

**September 2015**  
**New FM Channel 278C3**  
**Dove Creek, Colorado**  
**Principal Community Coverage Study**

The 70 dBu contour from the proposed facility, as calculated using the standard contour prediction methodology described in §73.313 of the Commission's Rules, does not encompass the entire community of Dove Creek. The far side of Dove Creek is located 11.7 kilometers from the proposed transmitter site. The standard 70 dBu contour extends approximately 9.0 kilometers towards Dove Creek. However, it is believed that a supplemental showing using alternative contour prediction methodology is justified in this instance in accordance with §73.313(e).

The entire community of Dove Creek is encompassed by the 60 dBu contour.

**Longley-Rice**

Study has been made of the predicted 70 dBu field strength over Dove Creek, using the Longley-Rice v1.2.2 methodology. This study has been conducted using the software program SIGNAL™ from EDX Wireless.

A sample calculation has been made to a location within the community boundary of Dove Creek to verify the presence of 70 dBu service, using the formula:

$$\text{Field Strength} = \text{Free Space} - \text{Diffraction Loss} - \text{Clutter}$$
$$\text{Where Free Space} = 106.9 + \text{power in dBk} - 20\log(\text{distance in km to point of interest})$$

For the path studied (7.85 dBk over a 10.25 km path), the result of this calculation is:

<b>Radial</b>	<b>Free Space Field</b>	<b>Minus Diffraction Loss</b>	<b>Yields</b>
116.9 deg	94.54 dBu	17.78 dB	76.76 dBu

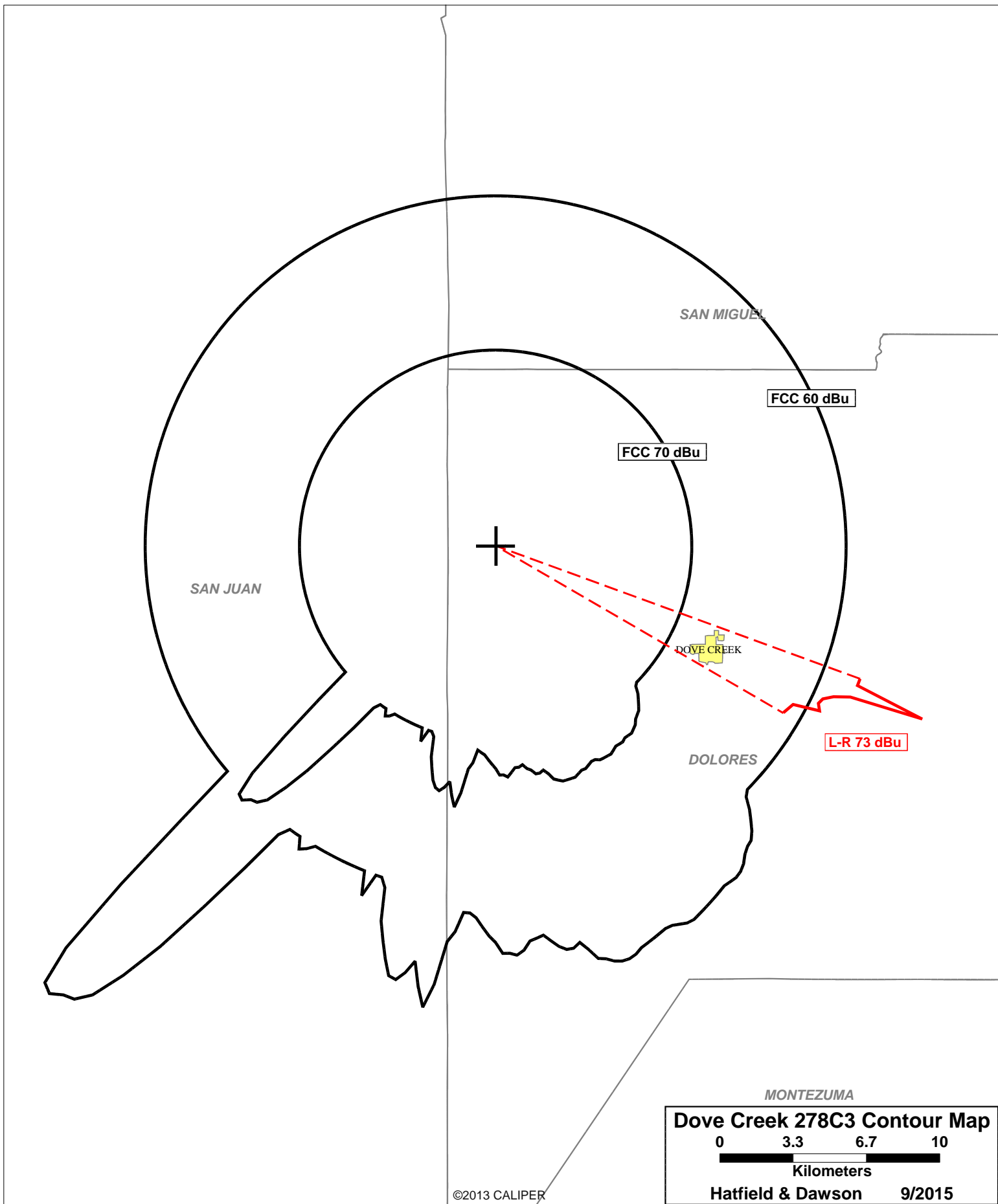
Attached is a plot of the terrain path from the transmitter site to the sample location in Dove Creek. The attached terrain path plot includes a list of the Longley-Rice study parameters.

The location of the Longley-Rice contour in the direction of Dove Creek has been determined for 1-degree increment radials passing through Dove Creek.

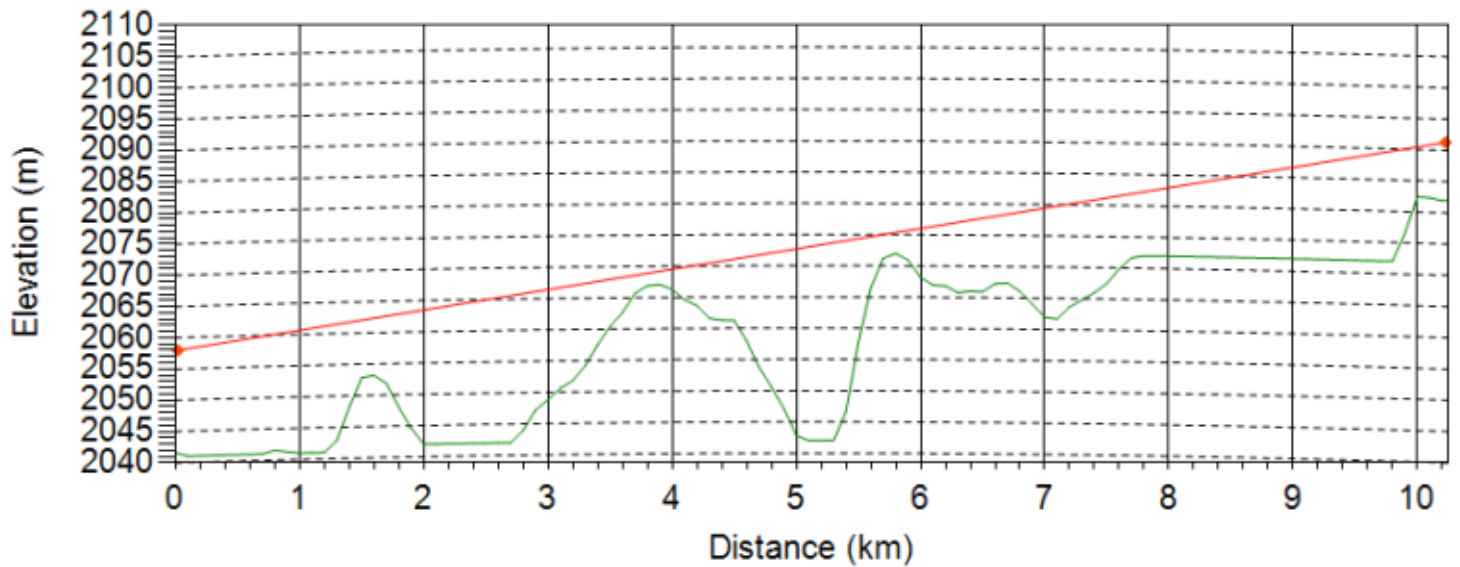
<b>Radial</b>	<b>F(50,50) 70 dBu</b>	<b>L-R 73 dBu</b>	<b>L-R exceeds F(50,50) by</b>
110	9.0 km	17.6 km	96%
111	9.0 km	17.6 km	96%
112	9.0 km	20.9 km	132%
113	9.0 km	17.5 km	94%
114	9.0 km	16.8 km	87%

115	9.0 km	16.4 km	82%
116	9.0 km	16.3 km	81%
117	9.0 km	16.5 km	83%
118	9.0 km	15.3 km	70%
119	9.0 km	15.2 km	69%
120	9.0 km	15.1 km	68%

The attached map exhibit depicts the results of this analysis as a 73 dBu (chosen to allow for 3 dB of local clutter loss at the receive locations) contour over the span of 125 to 128 degrees True.



## Link: Tx001 -> Rx001



Link end 1 ID:	Tx001	Link end 2 ID:	Rx001
Site name:	Tower	Site name:	Dove Creek
Latitude:	N37°48'32.00"	Latitude:	N37°46'01.78"
Longitude:	W109°01'01.00"	Longitude:	W108°54'46.44"
Transmitter Frequency:	103.5 MHz	Received signal level:	-38.59 dBmW (76.76 dBu)
Polarization:	horizontal	Receiver noise level:	-100.63 dBmW
Antenna elevation (AMSL):	2058.00 m	Antenna elevation (AMSL):	2091.29 m (9.1m AGL)
Point az. to link end 2:	116.87°	Point az. to link end 1:	296.94°
Pointing elev. to link end 2:	0.26°	Pointing elev. to link end 1:	-0.23°
Antenna gain toward link end 2:	0.00 dBd		
ERPd toward link end 2:	7.85 dBkW		

Path:	Tx001 -> Rx001
Length:	10.2507 km
Number of obstacles:	0
Excess pathloss:	17.78 dB
Atm. Absorption loss:	0.00 dB
Path loss for Stats:	110.74 dB
Path Fresnel zone clearance:	----
K factor:	1.333