

TECHNICAL SUMMARY
APPLICATION FOR CONSTRUCTION PERMIT
LPTV STATION KLML-LD
GRAND JUNCTION, COLORADO
CHANNEL 36 4.85 KW (DA)

1. It is proposed to relocate KLML-LD and modify its facilities. Specifically, operation is proposed on current channel 36 from the existing 43 meter tower¹ currently utilized by full power DTV station KLML (BLCDT-20060623AAN, Ch 7, Fac. ID 52593) with a directional antenna (DA) maximum effective radiated power (ERP) of 4.85 kW using a Scala model 4DR-4S, horizontally polarized directional antenna with a main lobe orientation of 280 degrees true. The antenna radiation center height will be 3039 m AMSL. No other changes are proposed.

2. Figure 1 demonstrates that there is overlap of the licensed and proposed 51 dBu, f(50,90) protected contours as required by Section 73.3572(a)(2)(ii) for minor change applications. Furthermore, the site move will be less than the 48 km limit.

3. Interference Compliance: As indicated in the attached *TVStudy* analysis summary, KLML-LD's proposed channel 36 operation meets the FCC's interference protection requirements with respect to all protected facilities. A cell size of 0.5 km and a profile resolution of 0.2 km points/km were utilized for the *TVStudy* analysis.

4. RFR Compliance: The proposed facilities were evaluated in terms of potential radiofrequency radiation (RFR) exposure at ground level to workers and the general public. The radiation center for the proposed DTV antenna will be located 15 meters above ground level. The total DTV ERP is 4.85 kW (horizontal polarization). A greater than expected vertical plane relative field value of 0.22 is presumed for the antenna's downward radiation (-60° to -90° elevation, see attached vertical plane relative field pattern). The calculated power density at a point 2 meters above ground level is 46.4 uW/cm² which is 11.5% of the FCC's recommended limit of 403.3 uW/cm² for channel 36 for an uncontrolled environment.

¹ The existing 43 meter tower is not presently registered with the FCC and, per the FCC's TOWAIR program, does not require registration (see attached TOWAIR search results).

However, this will be a multiple-user site to be shared with KLML and KJCT-LP (BLDTL-20150129AAO, Ch. 20, Fac. ID 128473). Thus, the KLML and KJCT-LP facilities have also been considered in the RFR evaluation. The calculations are summarized below:

KLML, Ch. 7, total ERP 9.7 kW, VPRF 0.3, dist. 26 m, PD 43.1 uW/cm², 21.6% of limit

KJCT-LP, Ch. 20, total ERP 30 kW, VPRF 0.25, dist. 33 m, PD 57.5 uW/cm², 16.9% of limit

The summation of the above fractions of the ANSI limit for each of the above stations is 0.50. Since this is less than unity, the combined power density at 2 meters above ground level will be less than the ANSI recommended limit applicable to general population, uncontrolled exposure areas. Thus, it is believed that the proposed KLML-LD facility is in full compliance with the FCC's requirements with regard to RF radiation exposure. Access to the transmitting site will be restricted and appropriately marked with RFR warning signs. Furthermore, a protocol shall be in effect in the event that workers or other authorized personnel enter the restricted area or climb the supporting structure to ensure that appropriate measures will be taken to assure worker safety with respect to RF energy exposure.

TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	39-02-54.9 north
Longitude	108-15-08.2 west

Measurements (Meters)

Overall Structure Height (AGL)	43
Support Structure Height (AGL)	43
Site Elevation (AMSL)	3024

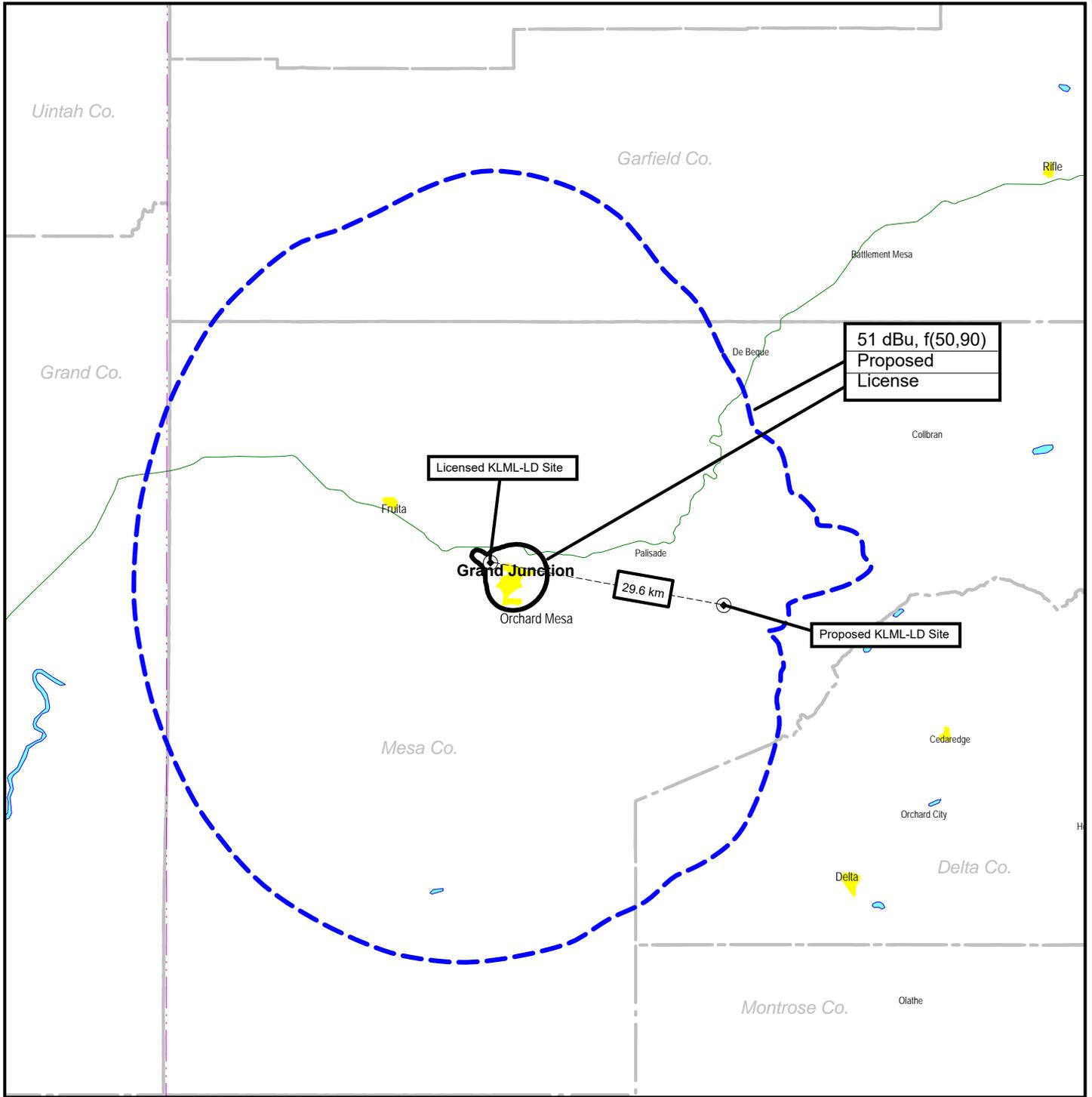
Structure Type

LTOWER - Lattice Tower

[Tower Construction Notifications](#)

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

CLOSE WINDOW



FCC PREDICTED 51 DBU CONTOURS

LPTV STATION KLML-LD
GRAND JUNCTION, COLORADO
CH 36 4.85 KW (DA)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: KLML-LD @ KLML D36 4.85KW, Model: Longley-Rice
Start: 2021.05.20 13:34:27

Study created: 2021.05.20 13:34:27

Study build station data: LMS TV 2021-05-19

Proposal: KLML-LD D36 LD APP GRAND JUNCTION, CO
File number: KLML-LD @ KLML D36 4.85KW
Facility ID: 130616
Station data: User record
Record ID: 117
Country: U.S.

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	K35IX-D	D35	LD	LIC	BASALT, CO	BLDTT20091221ABH	105.4 km
No	K35LJ-D	D35	LD	LIC	CRESTED BUTTE, CO	BLDTT20120522ADQ	111.7
No	KCNC-TV	D35	DT	LIC	DENVER, CO	BLANK0000086445	270.3
Yes	K35NQ-D	D35	LD	LIC	Mesa, CO	BLANK0000072774	5.0
No	K39MK-D	D35	LD	LIC	MONTROSE, CO	BLANK0000059717	88.9
No	K42JR-D	D35	LD	LIC	PAONIA, CO	BLANK0000063247	54.6
No	K45MB-D	D35	LD	CP	SNOWMASS VILLAGE, CO	BLANK0000075124	117.3
No	K45GM-D	D35	LD	LIC	BLANDING/MONTICELLO, UT	BLANK0000059867	170.7
No	K35IQ-D	D35	LD	LIC	VERNAL, ETC., UT	BLDTT20150205ABO	164.4
No	K36JX-D	D36	LD	LIC	MANY FARMS, AZ	BLDTT20110725ADP	297.3
No	KENY-LP	D36-	LD	CP	ALAMOSA, CO	BLANK0000054351	272.4
No	K36DB-CD	D36	DC	LIC	AVON, VAIL, CO	BLDTA20120615ABO	161.2
No	K36GX-D	D36	LD	LIC	BASALT, CO	BLDTT20091221ABI	105.4
No	K36QB-D	D36	LD	LIC	CORTEZ, CO	BLANK0000087868	191.5
No	K36JB-D	D36	LD	LIC	CRIPPLE CREEK, CO	BLDTT20100108AAS	266.5
No	KDVR	D36	DT	LIC	DENVER, CO	BLANK0000128319	269.7
No	K36BR	N36+	TX	LIC	FRASER, ETC., CO	BLTT19890609IL	231.2
No	K36IH-D	D36	LD	LIC	IGNACIO, CO	BLDTT20101007AAT	217.8
No	K36LX-D	D36	LD	LIC	JACKS CABIN, CO	BLDTT20120420AAO	119.1
No	K36AF-D	D36	LD	LIC	NEW CASTLE, CO	BLDTT20150129AAL	84.4
No	K36PY-D	D36	LD	LIC	PAGOSA SPRINGS, CO	BLANK0000080744	229.6
No	K36GQ-D	D36	LD	LIC	PARLIN, CO	BLDTL20100527AFW	148.9
No	K36LV-D	D36	LD	CP	SNOWMASS VILLAGE, CO	BNPDTT20100920AAN	117.3
No	KASY-TV	D36	DT	LIC	ALBUQUERQUE, NM	BLANK0000074897	455.1
No	KASY-TV	D36	DT	CP	ALBUQUERQUE, NM	BLANK0000134573	455.1
No	KASY-TV	D36	DT	LIC	ALBUQUERQUE, NM	BLANK0000145221	455.1
No	K36MH-D	D36	LD	CP	FARMINGTON, NM	BNPDTT20100730ADX	264.2
No	K36PP-D	D36	LD	LIC	FARMINGTON, ETC., NM	BLANK0000074514	294.9
No	K36LF-D	D36	LD	LIC	TAOS, NM	BLDTT20110725ADT	378.8
No	K36KD-D	D36	LD	LIC	TIERRA AMARILLA, NM	BLDTT20111102ACA	279.2
No	K36IG-D	D36	LD	LIC	ANTIMONY, UT	BLDTT20090519ADD	342.8
Yes	K36AK-D	D36	LD	LIC	BLANDING/MONTICELLO, UT	BLDTT20120410ACI	170.7
No	K36OO-D	D36	LD	LIC	BOULDER, UT	BLANK0000080365	303.8
No	K36OQ-D	D36	LD	LIC	CAINEVILLE, UT	BLANK0000081917	241.6
No	K36JT-D	D36	LD	LIC	CLEAR CREEK, UT	BLDTT20121019AAS	258.2
No	K36OT-D	D36	LD	LIC	COALVILLE, UT	BLANK0000093250	339.4
No	K36IK-D	D36	LD	LIC	DELTA, OAK CITY, ETC, UT	BLDTT20071217ACF	354.7
No	K36IM-D	D36	LD	LIC	DUCHESNE, ETC., UT	BLDTT20100111AFS	220.7
No	K36PC-D	D36	LD	LIC	EMERY, UT	BLANK0000094895	254.2
No	K36ON-D	D36	LD	LIC	ESCALANTE, UT	BLANK0000080359	323.1
No	K36PF-D	D36	LD	LIC	FERRON, UT	BLANK0000094880	249.7
No	K36KI-D	D36	LD	LIC	FILLMORE, ETC., UT	BLDTT20100614AAC	351.7
No	K36MI-D	D36	LD	LIC	FOUNTAIN GREEN, UT	BLDTT20150217ACK	291.8
No	K36OH-D	D36	LD	LIC	FREMONT, UT	BLANK0000080674	301.0
No	K36OE-D	D36	LD	LIC	GARFIELD COUNTY, UT	BLANK0000080549	335.7
No	K36PD-D	D36	LD	LIC	GREEN RIVER, UT	BLANK0000094923	203.7
No	K36OP-D	D36	LD	LIC	HANKSVILLE, UT	BLANK0000080683	225.3
No	K36IL-D	D36	LD	LIC	HANNA & TABIONA, UT	BLDTT20100111AFU	260.7
No	K36OW-D	D36	LD	LIC	HENEFER & ECHO, UT	BLANK0000093242	345.6
No	K36PG-D	D36	LD	LIC	HUNTINGTON, UT	BLANK0000094703	237.1
No	K36LE-D	D36	LD	LIC	MANILA, ETC, UT	BLDTT20131125BZT	234.4
No	K36OI-D	D36	LD	LIC	MANTI/EPHRAIM, UT	BLANK0000074635	304.7
No	KUEN	D36	DT	LIC	OGDEN, UT	BLANK0000067867	381.6
No	K36PL-D	D36	LD	LIC	PARK CITY, UT	BLANK0000087312	333.0
No	K36PK-D	D36	LD	LIC	PEOA, ETC., UT	BLANK0000093224	324.1
No	K36FS-D	D36	LD	LIC	RANDOLPH, UT	BLDTT20140416AAQ	375.7
No	K36OX-D	D36	LD	LIC	SAMAK, UT	BLANK0000093239	311.2
No	K36JW-D	D36	LD	LIC	SPRING GLEN, UT	BLDTT20100222AAV	246.7
No	K36OM-D	D36	LD	LIC	TROPIC, UT	BLANK0000080463	364.9
No	K36IQ-D	D36	LD	LIC	VERNAL, ETC., UT	BLDTT20150205ABR	164.4
No	K36OV-D	D36	LD	LIC	WANSHIP, UT	BLANK0000093252	331.7

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D36
 Mask: Full Service
 Latitude: 39 2 54.90 N (NAD83)
 Longitude: 108 15 8.20 W
 Height AMSL: 3039.0 m
 HAAT: 0.0 m
 Peak ERP: 4.85 kW
 Antenna: SCA-4DR-4S (ID 20748) 280.0 deg
 Elev Patrn: Generic

50.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.017 kW	1014.5 m	31.3 km
45.0	0.002	730.5	16.3
90.0	0.053	-8.2	8.2
135.0	0.003	231.0	10.8
180.0	0.015	1054.9	30.6
225.0	0.897	1353.2	60.8
270.0	4.66	1425.2	73.7
315.0	2.70	1212.9	66.9

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 877 m

Distance to Canadian border: 1106.1 km

Distance to Mexican border: 807.5 km

Conditions at FCC monitoring station: Douglas AZ

Bearing: 189.0 degrees Distance: 848.5 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 63.7 degrees Distance: 286.8 km

ERP: 0.006 kW Field strength: -58.8 dBu, 0.0 mV/m

Study cell size: 0.50 km
 Profile point spacing: 0.20 km

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

Maximum new IX to LPTV: 2.00%

 Interference to BLANK0000072774 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K35NQ-D	D35	LD	LIC	Mesa, CO	BLANK0000072774	
Undesireds:	KLML-LD	D36	LD	APP	GRAND JUNCTION, CO	KLML-LD @ KLML D36 4.8	5.0 km
	K34LC-D	D34	LD	LIC	RIFLE, ETC., CO	BLDTT20110928AGZ	55.2
	K45GM-D	D35	LD	LIC	BLANDING/MONTICELLO, UT	BLANK0000059867	175.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
3540.9	54,042	2994.3	10,216	2990.3
				10,216
				2980.6
				10,034
				0.32
				1.78

Undesired	Total IX	Unique IX, before	Unique IX, after
KLML-LD D36 LD APP	9.7	182	9.7
K34LC-D D34 LD LIC	0.7	0	0.7
K45GM-D D35 LD LIC	3.2	0	3.2

 Interference to BLDTT20120410ACI LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K36AK-D	D36	LD	LIC	BLANDING/MONTICELLO, UT	BLDTT20120410ACI	
Undesireds:	KLML-LD	D36	LD	APP	GRAND JUNCTION, CO	KLML-LD @ KLML D36 4.8	170.7 km
	K36QB-D	D36	LD	LIC	CORTEZ, CO	BLANK0000087868	121.2

K36PD-D D36 LD LIC GREEN RIVER, UT BLANK0000094923 179.5

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
4361.8 7,186	4131.0 7,186	4022.4 7,125	4022.2 7,125	0.01 0.00

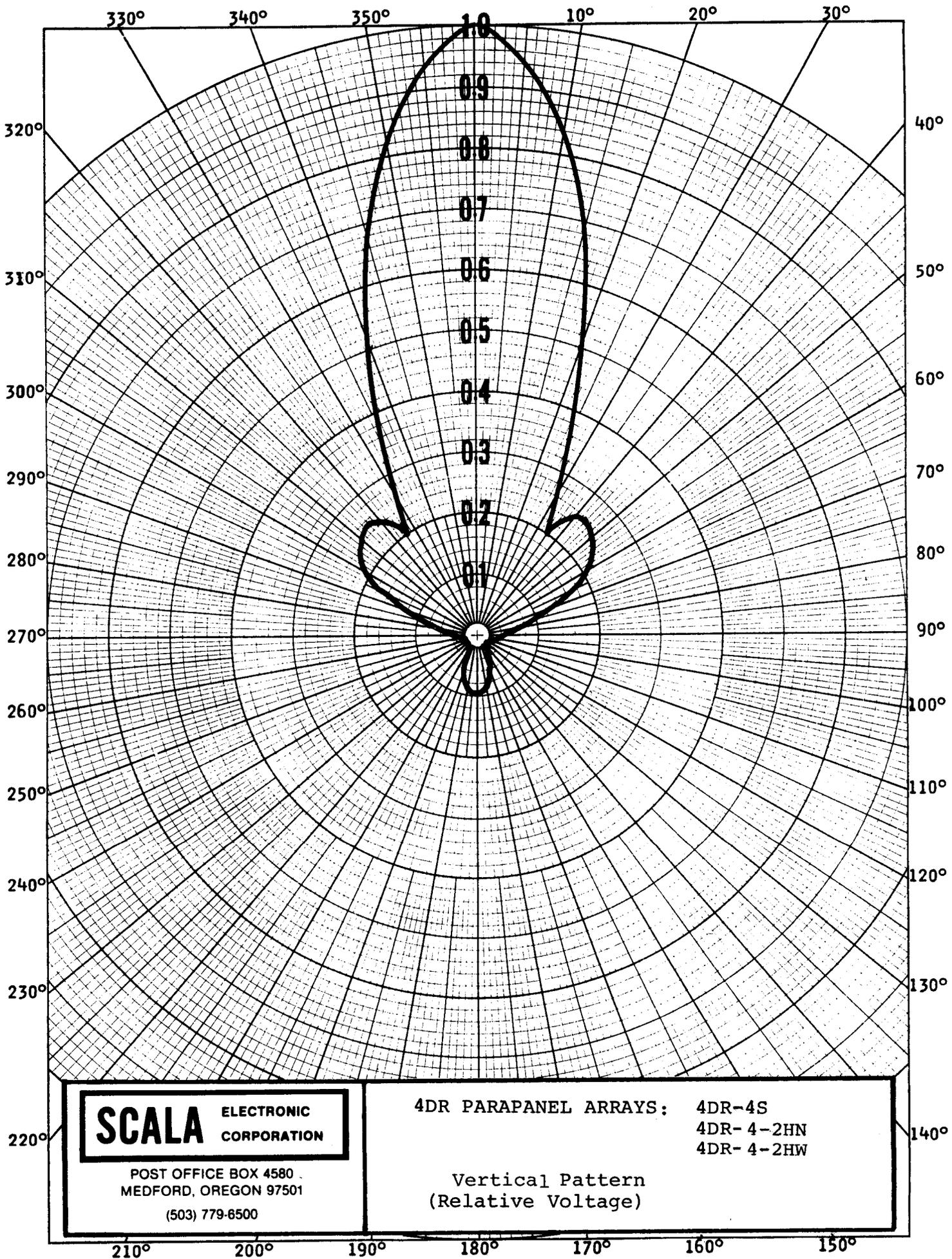
Undesired	Total IX	Unique IX, before	Unique IX, after
KLML-LD D36 LD APP	0.2	0	0.2
K36QB-D D36 LD LIC	108.3	61	108.1
K36PD-D D36 LD LIC	0.5	0	0.2

Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KLML-LD	D36	LD	APP	GRAND JUNCTION, CO	KLML-LD @ KLML D36	4.8
Undesireds:	K35NQ-D	D35	LD	LIC	Mesa, CO	BLANK0000072774	5.0 km
	K36AK-D	D36	LD	LIC	BLANDING/MONTICELLO, UT	BLDTT20120410ACI	170.7
	K36PD-D	D36	LD	LIC	GREEN RIVER, UT	BLANK0000094923	203.7

Service area	Terrain-limited	IX-free	Percent IX
6423.7 143,911	5826.4 143,567	5813.0 143,567	0.23 0.00

Undesired	Total IX	Unique IX	Prcnt Unique IX
K35NQ-D D35 LD LIC	9.7	0	0.17
K36AK-D D36 LD LIC	1.2	0	0.02
K36PD-D D36 LD LIC	2.5	0	0.04



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4DR PARAPANEL ARRAYS: 4DR-4S
 4DR-4-2HN
 4DR-4-2HW

Vertical Pattern
 (Relative Voltage)