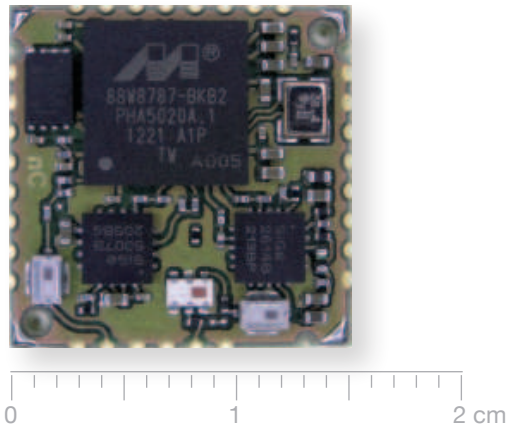


- For automotive and industrial applications
- High transmission power and high sensitivity
- Simultaneous WLAN and Bluetooth 3.0 support
- Micro access point feature
- Low current consumption
- Extremely small footprint

Embedded WLAN & Bluetooth Module

WiBear 11n

The WiBear 11n is an ultra-compact, automotive-grade WLAN & Bluetooth front-end module with an extended temperature range from -40 °C to +85 °C.

The module is designed for both simultaneous and independent operation.

- IEEE 802.11a/b/g/n WLAN
- Bluetooth 3.0+High Speed (HS)
- Bluetooth 2.1+EDR

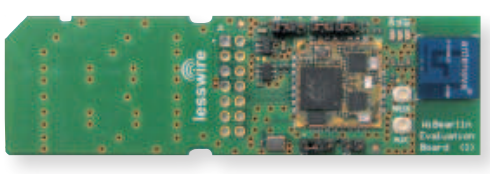
The WiBear 11n provides a complete end-to-end solution for low-power applications. It includes an integrated MAC / Baseband processor and RF front-end components and can connect to a host processor through its SDIO interface. The modules are radio type approved for Europe (CE), the United States (FCC) and Industry Canada (IC) (pending).

Key Features

- WLAN Standards IEEE 802.11a/b/g/n
- Station and micro access point operation (up to 8 clients supported)
- Support of Wi-Fi direct mode
- 802.11n 1x1 SISO
- 802.11 PHY data rates up to 72 Mbps (20 MHz channel) and up to 150 Mbps (40 MHz channel)
- Hardware 64- and 128-bit encryption AES engine performance
- WAPI encryption is supported by hardware
- Bluetooth Version 3.0 + HS (High Speed) and Version 2.1 + EDR
- Driver Support for Linux 2.6.x, 3.x, MS Windows 7, Embedded Compact 7
- Automotive qualification tests according to VW 80000 / ISO 16750-4

Evaluation Board

The WiBear 11g's Evaluation Board is also a ready-made reference design. Users can either work with its on-board antenna or an external antenna connected via coaxial connector. The board offers a standard SDIO connector for host communication.



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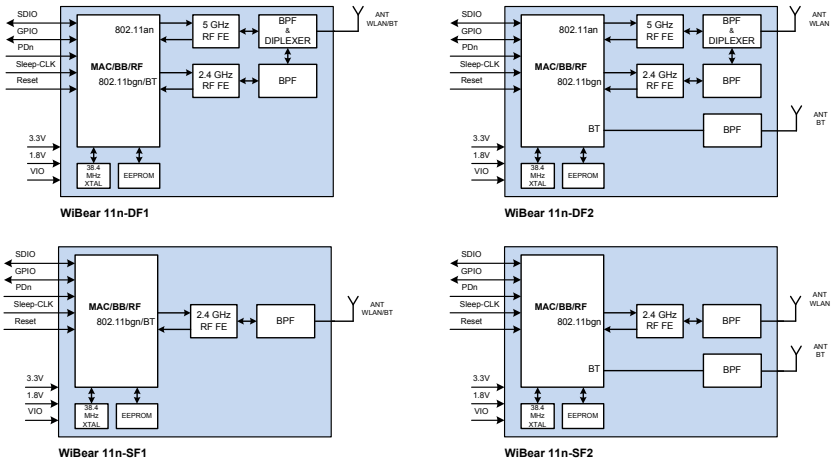
Product Variants

The WiBear 11n WLAN & Bluetooth Module is available in four different variants:

- Single Frequency (SF): 2.4 GHz band only
- Dual Frequency (DF): 2.4 GHz and 5 GHz band
- 1: Single Antenna
- 2: Two separate antennas for Bluetooth and WLAN



Technical Specification

WLAN Standards	IEEE 802.11a, b, g, n; IEEE 802.11i, e, j, h, s, h, d, k, r, w; (IEEE802.11-2007)
Data Transfer Rate	IEEE 802.11b: 11, 5.5, 2, 1 Mbps; IEEE802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps
	IEEE 802.11n: max.150 Mbps (40 MHz channel); max. 72 Mbps (20 MHz channel)
Frequency Range	2.4 - 2.497 GHz (ISM Band); 4.900 - 5.830 GHz
Output Power	WLAN IEEE 802.11 b: 18 dBm; IEEE 802.11 a/g/n: 15 dBm; Bluetooth: 8 dBm
Modulation	OFDM with BPSK, QPSK, 16-QAM, and 64-QAM; 802.11b with CCK and DSSS
	Bluetooth with GFSK (BDR), π/4-DPSK and 8DPSK (EDR)
Security Encryption	WEP 64/128 Bit-Key, WPA (TKIP, AES), WPA2 (CCMP, AES), WAPI
Host Interfaces	SDIO (4-bit)
Antenna	1 or 2 QFN antenna pads
Additional Audio Interface	PCM (Bluetooth audio)
Power Supply	Vcc 3.3 V and 1.8 V
Current Consumption	210 mA (max), 125 mA (avg) @ 3.3 V
Operating Temperature	-40 °C to +85 °C
Firmware	WLAN STA: infrastructure and ad-hoc mode
	One single firmware includes WLAN STA, WLAN µAP and Bluetooth support
	WLAN µAP: micro access point mode supports up to 8 WLAN stations
	At system power-on firmware is downloaded from host
WLAN / Bluetooth Coexistence	Internal TDM
Certifications	CE R&TTE, FCC / IC Canada
Dimensions (L x W x H)	15 mm x 15 mm x 2.5 mm
Delivery	Tape & reel

CE FC IC RoHS

Ordering Information

WiBear 11n-SF1 Module	AN00J94359
WiBear 11n-SF2 Module	AN00J94361
WiBear 11n-DF1 Module	AN00J94360
WiBear 11n-DF2 Module	AN00J94362
Evaluation Board with WiBear11n-DF1 Module	AN00J93704
Evaluation Board with WiBear11n-DF2 Module	AN00J93705

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ISO 9001 certified

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