

12 cm. test

On September 3, a test of 802.11b transmitted video was made on the same test range used for the 33 cm. tests. The test range has been resurfaced reducing the reasonable places to stop and take measurements. As a result, the tested locations are not the same as were used for the 33 cm. tests.

Equipment

Two laptops were used with modified PCMCIA WiFi cards. The WiFi cards were believed to have originally produced approximately 200 mw, however the modifications made to attach external antennas likely result in the loss of some RF. Approximately 3-4 meters of small diameter coax attached the cards to the antennas, which likely resulted in the loss of further RF.

The antennas were commercial antennas with a claimed gain of 15 dBi. They were mounted on tripods for the test. The antenna at the camera end was slightly more than 3 meters above the ground, somewhat lower than that used for 33 cm. tests. The receiving end antenna was about 1 meter from the ground. (It is somewhat incorrect to talk about receiving and transmitting since, in the 802.11b context, both ends are transmitting and receiving.)



Results

From approximately the same fixed position used in the 33 cm. tests, an attempt was made to receive the video in different locations. At 0.7 miles, excellent quality video with a very acceptable frame rate was received. At 1.3 miles, very rough video was received, although that may have been influenced by antenna alignment. At 0.9 miles a solid network connection was reacquired, but video was not tested at that position.

Summary

It appears that the 802.11b connection is slightly more sensitive to setup than the 33 cm. analog video, but the quality of the received video at 0.7 miles was superior, and the 802.11b format allows some flexibility not available in the analog domain. On the other hand, although additional power can be had at both frequencies, it is far simpler to acquire and set up at the lower frequency.