

# Wireless LAN Module with Flash Memory

**BP3599**


## Enable wireless LAN communication by simply connecting to existing sets

### Product Outline

The BP3599 takes the IEEE802.11b/g/n BP3591 wireless LAN module with built-in antenna and flash memory. In addition, the antenna design is identical to the BP3591, eliminating the need for high-frequency circuitry, and the BP3599 is pin-compatible with the BP3591, making replacement easy. The internal flash memory comes pre-loaded with firmware including TCP/IP stack, and the module is already certified\* for use in Japan and the US, enabling implementation possible.

\*Please inquire regarding applicable radio laws in other countries

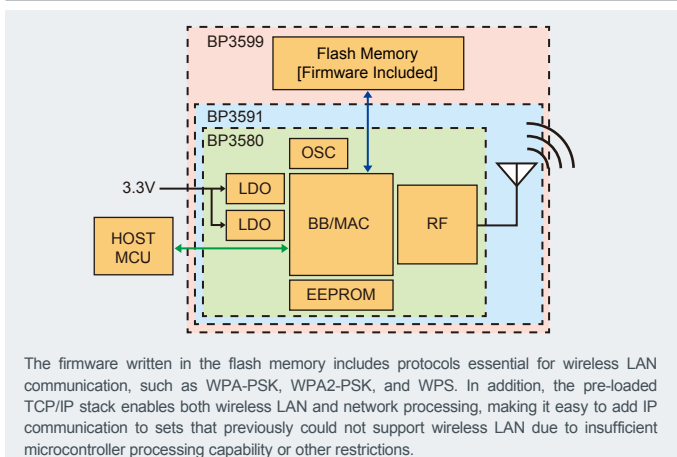
## All-in-one wireless LAN module

**Front** **Rear**

- Built-in antenna eliminates the need for high-frequency designs
- Connect an external antenna via coaxial connector
- Integrated flash memory includes firmware
- MAC address information contained in the macro QR code
- Complies with applicable radio laws in Japan and the US
- MAC address included before shipment
- M2 screw holes for mounting
- 0.5mm-pitch 34pin low profile connector

Firmware, including the TCP/IP stack, is pre-loaded in the internal flash memory. Stations and access points are written in Regions 1 and 2, respectively, making it easy to change operating modes by switching the FLASH\_SEL pin from High to Low and vice versa.

## Firmware with TCP/IP stack

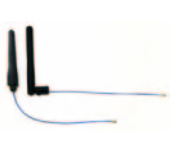
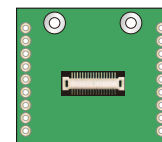


## Specifications

|                             |   |
|-----------------------------|---|
| Wireless LAN Standards      | IEEE802.11b, IEEE802.11g<br>IEEE802.11n, IEEE802.11i      |
| Host Interface              | UART (~921600bps)   |
| Integrated Flash Memory     | 4Mbit serial flash memory                                 |
| Transmission Frequency      | 2,400MHz to 2,483.5MHz (ch1-ch13)                         |
| Transmission Power          | IEEE802.11b : 15dBm±2dB                                   |
|                             | IEEE802.11g : 13dBm±2dB                                   |
|                             | IEEE802.11n : 12dBm±2dB                                   |
| Communication Rate          | IEEE802.11b : 1-11Mbps                                    |
|                             | IEEE802.11g : 6-54Mbps                                    |
|                             | IEEE802.11n : 6.5-72.2Mbps                                |
| Access Method               | CSMA/CA   |
| Access Mode                 | Infrastructure/Ad hoc                                     |
| Security                    | 64bit/128bit WEP, TKIP, AES                               |
| Supply Voltage              | 3.3V  |
| Current Consumption         | Continuous transmission : 300mA typ.                      |
|                             | Reception : 200mA Typ.                                    |
|                             | Sleep : 500µA   |
| Operating Environment       | Temperature : -40 to +85°C                                |
|                             | Humidity : <85% (No condensation)                         |
| WPS (Wi-Fi Protected Setup) | PIN/PBC methods   |
| Radio Act Certification     | Japan and the US (Japan only when using external antenna) |

### Configuration Options

A dedicated 2.54mm-pitch conversion board is available, while adding an optional external antenna improves communication distance and enables mounting in sets with metallic housings for broader applicability.



Dedicated Conversion Board External Antenna

### Applications

- Industrial equipment, sensor networks, home networks
- Wireless LAN routers and peripheral devices
- Smartphones and the like
- Systems that could not support wireless LAN due to insufficient MCU
- Systems that could not support wireless LAN due to costs

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