AM1808/OMAP-L138 + WL1271
Wi-Fi® and *Bluetooth*® Platform

Texas Instruments

Platform Features

- WLAN (IEEE 802.11 b/g/n) and *Bluetooth* 2.1 + Enhanced Data Rate (EDR) on a single-chip with best-in-class coexistence technology
- Complete, validated, certified, production-ready module offered by LS Research: WL1271-TiWi
- AM1808 or OMAPL138 pre-integrated with WL1271-TiWi module
- Complete system integration including firmware, and low-level drivers
- System level throughput and power optimization including Enhanced Low Power (ELP) technology
- Full-featured evaluation boards for hardware and software prototyping
- Software development kit (SDK) including Linux 2.6.x WLAN drivers, WPA supplicant, open OBEX profiles, and BlueZ *Bluetooth* stack
- Sample applications and demos provided, with CLI-based step-by-step instructions to showcase WLAN and *Bluetooth* functionality
- Roadmap to AccessPoint, ANT and Wi-Fi Direct
- Getting Started Guides, Documentation and Support: www.ti.com/connectivitywiki

Platform Benefits

- TI's proven 6th generation WLAN technology allows secure, high-throughput, reliable Wi-Fi connectivity of electronic devices to each other, the Internet, and to wired networks
- TI's 7th generation *Bluetooth* technology supports low power applications in personal area networks
- Coexistence technology provides an unlimited bus for intelligent coordination and bandwidth allocation between WLAN and *Bluetooth* cores
- ELP extends power efficiency and battery life of end product
- WL1271-TiWi module lowers manufacturing and operating costs, saves board space, eases certification, and minimizes RF expertise required
- Pre-integration of host processor and WLAN/*Bluetooth* module simplifies and reduces hardware and software development, allowing faster time-to-market
- Evaluation tools allow for extensive prototyping and development of applications that require WLAN and *Bluetooth* connectivity

Key features

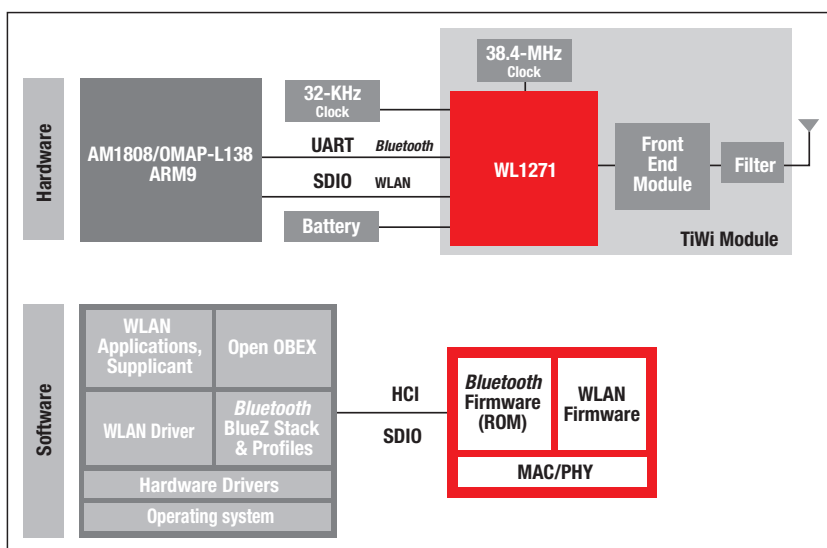**WL1271-TiWi**
IEEE 802.11 b/g/n compliant
- Typical WLAN Transmit power:
  - +20 dBm , 11 Mbps, CCK (b)
  - +14.5 dBm , 54 Mbps, OFDM (g)
  - +12.5 dBm, 65 Mbps, OFDM (n)
- Typical WLAN Receiver sensitivity:
  - -89 dBm , 11 Mbps
  - -76 dBm , 54 Mbps
  - -73 dBm, 65 Mbps
- *Bluetooth* v2.1 + EDR
  - Increased *Bluetooth* Transmit power: +9.5 dBm
  - -92 dBm Receiver sensitivity
- Best-in-class coexistence technology on a single-chip
- Enhanced Low Power (ELP) technology
- On board TCXO, power regulation, and U.FL antenna connector
- Software-upgradable for ANT & BLE
- FCC/IC/CE certified
- Dimensions: 13 mm x 18 mm x 1.9 mm

AM1808 ARM9
- ARM926EJ-S™ up to 456-MHz
- 10/100 Mb/s Ethernet MAC, MMC/SD

OMAP-L138 ARM9
- Dual-core SoC with ARM926EJ-S™ and C674x DSP
- LCD controller, 10/100 Mb/s Ethernet MAC, USB 2.0 OTG, USB 1.1 OHCI, MMC/SD2

▲ *WL1271-TiWi WLAN and Bluetooth system*

Hardware and software development

WL1271 + AM1808/OMAPL138 platform

Hardware

- AM18x EVM and OMAPL138 Experimenter Kit :
  - 456 MHz ARM9 processor
  - C674x DSP (OMAPL138 only)
  - 4.3" Integrated LCD display with touch screen, and backlight connector
  - Ethernet, USB 2.0, serial ATA connector
  - MMC/SD card
- Wireless connectivity card
  - WL1271-TiWi module with integrated TCXO
  - 2.4GHz chip antenna or U.FL antenna connector
  - Plugs into EVM's expansion connector

WL1271-TiWi module
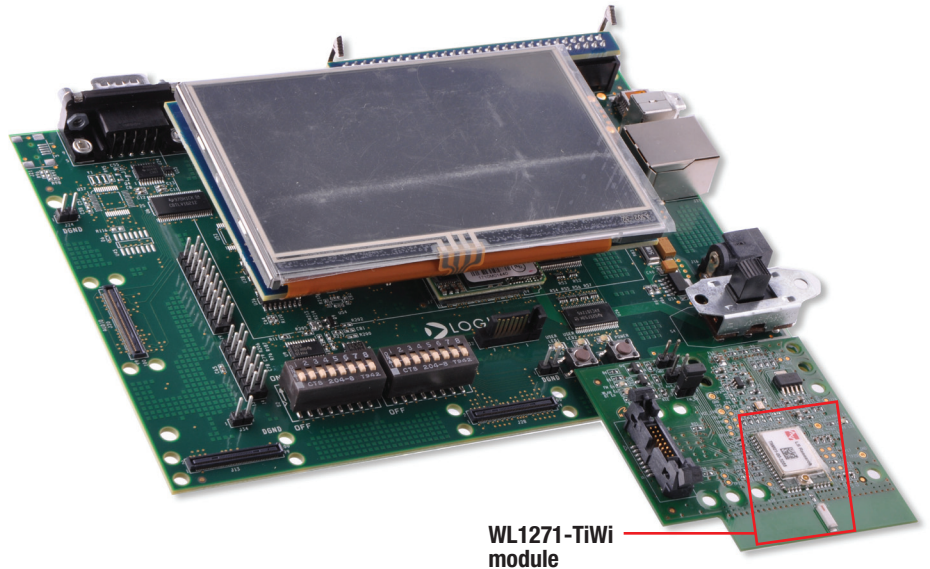
▲ *AM18x Evaluation Module / OMAP-L138 Experimente*

Software

- Pre-integrated and validated with TI's Linux SDK with UI and demos
- WLAN and *Bluetooth* software support
- Core IP pre-tested against Wi-Fi and *Bluetooth* specifications
- Open source Linux drivers: Kernel 2.6.x, TI WLAN driver, BlueZ *Bluetooth* stack
- User guides, complete API reference, application notes, demo applications and sample code

Platform resources

- Ask an engineer: http://e2e.ti.com/forums
  - Forum: Wireless connectivity for OMAP™ applications processors
- Leverage TI connectivity Wiki: www.ti.com/connectivitywiki

Platform partners

- Mistral: Linux system integration

  MISTRAL
  ... *Partners in Real Time*   www.mistralsolutions.com

- LS Research: Hardware and antenna design services

  LS RESEARCH   www.lsr.com

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