

Ultra-small Wireless LAN Module

MBH7WLZ16/MBH7WLZ17

Ultra-small, low power consumption wireless LAN module supporting IEEE802.11b/g. Optimal for portable electronic devices such as smart phones, digital cameras, PDAs, and PMPs.

Background

In recent years, there has been a rapid increase in the use of wireless LAN, which requires no cable facilities and enables a simple network establishment for portable electronic devices. Wireless LAN is being actively adopted in various fields including game machines, cellular phones, and PDAs in addition to PCs. FUJITSU develops and manufactures ultra-small, low power consumption wireless LAN modules that are optimal for such portable electronic devices.

Product Features

“MBH7WLZ16” is an ultra-small wireless LAN module optimal for portable electronic devices such as PDAs and PNDs. It supports the IEEE802.11b/g standard and has built-in RF, base band, MAC (Media Access Controller), and clock (crystal oscillator) in a 8.5mm×8.5mm×1.2mm package size that minimizes the number of external components. It also offers reduced power consumption of approximately 500mW for transmission. The host interface conforms to SPI and SDIO and can be selected to suit the customer system. The package is a 49-pin LGA type.

“MBH7WLZ17” is an ultra-small wireless LAN module optimal for cellular phones. It supports the IEEE802.11b/g standard and has built-in RF, base band, and MAC in an 8.0mm×8.0mm×1.2mm package size. This product also has a powerful RF filter to suppress interference with the radio communications that use other frequency bands such as wireless cellular phone telecommunication and GPS. The package is a 55-pin LGA type.

Figure 1 and **2** present the block diagrams of these products and **Figure 3** and **4** their external dimensions.

Both MBH7WLZ16 and MBH7WLZ17 have reduced power consumption in the IEEE power save mode to approximately 1mW or lower, thus contributing to an improvement in the operation period of battery-operated systems.

FUJITSU strongly supports our customers' product development with the following support system:

Photo 1 External View of MBH7WLZ16

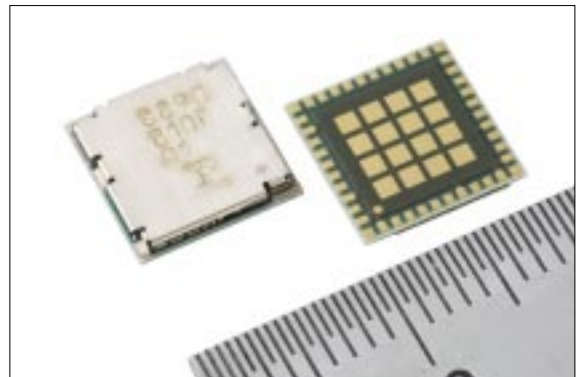


Photo 2 External View of MBH7WLZ17

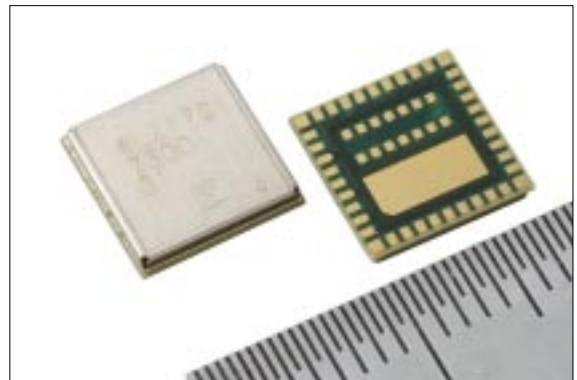


Figure 2 Block Diagram (MBH7WLZ17)

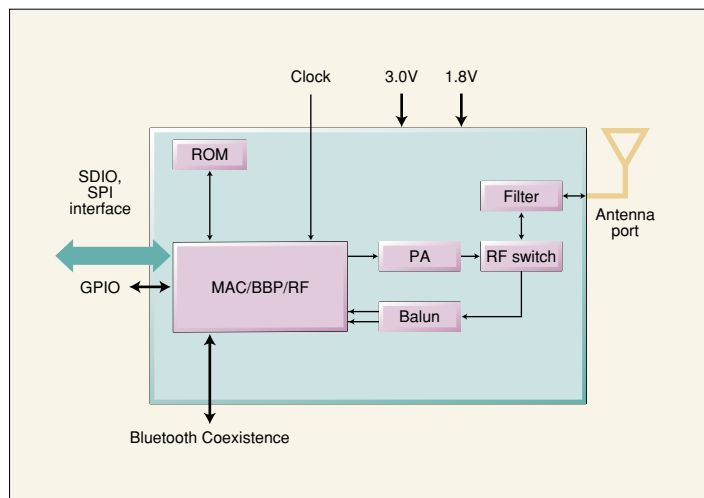
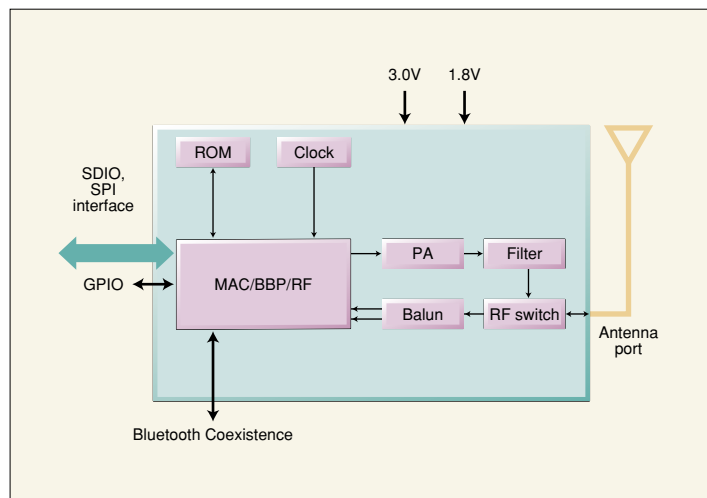
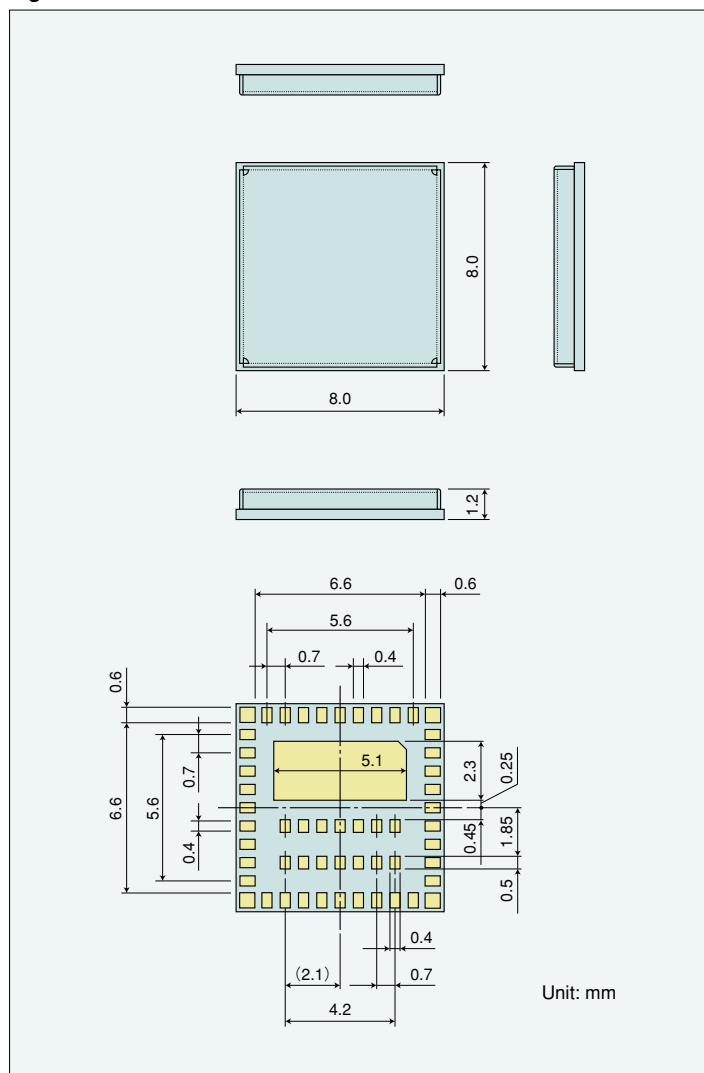
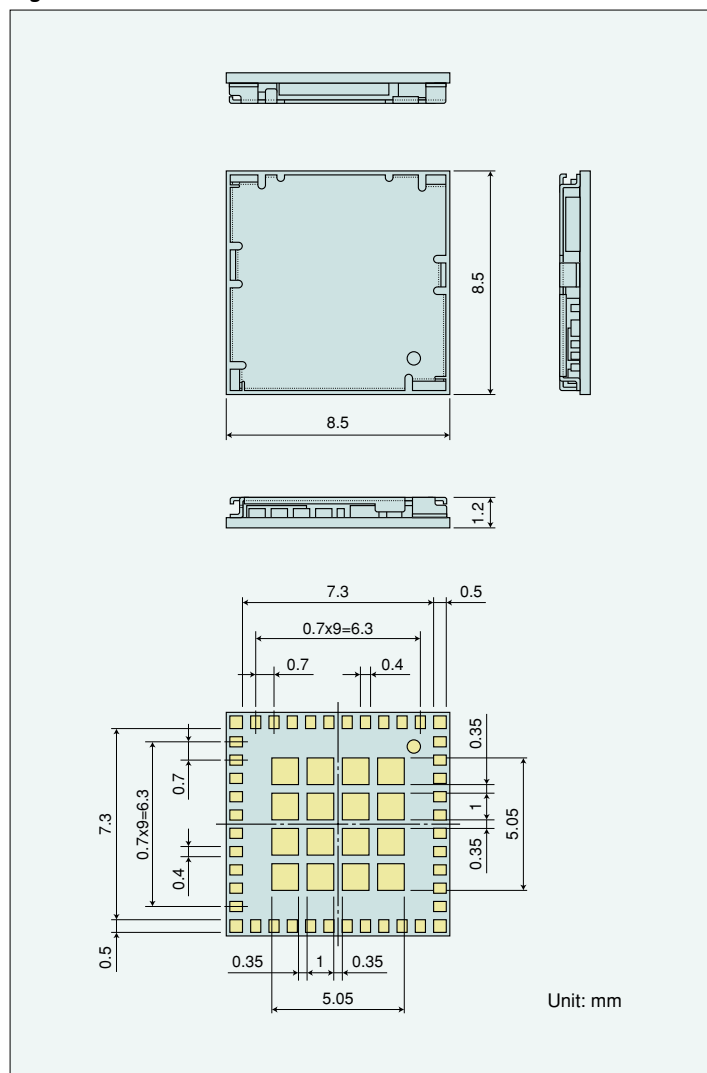


Figure 4 External Dimensions (MBH7WLZ17)



OSs supported

- Linux
- Windows® CE
- Windows® XP

Please contact our Sales Division for other OSs.

Security

These products support WPA (Wi-Fi Protected Access) and WPA2. Advanced coding with security that is further improved over WEP conforming to TKIP (Temporal Key Integrity Protocol) and AES (Advanced Encryption Standard) can be achieved.

Hardware design support

We review the peripheral circuits and patterns for the wireless LAN module of our customers product designs. We can also provide support for designing around the antenna. These services enable our customers to reduce the product development period.

Software support

We provide customer support with a cooperative structure with the wireless LAN chip manufacturer. The development

and evaluation of related applications can be supported in addition to the wireless LAN driver.

Certification support

We support our customers in obtaining certification on radio waves (conforming to FCC, CE, Japan Radio Law etc.) necessary when utilizing wireless LAN products. We can also support Wi-Fi certification upon customer request.

Specifications

Table 1 lists the specifications of these products. *

NOTES

- * Windows is a registered trademark of the U.S. Microsoft Corporation in the U.S. and other nations.
- * Linux is a registered trademark or trademark of Linus Torvalds in the U.S. and other nations.
- * Bluetooth is a trademark owned by Bluetooth SIG, Inc., U.S.A.

Table 1 Specifications

	MBH7WLZ16	MBH7WLZ17
Wireless LAN standard	IEEE 802.11b/g	
Host interface	SPI (Serial Peripheral Interface) SDIO standard (SDIO Card Specification)	
Frequency band used	2.4 to 2.497GHz (Channels 1 to 14, ISM band)	
Data rate	1, 2, 5.5, 11Mbps (IEEE802.11b) 6, 9, 12, 18, 24, 36, 48, 54Mbps (IEEE802.11g)	
Demodulation method	Direct sequence spread spectrum (DSSS) method (CCK, DQPSK, DBPSK) Orthogonal frequency division multiplexing (OFDM) method (64QAM, 16QAM, DQPSK, DBPSK)	
Access method	Ad hoc mode, infrastructure mode	
OS supported by driver	For SPI interface: Linux For SDIO interface: Windows CE, Windows XP, Linux	
Power supply voltage	3.0V, 1.8V (2 supplies used)	
Security	64-/128-bit WEP, WPA (TKIP), WPA2 (AES-CCMP)	
Power consumption	500mW (average) in transmission mode 340mW (average) in reception mode 1mW or lower in IEEE power save mode	660mW (average) in transmission mode 340mW (average) in reception mode 1mW or lower in IEEE power save mode
Size	8.5mm×8.5mm×1.2mm	8.0mm×8.0mm×1.2mm
Package	49-pin LGA	55-pin LGA
Others	• RF input/output: 50Ω • Bluetooth® Coexistence supported • Surface mount supported • Lead-Free product	