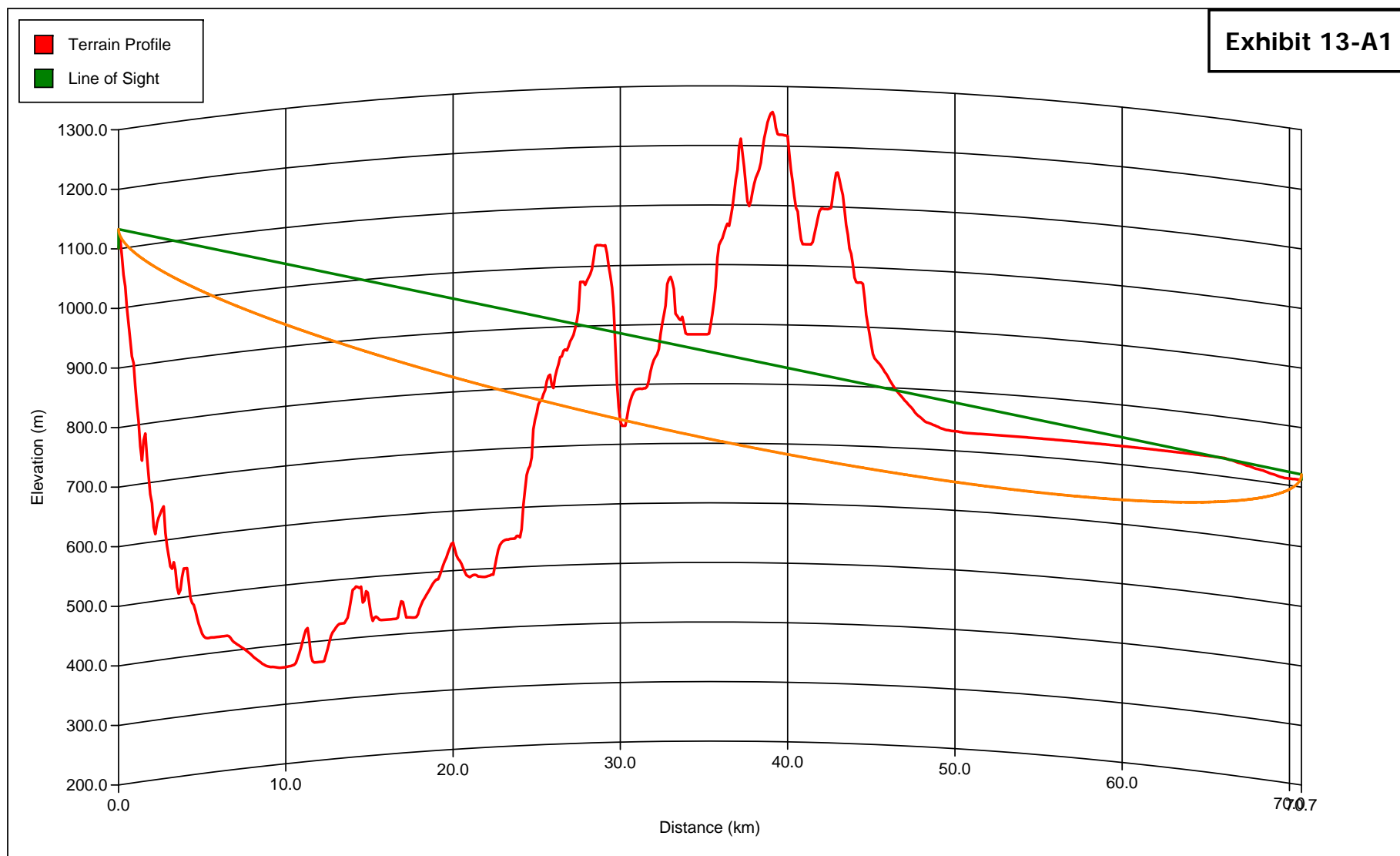
The standard prediction method described in Section 73.313 of the FCC Rules was employed to develop the locations of the identified contour distances. Linearly interpolated computer database terrain data was used in these calculations. With respect to the radials, N.G.D.C TPG-0050 30 second data was employed. The FCC method only considers terrain 3 to 16 km from the antenna site.

Supplemental Method

A mountain ridge separates K205EP from KTLW causing significant terrain shielding and diffraction losses at distance of approximately 38 km from the K205EP proposed transmitter site. This limits the real-world interfering contour to a distance less than the 42 km distance to KTLW's protected contour. The National Bureau of Standards Technical Note 101 provides the basis for irregular terrain modeling, for which the applicant proposes to use. The radial between K205EP and KTLW has been plotted on a map and a path study has been performed using USGS 3-arc second data and the V-Soft Probe 4 profile tool. As can be seen, the terrain (shown in red on Exhibit 13-A1) clearly blocks the line of sight from the proposed translator's location toward KTLW.

The terrain varies so widely between these two facilities (delta H is calculated to be 735.93 average) that an alternate propagation method is warranted. Exhibit 13-A2 shows the Longley Rice calculated 40db contour, using a 3-second terrain database to provide more accuracy. As can be seen, the calculated 40db contour will not cause prohibited overlap with KTLW's protected contour.

Therefore, EMF respectfully requests that the proposed K205EP facility be granted.



Start Latitude: 34-19-47 N
Start Longitude: 118-36-00 W

End Latitude: 34-51-03 N
End Longitude: 118-09-22 W

Distance: 70.71 km
Bearing: 35.04 deg

Exhibit 13-A2

K205EP.P

Latitude: 34-19-47 N
Longitude: 118-36-00 W
ERP: 0.01 kW
Channel: 205
Frequency: 88.9 MHz
AMSL Height: 1133.0 m
Horiz. Pattern: Directional
Prop Model: Longley-Rice
Climate: Cont temperate
Conductivity: 0.0050
Dielec Const: 15.0
Refractivity: 311.0
Receiver Ht AG: 9.0 m
Receiver Gain: 0 dB
Time Variability: 50.0%
Sit. Variability: 50.0%
ITM Mode: Broadcast

KTLW

BLED19970715KA
Latitude: 34-51-03 N
Longitude: 118-09-22 W
ERP: 5.80 kW
Channel: 205
Frequency: 88.9 MHz
AMSL Height: 831.0 m
Horiz. Pattern: Omni

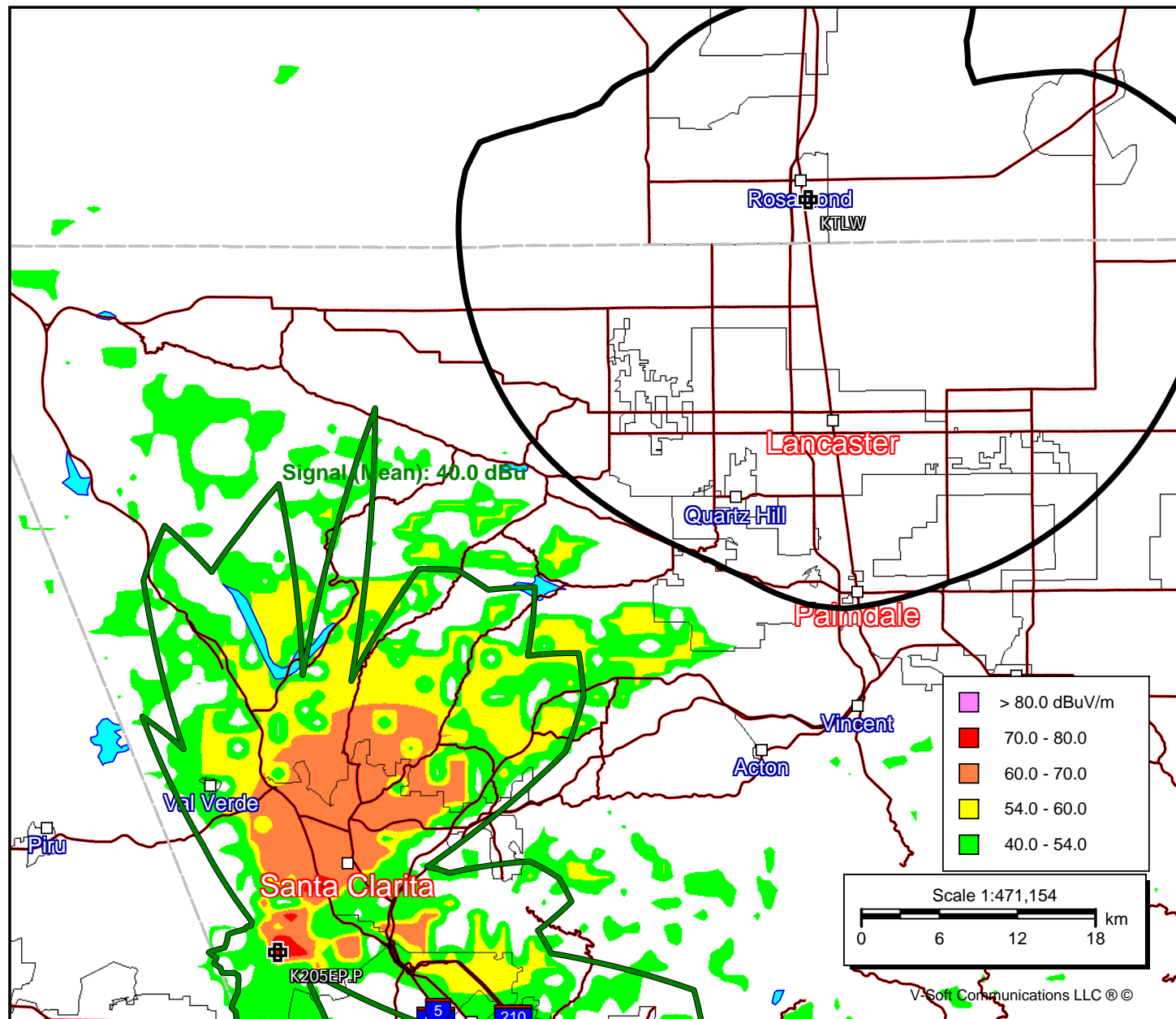


Exhibit 13-B
Educational Media Foundation

FMCommander Single Allocation Study - 03-27-2018 - FCC NGDC 30 Sec
K205EP.P's Overlaps (In= -11.56 km, Out= 12.02 km)

K205EP.P CH 205 D DA
Lat= 34 19 47.0, Lng= 118 36 00.0
0.01 kW 665.3 m HAAT, 1133 m COR
Prot.= 60 dBu, Intef.= 40 dBu

990129TH CH 205 D DA BPFT19990129TH
Lat= 34 04 33.0, Lng= 118 39 27.0
0.01 kW 627.7 m HAAT, 863 m COR
Prot.= 60 dBu, Intef.= 40 dBu



Compliance with C.F.R. 74.1204

The proposed FM Translator is located within the protected 60 dBu contour of second adjacent channel station KCSN, channel 203B1, Northridge, CA. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

The proposed ERP for K205EP.P:	10 watts
The proposed COR for K205EP.P:	17 meters
KCSN F(50/50) contour at proposed site:	75.3 dBu
The F(50/10) contour of proposed K205EP.P	115.3 dBu

As can be seen in the attached exhibit, the potential interfering contour is predicted to not reach the ground or any nearby occupied structure (see Exhibit 13-C1).

Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - Ô1
74.1204(d) Showing
K205EP
Santa Clarita, CA

ERP (kw): 0.01
Height of Antenna above Ground (m): 17
Translator's IX Contour: 115.3
Antenna Type: Scala CLFM-V

Depression Angle from Horizon	Antenna Relative Field	ERP (kw) from the Antenna RF	Dist. To IX Contour (m)	Height IX Contour Above Ground (m)
0	1.000	0.0100	38.1066	17.000
5	0.980	0.0096	37.3445	13.745
10	0.950	0.0090	36.2013	10.714
15	0.895	0.0080	34.1054	8.173
20	0.820	0.0067	31.2474	6.313
25	0.735	0.0054	28.0083	5.163
30	0.645	0.0042	24.5787	4.711
35	0.563	0.0032	21.4350	4.705
40	0.470	0.0022	17.9101	5.488
45	0.360	0.0013	13.7184	7.300
50	0.250	0.0006	9.5266	9.702
55	0.155	0.0002	5.9065	12.162
60	0.085	0.0001	3.2391	14.195
65	0.045	0.0000	1.7148	15.446
70	0.020	0.0000	0.7621	16.284
75	0.010	0.0000	0.3811	16.632
80	0.010	0.0000	0.3811	16.625
85	0.010	0.0000	0.3811	16.620
90	0.010	0.0000	0.3811	16.619