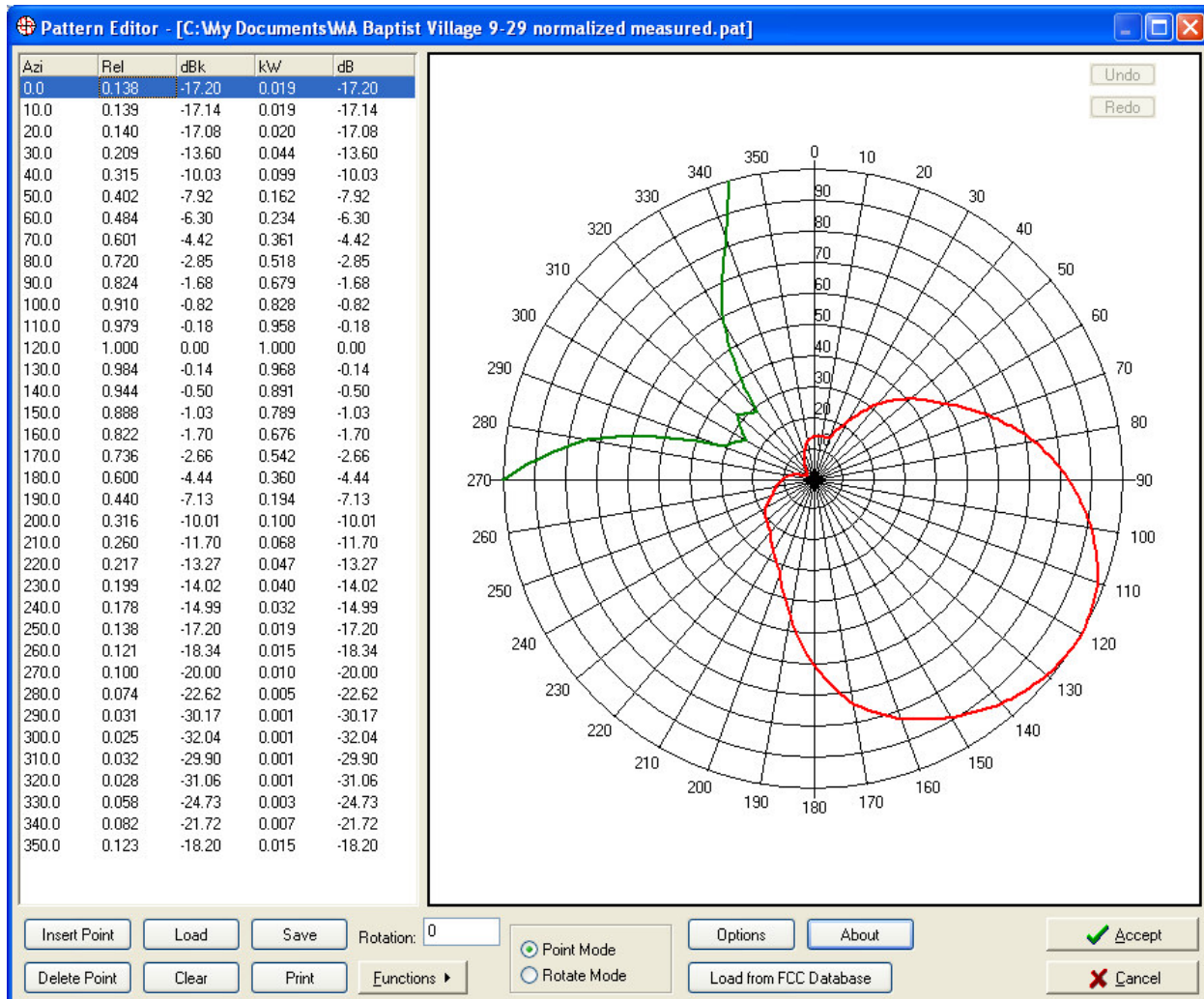


City Coverage Demonstration for Baptist Village, MA

10/31/2011

Detailed Antenna Data:

Here is that data inserted into Probe3:



$0.519/0.608 = 85.36\%$ OK per Shively (see antenna proof of performance)

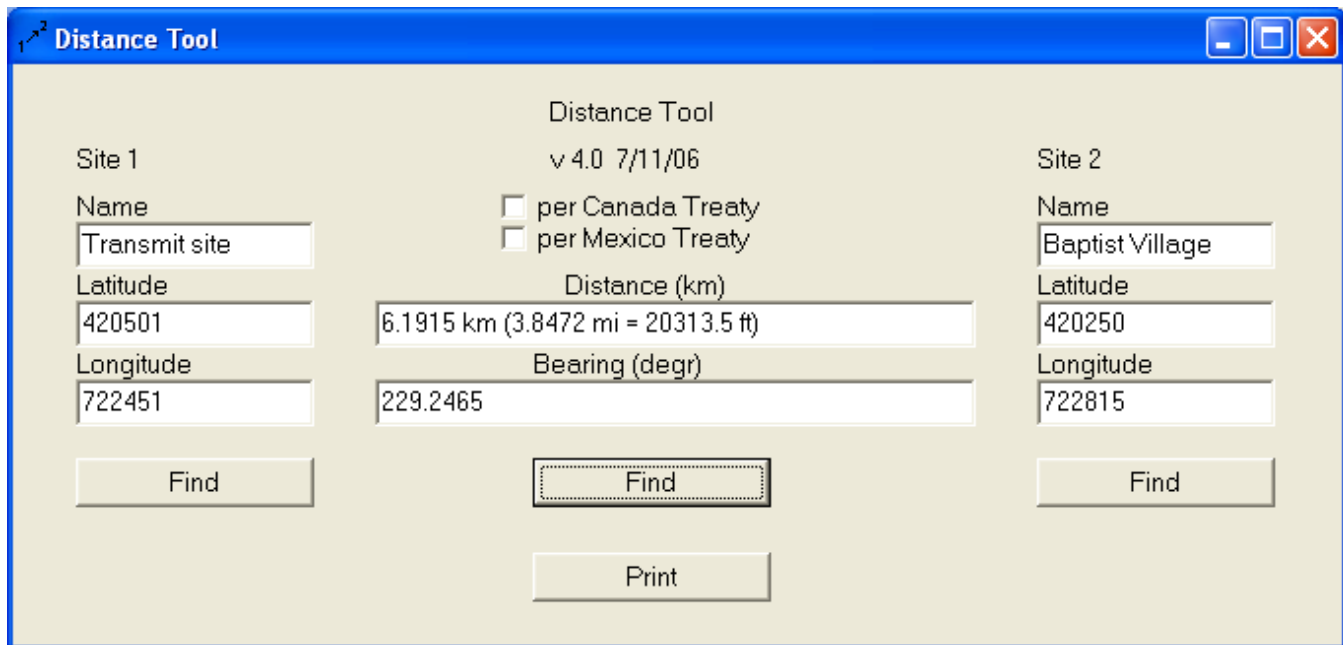
Does not exceed OK per Shively

Normalized OK (120 degrees)

Drawing OK

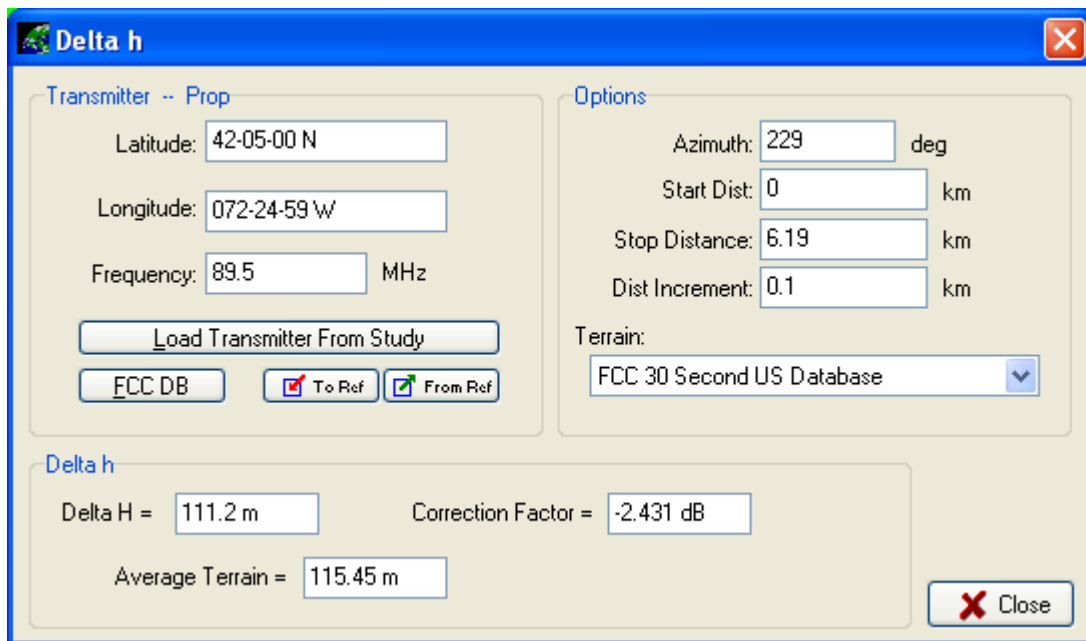
Delta H calculation:

Note the "populated place" (a single point) of Baptist Village is at 230 degrees and as 6.19 km from the transmit site.



The Distance Tool window is a software interface for calculating the distance and bearing between two sites. It features a title bar with standard window controls. The main area is divided into three columns. The left column is for Site 1, the middle for calculations, and the right for Site 2. Site 1 fields include Name (Transmit site), Latitude (420501), and Longitude (722451). Site 2 fields include Name (Baptist Village), Latitude (420250), and Longitude (722815). The middle column shows the calculated Distance (6.1915 km, 3.8472 mi, 20313.5 ft) and Bearing (229.2465 degrees). There are checkboxes for 'per Canada Treaty' and 'per Mexico Treaty'. Buttons for 'Find' and 'Print' are located at the bottom.

Site 1	Distance Tool	Site 2
Name	<input type="checkbox"/> per Canada Treaty <input type="checkbox"/> per Mexico Treaty	Name
Latitude	Distance (km)	Latitude
420501	6.1915 km (3.8472 mi = 20313.5 ft)	420250
Longitude	Bearing (degr)	Longitude
722451	229.2465	722815
Find	Find	Find
Print		



The Delta h window is a software interface for calculating the Delta H value. It features a title bar with standard window controls. The main area is divided into two main sections: Transmitter -- Prop and Options. The Transmitter -- Prop section includes fields for Latitude (42-05-00 N), Longitude (072-24-59 W), and Frequency (89.5 MHz). It also has buttons for 'Load Transmitter From Study', 'FCC DB', 'To Ref', and 'From Ref'. The Options section includes fields for Azimuth (229 deg), Start Dist (0 km), Stop Distance (6.19 km), and Dist Increment (0.1 km). It also has a dropdown menu for Terrain (FCC 30 Second US Database). The bottom section, Delta h, shows the calculated Delta H (111.2 m), Correction Factor (-2.431 dB), and Average Terrain (115.45 m). A 'Close' button is located at the bottom right.

Transmitter -- Prop	Options
Latitude: 42-05-00 N	Azimuth: 229 deg
Longitude: 072-24-59 W	Start Dist: 0 km
Frequency: 89.5 MHz	Stop Distance: 6.19 km
Load Transmitter From Study	Dist Increment: 0.1 km
FCC DB	Terrain: FCC 30 Second US Database
To Ref	
From Ref	
Delta h	
Delta H = 111.2 m	Correction Factor = -2.431 dB
Average Terrain = 115.45 m	
Close	

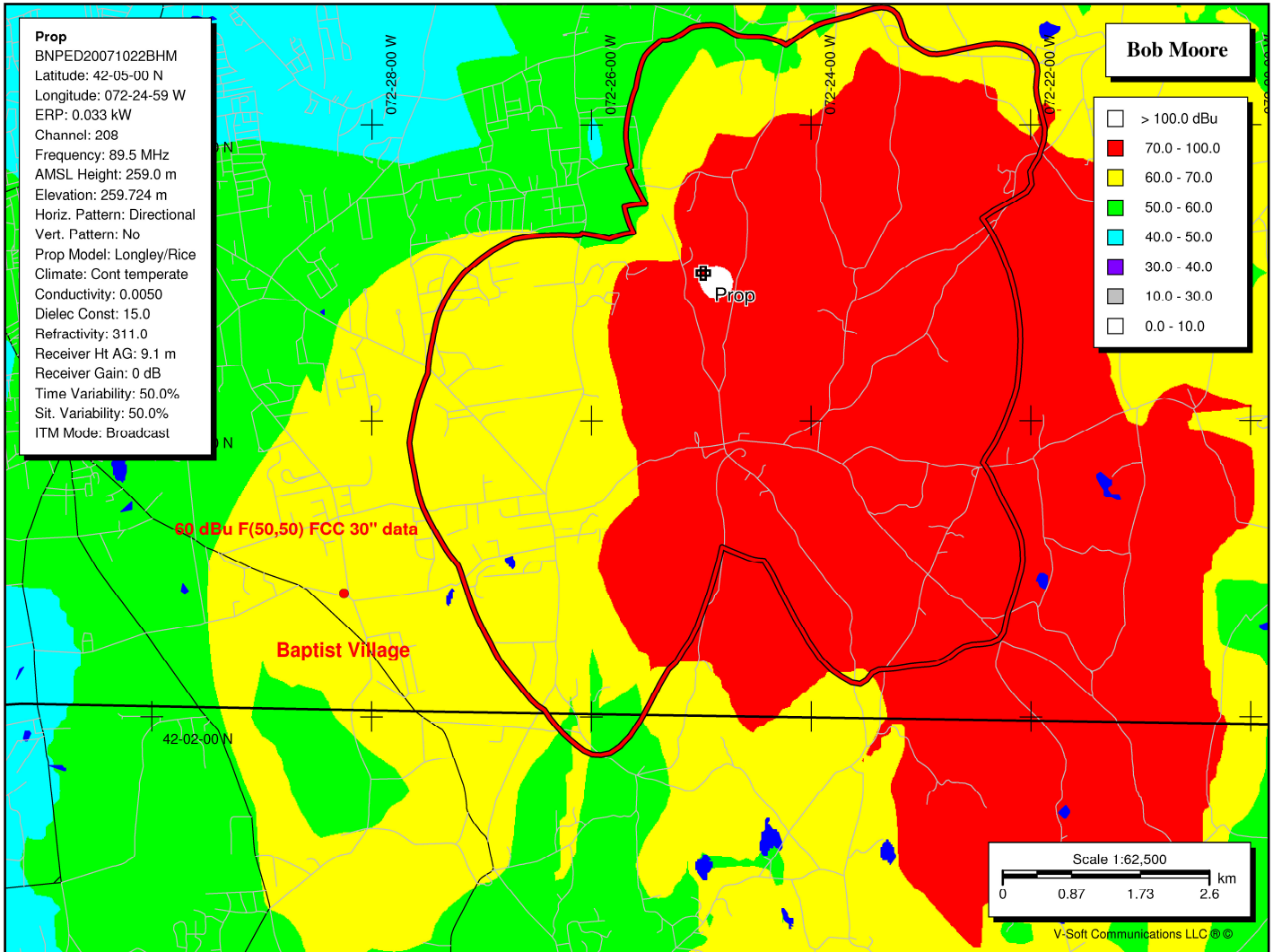
Delta H must be outside the range 20m to 100m per the Mark Lipp letter.

It is 111.2m so a Longley Rice city showing is allowed.

Longley Rice showing:

Note the city is outside the red F(50,50) curve.

It is in the yellow 60 dBu to 70 dBu area, and thus the signal is over 60 dBu.



Since the conditions of the Mark Lipp letter are satisfied and the resulting signal is greater than 60 dBu, the city coverage is established.

Bob Moore