

HomePlug AV600 Ethernet Powerline Module

Model: 7TM150

V1.0
Sep. 2022

Introduction:

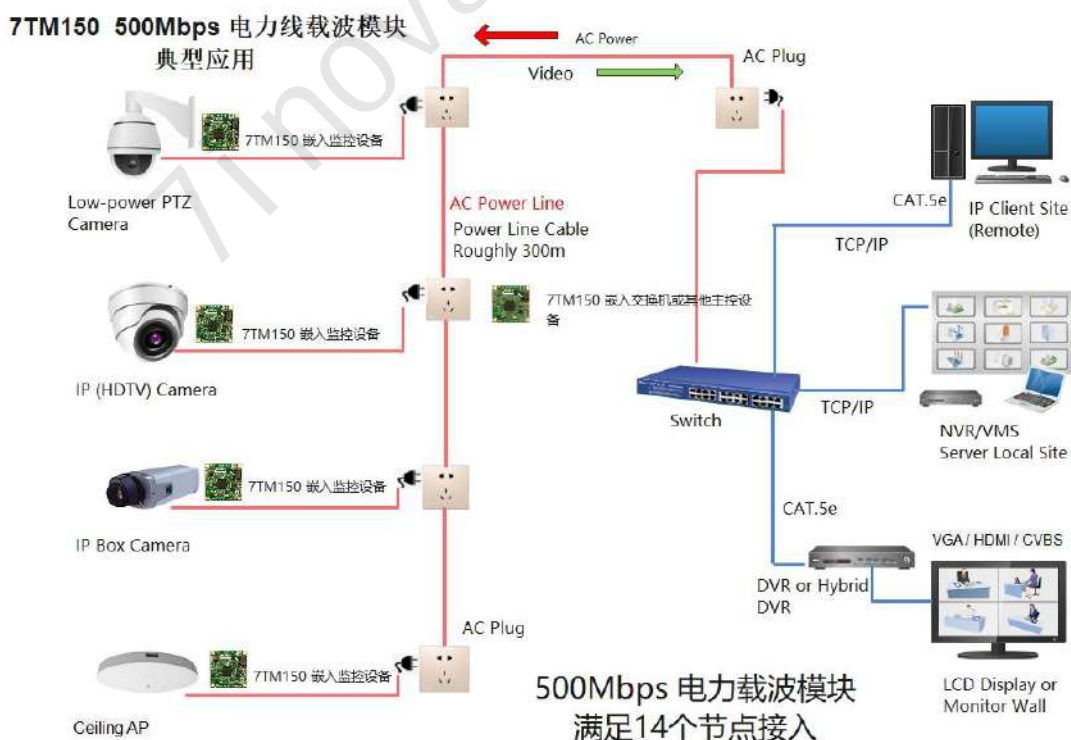
The 7TM150 AV600 power communication module adopts Atheros design as the main chipset. It has the characteristics of high integration and small size. It can provide up to 600Mbps physical layer powerline transmission rate, stable operation and reliable performance.

7TM150 power communication module provides users with AC power interface, general GPIO interface, working status indication interface and network interface.

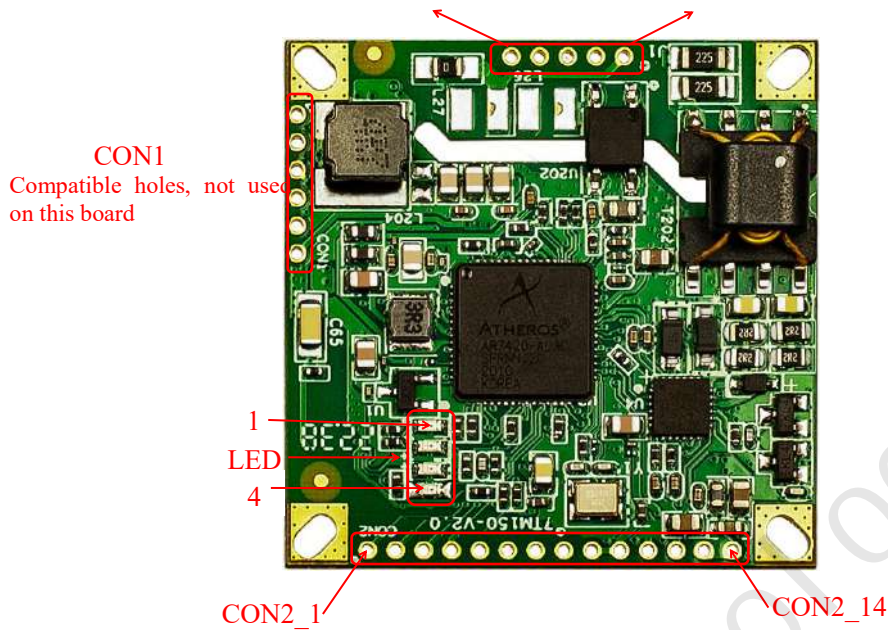
Features:

- *Support up to 14 nodes;
- *Support IEEE802.3, IEEE802.3u, standard;
- *Support HomePlug AV;
- *Data transmission through the existing power line, providing up to 600Mbps transmission rate;
- *10 /100Mbps adaptive Ethernet interface;
- *Support 300m transmission distance (within the same meter);
- *Support 128-bit AES encryption to ensure the security of network data transmission;
- *Support any operating system, including Mac, Linux.

Typical Application Topology



Pin Definition:



Pin Function Details:

J1: Carrier Signal input interface (AC 85-250V/50~60HZ, DC 0-400V)

Pin Number	Pin Definition	Input/Output	Pin Function
1	L1	\	Zero-crossing signal fire wire access (can be connected with fire wire in parallel)
2	L	\	Carrier signal access (connect to fire wire)
3	BLANK		
4	N	\	Carrier signal access (connect to neutral line)
5	N1	\	Zero-crossing signal zero line access (can be connected with zero line in parallel)

CON2: DC12V power input, ETH and GPIO interface (The sequence of CON2 pins is shown in the figure above)

Pin Number	Pin Definition	Input/Output	Pin Function
1	GPIO_3	Input/Output	AR7420 GPIO Pin
2	GPIO_2	Input/Output	AR7420 GPIO Pin
3	GPIO_6	Input/Output	AR7420 GPIO Pin
4	GPIO_5	Input/Output	AR7420 GPIO Pin
5	RD-	Input	Network receiving signal is negative
6	RD+	Input	Network receiving signal is positive
7	TD-	Output	Network transmission signal negative
8	TD+	Output	Network transmission signal positive
9	BLANK	Compatible Pins	Compatible Pins, not used on this board
10	BLANK	Compatible Pins	Compatible Pins, not used on this board
11	GND		GND
12	GND		GND
13	DC 12V	Input	Module Power Supply
14	DC 12V	Input	Module Power Supply

LED: Status indicator, indicating the working status of the module.

LED No.	Indication	Function
LED1	ALERT	Steady off: Red light flashing: PLC connection rate is lower than 20Mbps.
LED2	Signal	Steady on: The power line communication connection is successful.
LED3	LAN	Steady on: The network port is connected. Blinking: data exchange.
LED4	POWER	Green On: Power On

Electrical Characteristics

	Min.	Typical	Max.	Unit
12V working Voltage	11.5	12	12.3	V
12V working Current	\	1	\	A

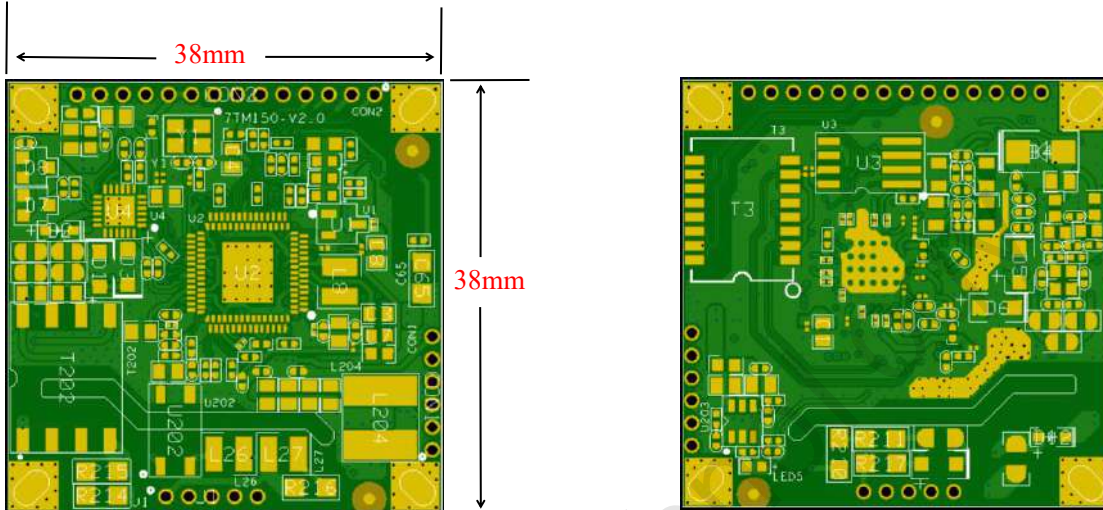
Module Size:

Front view:

TOP (PCB Front)

BOT (PCB Back)

Size:



Specifications:

Hardware Specification	
Model Number	7TM150
Standard	HomePlug AV, IEEE 802.3, IEEE 802.3u
Protocol	TCP/IP, IGMP, CSMA/CA, QoS
Modulation	OFDM (1024/256/64/16-QAM, QPSK, BPSK, ROBO Modulation)
Frequency Band	2 ~ 68MHz
Speed (PHY)	600Mbps
Interface	AC Interface, Ethernet Interface, GPIO Interface
LED Indicator	Power, Ethernet, PLC
OS	Windows 98SE/ME/2000/2003/XP/Vista, Windows7, Linux, Mac OS
Transmission Distance	300m (The same Power Meter)
Coverage	5000 Square Inches
Security	128-bit AES EncryptionES 加密
Working Voltage	DC-12V-0.8A
Consumption	Normal ≤5W
Size	38x38x18mm (LxWxH)
Weight	18g
Environment	
Working Temperature	0°C~70°C
Storage Temperature	-20°C~70°C
Working Humidity	10%~90%RH Non-Condensing
Storage Humidity	5%~90%RH Non-Condensing