

The WLAN design guide for 1030

The computer (1030) used a highly integrated single-chip MIMO wireless LAN (WLAN) solution for the wireless. It combines a MAC, a 1T2R capable baseband, and RF in a single chip. The computer provides complete solution for a high throughput performance wireless client.

The computer baseband implements multiple input, multiple output (MIMO) orthogonal frequency division multiplexing (OFDM) with 1 transmit and 2 receive paths. Other features include one spatial streams transmission, up to two spatial streams reception, short guard interval (GI) of 400ns, spatial spreading, and transmission over 20 MHz bandwidth. At the receiver, extended range and good minimum sensitivity is achieved by having receiver diversity up to 2 antennas.

For legacy compatibility, direct sequence spread spectrum (DSSS), complementary code keying (CCK) and OFDM baseband processing are included to support all IEEE 802.11b and 802.11g data rates.

The computer supports fast receiver automatic gain control (AGC) with synchronous and asynchronous control loops among antennas, antenna diversity functions, and adaptive transmit power control function to obtain the better performance in the analog portions of the transceiver.

