WLAN Chipset with Low Power Consumption

Intersil Corporation's PRISM II WLAN chipset, a highly integrated 11 Mbps &quotAntenna-to-Computer&quot solution for WLANs, is now in full production and available for sampling. The chipset is completely re-engineered from the original PRISM chipset, with 50 percent lower power consumption and a 35 percent reduction in total bill-of-materials cost for a WLAN card. The new PRISM II set includes an Intersil Medium Access Control (MAC) chip, an advanced IC that interfaces between the radio portion (called the physical layer, or PHY) and the host computer. Three of the four new chips in the PHY use silicon germanium (SiGe) process technology, providing high RF performance, high integration and with much lower power consumption.

The chipset will comply to the new IEEE802.11 High Rate standard, now awaiting final approval. PRISM II can downshift to slower data rates (5.5, 2 or 1 Mbps) when necessary for maintain link integrity or when operating with legacy 802.11-compliant 1 or 2 Mbps systems.

The four ICs required in PRISM II-based system also integrate other functions that were previously handled by separate components on the board. The chipset's five ICs implement a complete data communications radio operating in the 2.4 GHz ISM band at speeds up to 11 Mbps. From the antenna, the four chips in the PHY later include: the Power Amplifier and Detector (HFA3983), the RF-to-IF Converter (HFA3683), the I/Q Modulator/Demodulator and Synthesizer (HFA3783), and a Direct Sequence Spread Spectrum Baseband Processor (HFA3861). The HFA3841 comprises the MAC layer and is the interface between the physical layer and the host computer.

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