

More than a silicon provider  
Your Open HomePlug AV  
Solution Partner



## SPC300 “No-limits” HomePlug AV System on Chip

The open dual-core SPC300 is the only fully compliant implementation of the HomePlug AV specification with a “no-limits” design:

- **Dual Core:** no processor limits!
- **Gigabit Ethernet:** no network interface limits!
- **Linux Open Architecture:** no applications limits!

### Set no limits to your imagination!

#### Dual core architecture

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The first processor is dedicated to the physical layer management and all real-time requirements. It enables the SPC300 SoC to adapt to the changes in the electrical powerlines and to react accordingly in order to maintain the highest levels of performance. The second processor, an ARM926, is fully dedicated to customer applications.

#### Network interface

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The SPC300 provides a Gigabit Ethernet interface to allow full-speed powerline networking. The interfaces provided allow both 802.3 MAC-to-PHY and MAC-to-MAC connections at full Gigabit Ethernet speed.

#### Open Architecture

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SPiDCOM provides partners Linux source bundles and the complete tool chain to develop and customize added-value applications (e.g. VLANs, a full IP stack, router, TR-069, SNMP, HTTP, ...).

In addition, the multimedia and general purpose interfaces allow cost-effective solutions for HD/SD IPTV set-top boxes, home-gateways, DVRs, media centre PCs, whole house audio and VoIP. They also support traditional networking applications such as bridging to wireless 802.11 networks and xDLS/FTTH broadband.

#### HomePlug AV Standard

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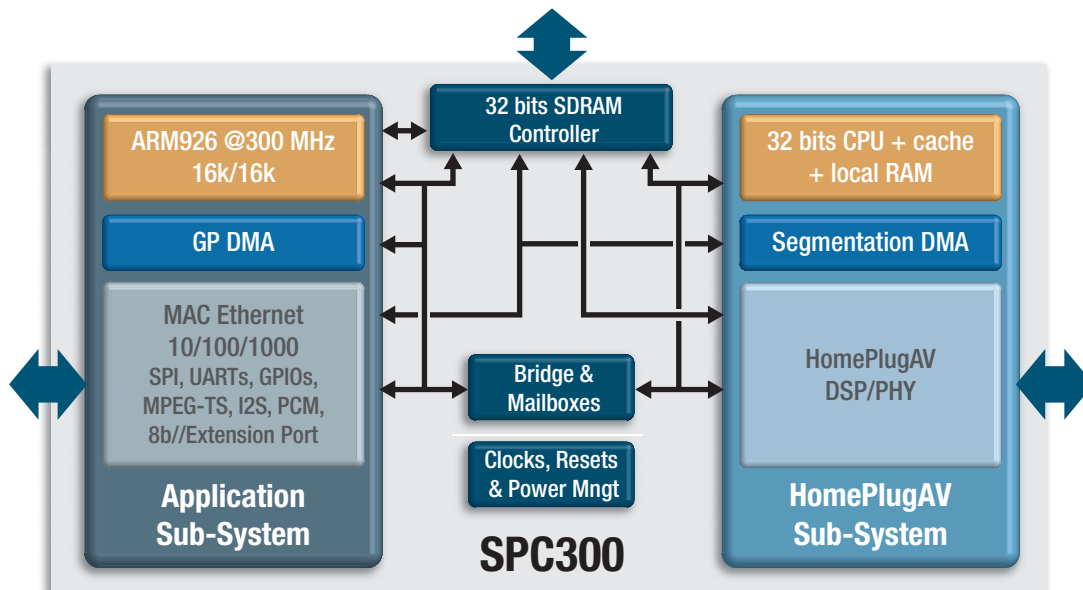
The SPC300 implements HomePlug AV technology which is optimized for multimedia (e.g. HD IPTV) streaming applications. The SPC300 delivers up to 200 Mbps over difficult electrical powerlines, using windowed OFDM, advanced Turbo Code FEC, and dynamic line-cycle synchronized channel adaptation.

#### Flexible QoS to ensure your QoE

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To ensure efficient and reliable streaming of broadcast quality HD and SD video, the SPC300 implements both prioritised and parameterized QoS. Prioritised QoS is useful for efficient VoIP using CSMA/CA. Parameterized QoS is needed for guaranteed bandwidth reservation, latency/jitter control and effective error free delivery.

## SPC300 Functional Diagram



## SPC300 Features

- Advanced dual-core architecture
- 10/100/1000 Ethernet MAC, RMII/MII/GMII PHY Interface
- Multimedia interfaces: PCM, I2S, MPEG TS
- General purpose interfaces: GPIO, UART, SPI, 8-bit parallel
- 15x15 mm 265-contact PBGA RoHS compliant package
- Low-power “green” standby mode
- Supports “industry standard” AD9867 ADC/DAC front end
- Open Architecture based on Linux V2.6
- HomePlug AV compliant MAC & PHY
- Supports 1024/256/64/16/8-QAM, QPSK, BPSK and ROBO Modulation Schemes
- 128-bit AES Link Encryption with easy plug-and-play key management
- Co-existence with HomePlug 1.0 nodes
- Advanced Turbo Code FEC (France Telecom patents license)
- TDMA and CSMA/CA access protocols with ToS, CoS and IP Port Classifiers
- IGMP managed multicast sessions
- P1901 draft baseline ready

## SPiDCOM Technologies and Standards

SPiDCOM Technologies actively participates to the standardization efforts inside the major international regulatory and standards bodies:

- Inside HomePlug Powerline Alliance, SPiDCOM is:
  - Contributor member
  - Chair of HomePlug Europe & HomePlug BPL
- Inside ETSI, HGI, IEEE P1901, ITU G.hn, SPiDCOM regularly contributes to the specifications development.
- Inside OMEGA Project (the EU funded project created to develop the 1 Gbps home network over PLC, radio wireless and optical wireless) SPiDCOM leads the PLC work package.

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