

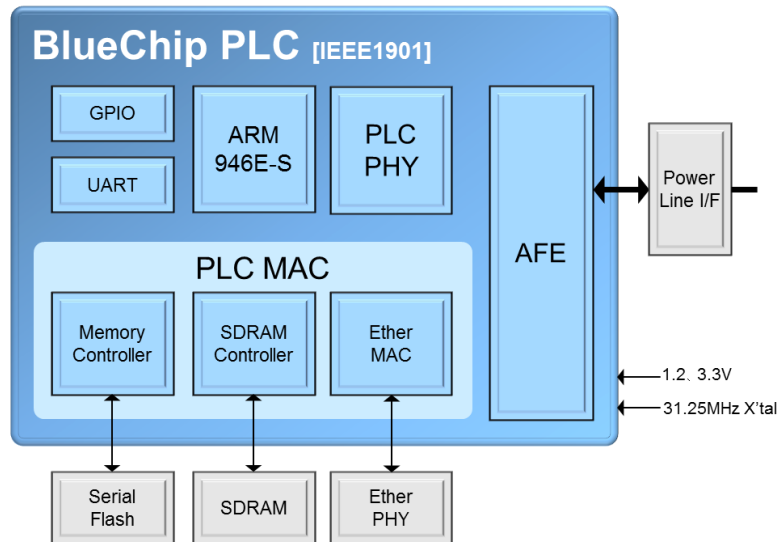


BlueChip PLC

[IEEE1901 full compliant Broadband PLC LSI]

BlueChip PLC is the world's first fully compliant IEEE1901 single chip HD-PLC Powerline Communications (PLC) IC. It provides the smallest form factor, highest performance and lowest power of any commercially available PLC solution. BlueChip PLC reliably delivers robust communications, superb noise immunity, and high quality of service (QoS) over both AC and DC power lines.

*HD-PLC is trademark of Panasonic Corporation.



■Features

- ◆ IEEE1901 and HD-PLC compliant MAC/PHY with 32bit RISC processor
- ◆ QoS Support for high definition AV over AC and DC powerlines
- ◆ Fully supports PLC Coexistence requirements; ISP for IEEE 1901 and G.9972 for ITU-T G.hn.
- ◆ Maximum PHY rate: 240Mbps
- ◆ Power consumption:
 - 0.4W @full operation
 - 0.07W @power save mode
- ◆ CENELEC EMC standard EN50561-1 compliant

■Specifications

PLC Method	Frequency band	2-28MHz	Peripheral I/F		GPIO, UART
	Modulation	Wavelet OFDM	Power Consumption	Full access	0.4W(Typ)
	PHY/MAC	IEEE1901 full compliant		Power Save mode	0.07W
	PHY Rate	240Mbps	Supply Voltage		1.2, 3.3V
	Error correction	Reed-Solomon, LDPC-CC	Operating Temp Range		-40~85°C
CPU	ARM946E-S 16 Kbyte Instruction Cache	Encryption		AES-128bit	
System Clock	125MHz	Package		TQFP, 144pin, 16x16mm	

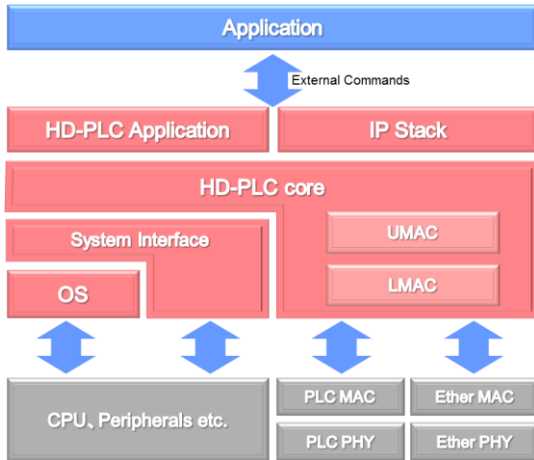
■Applications

BlueChip PLC has been optimized for multimedia distribution, surveillance camera, home networking, IPTV, Smart Energy Management, Smart meter, BEMS networking, network extension and distribution.

BlueChip PLC SDK & Evaluation Kit Mole

Software Development Kit (SDK)

Software development kit for product design, evaluation, and verification are available. Sample programs and a tool manager are also provided for reduce the development time and simplify the evaluation.



【Contents】

Sample firmware and specifications required for the development of a wide range of applications, Such as communication and measurement tools.

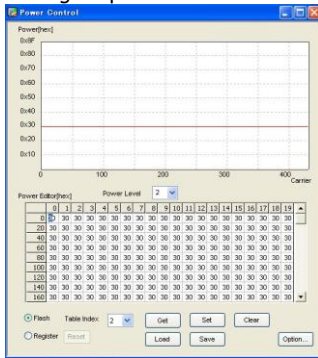
※Sample programs are provided as reference examples and MegaChips does not guarantee the operation.

Master ROM tools

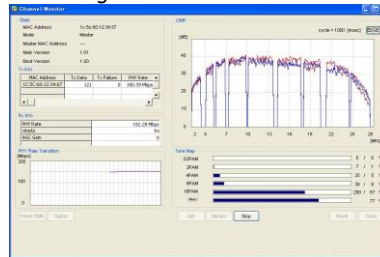
- Sample firmware
- External command datasheet
- External command sample program
- Tool Manager
 - (1) Power Control tool
 - (2) Channel Monitor tool
- Net Test Tool

【Tool Manager】

(1) Power Control Tool
Setting TX power

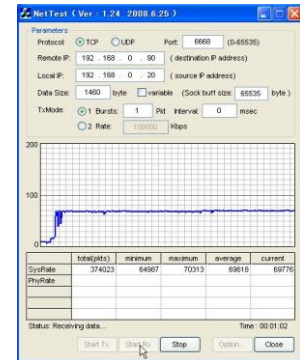


(2) Channel Monitor Tool
Monitoring status of the line



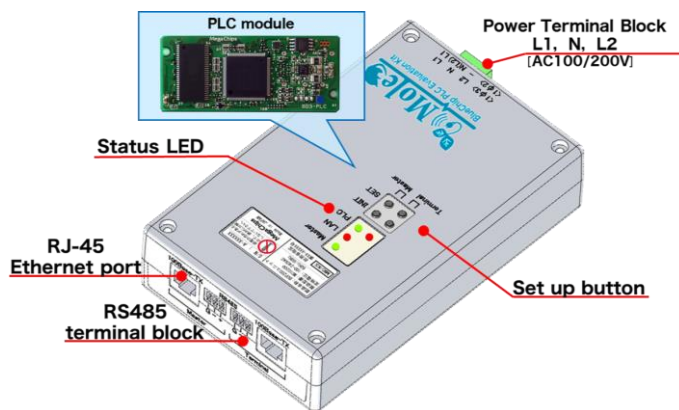
【Net Test Tool】

Measuring TCP/UDP



BlueChip PLC communication evaluation Kit "Mole"

Mole is the evaluation kit for evaluating 100V/200V PLC communication on a three line Single phase power distribution system. This evaluation Kit also has RS485 terminal block for demonstration.



【Features and functions】

- Size:H38xW100xD160mm [Don't include protrusions]
- Corresponding AC100/200VPLC (Single-phase two-wire, single-phase three-wire)
- Built-in two PLC module with relay function
- Serial bridge function (with RS-485 terminal block)
- LAN I/F[※] (10Base-T/100Base-TX)
- RS-485 terminal block [※]
Non-isolated, three-terminal (+, -, GND), half-duplex communication (Max. 115.2Kbps)

Reference Design

Reference Design is provided and it helps to shorten the period of development.

- Schematic, Layout, BOM, Hardware application notes

MegaChips

MegaChips Technology America
2033 Gateway Place , Suite 400,
San Jose, CA95110 U.S.A.
Phone: +1-408-570-0555
Fax: +1-408-570-0567

Taiwan Branch
RM. B 2F, Worldwide House,
No.129, Min Sheng E.Rd.,
Sec.3, Taipei105 Taiwan
Phone: +886-2-2547-1297
Fax: +886-2-8770-6453

Shenzhen Office
Room6307, Office tower, Shun Hing Square,
5002 Shen Nan Dong Road,
Luohu District, shenzhen 518000, P.R.China
Phone: +86-755-3664-6990
Fax: +86-755-3664-6999

Tokyo office
17-6 Ichibancho, Chiyoda-ku
Tokyo 102-0082
Phone: +81-3-3512-5083
Fax: +81-3-3262-3358