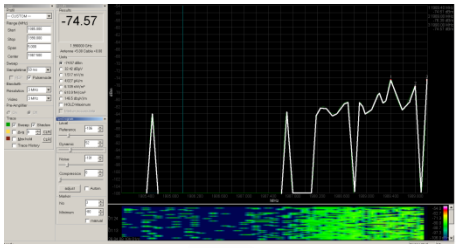
Step 1:

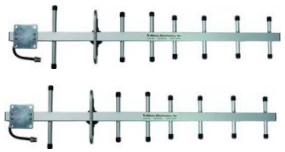
Site surveys to determine viability of communications

Site Survey Components



Rugged Computer with Spectrum Analyzer Software.
Handheld Spectrum Analyzer

6dB Dual Band Corner Reflector
10dB Dual Band Yagi

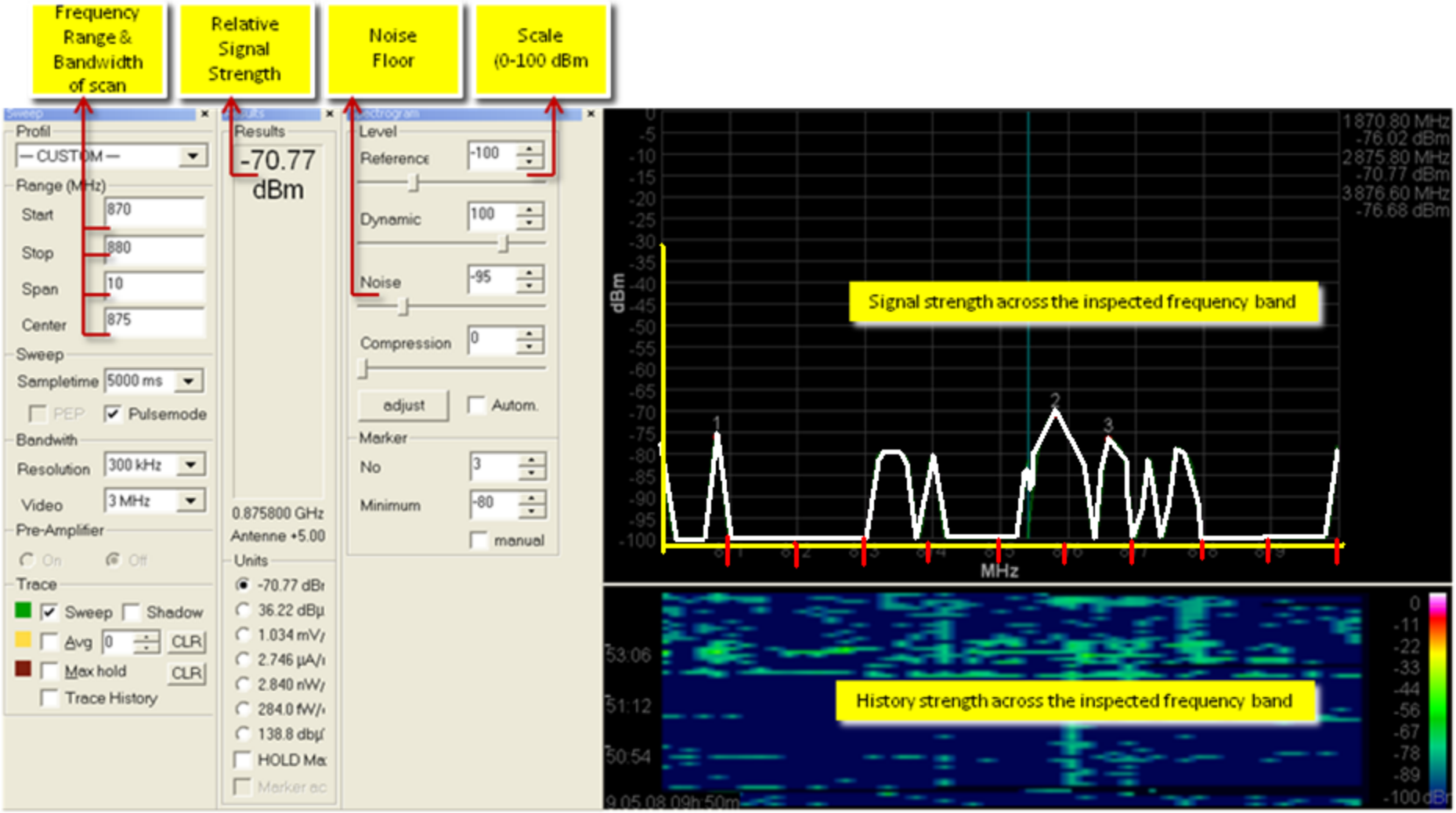


Tripod with 12' Mast

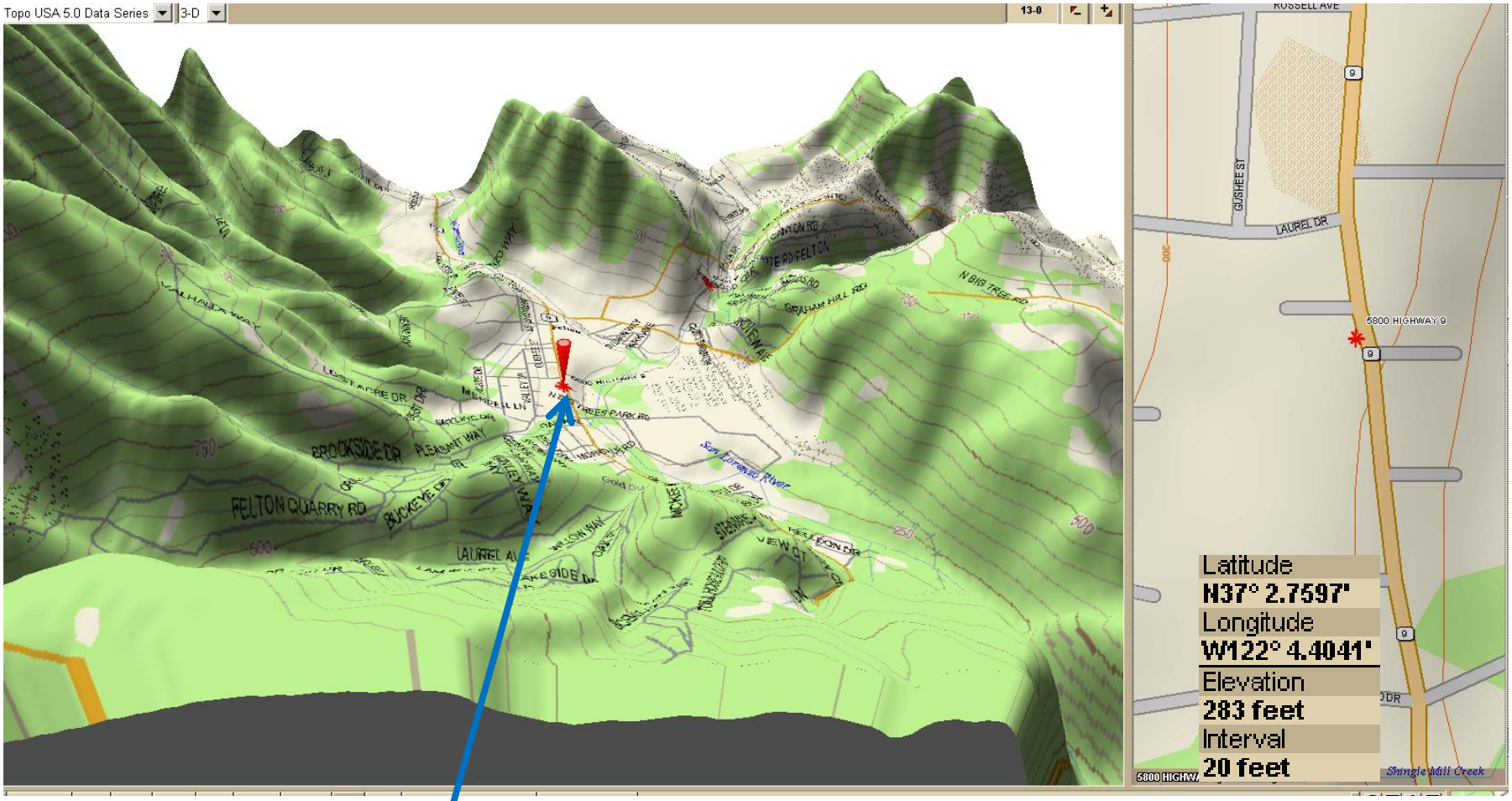
10dB 1.9Ghz Yagi
14dB 800MHz Yagi

AIRLINK Raven &
PinpointX
Modems
Handheld GPS Receiver

Spectrum Analyzer, Signal Levels

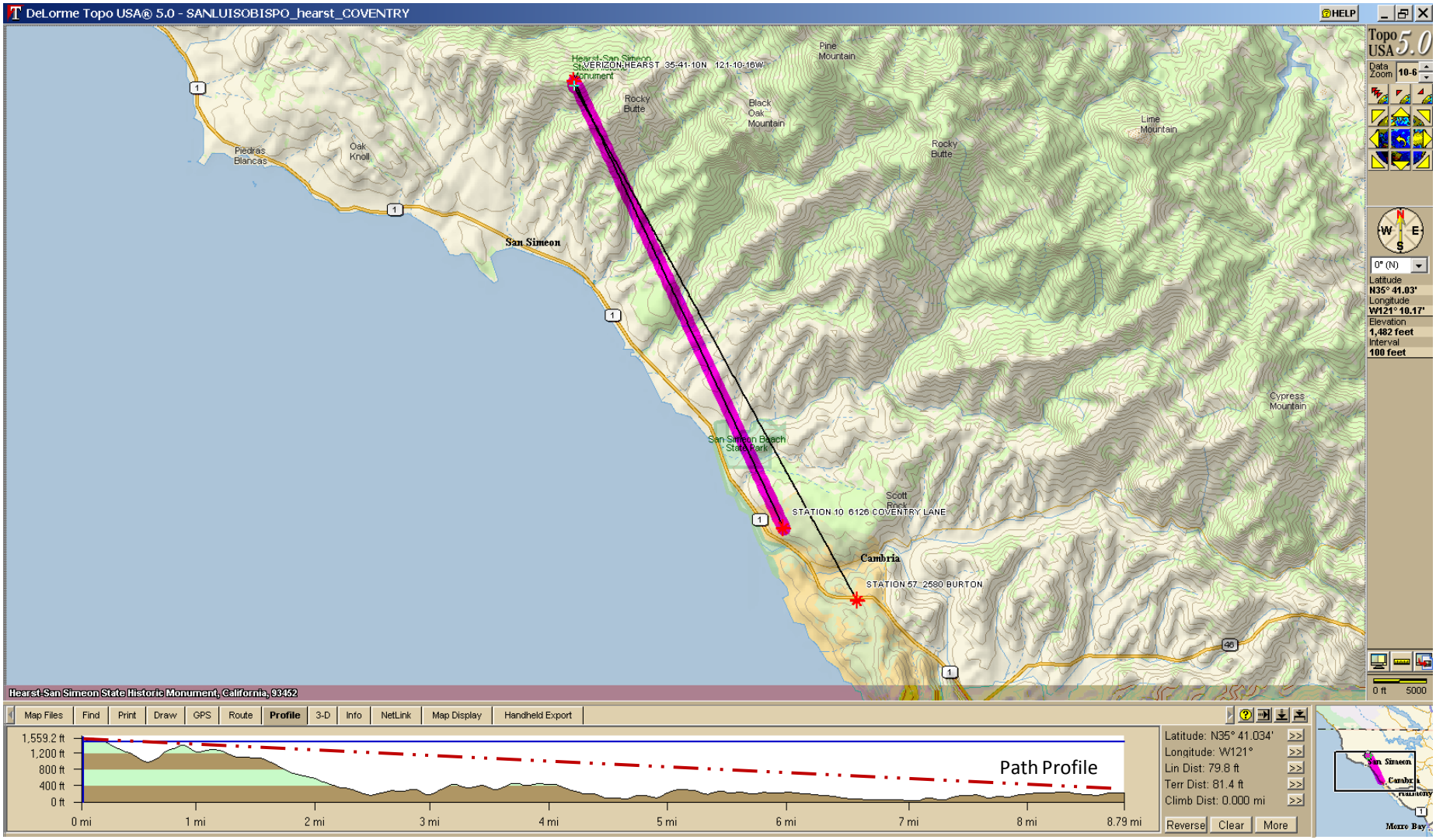


Analysis of Topography



Location of Building

Path Profile from known cellular location



Fade Margin Calculations

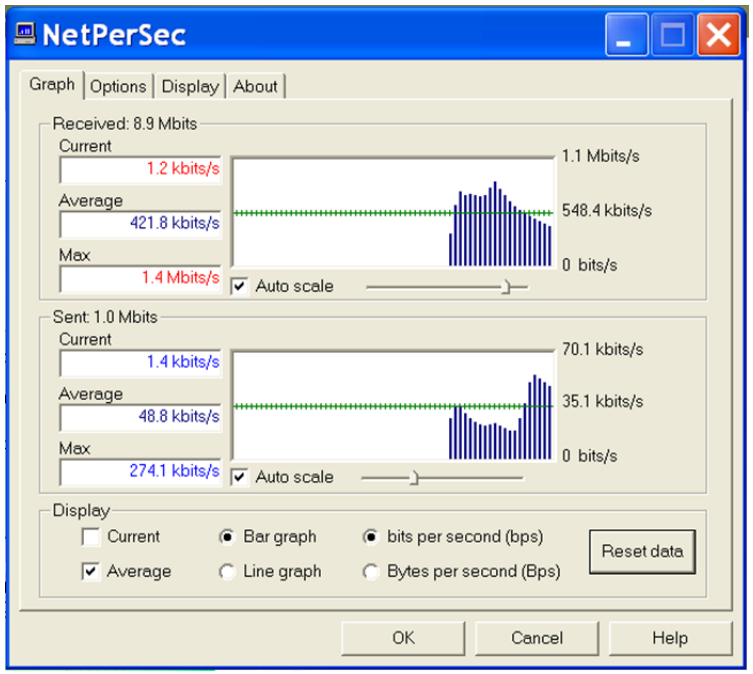
Calculating System Operating Margin

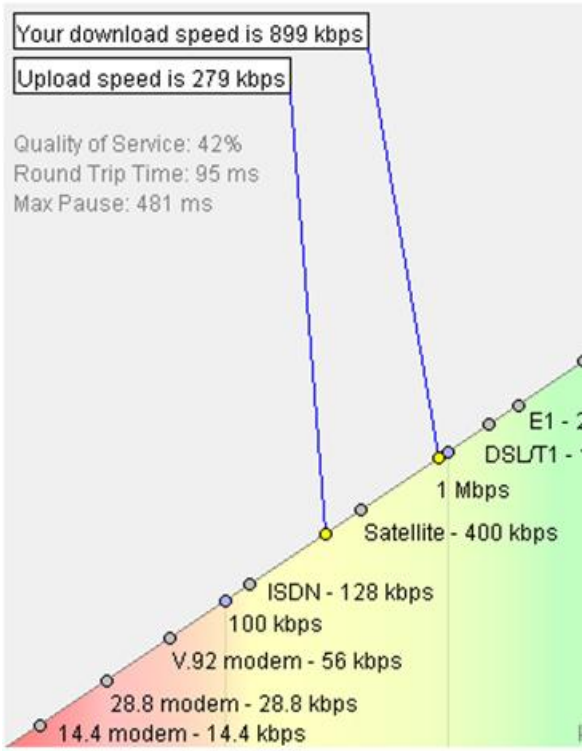
SOM Calculation Input Values (fill in all values)			
Operating Frequency (MHz)	1900	Distance (Miles)	6
Tx Power (dBm)	27	Rx Sensitivity (dBm)	-98
Tx Cable Loss (dB)	1	Rx Cable Loss (dB)	1
Tx Antenna Gain (dBi)	10	Rx Antenna Gain (dBi)	10

Calculate | RESET | Example Values

Results			
Rx Signal Level (dBm)	-72.74	Free Space Loss (dB)	117.74
		System Operating Margin (dB	25.26

Throughput Study Upload & Download





Step 2:

Once signal levels are field defined and throughput studies show usable speeds, the custom communications hardware can be determined

VAPOR WRAP SEALING KIT

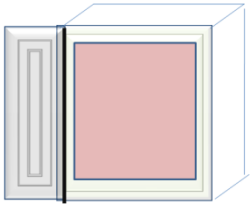
36” Jumper, N-M/TNC-M LMR195

XX FEET HARDLINE w/ N-M x2
LOW LOSS TRANSMISSION LINE
SPECIFY LENGTH AND TYPE OF CABLE

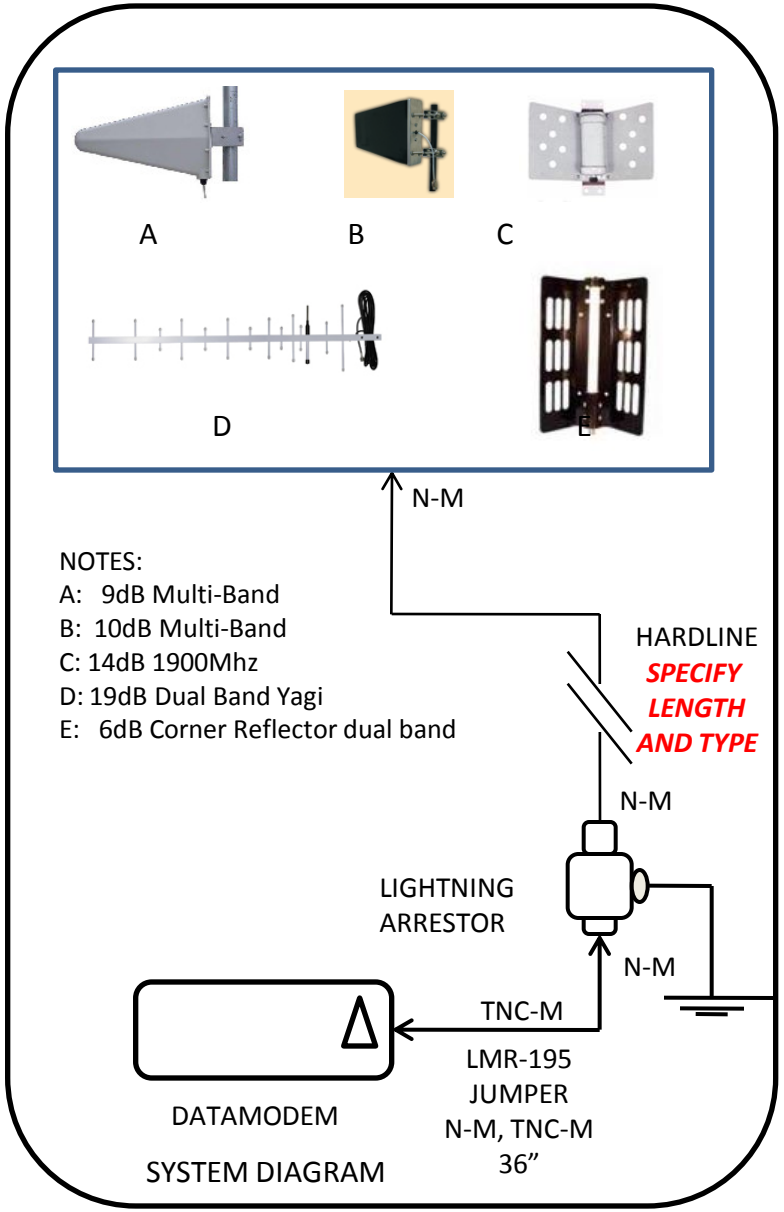
LIGHTNING PROTECTOR
w/ N-F Connectors

TNC TO SMA
ADAPTER

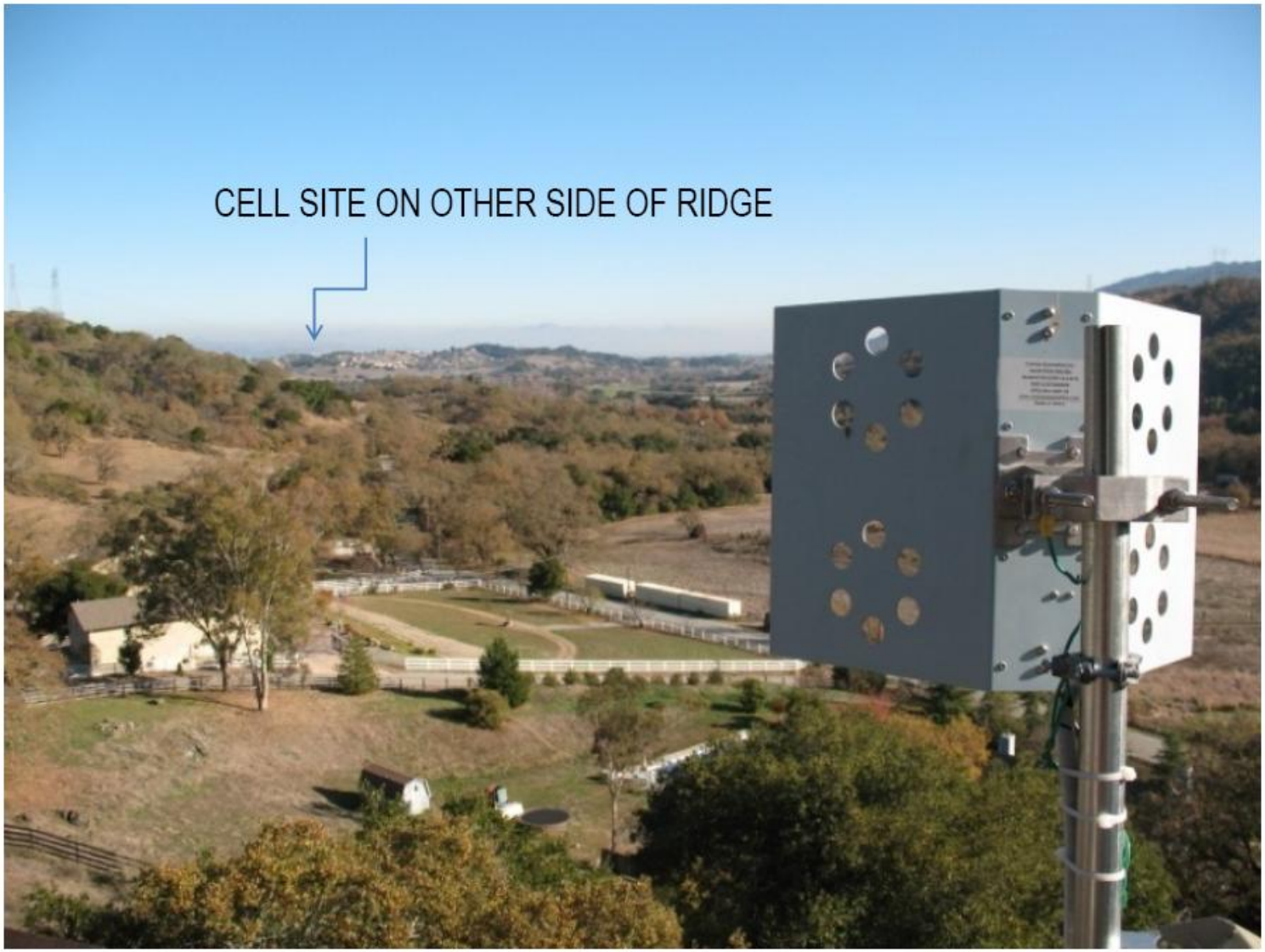
GROUND KIT



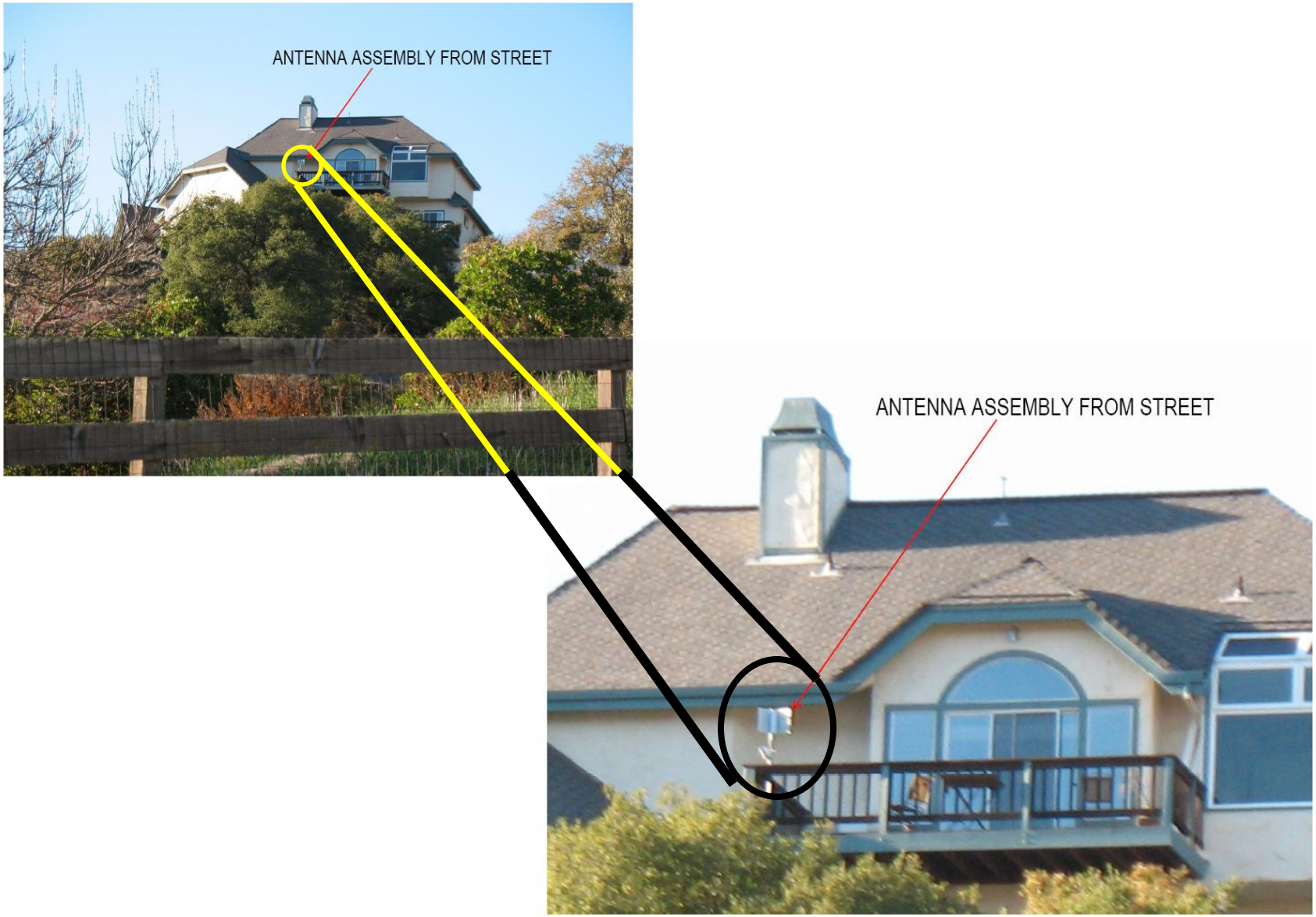
WEATHER TIGHT ENCLOSURE



Example



Antenna from street



Custom Implementation
EVDO to WIFI Bridge