

# Solwise 500AV-SMT 500Mbps HOMEPLUG AV ETHERNET

## 1.0 OVERVIEW

The Solwise 500AV-SMT Smart Link HomePlug AV 500Mbps embarks on a concept of *No New Wires*<sup>®</sup> data communications to any rooms using existing AC electrical wiring in the home as the networking backbone. The data transfer rate at the speed of up to 500Mbps Phy rates, effectively turning every AC socket outlet into HD (High Definition) capable Ethernet port.

500AV-SMT Smart Link engine incorporate an Atheros AR7400 chipset and two AR1500 AFEs, therefore it is capable of transmitting over the standard Live-Neutral configuration or over Live-Protective Earth. It automatically selects the best path for communication, providing improved network coverage in even the most challenging powerline environments. It features faster processing power, Gigabit Ethernet host interfaces and two enhanced analog front end.

The solution is compliance with IEEE1901 and Homeplug AV, hence allowing hassle free compatibility with existing Homeplug AV devices and other suppliers of IEEE1901 PLC (Powerline Line Communication) devices.

500AV-SMT ultra-high data rate and carrier-grade Quality of Service (QOS) engine enables deployment of high performance grade multimedia services, it supports the high speed digital multimedia home networking throughout the whole house including IPTV services, simultaneous HD video and audio distribution, Voice Over IP Calls, Online-Gaming, High speed Internet and Data networking.

500AV-SMT provides a simple connect push button for a convenient way of creating HomePlug network without the need to using the Device Utility from a computer. The Network Management Key (NMK) is used to associate and authenticate devices joining the AV logical network. While convenient, the security feature is supported by 128-bit AES Hardware encryption ensuring that the network communications is free from eavesdroppers and hackers.

For Power Saving, 500AV-SMT complies with European Code of Conduct (CoC) on Energy Efficiency and the European Union's Energy-using Products (EuP) Directive for low power, green energy operation.

## 2.0 MAIN FEATURES

### Protocol/Standards

- IEEE 1901/HomePlug AV
- Co- existence with HomePlug 1.0 Nodes
- IEEE 802.3 10/100/1000 Ethernet (1Gbps)
- 10/100/1000 Mbps AutoMDI/MDIX Support
- Compliant to EuP

### Key features

- Advance Green low-power modes
- Dynamic notching to automatically detect and notch licensed frequency bands
- Dynamic Neighbour Network mitigation
- 128-bit AES Link Encryption with key management

# Solwise 500AV-SMT

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### Modulation Support

OFDM 4096/1024/256/64/16/8 QAM, QPSK, BPSK and ROBO Modulation Scheme

### Frequency Band

2MHz to 68MHz band

### Quality of Service

TDMA channel access with Contention-Free and Contention-Based (CSMA/CA) period  
Channel Adaptation ensures that signal integrity is maintained even under harsh noise environment

Four Level prioritized random access method based on contention access and multi-segment

Hardware VLAN, ToS and CoS Packet Classifier and IP Port Number

Supports IGMP managed multicast session

Quasi Error Free Delivery for IPTV service

### Diagnostic and Management Interface

Homeplug AV generic and vendor specific Management Message Entries (MME)

TR-069 Remote Management

### Noise Filtering

Frequency band 2MHz to 68MHz

### 2.1 HARDWARE

Atheros AR7400 (1pc) + AR1500 (2pcs) chipset

### 2.2 PLATFORM SUPPORT

OS Independent with TCP/IP protocol installed

### 2.3 POWER SUPPLY

Switch Mode 100V-240V Supply for UK 3-pin plugs

### 3.0 PHYSICAL SPECIFICATIONS

#### LED Indicators:

- 1 x Bicolor Power LED
- 1 x Bicolor Powerline Link/Activity Status LED
- 1 x Bicolor Ethernet Link/Activity Status LED

#### External Connectors:

- 1 x Electrical Power plugs
- 1 x RJ45 for 10/100/1000 Ethernet (AutoMDI/MDI-X)

#### Push Button

- 1 x Simple Connect Push Button (Set up network password automatically)
- 1 x Factory Default Reset Button

#### Resin/Plastic Casing

- Polycarbonate, FR rating UL94-V0

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# Solwise 500AV-SMT 500Mbps HOMEPLUG AV ETHERNET

## **Dimension**

- 62 mm x 92 mm x 42 mm

## **Weight**

- (TBD)

## **Power Consumption**

- 4.5 Watt (230Vac)

## **4.0 ENVIRONMENTAL**

### **4.1 Temperature**

Operating	:	0° to 40° Celsius 32° to 104° Fahrenheit
Non-Operating	:	-25° to 70° Celsius -13° to 158° Fahrenheit

### **4.2 Humidity**

Operating	:	30% to 80% Relative Humidity (Non-Condensing)
Non-Operating	:	30% to 95% Relative Humidity (Non-Condensing)

**NOTE :** *Specifications subject to change without prior notice.*