

AN/VRC-99B Radio Experiment Description

The US Army Prophet program office located at Fort Monmouth, NJ has contracted with us to add additional capabilities to the Prophet Block I System. The customer has 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). The purpose of this experiment is to demonstrate that we have properly integrated the radio and antenna on the Prophet HMMWV and that data can be communicated between the 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.