Enabling Connected CPAP machines with SimpleLink™ Wi-Fi® Wireless MCU's

SimpleLink™ MCU Platform

Texas Instruments

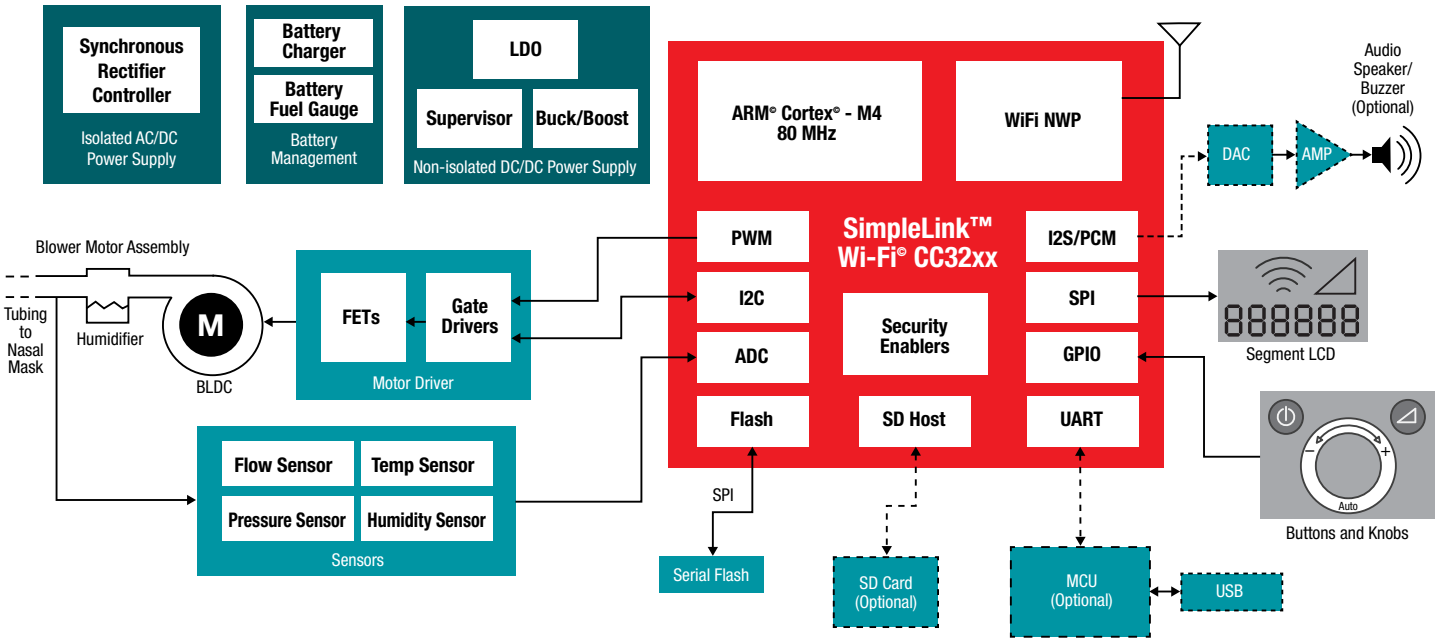
Wi-Fi connected Continuous Positive Airway Pressure (CPAP) devices provide a glimpse at the future of Tele-Health allowing physicians to log, diagnose and adjust patient settings for at-home patients with minimized patient intervention enabling quicker, better data accuracy, ease of use and further enabling portability of devices.

Utilizing a secure connection to a Wi-Fi network, connected CPAP devices improve data visibility for both patients and physicians, eliminating monthly fees associated with cellular alternatives and still allow for compliance check by insurance companies.

Key Features	Benefits
Certified software plug-ins for a variety of IoT cloud agents • HomeKit, AWS, Azure, IBM Watson, Google and a variety of other partners	Patients will no longer have to mail an SD card • Secure cloud agents enable direct access to CPAP patient data
Comprehensive Embedded Security Enablers • Unique device identity, networking security secure storage, secure boot, secure OTA • Secure sockets, and secure content delivery More information on Security app Note or Security video	Enhanced security protocols allow secure connection & encryption up to application level • Enable CPAP software IP protection (cloning protection), without the need for an external secure component • Secure transfer of data between the CPAP device and the cloud
Dual core Wi-Fi System on chip MCU architecture • One Wi-Fi network processor (NWP) • One ARM® Cortex-M4 with 256KB RAM and an optional 1MB executable flash MCU's peripherals: UART, SPI, PWM, I2S, I2C and GPIOs	Build your application with one chip • The Wi-Fi NWP handles all Wi-Fi and internet protocols • The integrated MCU is fully dedicated to the customer application • Peripherals allow for connection to a BLDC motor, sensors, and CPAP user interface items
Flexible Low power capabilities • Hibernate mode (4.5uA) • Low power deep sleep mode (135uA)	• Allows portable CPAP machines to extend patient usage times especially for battery operated devices. • For more detailed application report click here.
Interoperability tests with 200+ access points (APs) while leveraging TI's proprietary Network Learning algorithm	Enable confidence in world-wide deployments with its consistent performance with a large variety of AP's
Regulatory certified modules: FCC, IC, CE/RED and more • Wi-Fi Alliance CERTIFIED and Transferable IC's & Modules	• Drastically reduce cost, complexity and enable quicker ramp to production • Easily transfer TI Wi-Fi certification, to add the WFA CERTIFIED logo on your end Product
Supports SimpleLink™ MCU Platform with common architecture across the SimpleLink MCU portfolio of devices (BLE, Sub 1GHz & MCU's)	Future proof your designs and make development easier due to SimpleLink's code portability

SimpleLink™ MCU Platform

ti.com/SimpleLinkWiFi



Application Report: Designing Connected CPAP Machines with SimpleLink™ Wi-Fi® Wireless MCU

Explore the product line Product documents • Users Guide • CC3220 • Tools, Kits & Software • Data Sheet • TI CPAP Solutions

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