

AN/VRC-99B Radio Experiment Description

The US Army Prophet program office located at Fort Monmouth, NJ has contracted with ILX to add additional capabilities to the Prophet Block I System. Overwatch is under contract to ILX to develop additional software for Prophet Block I System upgrades. It is specified that the AN/VRC-99B Radio be installed on the Prophet HMMWV vehicle for use as the Line-of-Sight (LOS) data link to other Prophet HMMWV vehicles and Prophet Control (fixed site). Overwatch is developing software that must interface with the AN/VRC-99B Radio.

The purpose of this experiment is to demonstrate that the Overwatch software functions as required and that data can be communicated between the radios (vehicles) as well as between the vehicles and Prophet Control (fixed site).

The channel carrier frequencies for the AN/VRC-99B are numbered 1 thru 34 starting at 1708 MHz and spaced every 8 MHz thru 1980 MHz. The transmitted waveform is TDMA using a QPSK Spread Spectrum (direct sequence) burst signal that can be frequency hopped between channels. The over-the-air burst rate can range from 625 kbps to 10 Mbps. As the burst rate goes up the LOS link margins will decrease and most of the testing will consequently be at the 625 kbps burst rate.

Allowing our team to test over the air will permit us to verify proper LOS data link operation prior to testing by the Government.