

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

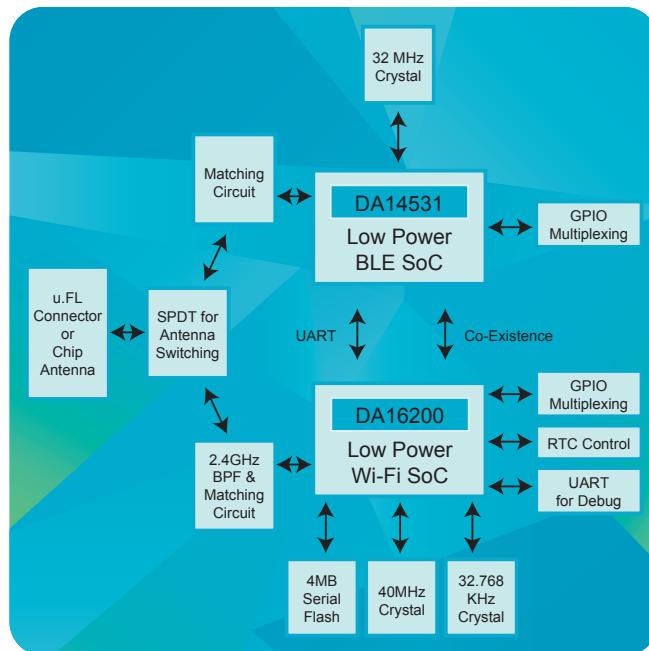
On Board Chip Antenna
14.2 mm x 24.6 mm x 3.0 mm
DA16600MOD-AAC



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



Three Sleep Modes



Ultra Fast Wake-up
Ultra Fast Return to Sleep
Extends 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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