

Camera with ZigBee® connectivity based on the STM32

Data brief

Features

- STM32-based camera with ZigBee® connectivity
- Includes microSD card and ZigBee® module
- Works with monitoring unit (order code STEVAL-CCM003V1)
- Camera unit can be powered either by USB or battery. A slider switch on the board allows selection of the power source
- RoHS compliant

Description

The complete system is designed as two separate hardware units.

This document describes the STEVAL-IFV001V1, also called the “camera unit”, which is based on the STM32 microcontroller and features a camera and a ZigBee® module interfaced with the STM32.

The other unit (available through order code STEVAL-CCM003V2) is the “monitoring unit”, and it consists of a TFT and ZigBee® module interfaced with the STM32 for viewing / monitoring JPEG images.

The STM32 microcontroller in the camera unit captures JPEG images from the camera (using DMA) and transfers them to the ZigBee® network using the SPI-controlled SN260 module.

The images are transferred in JPEG format, which helps to reduce transfer time on the ZigBee® network. The camera unit can also record these images in the on-board memory (microSD card) using the FAT file system. The user can record these images at the click of a button, or the system can be expanded to record the images when motion is detected by the camera (using the PIR sensor).



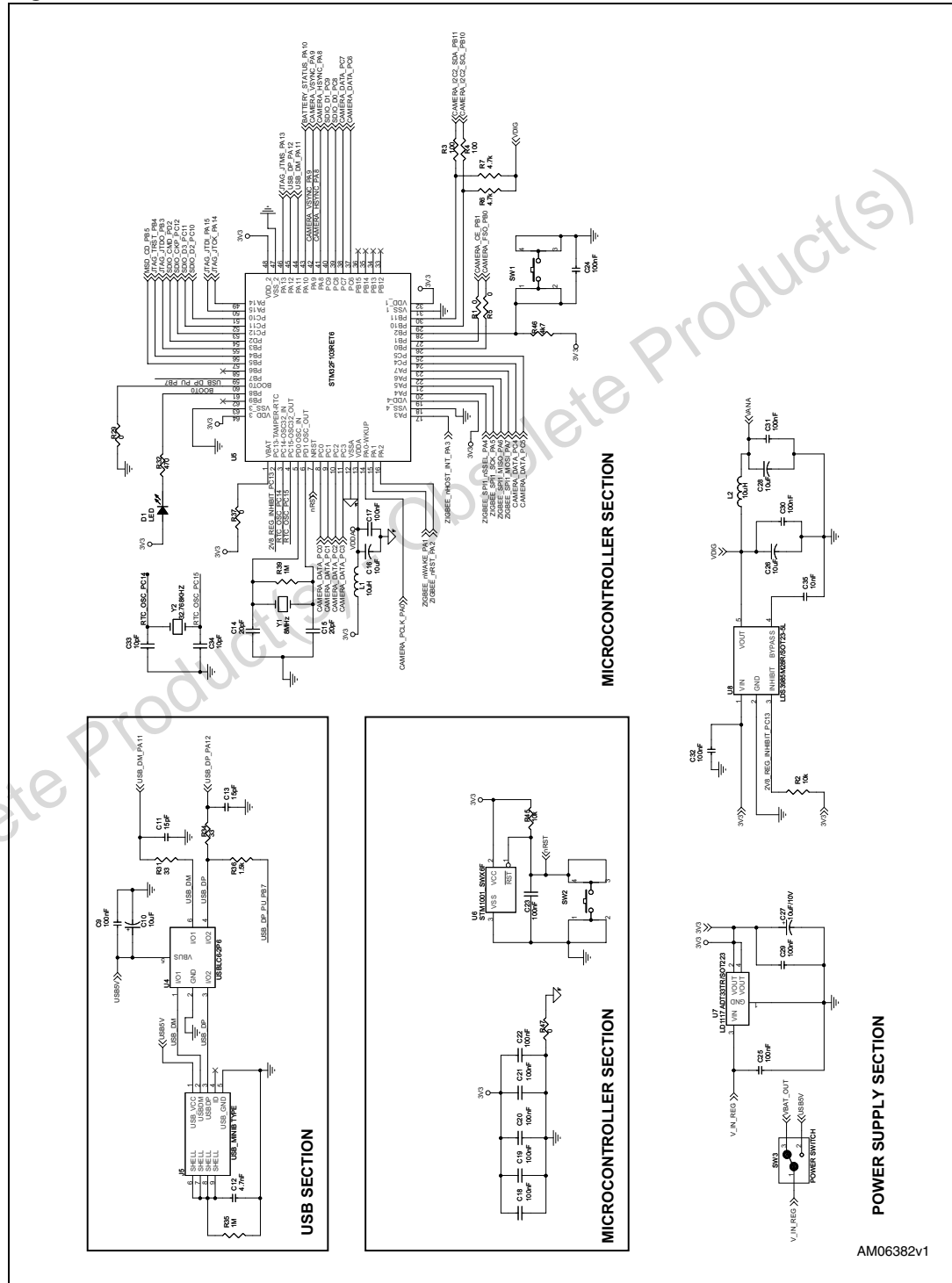
The monitoring unit scans for JPEG images on the ZigBee® network. Once the images are available on the network, it captures the images.

These JPEG images are then converted into BMP format for display on the on-board TFT. Both units can be powered either from a battery or through USB. The system can be configured to enter standby mode as per the user configuration. This feature helps reduce system power consumption. These features render the system suitable for applications where certain areas require wireless monitoring, such as door phones or baby monitoring systems.

1 Schematics diagrams

1.1 Camera unit

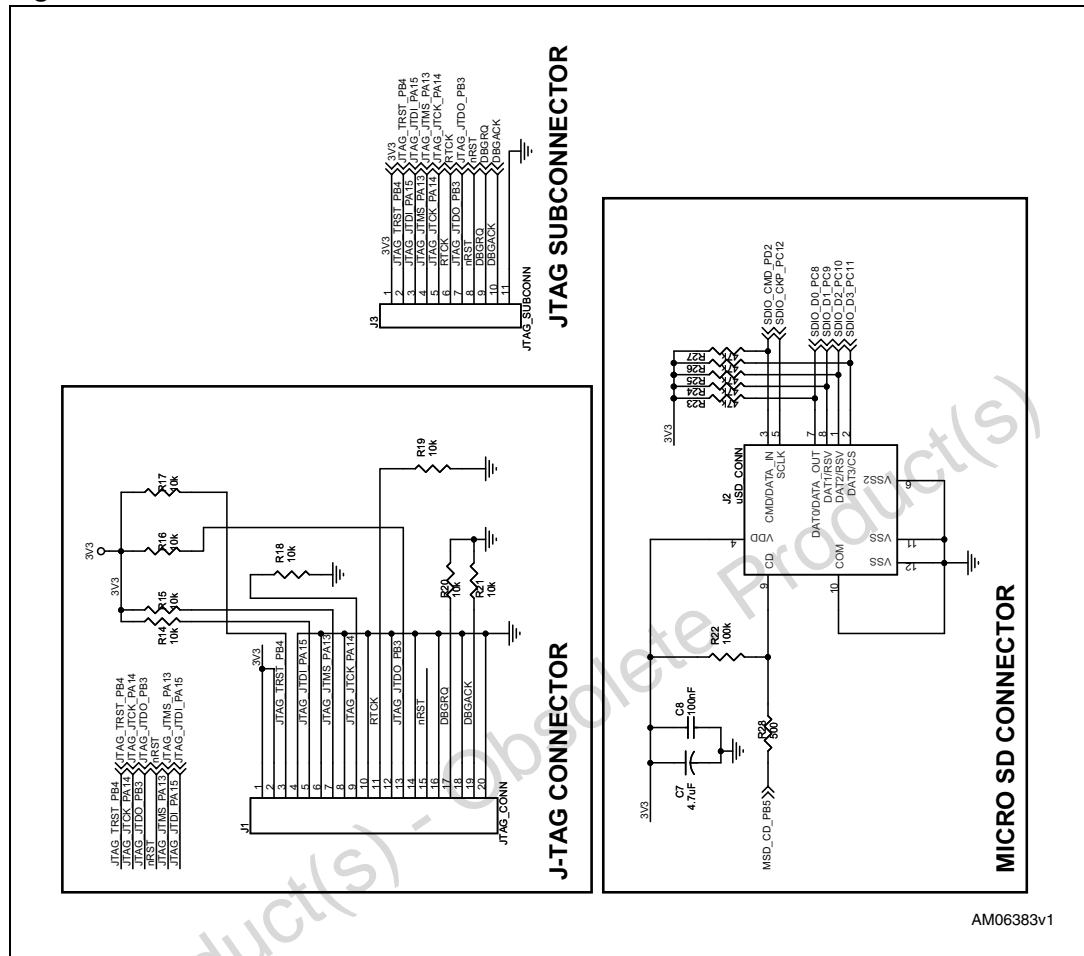
Figure 1. Microcontroller circuit schematic



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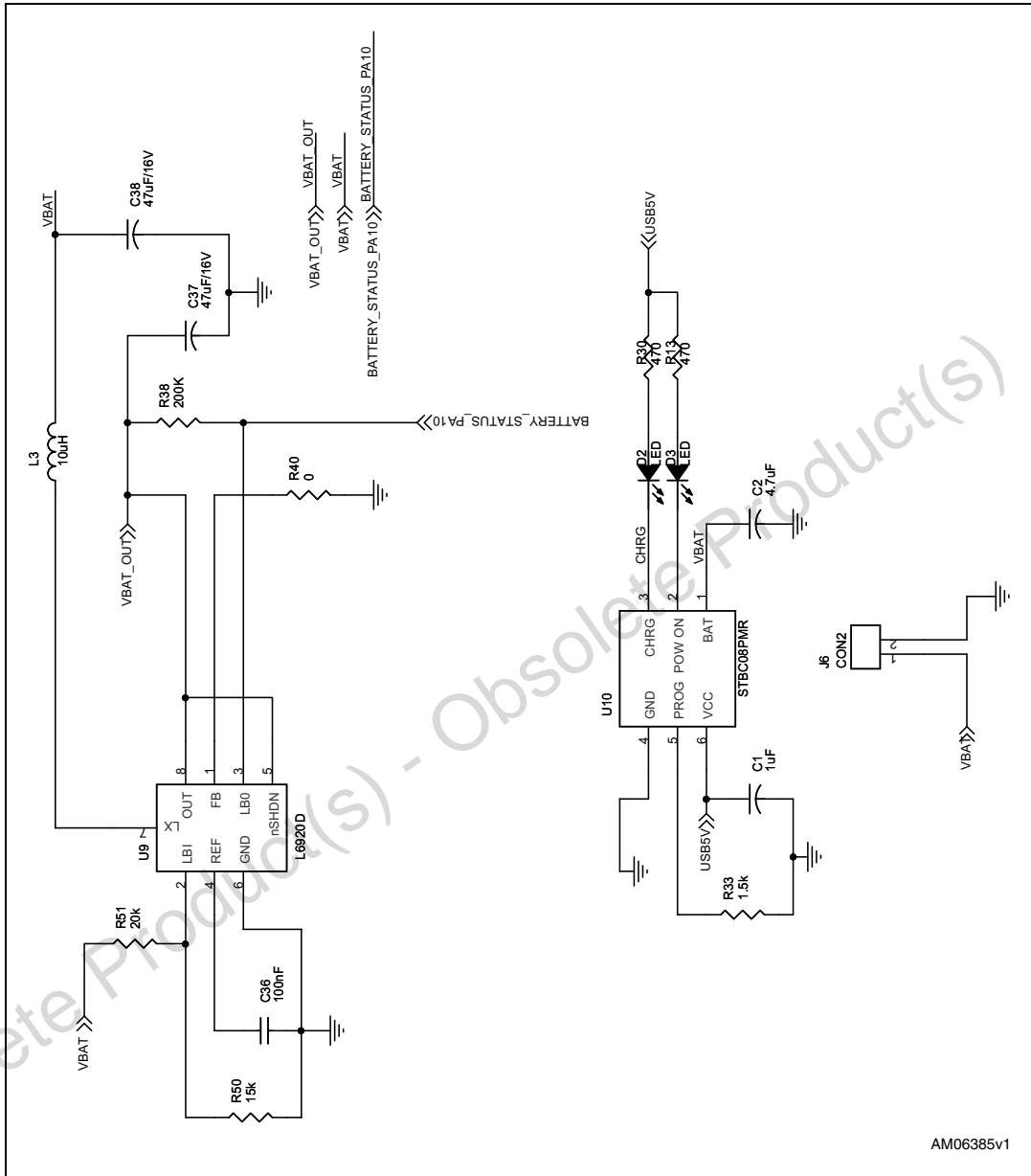


Figure 2. Connector circuit schematics



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Figure 4. Battery circuit schematics



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
08-Mar-2010	1	Initial release.

Obsolete Product(s) - Obsolete Product(s)

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