Integrated Wireless LAN Modules with Integrated TCP/IP Stack
BP3580 / BP3591

BP3580 (Surface Mount)

BP3591
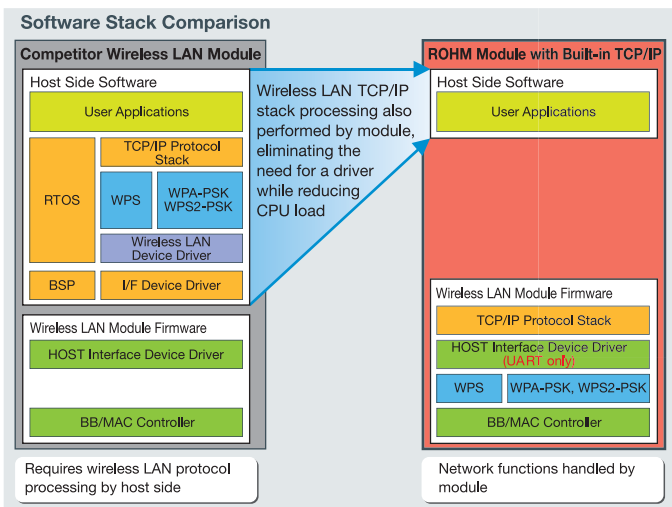(Built-in Antenna/
Connector Connection)

Integrated TCP/IP stack eliminates the need for device driver development

ROHM's BP3580 and BP3591 IEEE802.11b/g/n wireless LAN modules perform all LAN protocol processing, including WPS/WPA-PSK, and WPA2-PSK, significantly lightening host load. In addition, the units integrate a TCP/IP protocol stack* that eliminates the need for device driver development and enables wireless LAN functionality simply by adding application software.

*Modules with and without a TCP/IP stack feature the same firmware, resuilting common hardware specifications.
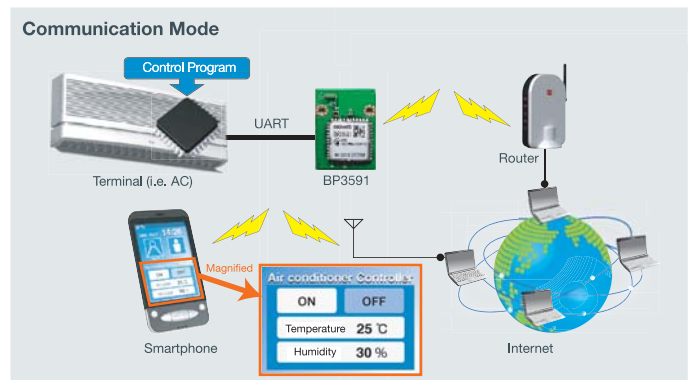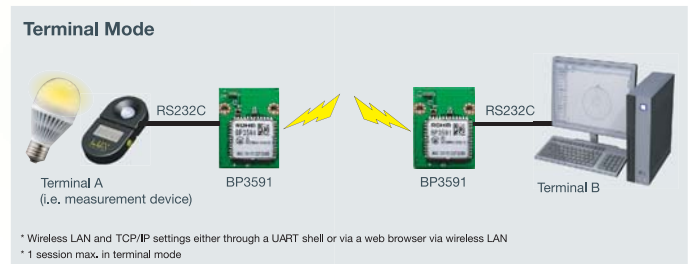 Access Point (AP) functionality planned.

■ All-in-one wireless LAN modules

ROHM wireless LAN modules integrate all required protocols, including WPA-PSK,WPA2-PSK, and WPS. In addition, the built-in TCP/IP stack eliminates the need for a device driver, contributing to greater miniaturization.

Software Stack Comparison

Competitor Wireless LAN Module

Host Side Software
- User Applications
- TCP/IP Protocol Stack
- RTOS
- WPS
- WPA-PSK WPS2-PSK
- Wireless LAN Device Driver
- BSP
- I/F Device Driver

Wireless LAN Module Firmware
- HOST Interface Device Driver
- BB/MAC Controller

Requires wireless LAN protocol processing by host side

Wireless LAN TCP/IP stack processing also performed by module, eliminating the need for a driver while reducing CPU load

ROHM Module with Built-in TCP/IP

Host Side Software
- User Applications

Wireless LAN Module Firmware
- TCP/IP Protocol Stack
- HOST Interface Device Driver (UART only)
- WPS
- WPA-PSK, WPS2-PSK
- BB/MAC Controller

Network functions handled by module

■ Compatibility

Item		Function
ARP		Supported
ICMP		Supports ping requests
DHCP Client		Supported
DNS Client		Supported
TCP	Max. No. of Sessions	4
	Server	Supported
	Client	Supported
	Connect/Disconnect Notification	Supported
	Receive Timeout Notification	Supported
UDP	Max. No. of Ports	4
	Transfer	Unicast/broadcast supported
	Receive Timeout Notification	Supported
	Other	Data source/destination designations possible
HTTP	Settings Screen	Supported

■ Terminal/Communication modes

Connect the BP3580/BP3591 between terminals via RS232C to enable simple wireless communication in 'terminal mode' or opt for more advanced operation in 'communication mode'.

Terminal Mode

Terminal A
(i.e. measurement device)   RS232C   BP3591   BP3591   RS232C   Terminal B

* Wireless LAN and TCP/IP settings either through a UART shell or via a web browser via wireless LAN
* 1 session max. in terminal mode

Communication Mode

Control Program

UART

Terminal (i.e. AC)   BP3591   Router

Magnified
Air conditioner Controls
ON	OFF
Temperature	25 ℃
Humidity	30 %

Smartphone   Internet

Applications

- AV equipment, industrial devices, sensor networks
- Wireless LAN devices connected to routers, including smartphones
- Devices that previously could not integrate wireless LAN due to insufficient microcontroller capability or prohibitive development costs

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