

- For automotive and industrial applications
- Simultaneous WLAN, Bluetooth 4.0 and NFC support
- Suitable for HD video streaming
- Micro access point operation possible
- Extremely small footprint

Sampling from end of Q2, 2014

Embedded Wireless LAN, Bluetooth & NFC Module

WiBear 11ac

The WiBear11ac is an ultra-compact, automotive-grade combined WLAN, Bluetooth, NFC RF module with an extended temperature range from -40 °C to +85 °C.

The module is designed for both simultaneous and independent operation of

- IEEE 802.11a/b/g/n/ac WLAN
- Bluetooth 4.0+High Speed (HS)
- Bluetooth 2.1+EDR
- NFC

The WiBear11ac module is an SMD component and provides a complete wireless modem solution that can easily be integrated into the application. The RF module can be connected to a host processor through SDIO, High-Speed UART or TWSI interfaces. The module is radio type approved for Europe (CE), the United States (FCC) and Industry Canada (IC) (pending).

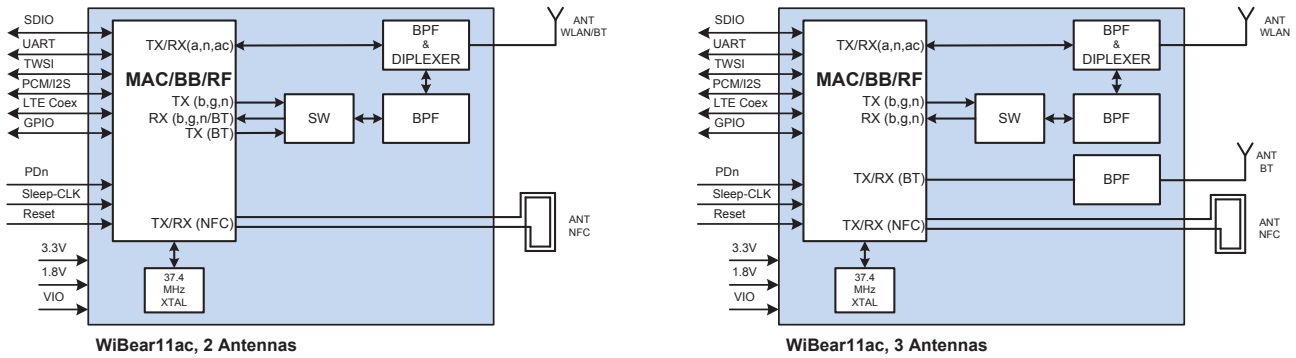
Key Features

- WLAN standards IEEE 802.11a/b/g/n/ac
- Simultaneous client and access point operation with up to 10 clients
- Support of Wi-Fi direct mode
- IEEE 802.11ac 1x1 antenna configuration
- IEEE 802.11 PHY data rates of up to 433 Mbps
- 64- and 128-bit AES hardware encryption engine
- WAPI encryption is supported by hardware
- SDIO host interface for WLAN
- Bluetooth 4.0 Low Energy and 2.1+EDR for backward compatibility
- PCM or I2S interface for audio
- NFC support via TWSI, SDIO or UART
- Automotive qualification tests (climatic, mechanical, and operating life tests) according to VW 80000 / ISO 16750-4



Wireless HD video streaming

Product Variants



Technical Specification

WLAN Standards	IEEE 802.11a, b, g, n, ac; IEEE 802.11 d, e, h, i, h, k, r, v, w
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, ac: max. 433 Mbps (80 MHz channel); max. 200 Mbps (40 MHz channel); max. 86 Mbps (20 MHz channel) Bluetooth 2.1+EDR max. 3 Mbps NFC: max. 424 kbps
Frequency Range	2.4 - 2.4835 GHz (BT/WLAN); 5.15 - 5.725 GHz (WLAN); 13.56 MHz (NFC)
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, 64-QAM, 256-QAM; 802.11b with CCK and DSSS Bluetooth with GFSK(BDR), $\pi/4$ -DPSK and 8DPSK(EDR); NFC with ASK
Security Encryption	WEP 64/128 Bit-Key, WPA (TKIP, AES), WPA2 (CCMP, AES), WAPI
Host Interfaces	SDIO 3.0 (4-bit, up to 208 MHz clock), High-Speed UART, TWSI
Antenna	1 or 2 antenna pads for BT/WLAN; 2 antenna pads for NFC
Additional Audio Interface	PCM, I2S
Power Supply	Vcc 3.3 V and 1.8 V
Current Consumption	tbd.
Operating Temperature	-40 °C to +85 °C
Firmware	One single firmware includes WLAN STA, WLAN μ AP and Bluetooth support WLAN STA: infrastructure and ad-hoc mode WLAN μ AP: micro access point mode supports up to 10 WLAN stations
WLAN / Bluetooth Coexistence	Internal TDM
LTE Coexistence	2-wire UART LTE interface
Certifications	CE R&TTE, FCC / IC Canada
Dimensions (L x W x H)	20 mm x 15 mm x 2.5 mm
Packaging	Tape & reel



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