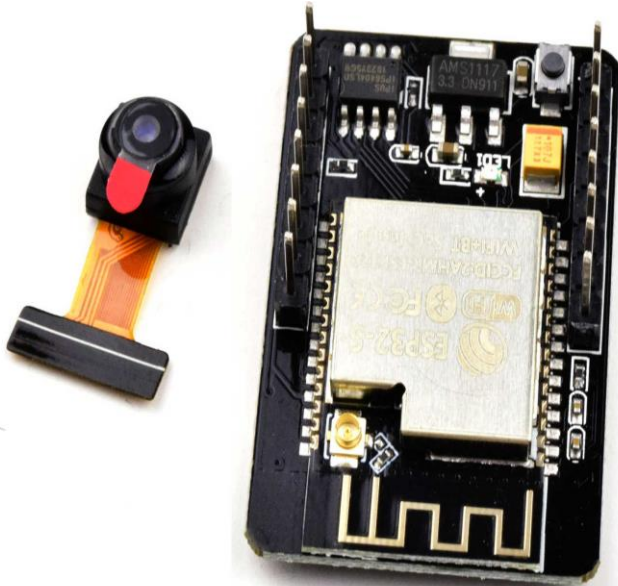




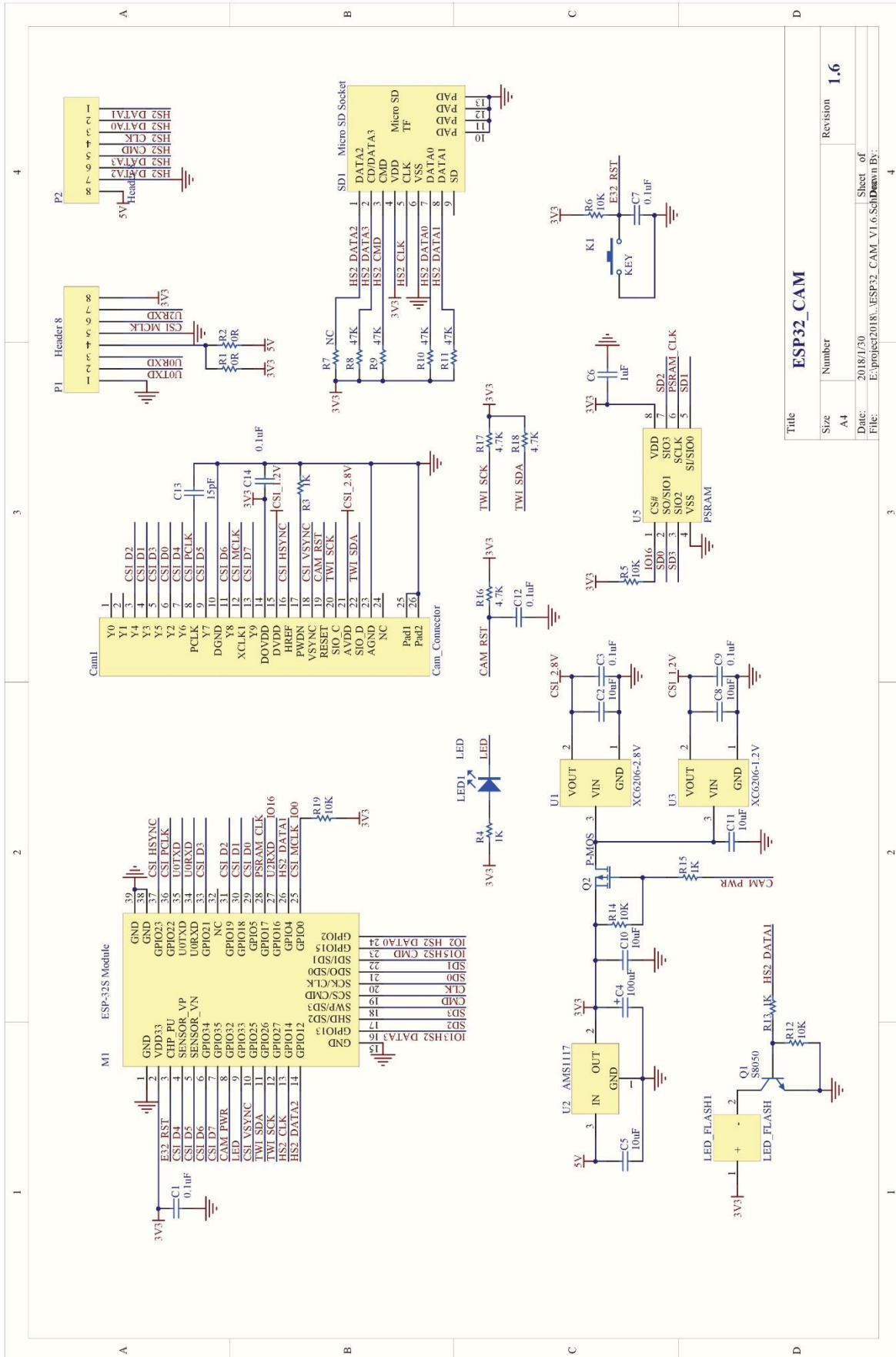
Ai-Thinker ESP32-CAM WiFi + BT + BLE SoC with 2MP Camera



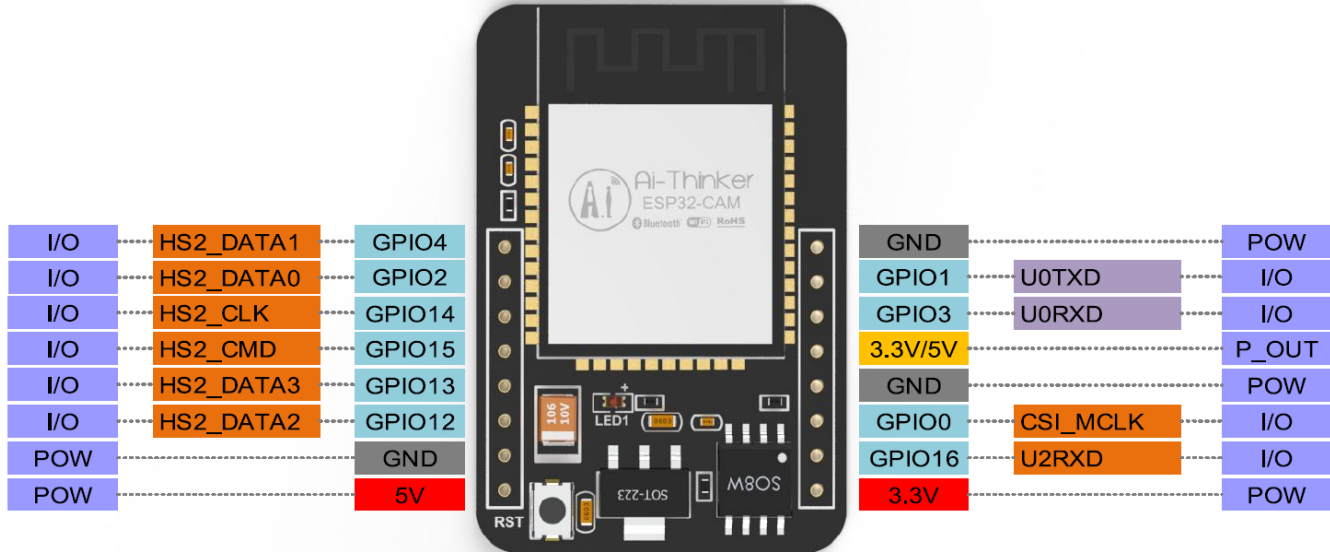
Ai-Thinker ESP32-CAM is a small and ultra-low power device with the original Ai-Thinker ESP32-S SoC and an OmniVision OV2640 Camera module with 1600 x 1200 pixel. The ESP32-S SoC contains two 240MHz Xtensa® 32-bit LX6 microprocessor cores, 32Mbit flash memory, and radios for Bluetooth 4.2 and WiFi 2.4GHz.

ESP32-CAM can be programmed, for example, using Arduino IDE. The board manager files and example code is available on GitHub and from many other sources.

- Low-power dual-core 32-bit CPU, can be used as an application processor
- Main frequency up to 240MHz, computing power up to 600 DMIPS
- Built-in 520 KB SRAM, external 8MB PSRAM
- Support UART/SPI/I2C/PWM/ADC/DAC and other interfaces
- Support OV2640 and OV7670 cameras, built-in flash
- Support picture WiFi upload
- Support TF card
- Support multiple sleep modes.
- Embedded Lwip and FreeRTOS
- Support STA/AP/STA+AP working mode
- Support Smart Config/AirKiss one-click network configuration



Title	
Size	A4
Number	
Revision	1.6
Date:	2018/1/30
File:	E:\project\2018\...\ESP32_CAM_V1.6_Sch.Dwg.in By: 4



Specifications:

SPI Flash default 32Mbit

RAM internal 520kb + external 8MB PSRAM

Bluetooth Bluetooth 4.2 BR / EDR and BLE standard

Wi-Fi 802.11 b/g/n/e/i

Supported interfaces UART, SPI, I2C, PWM

Serial port rate default 115200 bps

Image output format JPEG (OV2640 support only), BMP, Grayscale

Antenna on board (PCB antenna), gain 2dbi

Transmit power:

802.11b: 17 ± 2 dBm (@11Mbps)

802.11g: 14 ± 2 dBm (@54Mbps)

802.11n: 13 ± 2 dBm (@MCS7)

Receive sensitivity:

CCK, 1 Mbps : -90dBm

CCK, 11 Mbps: -85dBm

6 Mbps (1/2 BPSK): -88dBm

54 Mbps (3/4 64-Qam): -70DBM

MCS7 (65 Mbps, 72.2 Mbps): -67dBm

Power consumption:

w/o Flash: 180mA @ 5V

with Flash (full brightness): 310mA @ 5V

Deep-Sleep: 6mA @ 5V

Security: WPA/WPA2/WPA2-Enterprise/WPS

Power supply range 4.75-5.25V

Operating temperature $-20^{\circ} \text{C} \sim 70^{\circ} \text{C}$

Storage environment $-40^{\circ} \text{C} \sim 125^{\circ} \text{C}$

Size 27*40.5*4.5 (± 0.2) mm



UNIVERSAL-SOLDER offers 3 different models of ESP32-CAM modules:

Model	SKU	EAN
Ai-Thinker® ESP32-CAM with genuine Ai-Thinker® SoC	26573	4260474035731
CANADUINO® ESP32-CAM with 3 rd party ESP32-S SoC	26387	4260474033874
CANADUINO® ESP32-CAM-MB with 3 rd party SoC and USB adapter	26570	4260474035700

For more information, please visit Ai-Thinker website and GitHub repository:

<https://docs.ai-thinker.com/en/esp32-cam>

<https://github.com/espressif/esp32-camera>