



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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MLKHN1500

Single-Chip HD-PLC

■ GENERAL DESCRIPTION

MLKHN1500 is the world's first fully compliant IEEE 1901 HD-PLC Power line Communications (PLC) solution delivering bi-directional, IP based, high-speed communication over AC/DC power lines, COAX and twisted pair wiring, where wider bandwidths, robustness, long-range, support for larger number of nodes, and highly secure network is required.

The MLKHN1500 combines the Physical (PHY), Media-Access-Control (MAC), 128Mb/256Mb RAM, and a fully integrated Analog-Front-End (AFE) with high precision A/D, D/A data converters and programmable gain amplifiers (PGA) in a single compact package. The modem is based on an Orthogonal Frequency Division Multiplexing (OFDM), using advanced Forward-Error-Correction (FEC) techniques to allow the most robust data communication over poor channels, especially in environments with high impulsive noise such as the harsh AC power lines. Security is provided by a 128-bit AES encryption engine meeting today's Internet-of-Things (IoT) requirements.

Evaluation boards, reference design, Software Development Kits (SDK) and Hardware Development Kits (HDK) are now available to help speed up your evaluation and development projects.

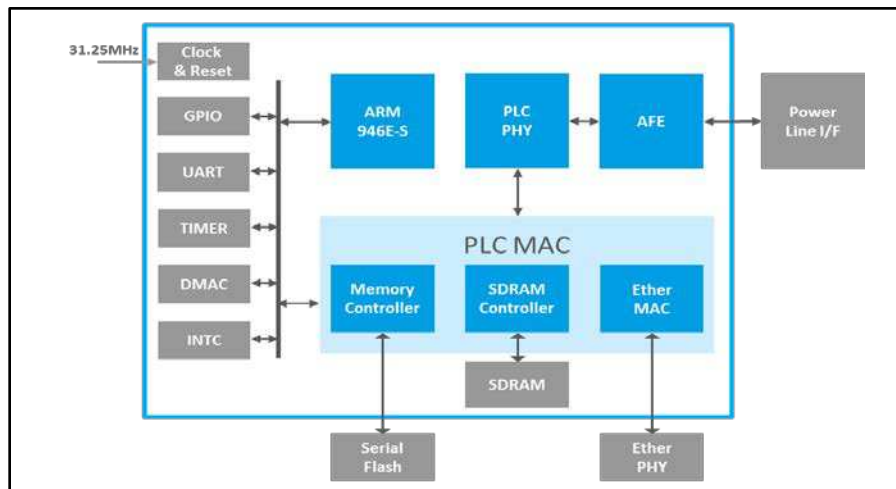
■ FEATURES

- Channel Access: CSMA/CA
- HD-PLC/Ethernet/RS485 bridge
 - Ethernet↔PLC↔Ethernet
 - RS485↔PLC↔RS485
- High noise immunity (0dB)
- Supports IPv4/IPv6
- Low power: 0.57W (typ)
- Meets EN50561-1 EMC requirements
- Free Topology
- Plug-and-Play
- Operating Temp: -40°C to +85°C

■ APPLICATIONS

- Smart Grid/AMI
- Smart Buildings/Homes
- Video Entry Systems
- Security/Surveillance
- Outdoor Lighting
- HVAC
- Industrial Automation
- Solar Power

■ BLOCK DIAGRAM



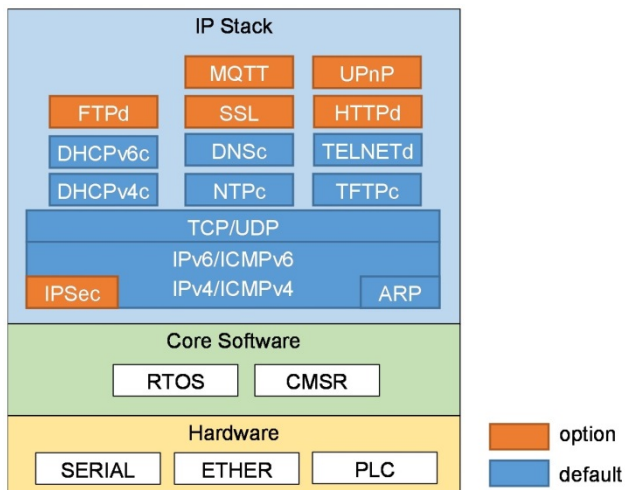
MLKHN1500

Single-Chip HD-PLC w/Multi-hop

KEY SPECIFICATIONS

PLC Method	Frequency band	2-28MHz	Peripheral I/F		GPIO,UART, MII/RMII
	Modulation	Wavelet OFDM	Power Consumption	Full access	0.57W(Typ)
	PHY/MAC	IEEE1901 full compliant		Standby mode	0.12W(Typ)
	PHY Rate	240Mbps	Supply Voltage		1.2, 3.3V
	Error correction	Reed-Solomon, LDPC-CC	Operating Temp Range		-40°C to 85°C
CPU		ARM w/16 Kb Cache	Encryption		AES 128bit
Memory (SDRAM)		128Mb/256Mb	EMC		EN50561-1
System Clock		125MHz	Package		LPGA 238pin, 18x15mm

SOFTWARE DEVELOPMENT KIT



MegaChips offer various reference designs to qualified customers including schematics, layout, BoM and technical support.

Contents:

Master ROM tools

- Sample firmware
- External command sample program

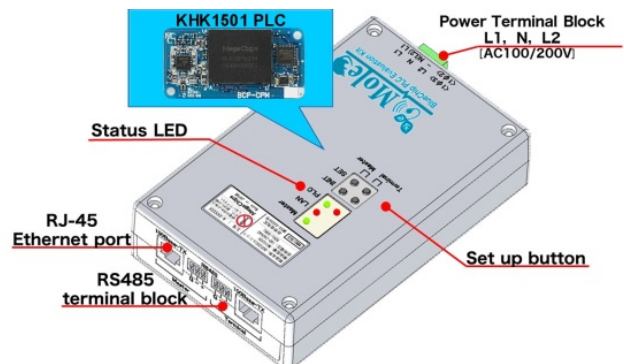
Evaluation tools

- Tool Manager
 - (1) Power Control tool
 - (2) Channel Monitor tool
- Net test tool

EVALUATION KIT

MegaChips offers a comprehensive set of tools to help customers shorten their design time.

Our evaluation kit includes all the hardware, software, and documentation to easily set-up and evaluate the performance of the system under various conditions and configurations. The included BlueChip PLC Network Manager helps customers to configure, monitor and manage complex networks.



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