

Enabling the Connected Home



Audio Processors

Voice Line Circuits

PoE

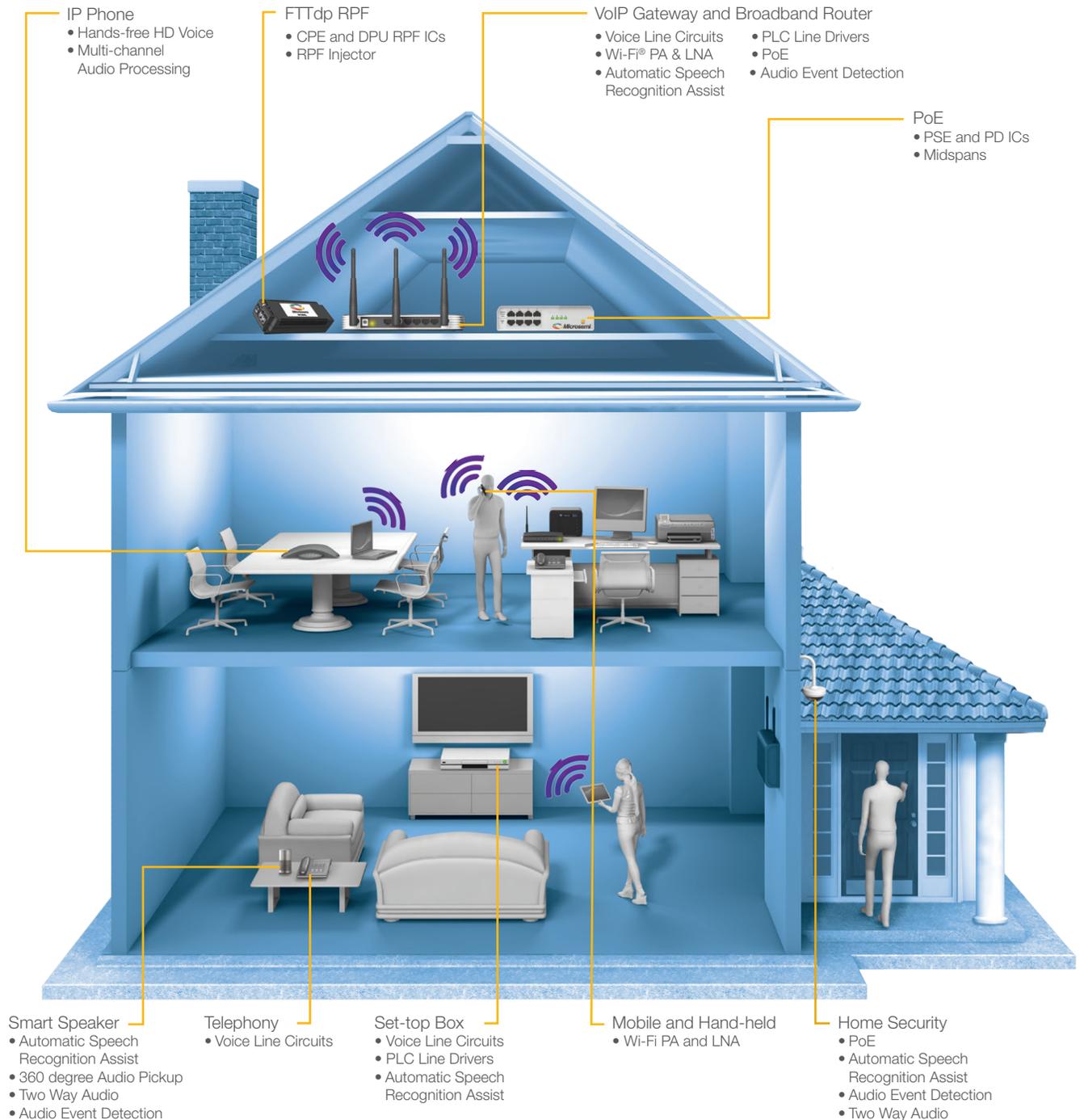
RPF

WLAN RF ICs

Line Drivers

Enabling the Connected Home

Microsemi is a leading provider of energy-efficient and cost-effective semiconductor system solutions for the broadband home, delivering the right connectivity solutions for voice, data, and power. Microsemi's ZL380 audio processors feature AcuEdge™ technology designed for world-class high-definition (HD) voice applications. Microsemi has been pioneering Power over Ethernet since 1999 and is the only supplier of reverse power feed systems and ICs for customer equipment and distribution point units that can be installed virtually anywhere, without the need to deploy local power.



Audio Processors

Designed for world-class high definition (HD) voice applications, Microsemi's new ZL380 series of audio processors features Microsemi AcuEdge™ technology. This innovative technology is a set of highly-complex and integrated algorithms that enables extraction of more information from the audio environment. Microsemi AcuEdge consists of license-free, royalty-free intelligent audio IP algorithms. With Microsemi's highly-integrated ZL380 series of audio processors, AcuEdge accelerates time-to-market with a validated reference design and easy-to-use development tools including the Microsemi Audio Interface Box (AIB) kit, which uses the MiTuner™ GUI software.

The Microsemi AcuEdge technology enables full duplex operation between the connected devices to deliver seamless high definition (HD) voice communication. In complex noise environments such as gaming rooms and building lobbies, Microsemi's AcuEdge technology cancels echo, maintains a constant ambient noise (comfort noise), and continuously converges during double-talk situations.

Microsemi's automatic speech recognition (ASR) assist technology significantly improves performance for embedded and cloud-based ASR solutions. This enables extended range detection in noisy environments and provides exceptional barge-in performance.



Microsemi's Timberwolf Audio Processing solution for Connected Home

Voice Line Circuits

The miSLIC™ series provides the most economical solution for adding two channels of voice to broadband applications, such as residential gateways, DSL integrated access devices (IAD), cable embedded multimedia terminal adapters (eMTAs), and fiber to the premise (FTTX) applications. The miSLIC series supports ringing and system power management, enabling energy efficient control of two telephone lines and meeting the European Code of Conduct specifications. The miSLIC device together with the patented shared buck boost automatic battery switching (BBABS) power supply design are Microsemi's most economical RBOM for two channels of voice.



The VE950 series offers high-performance, voice-over-broadband SLIC devices with universal differential ringing and codec interfaces optimized for short loop, power-sensitive applications. The VE950 products are designed to interface to residential gateway SoCs with integrated analog codecs.



Power over Ethernet (PoE)

Microsemi has been pioneering Power over Ethernet since 1999, with the invention of Power over LAN™. Microsemi has the broadest Power over Ethernet product line covering PoE IC's that send power (PSE), receive power (PD), and complete systems that inject Power over Ethernet in an intelligent way (Midspans). Microsemi's products support IEEE802.3af-2003, IEEE802.3at-2009 in both 30 W and 60 W versions, Energy Efficient Power over Ethernet, and the 95 W Power over HDBase™ (PoH) standard. Microsemi's PoE PSE product line



Figure 2: Industry-Leading Power over Ethernet (PoE) Solutions

includes IC's and modules that can be used to build PoE switches and routers (Endspans) from 1 to 96 ports in a single power management system. Microsemi provides the most energy efficient and cost effective solutions to build PD's consuming up to 95 W over a single Category 5/5E/6/6A/7 cable. PD applications achieve best-in-class power and thermal performance using Microsemi's fully integrated smallest footprint dual pack Idea Diode Bridge IC's. Microsemi's midspans can be used in indoor and outdoor deployments, with advanced network management and energy efficient PoE models.

Reverse Power Feed (RPF)

Reverse power feed (RPF) technology allows service providers to deploy xDSL DSLAMs virtually anywhere, without the need to deploy local power. Microsemi is the only supplier of RPF systems and IC's for customer premises equipment (CPE) and the distribution point units (DPU). Microsemi's RPF solution allows low cost, safe, and reliable power injection and extraction over xDSL including VDSL2, G.hn, and G.fast. It is compatible with DSL bonding and vectoring, and covers 1-line DPU's reverse power fed by 1 CPE as well as multi-line DPU's featuring Microsemi's FairPower™ for equal power sharing of all RPF CPE's.

Wireless LAN RF ICs

Microsemi's WLAN (Wi-Fi) RF IC's portfolio for broadband gateways includes front-end modules (FEMs), power amplifiers (PAs), and linear amplifiers (LNAs) required to implement an RF front-end. Combinations include one or more power amplifiers with both input/output impedance matching, a switch, and one or more low noise amplifiers. Microsemi's WLAN RF IC's can be found in multiple IEEE802.11a/b/g/n/ac reference designs by the leading WLAN baseband SoC suppliers.

Line Drivers

Microsemi has been a supplier of line drivers for xDSL technologies since 2001. Starting with ADSL, Microsemi now supports every xDSL standard including G.fast, ADSL2+, and VDSL2 with extremely energy efficient and long range capable products. Microsemi's new power line communications line drivers support the G.hn and HomePlug AV2 standards with bandwidths of up to 110 Mhz, for Classes AB and GH.



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