

Ultra Low Power Wi-Fi® + BLE Modules

For Battery Powered IoT Applications

DA16600 Combo Wi-Fi + BLE Modules

Full Offload Highly Integrated Ultra Low Power Modules

- The DA16600 is a module solution for IoT applications featuring lowest power Wi-Fi + BLE
- The fully integrated module consists of:
 - Wi-Fi SoC: DA16200
 - BLE SoC: DA14531
 - 4MB Flash memory
 - 40MHz Crystal for Wi-Fi
 - 32KHz RTC Crystal for Wi-Fi
 - 32MHz Crystal for BLE
 - Chip antenna or u.FL connector
 - SPDT Antenna Switch
- Single power supply voltage (3.3V)
- DA16600 module SKUs:
 - DA16600MOD-AAC4WA32 - chip antenna
 - DA16600MOD-AAE4WA32 - external antenna connector (u.FL)



Module Types

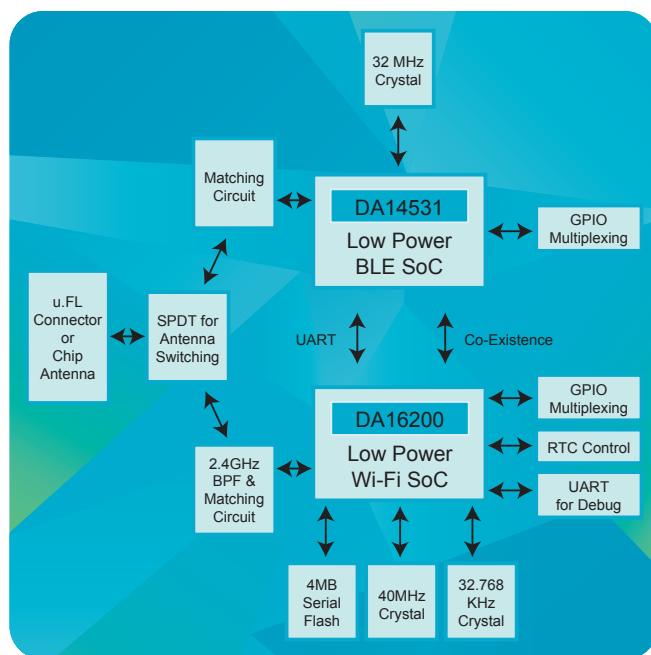
On Board Chip Antenna
14.2 mm x 24.6 mm x 3.0 mm
DA16600MOD-AAC



External Antenna Connector (u.FL)
14.2 mm x 24.6 mm x 3.0 mm
DA16600MOD-AAE



System Block Diagram



Country	On Board Chip Antenna	External Antenna Connector (u.FL)
US FCC	TBD	TBD
Canada IC	TBD	TBD
EU CE	CE & RoHS Compliance	CE & RoHS Compliance
South Korea KC	TBD	TBD
Japan TELEC	TBD	TBD
China SRRC	TBD	TBD



Low Power Wi-Fi + BLE Solution for Battery Powered IoT Applications

Features	Benefits
Low Power Wi-Fi	<ul style="list-style-type: none"> VirtualZero™ DA16200 SoC • 802.11n 1x1 low power 2.4 GHz Up to 72 Mbps, MCS0-7
Low Power BLE	<ul style="list-style-type: none"> SmartBond TINY™ DA14531 SoC • BT5.1 compliant BLE
Ultra Low Power	<ul style="list-style-type: none"> Enables year-plus battery life Breakthrough VirtualZero™ low power technology Virtually no power consumption in sleep state Ultra low power sensor wake-up Runs on small batteries and coin cells
Wi-Fi/BLE Coexistence	<ul style="list-style-type: none"> Built in, customizable, coexistence algorithms
Superior Range	<ul style="list-style-type: none"> Wi-Fi: Industry leading output power and Rx sensitivity for max range BLE: 4x range of BT 4.0
Full Offload	<ul style="list-style-type: none"> SoC runs full OS & TCP/IP stack on module
Simple Setup & Provisioning	<ul style="list-style-type: none"> Provision Wi-Fi connection simply with BLE Automatically find & configure new devices w/ smartphone app
Complete Software Stack	<ul style="list-style-type: none"> Comprehensive networking software stack
Leading Security	<ul style="list-style-type: none"> Secure boot • Secure debug • Secure asset storage Hardware accelerated • TLS • Digital certificates • Elliptic curve
OTA Firmware Update	<ul style="list-style-type: none"> Enables field deployed device firmware updates
Multiple I/Os	<ul style="list-style-type: none"> UART, SPI, ADC, I²C, PWM, I²S, GPIOs, JTAG and SWD

VirtualZero™



> 1 Year
Battery Life

Leading Edge Low Power Technology



Three Sleep Modes

- 1. Unconnected (nanoamp)
- 2. Connected ultra low (microamp)
- 3. Connected ultra fast (microamp)



Ultra Fast Wake-up
Ultra Fast Return to Sleep

Extends battery life

Additional Features



Extended Range

- > +18.5 dBm output power
- > -98.5 dBm Rx sensitivity



Highly Integrated SoC

- + No CPU or MCU required
- + Full offload
- + Runs network stack



Networking Capabilities	Protocols	Complete software stack including TCP/UDP/IP, HTTP, HTTPs, DHCP client/server, DNS client/server, mDNS, DNS-SD, MQTT, CoAP
	Provisioning	Set-up Wi-Fi via BLE; WPS 2.0
	Sensors	ADCs: (1 Wi-Fi, 3 BLE), I ² C, SPI, PWM, and I ² S

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