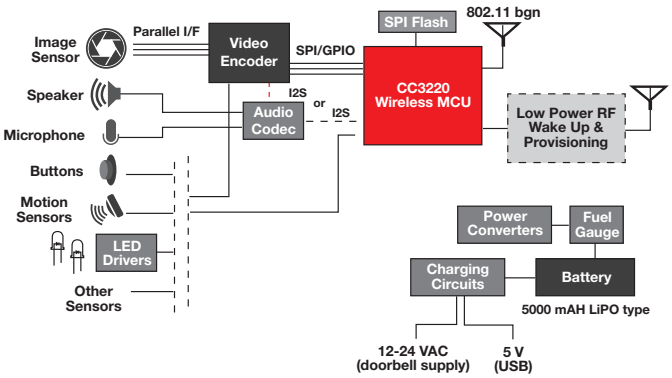
Design a low power camera with optimized cloud streaming and enhanced security using SimpleLink™ Wi-Fi®



Learn how you can use the new SimpleLink™ Wi-Fi wireless microcontrollers (MCU), featuring RTP video and audio streaming over Wi-Fi with enhanced security features for your low power camera design.

Reference design

- Wi-Fi Audio Streaming Reference Design
- Wi-Fi Audio Streaming Application for SimpleLink Wi-Fi CC3200 Launchpad

User Guide (reference design)

- Wi-Fi Audio Streaming Reference Design User Guide

Features	Benefits
• Industry's lowest power, with TI's cutting edge proprietary network learning algorithm and configurable low-power modes optimizing across more than 100 Access Points world wide o 115 µA/135 µA for CC3120/CC3220 in deep sleep mode, and as low as 210 µA for CC3220 while maintaining a secured connection to AP o 4.5 µA in hibernate mode, intermittently connected with fast reconnection	• CC3220 Runs on 5000mAh battery life up to: o Almost 2 years in "always connected" low power mode, and 1 year including 5 min of streaming per day o Over 5 years for waking up on trigger mode, and 1.5 years including 5 min of streaming per day
• Enhanced security protocols allow secure connection and encryption up to application level • CC3220S offers robust Wi-Fi and networking stacks running on a **separate on-chip execution environment with a dedicated Cortex™** • On-chip Wi-Fi security features, including network and manufacturer IP protection facilitated by hardware crypto engine (incl. APIs to AES256, DES, SHA/MD5, CRC)	• Enables protection against hostile takeover (e.g. malicious over the air update), and IP or video theft, without external secure components • Since CC3220 offers extensive Wi-Fi security features , the video encoder is free of Wi-Fi/networking/security threads and better able to perform intelligent image processing
• Best-in-class interoperability with extensive testing with over 200 access points • Wi-Fi alliance certified IC's and modules • Regulatory certifications for FCC, IC, CE/RED and more	• Robust communication with a variety of access points world-wide • Reduced design complexity, time, resources and costs with free reference design and certified and transferrable
• Highly integrated CC32xx wireless MCU (SOC) with an ARM Cortex -M4 at 80 MHz, and a separate network processor managing all Wi-Fi and internet IP sockets • Application dedicated 256 KB of RAM + optional 1 MB of XIP flash	• CC3220 in the heart of the system: running the customer application and simultaneously controlling wake-up triggers, lock control processing and network connection • Reduced BOM cost to the customer
• 16 Mbps UDP throughput for H.264 compressed 1080p via RTP • Video streaming royalty-free reference design	• High quality video/audio
• Fast wakeup by an external trigger (300 msec), from a 4.5 uA hibernate mode to WPA2 secured AP connection • TLS/SSL connection to local network in 200msec utilizing the embedded hardware crypto engines	• Enhanced user experience with low latency response from a button push or RF event
• SimpleLink™ common software architecture across the SimpleLink MCU portfolio of MCUs, Sub1GHz, BLE and Wi-Fi technologies	• Allowing developers to invest once and reuse across technologies Using code and tool compatibility between platforms
• Software and plug-ins for Amazon Web Services, Apple's HomeKit, IBM Watson, IoT,and other cloud partner applications	• Get to market faster with easy to integrate cloud-compliant options

Learn more at SimpleLink™ Wi-Fi® application tab

See additional system parts at TI IP network camera reference design

SWAT010A

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