

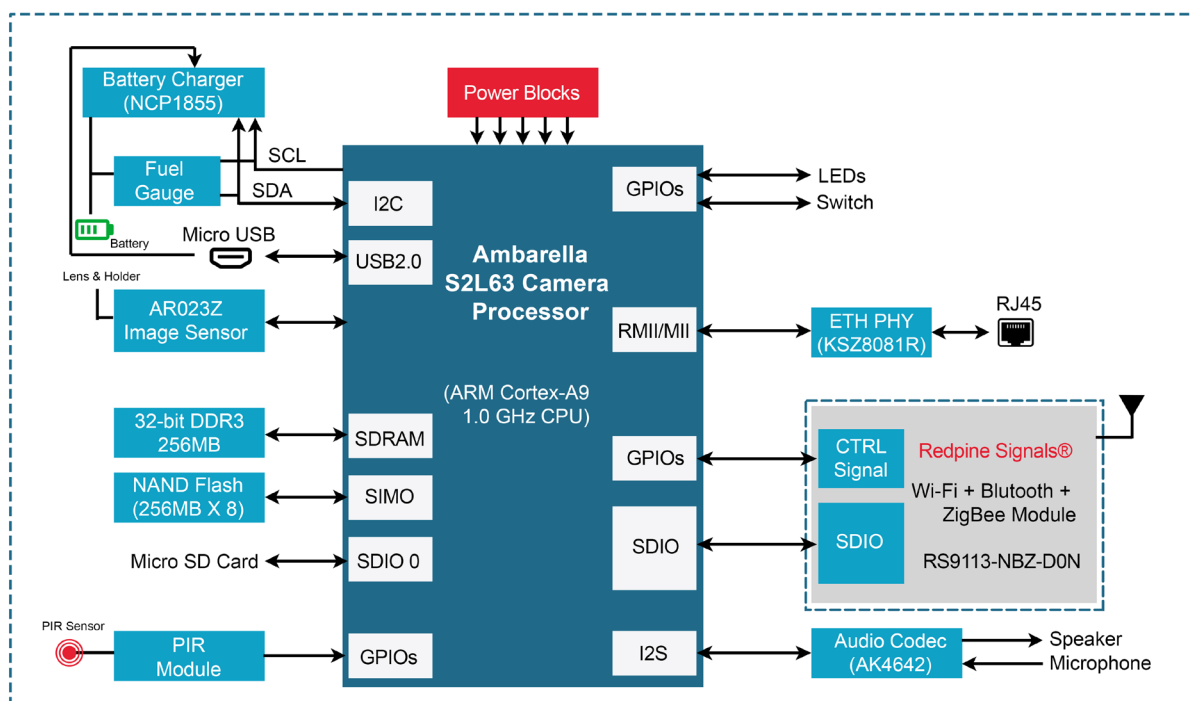
The “Wireless Cloud Camera Reference Kit”, Part Number RS-WCC-REF-KIT-10, enables fast development of security cameras, video baby monitors, car cameras, video door phones and several other video applications. The reference kit comes in a prototype plastic case with rechargeable battery. It integrates Redpine’s dual-band RS9113-NBZ-D0N module, Ambarella S2L63 camera processor, On Semiconductor AR023Z Image Sensor, AKM AK4642 Audio Codec, Passive IR sensor, battery charging circuitry, ethernet connector, 256MB DDR3 RAM, 2 GB NAND Flash and a micro SD card for storing video recording. It also has integrated speaker and microphone for a two-way communication.



### Key Component Summary:

- Redpine Signals’ RS9113-NBZ-D0N module supports dual band (2.4/5 GHz) 802.11n, Bluetooth Classic, Bluetooth Low Energy 4.1 (BLE) and 802.15.4/ZigBee in a single module. It is a certified module with FCC, IC, RED and Telec certifications. It is being used worldwide in several audio/video, home automation, medical, industrial and automotive applications.
- Ambarella S2L camera processor integrates image sensor pipeline (ISP), an H.264 encoder, and a powerful ARM Cortex-A9 CPU for user applications. S2L supports HDR and motion-compensated 3D NR to handle challenging lighting conditions, while the multi-streaming H.264 encoder which delivers superb video quality at low bitrates.
- On Semiconductor AR023Z is a 2 MP image sensor has an active pixel array of 1920 x 1080. It captures images in either linear or high dynamic range modes, with rolling-shutter readout. It is designed for both low light and high dynamic range scene performance.
- AKM AK4642 supports a stereo CODEC with built-in microphone amplifier, headphone amplifier and speaker amplifier.

### Block Diagram



Wireless Cloud Camera can be provisioned using a BLE application running on Android or iOS platforms. It can be connected to the cloud using Wi-Fi or Ethernet. It can also interface with other wireless sensors using Bluetooth, Bluetooth Low Energy or 802.15.4/ZigBee (application code for these sensors is not provided with the reference kit). A sample application is also provided to view the video data on an Android/iOS platform over the cloud.

## Key Features

### General

- Supports dual-band (2.4/5 GHz) 802.11n, dual mode BT 4.1, 802.15.4/ZigBee (Redpine's RS9113-NBZ-D0N module)
- Integrates Ambarella S2L63, On Semiconductor AR023Z, AKM AK4642 Audio Codec
- Easy BLE provisioning using Android/iOS devices
- Cloud connectivity using Wi-Fi or ethernet
- Application for viewing video over the cloud
- Hardware and software provided as part of the reference kit
- Push notification and cloud uploading on alarm events
- Micro-SD card slot for SD memory card (max 32 GB)

### Video and Audio

- Video Streaming:
  - 1920 x 1080 p@30 fps, H.264, MJPEG
  - 1280 x 720 p@30 fps (16:9), H.264, MJPEG
- Intelligent video motion detection
- Two-way audio
- Omni-directional microphone
- 1-Watt built-in speaker

### Sensors

- Integrated Passive Infra-Red sensor (PIR) with 5m range, 100-degree coverage
- Additional sensors can be added using BT, BLE, 802.15.4/ZigBee

### Wireless Connectivity

- 802.11abgn (2.4/5 GHz) Wi-Fi
- Bluetooth Classic
- Bluetooth Low Energy 4.1
- 802.15.4/ZigBee

### Battery

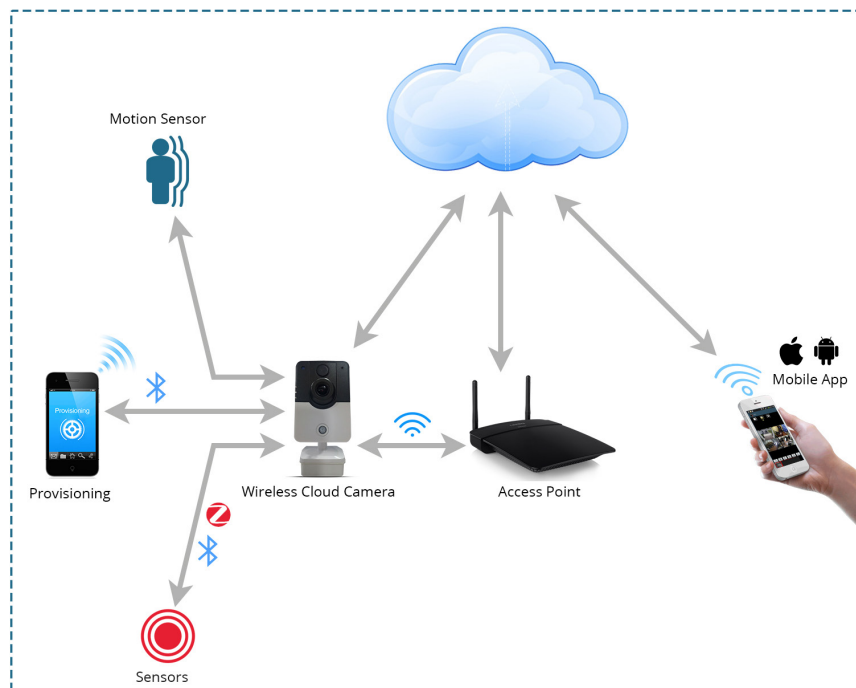
- Rechargeable Lithium ion battery with 4200 mAh capacity
- Battery charging circuitry included
- Wi-Fi/Bluetooth coexistence protocol support

### Mobile Applications

- Provisioning over BLE for Android and iOS
- Video viewing over cloud for Android and iOS

**Part Number:** RS-WCC-REF-KIT-10

## Camera Use Model



\*: This is an advance product brief. The content is subject to change with no prior notice.

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