



802.11n Real World Test

Test Methodology

To conduct a “real world” test of MikroTik + 802.11n and maximize throughput in a full duplex link. Tests were conducted outdoors at ground level in the presence of typical ambient RF interference that would be experienced near a city over a distance of about 1.1 miles. To accomplish the tests, a runway at a local airport was used to facilitate line of sight between the test radios.

Each test radio was configured as follows:

1 ea RB600 RouterBoard running Version 4 RC4

2 each MikroTik R52N radio cards

4 each Pacific Wireless 19db panel antennas

2 each RB1000's for generating and measuring traffic throughput

Note: All four antennas on each end were placed approximately 24 inches apart with the Tx antennas in horizontal polarity and the Rx antennas in vertical polarity.

Two different configurations were constructed, dual Nstreme, using two chains per radio card, with one card as the Transmit card and the other as the Receive card. The second test setup was made using dual cards and OSPF to asymmetrically weight the interface metrics to force outbound traffic out one interface and inbound traffic in the other interface thereby simulating full duplex with failover capability.

Results

The results of the tests with the two configurations were almost identical. It was possible to achieve nearly 100 MBps throughput, full duplex. Theoretically, it should be possible to achieve higher throughput by decreasing noise.

Name	Type	L2 MTU	Tx	Rx	Tx Pac...	Rx Pac...	Tx Drops
wlan1-Tx	Wireless (Atheros 11N)	2290	100.7 Mb...	0 bps	8 300	0	0
wlan2-Rx	Wireless (Atheros 11N)	2290	662 bps	98.2 Mbps	1	8 098	0

