

# **RTL8186 wireless LAN Gateway System Specification**

**ISSUE 2: November 26, 2004**

## Revision History

<b>Issue</b>	<b>Revision</b>	<b>Details of Change</b>	<b>Issue Date</b>
Issue 1	0.1	First Release	9/2/2004
Issue 2	0.2	Update some features in wireless and IPSEC	11/26/04

## 1. Introduction

Realtek is offering a complete solution for wireless LAN Gateway in both hardware and software. The software platform is based on Linux system, which could provide rich networking protocols and with great performance in system stability.

This document will present the software components and their features offered by RTL8186 turnkey solution.

## 2. Component Details

### Wireless LAN protocol

- 802.11 a/b/g Access Point protocol, support maximum client associations up to 64.
- Support Tx rate adaptive
- Support wireless security for WEP 64bit and 128bits, WPA/WPA2 TKIP, AES and mixed mode (TKIP+AES) for both WPA-Personal (PSK) and WPA-Enterprise (TLS)
- Support the feature to suppress SSID broadcasting
- Support the feature to accept/deny client association by MAC address
- Support Auto-Channel selection
- Support 802.11f D5 (IAPP) protocol
- Support a feature could enable/disable 802.11g protection mode
- 802.11a/b/g client mode
  - Support Ad-hoc and infrastructure mode with roaming capability
  - Support wireless security for WEP, WPA TKIP and WPA2 AES PSK
  - Support MAC Clone (single Ether device) and NAT2.5 (Multiple Ether clients)
  - Support Ethernet client for protocol TCP/IP, IPX, AppleTalk and PPPoE
  - Support site survey scan and manual connect
- Supports WDS (Wireless Distribution System) mode with WEP/TKIP/AES encryption, which could be used as Ethernet-Bridge between wireless Access Point. Allow to add up to 8 WDS entries
- Could dynamically configure wireless interface to disable, AP, client, WDS and WDS+AP
- Support Realtek EasyConfig protocol in Button and Q&A mode, which will setup wireless security automatically between Realtek client and Access Point
- Support wireless ISP mode (set wireless interface on WAN interface)

### Networking Protocol

- TCP, UDP, TCMP, ICMP, ARP
- IEEE 802.1d compliant bridging
- DHCP Server/Client
- DNS relay
- VPN/IPSec with ICSA certified (not yet)
- DDNS and NTP client
- uPNP IGD
- Realtek Auto-Discovery protocol

## Internet Access

- NAT/NAPT
  - Support up to 1024 concurrent connection.
  - ALG for following applications: FTP, NetMeeting, VPN pass-through with multiple sessions (IPSEC, L2TP, PPTP)
- PPPoE
  - Authentication by PAP/CHAP
  - Connection on demand. Auto-disconnect when no traffic
  - Connect continuously or manually
- PPTP Client
  - Authentication by PAP/CHAP
  - Connect continuously
- IPSec
  - Supports DES, 3DES and AES-128 encryption/decryption algorithm for ESP encryption
  - Supports HMAC-MD5 and HMAC-SHA-1 authentication algorithms
  - Support Responder, Initiator, and manually connect mode

## Firewall

- Packet filtering by IP address, port number, protocol type, and MAC address
- Port forwarding. Allow custom port range for 20 entries
- Virtual DMZ support

## Administration/Management/Configuration

- Web-based configuration and management interface
- Firmware update through web
- Configuration backup/restore to/from a file. Reset configuration to factory default
- Display real-time information for system setting, statistics and associated wireless client status.
- User name/password authentication for web server login and logout
- A setup wizard to guide user to do configuration in step
- A push button to reboot system or reload setting to factory default