

Technical Report Minor Modification to K288FZ

This technical report has been developed in support of a minor modification to the translator K288FZ at Sheridan, WY, FCC file no. BLFT-20070131AFH. An increase in ERP and change to channel 290 as a fill-in translator for KLQQ 284C3 at Clearmont, WY is requested.

The following exhibits are provided in support of the form 349 application:

- E-1 Channel Overlap Study
- E-2 60 dBu Coverage within KLQQ and
Overlap of the 60 dBu Contour to Current Facility
- E-3 Scala CA2-FM DA Pattern

K288FZ Antenna System:

Exhibit E-1 shows that the K288FZ modification will not overlap any other facilities. The translator will continue to be located at its existing tower site at a COR AGL of 10 meters, using a single bay Scala CA2-FM/CP directional antenna, rotated at a 20 degree azimuth, and operate at 0.250 kW ERP at coordinates:

44-37-20N 107-06-57W (NAD 27).

Exhibit E-2 shows the 60 dBu contour plot within the 60 dBu contour of KLQQ, as well as its overlap to the 60 dBu contour of the current translator.

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RF Exposure Calculation:

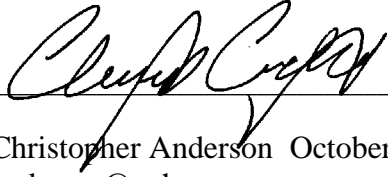
The RF contribution of the 0.250 kW facility was calculated using the formula from the OET Bulletin 65:

$$S \text{ (RF in microwatts/cm}^2\text{)} = \frac{33.4 \times F^2 \times (H \text{ ERP} + V \text{ ERP in watts})}{R^2 \text{ (distance to radiation center in meters}^2\text{)}}$$

A worst-case vertical (F) factor of 0.03 specified by Scala for the antenna was used in the calculation, and yielded an RF contribution of 0.23 $\mu\text{Watts/cm}^2$, which is considerably less than 5% of the maximum permissible public exposure threshold, allowing exclusion from consideration.

Conclusion:

It is concluded that the minor modification of K288FZ complies with all Commission policies and rules.



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E-1 K288FZ Overlap Study

REFERENCE
44 37 20.0 N.
107 06 57.0 W.

CH# 290D - 105.9 MHz, Pwr= 0.25 kW, HAAT= 354.0 M, COR= 2352 M
Average Protected F(50-50)= 24.42 km

DISPLAY DATES
DATA 10-30-07
SEARCH 10-30-07

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*
288D Sheridan	K288FZ	LIC	DC_	0.0 0.0	0.00 BLFT20070131AFH	44 37 20.0 107 06 57.0	0.010 2352	0.1 2352	11.7 Lovcom, Inc.	-39.96*	-12.69*
290C1 Joliet	KPBR	LIC	_CX	315.8 134.8	162.35 BLH20060712AEX	45 39 31.0 108 34 14.0	100.000 134	137.8 1251	40.2 Connoisseur Media, Inc.	12.81<	83.02
292D Sheridan	K292DZ	LIC	DHN	105.0 285.2	19.98 BLFT19880627TC	44 34 32.0 106 52 22.0	0.135 -55	0.0 1538	1.6 James & Susan Noga	16.14	18.33
293D Buffalo	AP2158	APP	_C_	132.0 312.3	45.29 BNPFT20030313ATS	44 20 58.0 106 41 34.0	0.250 1449	1.1 1449	7.1 Lovcom, Inc.	40.98	38.16
287D Buffalo	AP1583	APP	_C_	132.0 312.3	45.29 BNPFT20030313ATY	44 20 58.0 106 41 34.0	0.250 1449	1.1 1449	7.1 Lovcom, Inc.	40.98	38.16
288C Meeteetse	RADD	ADD	---	246.9 65.7	145.17	44 05 55.0 108 47 03.0	100.000 600	15.8 2409	97.8 Sand Hill Media Corp & Gro	127.16	47.27
288C Meeteetse	RADD	ADD	---	246.9 65.7	145.17	44 05 55.0 108 47 03.0	100.000 600	15.8 2409	97.8 Millcreek B/casting Et Al	127.16	47.27
288C Meeteetse	RADD	ADD	---	250.4 69.2	147.28	44 09 56.0 108 51 04.0	100.000 600	15.2 2428	95.7 Millcreek B/casting Et Al.	130.23	51.47
291C1 Moorcroft	KPKL	CP	_CX	107.8 288.9	138.67 BMPH20060117ABX	44 13 50.0 105 27 45.0	100.000 120	80.0 1542	50.6 Family Voice Communication	55.22	81.84
292C Shoshoni	NEW	CP	_CX	208.4 27.8	149.28 BNPH20060310AAB	43 26 18.0 107 59 46.0	50.000 586	9.6 2512	73.3 Cochise Broadcasting Lic	136.13	75.74
287A Wright	NEW	CP	_CX	125.9 307.1	161.73 BNPH20060310AEM	43 45 31.0 105 29 15.0	0.240 13	1.1 1530	7.0 Robert R. Rule	157.51	154.68
288C2 Mills	KHAD	CP	_CX	163.0 343.6	219.06 BMPH20070620ACM	42 44 03.0 106 20 00.0	2.750 543	3.5 2505	61.8 White Park Broadcasting, I	212.77	157.09
289C1 Edgemont	AL4780	VAC	---	115.2 297.3	271.88 RM11253	43 32 32.0 104 04 12.0	100.000 299	111.4 1496	76.0 Keyhole Broadcasting Lic	157.41	190.44
236C Deadwood	KSQY	LIC	_CN	96.0 278.3	262.96 BLH19820910AM	44 19 49.0 103 50 10.0	100.000 521	0.0 2238	0.0 Haugo Broadcasting, Inc	28.5R	234.5M

Terrain database is NGDC 30 SEC Distance + R = FCC Required Spacings in KM, Distance + M = Margin in KM
ERP and HAAT are on direct line to and from reference station.
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 protected contour.
"<" = Contour Overlap

E-2 K288FZ 60 dBu Plot

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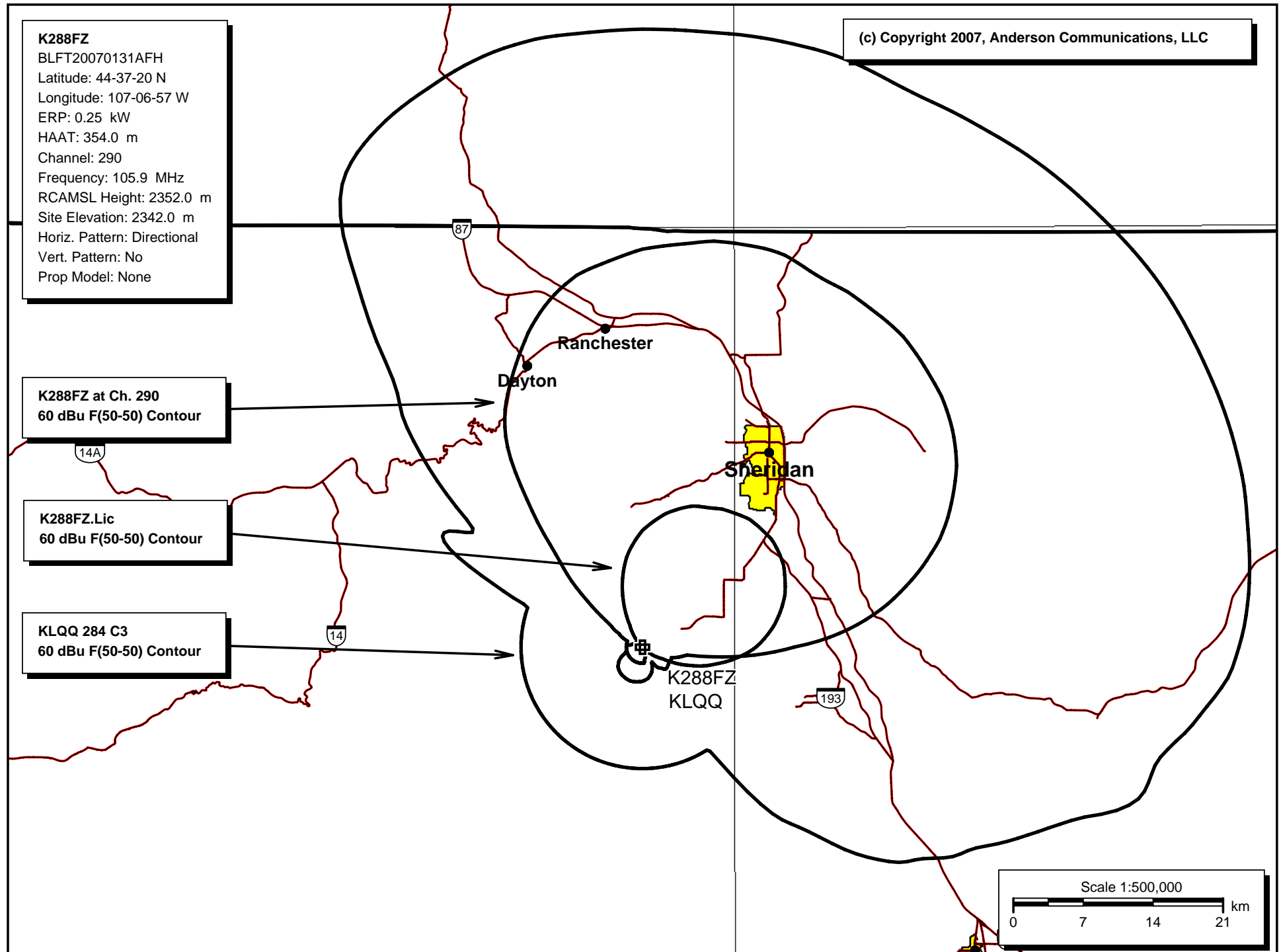
K288FZ

BLFT20070131AFH
Latitude: 44-37-20 N
Longitude: 107-06-57 W
ERP: 0.25 kW
HAAT: 354.0 m
Channel: 290
Frequency: 105.9 MHz
RCAMSL Height: 2352.0 m
Site Elevation: 2342.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

K288FZ at Ch. 290
60 dBu F(50-50) Contour

K288FZ.Lic
60 dBu F(50-50) Contour

KLQQ 284 C3
60 dBu F(50-50) Contour



E-3 K288FZ Mod. CA2CP Pattern

10-29-2007

RMS(V)= .484

Bearing Field % Vol tage

Graph is Percent Relative Field Vol tage

000	=	0.920
010	=	0.979
020	=	1.00
030	=	0.979
040	=	0.920
050	=	0.829
060	=	0.715
070	=	0.570
080	=	0.388
090	=	0.187
100	=	0.045
110	=	0.030
120	=	0.032
130	=	0.037
140	=	0.046
150	=	0.065
160	=	0.142
170	=	0.202
180	=	0.234
190	=	0.250
200	=	0.260
210	=	0.250
220	=	0.234
230	=	0.202
240	=	0.142
250	=	0.065
260	=	0.046
270	=	0.037
280	=	0.032
290	=	0.030
300	=	0.045
310	=	0.187
320	=	0.388
330	=	0.570
340	=	0.715
350	=	0.829

