

TECHNICAL STATEMENT
K281DD CHEYENNE, WYOMING
MOUNTAIN COMMUNITY TRANSLATORS, LLC
FCC FORM 349
JANUARY 2019

This Technical Statement is in support of FCC form 349 filed by Mountain Community Translators, LLC (“MCT”) for a minor change application for K281DD Cheyenne, Wyoming, facility ID 143430. K281 DD is proposing to relocate to an existing 31 meter overall height tower site near Cheyenne, registration number 1273503. K281DD is proposing to use a non-directional antenna system with 250 watts (0.25kw) Effective Radio Power.

Figure 1 shows a channel interference study conducted from the proposed site for K281DD. It shows that the proposed operation of K281DD on channel 281D, will not cause any prohibited outgoing interference to any licensed or proposed FM services, with the exception of KRKA(FM) Severance, Colorado, facility ID 164151 operating on channel 280C1. MCT is proposing to operate as a “partial” fill-in translator for its primary FM station to be rebroadcast, KRKA(FM) Severance, CO.

Figure 2 shows an contour overlap study between the new proposed operation of K281DD and KRKA(FM). C.F.R. 47.1203(d) allows for first adjacent channel overlap with the primary fill-in station being rebroadcast as long as there is no predicted interference within the primary station city of license, which there is none in the case. There is also an area of proposed primary 60 dBμ contour for the proposed K281DD that will extend beyond the primary 60 dBμ contour of KRKA(FM). In this area, K281DD will not be considered a “fill-in” translator for KRKA. Since none of the pertinent 12

proposed Height Above Average terrain radials for K281DD will exceed 107 meters HAAT (See Figure 3), the highest being 73.9 Meters, K281DD will qualify to be used as a non-fill-in translator as well. KRKA(FM) is a licensed non-commercial FM, thus the proposed small extension of the K281DD 60 dB μ beyond the 60 dB μ contour of KRKA(FM) would also be allowed.

Figure 3 is a tabulation of the distances to contours and the Height Above Average Terrain calculations for the pertinent 12 radials. None of the 12 radials will exceed 107 Meters or the maximum allowed for a “non-fill-in” translator operating with a maximum Effective Radiated Power of 0.25 kilowatts (250 watts).

Figure 4 shows that the present and proposed 60 dB μ contours of K281DD.

It was concluded that the new proposed operation of K281DD Cheyenne, Wyoming on channel 281D will not cause any harmful interference to any existing stations, and will be in full compliance with the commission’s rules.

FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY

K281DD Cheyenne, WY, Ch. 281D

REFERENCE
41 08 09.0 N.
104 48 07.0 W.
CH# 281D - 104.1 MHz, Pwr= 0.25 kW, HAAT= 5.1 M, COR= 1880 M
Average Protected F(50-50)= 7.09 km
Omni-directional

DISPLAY DATES
DATA 12-31-18
SEARCH 01-01-19

CH CITY	CALL	TYPE STATE	ANT AZI ---	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
280C1 Severance	KRKA	LIC NCX CO	217.7 37.3	72.64 BMLD20130916AAT	40 37 03.0 105 19 40.0	16.500 372	108.0 2560	73.2 Educational Media Foundati	-42.5*	-10.7*
281D Cheyenne	K281DD	LIC DC_ WY	68.4 248.5	7.24 BLFT20181024AAV	41 09 35.0 104 43 18.0	0.250	1887	---Reference---		
281C2 Guernsey	KANT	LIC _CX WY	351.9 171.8	135.82 BLH20080304AAR	42 20 46.6 105 02 03.9	36.000 172	135.8 1675	53.7 Peak Radio Lic	-7.1	58.4
283C2 Centennial	KIMX	LIC NCX WY	287.4 106.9	56.39 BLH20160824ABQ	41 17 06.0 105 26 41.0	13.500 284	5.4 2702	51.9 White Park Broadcasting, I	43.9	3.4
282C3 Albin	DKKAW	VAC _ WY	63.9 244.4	72.12	41 25 05.0 104 01 36.0	25.000 100	50.1 1692	30.6 Chisholm Trail Broadcastin	12.2	27.9
278D Laramie	K278CM	LIC _C_ WY	289.7 109.3	58.05 BLFT20180413AAU	41 18 36.0 105 27 17.0	0.250	1.1 2700	21.3 University Of Wyoming	49.9	35.6
282C1 Longmont	KKFN	LIC NC_ CO	191.0 10.7	162.84 BLH19991214ABH	39 41 45.0 105 09 54.0	100.000 206	115.9 2081	78.2 Bonnevillie International C	39.8	74.5
283D Fort Collins	K283CN	LIC DC_ CO	207.1 26.8	73.48 BLFT20170621AAE	40 32 47.0 105 11 53.0	0.080	0.4 2185	18.7 Brahmin Broadcasting Corpo	66.0	53.6
278C0 Denver	KRFX	LIC DCX CO	193.4 13.1	160.06 BLH20070927AIC	39 43 59.0 105 14 10.0	100.000 346	12.2 2256	83.6 Citicasters Licenses, Inc.	140.8	75.4
227C0 Gering	KMOR	LIC NCX NE	45.7 226.4	112.89 BLH20070827AED	41 50 23.0 103 49 36.0	100.000 311	16.3 1598	99.5 Legacy Communications, LIC	24.5R	88.4M
284C1 Sterling	KNNG	LIC _CN CO	111.9 293.0	161.37 BLH19810402AB	40 34 57.0 103 01 56.0	100.000 198	9.4 1508	68.8 Media Logi c Lic	141.8	91.5
281C3 Oak Creek	KFMU-FM	LIC NCN CO	240.9 59.5	201.72 BLH19940111KC	40 14 10.0 106 52 30.0	1.400 327	79.8 2831	27.6 Alwaysmountaintime, LIC	114.9	150.4
284D Erie	K284BY	LIC DC_ CO	188.6 8.4	124.26 BLFT20160930ADU	40 01 45.0 105 01 11.0	0.250	0.1 1660	5.1 Mary Medicus	117.1	118.0
284D Erie	K284BY	CP DC_ CO	194.7 14.5	129.00 BMPFT20180319AAV	40 00 43.0 105 11 16.0	0.250	0.2 1647	5.1 Mary Medicus	121.7	122.8
227C1 Wheat Ridge	KTCL	LIC DCX CO	193.4 13.1	160.06 BLH20070621AQR	39 43 59.0 105 14 10.0	71.000 346	16.3 2256	99.5 Citicasters Licenses, Inc.	21.5R	138.6M
279A Akron	NEW	CP _CX CO	130.1 311.1	168.78 BNPH20151013ADX	40 08 56.0 103 17 04.0	1.000 104	1.7 1501	21.7 Northeast Colorado Broadca	158.6	145.9
279C Casper	KOLT	LIC _CY WY	325.6 144.6	217.94 BLH19980114KB	42 44 37.0 106 18 31.0	100.000 567	9.1 2525	67.4 Mt. Rushmore Broadcasting,	201.8	149.4
281C1 Burlington	KNAB-FM	LIC _CN CO	132.7 314.3	297.66 BLH19900222KD	39 17 41.0 102 15 37.0	51.000 110	131.2 1367	45.1 Knab, Inc.	158.4	225.7
284C1 Casper	KTRS-FM	LIC _CX WY	325.7 144.7	217.85 BLH20060927ANT	42 44 37.0 106 18 24.0	18.000 554	5.6 2524	51.7 Townsquare Media Casper Li	205.2	165.1
281C3 Buena Vista	KBVC	LIC NCN CO	204.6 23.7	290.97 BLH19961127KB	38 44 45.0 106 11 55.0	0.600 362	116.8 3335	47.1 Three Eagles Communication	167.1	220.1
280C2 Pueblo West	KRXP	LIC NCX CO	181.1 1.1	265.44 BLH20070326AGF	38 44 44.0 104 51 42.0	1.750 657	90.4 2912	60.8 Colorado Springs Radio Bro	168.0	194.5
280L1 Alliance	KLPH-LP	LIC _ NE	55.4 236.7	193.47 BLL20150422AAT	42 06 22.0 102 52 26.0	0.100 15	1229	175.7 St. Maximillian Kolbe Cath		174.2
284C1 Vail	KKVM	LIC _C_ CO	220.4 39.3	217.44 BMLH20031119AII	39 38 05.0 106 26 47.0	100.000 102	3.2 3015	31.0 Rocky Mountain Radio Group	207.2	185.4
284D Dillon	KKVM-FM3	LIC DV_ CO	212.6 31.8	197.72 BLFTB20090115AFD	39 37 51.0 106 02 47.0	0.175	0.7 2786	5.5 Rocky Mountain Radio Group	190.0	191.1
228C1 Casper	KWYX	LIC _CX WY	325.6 144.6	217.72 BMLH20100607AFR	42 44 28.0 106 18 31.0	3.800 530	16.3 2497	99.5 Cochise Broadcasting LIC	21.5R	196.2M

CH CI TY	CALL	TYPE STATE	ANT	AZI <--	DI ST FI LE #	LAT LNG	PWR(kW) HAAT (M)	INT(km) COR (M)	PRO(km) LI CENSEE	Page # 2 *IN* (Overl ap in km)	*OUT*
281C1 Rapi d Ci ty	KIQK	LIC _CN SD		21. 0 202. 0	344. 71 BLH19940826KA	44 01 19. 0 103 15 33. 0	100. 000 164	138. 9 1292	41. 6 Haugo Broadcasing, Inc.	198. 8	279. 4
284A Cal han	KKCS	LIC _NCX CO		169. 9 350. 2	240. 88 BMLH20131204AJQ	38 59 57. 0 104 18 47. 0	1. 550 198	2. 3 2192	28. 6 United States Cp, LIc	231. 5	211. 2
280A Snowmass Vi ll age	KSNO-FM	LIC _CN CO		221. 3 39. 9	276. 59 BMLH19960220KC	39 14 51. 0 106 55 13. 0	6. 000 99	51. 0 2798	33. 8 Cool Radi o, LIc	218. 5	232. 6
282L1 Imperial	KNKP-LP	LIC _ NE		103. 6 285. 7	278. 46 BLL20150611AAE	40 30 09. 0 101 36 30. 0	0. 100 27	1021	259. 4 St. Polycarp Cathol ic Radi		257. 1
283C3 Canon Ci ty	KSTY	LIC _CX CO		186. 5 6. 2	315. 14 BLH20071003ABD	38 18 54. 0 105 12 40. 0	8. 600 14	5. 3 2138	56. 8 Royal Gorge Broadcasing,	302. 8	257. 2
280D Glenwood Springs	KSNO-FM1	LIC _DC_ CO		231. 4 49. 8	277. 55 BLFTB20100518AEC	39 33 10. 0 107 19 48. 0	0. 300	9. 3 1820	6. 5 Cool Radi o, LIc	261. 1	260. 9
228C3 Aspen	KTND	LIC _C_ CO		222. 8 41. 4	273. 04 BLH20100816ABF	39 18 56. 0 106 57 32. 0	21. 000 109	16. 3 2682	99. 5 Bs&t Wi rel ess, Inc.	11. 5R	261. 5M
228C1 Paxton	KZTL	LIC _CX NE		90. 4 272. 7	291. 13 BLH20071031AAY	41 03 50. 0 101 20 16. 0	100. 000 230	16. 3 1199	99. 5 Legacy Communi cations, LIc	21. 5R	269. 6M
278C1 North Platte	KXNP	LIC _CN NE		87. 2 269. 9	341. 80 BLH19820701AQ	41 12 49. 0 100 43 48. 0	100. 000 146	7. 5 1038	60. 7 Armada Media - Mccook, Inc	323. 6	280. 0
280C2 Mccook	KQHK	LIC _CX NE		105. 8 288. 5	364. 29 BLH20081024AAZ	40 10 19. 0 100 41 05. 0	50. 000 113	71. 9 914	46. 7 Armada Media - Mccook, Inc	281. 6	302. 3
283C Upton	KHAD	LIC _CX WY		4. 4 184. 7	372. 08 BLH20130214ABX	44 28 29. 0 104 26 27. 0	85. 000 479	11. 6 2037	81. 4 The Casper Radi o Group, In	353. 4	289. 5
227C3 Antelope Valley-cre	KLED	LIC _NCX WY		350. 4 169. 9	350. 40 BLH20120410ABY	44 14 35. 0 105 32 19. 0	13. 500 136	16. 3 1564	99. 5 Legend Communi cations Of W	11. 5R	338. 9M

Terrain database is 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= West Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
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.
« = Station meets FCC minimum distance spacing for its class.

* There will be some normally prohibited overlap with first adjacent channel KRKA(FM) Severance, Colorado on channel 280. However, since KRKA is the primary/fill-in station to be rebroadcast the provisions of 74.1203(d) will be applied in these areas of overlap. Since the proposed K281DD would also qualify as a non-fill-in under the provisions of 74.1235, the area of non-interference to KRKA and non-fill-in 60 DBU area of KRKA will apply. See the Technical Statement for more details.

FIGURE 2 - OVERLAP STUDY WITH KRKA(FM) CH. 280C1
K281DD Cheyenne, WY, Ch. 281D

FMCommander Single Allocation Study - 01-01-2019 - NGDC 30 SEC
K281DD's Overlaps (In= -42.46 km, Out= -10.66 km)

K281DD CH 281 D
Lat= 41 08 09.0, Lng= 104 48 07.0
0.25 kW 5.1 m HAAT, 1880 m COR
Prot.= 60 dBu, Intef.= 54 dBu

KRKA CH 280 C1 73.215 N BMLED20130916AAT
Lat= 40 37 03.0, Lng= 105 19 40.0
16.5 kW 372 m HAAT, 2560 m COR
Prot.= 60 dBu, Intef.= 54 dBu

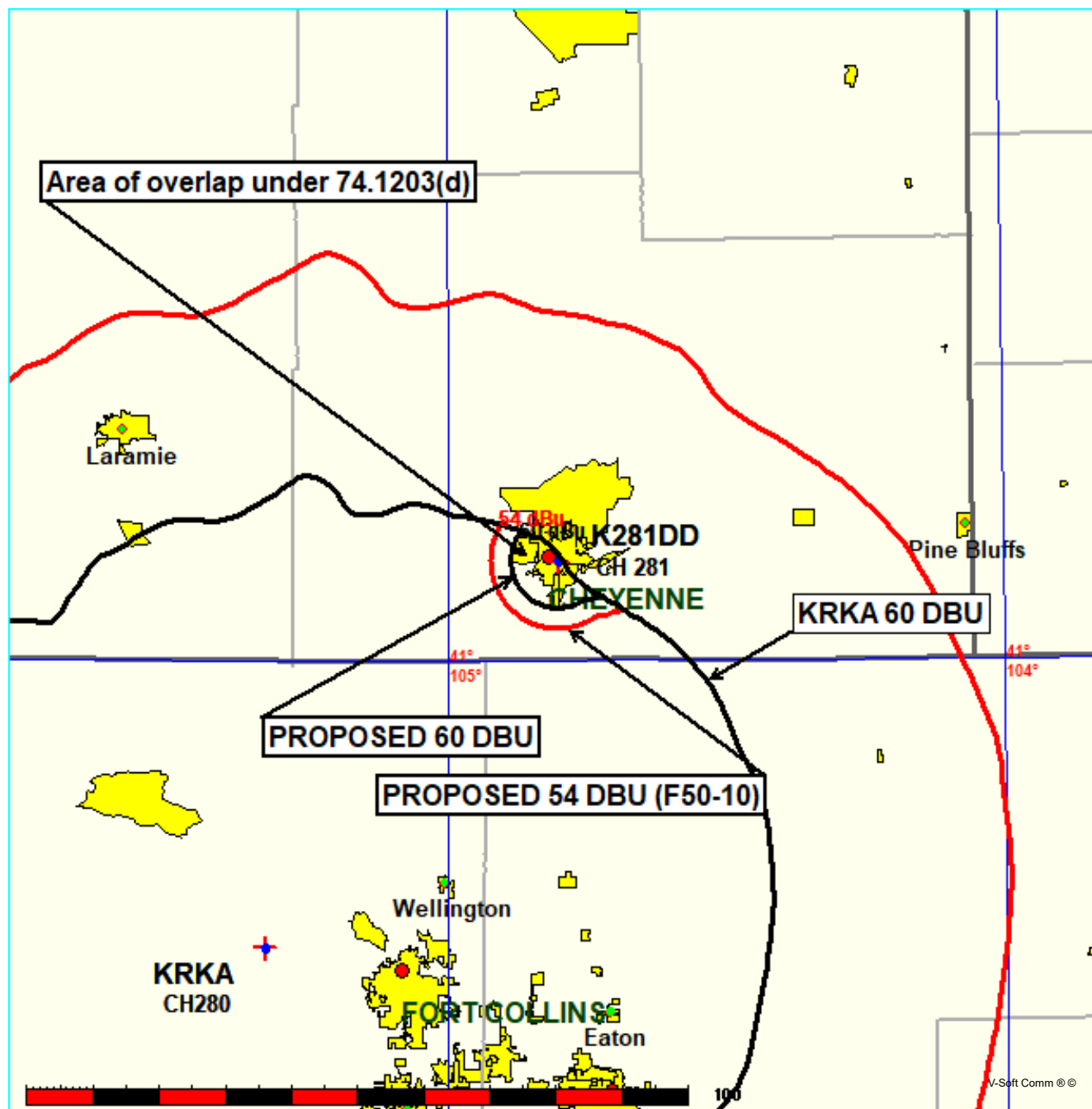


FIGURE 3 - TERRAIN AND CONTOUR CALCULATIONS

Contour.out

N. Lat. = 410809.0 W. Lng. = 1044807.0
HAAT and Distance to Contour,
FCC, FM 2-10 Mi, 51 pts Method - NGDC 30 SEC

Azi.	AV EL	HAAT	dBk	60-F5
000	1889.3	-9.3	-6.02	7.09
030	1846.6	33.4	-6.02	7.43
060	1823.6	56.4	-6.02	9.88
090	1806.1	73.9	-6.02	11.16
120	1829.7	50.3	-6.02	9.30
150	1858.7	21.3	-6.02	7.09
180	1883.1	-3.1	-6.02	7.09
210	1890.3	-10.3	-6.02	7.09
240	1917.6	-37.6	-6.02	7.09
270	1926.4	-46.4	-6.02	7.09
300	1915.6	-35.6	-6.02	7.09
330	1916.6	-36.6	-6.02	7.09

Ave El= 1875.30 M HAAT= 4.70 M AMSL= 1880

FIGURE 4 - PRESENT AND PROPOSED 60 DBU CONTOURS
K281DD Cheyenne, WY, Ch. 281D

Coverage Study - NGDC 30 SEC
01-01-2019

