



# INT6300

## HomePlug AV High-Speed Powerline Solution

### Features

- Single-IC HomePlug® AV MAC, PHY and AFE
- MII (Host & PHY) MBI and PCI interfaces
- Co-existence with HomePlug 1.0 Nodes

#### HomePlug AV PHY:

- 200 Mbps OFDM@1024-QAM
- Supports 1024/256/64/16/8-QAM, QPSK, BPSK and ROBO Modulation Schemes
- 128-bit AES Link Encryption with key management for secure powerline communications
- Windowed OFDM with noise mitigation based on patented line synchronization techniques improves data integrity in noisy conditions
- Dynamic channel adaptation and channel estimation maximizes throughput in harsh channel conditions
- Advanced Turbo Code Forward Error Correction (*France Telecom – TDF – Groupe des écoles des télécommunications Turbo codes patents license*)

#### HomePlug AV MAC:

- Integrated Quality of Service (QoS) enhancements: contention-free access, four-level priority-based contention access, and multi-segment bursting
- ToS, CoS and IP port number packet classifiers
- Supports IGMP managed multicast sessions
- 256-contact LFBGA, Pb-Free package
- Green standard (ROHS) compliant
- Low power design



### Benefits

- **Second-generation HomePlug AV**
- **High-performance cost-down solution**
- **Two-chip set**

The Intellon INT6300 HomePlug AV-based solution comprises the MAC, PHY and AFE. The integration of these blocks into one IC reduced total costs by reducing parts count, board space and assembly costs. Other internal improvements to the processing sections speed data flow and reduce latency.

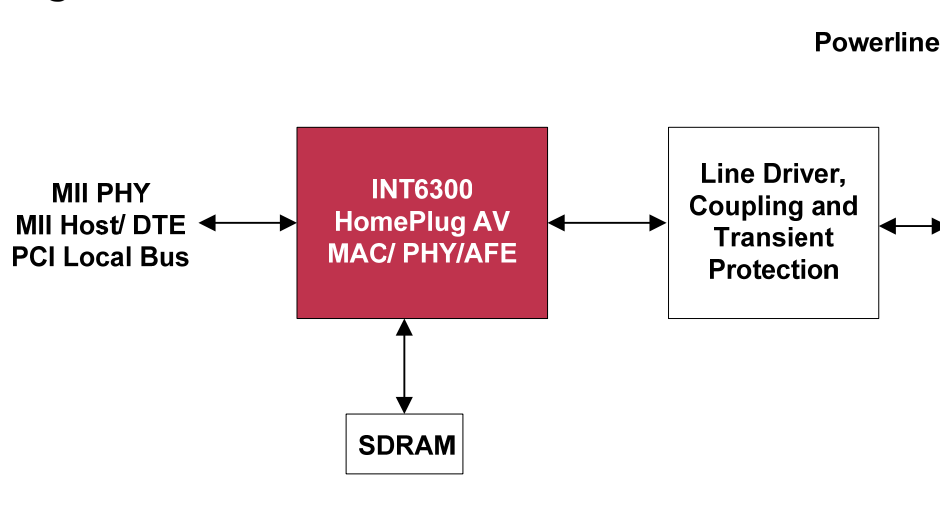
This Intellon HomePlug AV IC is optimized for multi-media streaming applications and is fully compliant with the HomePlug AV standard with 200 Mbps PHY-rate over power line wiring.

The INT6300 includes a complete HomePlug AV MAC and PHY, an Ethernet MII (media independent interface), an external SDRAM (synchronous dynamic random access memory) interface, along with interfaces for two external SPI (serial peripheral interface) devices. In addition, the INT6300 chip set includes the i60 Line Driver IC.

The INT6400 chip set also includes a Tx filter, a line driver and a programmable-gain Rx amplifier. The programmability of these amplifiers opens up new and important signal optimization functionality.

HomePlug® AV  
200Mbps PHY

## Functional Diagram



## Target Applications

- High Definition (HD) and Standard Definition (SD) video distribution
- TV over IP (IPTV)
- Backbone for Wi-Fi, UWB and Wireless USB
- Higher data rate broadband sharing
- Shared broadband internet access
- Audio and video streaming and transfer
- Expanding the coverage of wireless LANs
- Voice over Internet Protocol (VoIP)
- PC files and applications sharing
- Printer and peripheral sharing
- Network and online gaming
- Security cameras

**Ordering Information:** Part Number INT6300TR (lead-free on tape and reel)  
Lead-free is the only package option.



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