

## DTV Channel 14 Land Mobile Special Condition

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This material documents the permittee's measures to identify and substantially eliminate objectionable interference to existing land mobile radio facilities in the 460 to 470 MHz band. As demonstrated herein, the authorized KCWF-LP technical facility is not expected to cause objectionable interference to existing land mobile radio facilities. In event interference does occur, the permittee is committed to identify and resolve reported interference which is directly linked to the start of the KCWF-LP operation in accordance with Section 73.687(e)(4)(ii) of the FCC Rules.

The KCWF-LP Channel 14 transmitting antenna authorized in the outstanding Construction Permit is located on an existing tower on a mountaintop approximately 9 km north of Las Cruces, New Mexico. Attached as Table 1 is a list of the relevant and active Land Mobile licenses authorized to use frequencies between 460 and 470 MHz whose fixed location is within 10 km or mobile area of operation comes within 10 km of the KCWF-LP tower site.<sup>1</sup>

The outstanding construction permit authorizes KCWF-LP to operate on DTV Channel 14 (470-476 MHz) with a elliptically polarized Effective Radiated Power of 1.0 kW (0.0 dBk or 60.0 dBm) and specifies use of a stringent out-of-channel emission mask. In accordance with Section 74.794(a)(2)(ii) of the FCC Rules, the installed KCWF-LP filter achieves an attenuation of at least 47 dB at 470 MHz which is on the edge of DTV channel 14 and the edge of the Land Mobile frequency band of concern. To calculate the DTV power relevant to the adjacent Land Mobile stations, the nominal DTV ERP (within the authorized 6 MHz bandwidth) must be adjusted to provide the equivalent DTV signal power within the 12.5 kHz bandwidth used by the Land Mobile stations. This adjustment factor is calculated using the following formula:  $10 \cdot \log(6000/12.5) = 26.8 \text{ dB}$ .

In light of the above, considering the adjusted DTV ERP and the mask filter attenuation, the worst-case out-of-band transmitter noise generated by the DTV station within the land mobile receiver bandwidth is:  $(60.0 \text{ dBm} - 26.8 \text{ dB} - 47.0 \text{ dB}) = -13.80 \text{ dBm}$ . This spurious energy would appear at the front end of the Land Mobile radio receiver as broadband noise. Tests have begun on the collocated Land Mobile stations listed in Table 1, and no interference issues have been reported. There are no other fixed land mobile receive antennas operating between 467 and 470 MHz in the relevant study radius.

Further, the Licensees of the Land Mobile stations listed in Table 1 are being sent letters informing them that a new Channel 14 LPTV station is performing equipment testing. The letters will contain the Applicant's technical contact information in the event new interference is experienced. In addition, the Applicant is committed to correcting a desensitization problem in the land mobile radios if its occurrence can be directly linked to the start of the KCWF-LP Channel 14 operation and the land mobile station is using facilities with typical desensitization rejection characteristics. In the event an intermodulation product that is generated when the KCWF-LP Channel 14 operation commences, the Applicant is committed to correcting the problem if it is within the Applicant's control. If the intermodulation source is beyond the Applicant's control, the applicant will cooperate in the resolution of the problem and will provide whatever technical assistance it can.

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<sup>1</sup> Pursuant to Section 74.790(d)(3) of the FCC Rules, for adjacent channel TV and Land Mobile assignments, a television station's 76 dBu interfering contour is not to overlap a land mobile station's protected contour. For the purposes of this study a distance of 10 km was assumed to approximate the KCWF-LP 76 dBu F(50,10) contour distance.

**Existing Land Mobile Radio Facilities in the 460 to 470 MHz Band  
Relevant to KCWF-LP DTV Channel 14 Construction Permit**

KCWF-LP, Las Cruces, New Mexico (Facility I.D. 33767)

FCC Construction Permit LMS File No. 0000131907

November, 2021

	Call	Licensee	Service	Class	Location (NAD-83)	Operational Radius (km)	Distance From DTV-14 (km)
1	KNAM365	YSLETA INDEPENDENT SCHOOL DISTRICT	IG	F/M	31-48-18.4 N, 106-28-59.0 W	121	71.5
2	KUC810	EL PASO INDEPENDENT SCHOOL DISTRICT	IG	F/M	31-48-55.4 N, 106-29-22.0 W	121	70.2
3	WNJU343	CORONADO HIGH SCHOOL	IG	F/M	31-47-46.4 N, 106-28-59.0 W	97	72.4
4	WNQN425	STADJUHARS HEATING AND COOLING INC	IG	F/M	32-18-26.2 N, 106-47-45.8 W	121	11.3
5	WPBC956	TURNER RANCH PROPERTIES LP	IG	F/M	32-59-15.3 N, 107-14-07.1 W	121	78.5
6	WPFV816	BASSETT PLACE	IG	F/M	31-36-40.4 N, 106-24-47.9 W	97	93.9
7	WPIE816	R.T.C., Inc.	IG	F/M	31-48-54.4 N, 106-29-22.0 W	121	70.2
8	WPLK502	ADVANCED COMMUNICATIONS ELECTRONICS INC	YG	F/M	32-24-17.3 N, 106-45-40.0 W	32	0.0
9	WPMA287	PHC-Las Cruces, Inc., d/b/a Memorial Medical Center	PW	F/M	32-17-09.3 N, 106-45-03.0 W	32	13.2
10	WPQK851	American Medical Response, Inc.	PW	F/M	32-17-33.3 N, 106-41-52.0 W	32	13.8
11	WPTX254	Environmental Systems Control Inc	IG	F/M	32-18-36.0 N, 106-46-42.0 W	32	10.6
12	WPVK248	NEW MEXICO, STATE OF	PW	F	32-19-40.5 N, 106-43-06.2 W		9.4
13	WPWD913	DONA ANA MUTUAL DOMESTIC WATER CONSUMERS	IG	F/M	32-23-48.2 N, 106-49-02.2 W	32	5.4
14	WPZJ446	Mesilla Valley Regional Dispatch Authority	PW	F/M	32-17-33.5 N, 106-41-50.0 W	32	13.8
15	WQAI414	DONA ANA, COUNTY OF Sheriff Dept	PW	F/M	32-18-22.7 N, 106-46-41.2 W	8	11.0
16	WQBN607	Southwestern Wireless, Inc.	YG	F/M	32-16-11.4 N, 106-52-21.3 W	32	18.3
17	WQFD887	STUDENT TRANSPORTATION SERVICES	IG	F	32-16-32.6 N, 106-52-19.2 W		17.7
18	WQFH654	HOOKE, TRACY	YG	F/M	32-24-15.3 N, 106-45-49.0 W	32	0.2
19	WQOJ784	OLAM WEST COAST INC	IG	F/M	32-18-14.0 N, 106-47-59.0 W	8	11.7
20	WQOL995	MESILLA VALLEY MALL	IG	F/M	32-18-38.0 N, 106-44-37.0 W	32	10.6
21	WQOS981	LAS CRUCES HIGH SCHOOL	IG	F/M	32-17-29.4 N, 106-46-05.4 W	16	12.6
22	WQOS982	CENTENNIAL HIGH SCHOOL	IG	F/M	32-17-59.2 N, 106-42-48.8 W	16	12.5
23	WQPH965	R.T.C. Inc.	YG	F/M	32-24-17.1 N, 106-45-40.6 W	32	0.0
24	WQQQ999	Dillards, Inc.	IG	M	32-19-39.2 N, 106-45-17.1 W	8	8.6
25	WQTX588	ROBB Ent Inc. dba LC Roto Rooter	IG	F/M	32-18-17.2 N, 106-48-18.7 W	32	11.8
26	WQUZ856	Las Cruces School District 2	IG	F/M	32-17-34.3 N, 106-41-53.3 W	32	13.7
27	WQVA369	Ocate High School	IG	F/M	32-22-54.8 N, 106-42-55.1 W	8	5.0
28	WRKS594	DIMAR SYSTEMS LLC	IG	F/M	32-22-49.3 N, 106-47-28.9 W	32	3.9
29	WZN500	City of El Paso - Public Safety Technology Division	PW	F/M	31-45-31.4 N, 106-29-35.0 W	80	76.0

Class: **F** = Fixed; **M** = Mobile; **F/M** = Fixed Base Station and/or Center of Mobile Area of Operation