Low Power FSK Transceiver Features Simplest Star Network Management

austriamicrosystems, a leading global designer and manufacturer of high-performance analog ICs, offers the AS3900 27 MHz FSK low-power transceiver with built-in star network management, the only one in the 27 MHz ISM band. Operation in this band avoids the interference found in the popular but cluttered 2.4 GHz band and results in a lower amount of energy being absorbed by the human body (SAR) when compared with the 2.4 GHz band, a key consideration for transmitters operated close to the human body.

The AS3900 features austriamicrosystems' built-in Link manager, which offers a hardwired, royalty-free, easy-to-use protocol for self-management of all network functions. The Link manager simplifies product design and significantly reduces system power compared to alternative approaches requiring protocols that run full-time on an external or internal microcontroller. Current consumption is only 2.5 uA in polling mode, and typically 3.8 and 4.9 mA in receive and transmit modes respectively, and include the power required to manage the network.

The performance and capabilities of the AS3900 make it well suited for a number of applications where low-power short-range data exchange is required. Such applications include data transfer among devices close to a human body, such as medical and intelligent sporting goods. While an RF antenna requires size comparable to the wavelength of the operating frequency, the AS3900 operates with a small magnetic loop antenna that resonates at 27 MHz. Besides reducing antenna size, magnetic coupling ensures that the signal travels only a short distance, providing inherently secure communications. The long wavelength at 27 MHz operation allows the AS3900 to provide accurate RSSI (received signal strength

indication) signal readings, unlike 2.4 GHz transceivers that suffer from reflection issues that compromise RSSI accuracy.