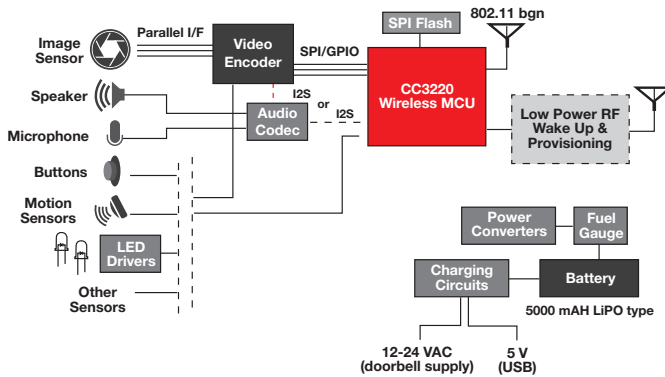


# Design a low power camera with optimized cloud streaming and enhanced security using SimpleLink™ Wi-Fi®



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
<ul style="list-style-type: none"> <li>• Industry's <b>lowest power</b>, with TI's cutting edge proprietary network learning algorithm and <b>configurable low-power modes</b> optimizing across more than 100 Access Points world wide <ul style="list-style-type: none"> <li>o 115 <math>\mu</math>A/135 <math>\mu</math>A for CC3120/CC3220 in deep sleep mode, and as low as 210 <math>\mu</math>A for CC3220 while maintaining a secured connection to AP</li> <li>o 4.5 <math>\mu</math>A in hibernate mode, intermittently connected with fast reconnection</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• CC3220 Runs on 5000mAh battery life up to: <ul style="list-style-type: none"> <li>o Almost 2 years in "always connected" low power mode, and 1 year including 5 min of streaming per day</li> <li>o Over 5 years for waking up on trigger mode, and 1.5 years including 5 min of streaming per day</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Enhanced security protocols allow secure connection and encryption up to application level</li> <li>• CC3220S offers robust Wi-Fi and networking stacks running on a <b>separate on-chip execution environment with a dedicated Cortex™</b></li> <li>• On-chip <b>Wi-Fi security features</b>, including network and manufacturer IP protection facilitated by hardware crypto engine ( incl. APIs to AES256, DES, SHA/MD5, CRC)</li> </ul>	<ul style="list-style-type: none"> <li>• Enables protection against hostile takeover (e.g. malicious over the air update), and IP or video theft, without external secure components</li> <li>• 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</li> </ul>
<ul style="list-style-type: none"> <li>• Best-in-class interoperability with extensive testing with over 200 access points</li> <li>• <b>Wi-Fi alliance certified</b> IC's and modules</li> <li>• Regulatory certifications for FCC, IC, CE/RED and more</li> </ul>	<ul style="list-style-type: none"> <li>• Robust communication with a variety of access points world-wide</li> <li>• Reduced design complexity, time, resources and costs with free reference design and certified and transferrable</li> </ul>
<ul style="list-style-type: none"> <li>• Highly integrated CC32x wireless MCU (SOC) with an ARM Cortex -M4 at 80 MHz, and a separate network processor managing all Wi-Fi and internet IP sockets</li> <li>• Application dedicated 256 KB of RAM + optional 1 MB of XIP flash</li> </ul>	<ul style="list-style-type: none"> <li>• CC3220 in the heart of the system: running the customer application and simultaneously controlling wake-up triggers, lock control processing and network connection</li> <li>• Reduced BOM cost to the customer</li> </ul>
<ul style="list-style-type: none"> <li>• 16 Mbps UDP throughput for H.264 compressed 1080p via RTP</li> <li>• Video streaming royalty-free reference design</li> </ul>	<ul style="list-style-type: none"> <li>• High quality video/audio</li> </ul>
<ul style="list-style-type: none"> <li>• Fast wakeup by an external trigger (300 msec), from a 4.5 uA hibernate mode to WPA2 secured AP connection</li> <li>• TLS/SSL connection to local network in 200msec utilizing the embedded hardware crypto engines</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced user experience with low latency response from a button push or RF event</li> </ul>
<ul style="list-style-type: none"> <li>• <b>SimpleLink™</b> common software architecture across the SimpleLink MCU portfolio of MCUs, Sub1GHz, BLE and Wi-Fi technologies</li> </ul>	<ul style="list-style-type: none"> <li>• Allowing developers to invest once and reuse across technologies Using code and tool compatibility between platforms</li> </ul>
<ul style="list-style-type: none"> <li>• Software and plug-ins for Amazon Web Services, Apple's HomeKit, IBM Watson, IoT, and other cloud partner applications</li> </ul>	<ul style="list-style-type: none"> <li>• Get to market faster with easy to integrate cloud-compliant options</li> </ul>

Learn more at [SimpleLink™ Wi-Fi® application tab](#)

See additional system parts at [TI IP network camera reference design](#)

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