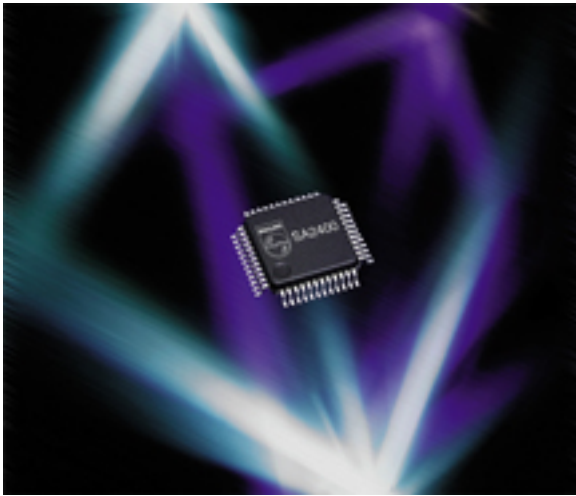


# Wireless Networking Chip



Philips Semiconductors, a division of Royal Philips Electronics announced the first in a new generation of broadband wireless integrated circuits (ICs) designed to enable high speed, wireless networking in the enterprise, small office and home markets. Philips Semiconductors' new IC, the SA2400, is a fully integrated Zero-IF single-chip radio designed for applications in the IEEE 802.11b Wireless LAN (WLAN) standard.

The IEEE 802.11b standard supports wireless connectivity at speeds of up to 11 Mbps, allowing mobile users to seamlessly connect PCs, notebooks and other communications devices to peripherals and between users with the same performance and throughput of a wired Ethernet LAN. The standard is being implemented in residential broadband applications such as streaming video from a gateway to TV or Web Pad.

Philips Semiconductors has achieved levels of integration with the SA2400 that translate into immediate cost and design benefits to manufacturers. The device's Zero-IF architecture eliminates the need for expensive external components. All of the functionality needed for full radio operation  $\&\#151$  including receiver, transmitter, synthesizer, VCO and filters  $\&\#151$  has been integrated into a single chip. This reduction in external components effectively cuts the bill of materials (BOM) by more than half. Philips Semiconductors' ability to deliver performance and high integration will enable WLAN systems manufacturers to meet their target to provide low cost, competitive wireless products.

The SA2400 is a direct conversion radio architecture that is fabricated on an advanced 30 Ghz fT BiCMOS process  $\&\#151$  QUBiC3. The SA2400 combines a low-noise AGC, pre-driver, receive and transmit mixers, VCO, fractional-N synthesizer, receive and transmit filters, and input/output buffers into a single IC. The typical receiver system performance parameters include a gain of 100 dB, noise figure (NF) of 6 dB, input third order intercept point (IIP3) of  $\&\#150$  8dBm, AGC settling time of 5 msec, and Tx to Rx switching time of 5 msec. The typical transmitter system performance parameters include output power range from  $\&\#150$  15 dBm to 5 dBm in 1 dB gain step, carrier leakage of less than  $\&\#150$  25 dBc, sideband rejection better than 28 dBc, in-band common mode rejection of 35 dB, and Rx to Tx switching time of 5 msec.

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