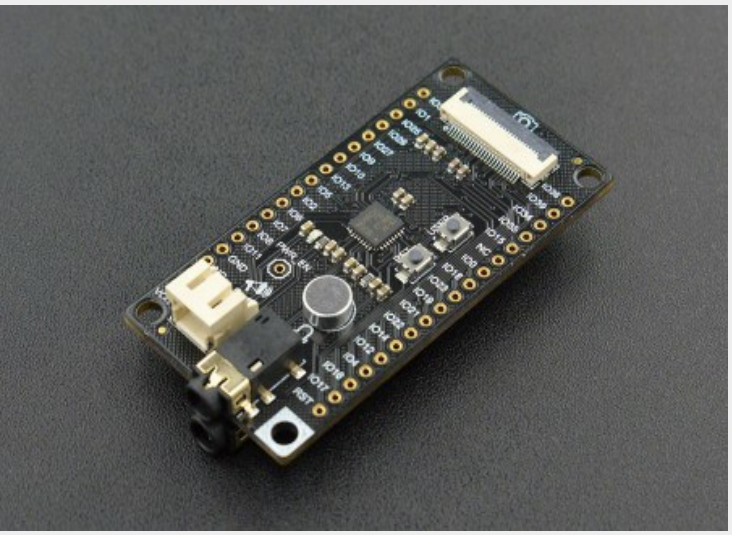

FireBeetle Covers-Camera&Audio Media Board

SKU:DFR0498 Brand:DFRobot
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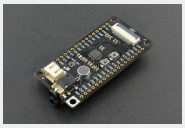

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INTRODUCTION

DFRobot FireBeetle series are low power consumption development modules designed for Internet of Things (IoT). The FireBeetle Covers-Camera & Audio Media Board is a multimedia device for IoT that provides interfaces to connect NAU8822 CODEC IIS, OV7725 camera, SD card (SDIO), earphone and microphone.

Moreover, it equips with a mini MIC input interface. The NAU8822 CODEC IIS can drive both 12@8Ω BTL loudspeaker and 40mW@16Ω earphone. The direct connection is supported. Meanwhile, NAU8822 supports DAC sound signal acquisition and programmable microphone amplifier. The recording is available when input voices with onboard MIC interface or microphone then save it to SD card. What's more, the function to take photos is available when connected to an OV7725 CAMERA.

With any FireBeetle main boards (e.g. ESP32 main board), the FireBeetle Covers-Camera & Audio Media Board could be a MP3, a recorder, a camera. Once connected to the Internet, it could be an Internet radio, a cloud image recognition.

NOTE:

- This media board only supports FireBeetle ESP32 main board at present, for other main boards do not equipped with IIS interface.

ak, please be careful and light in connection. The camera shot must be

opposite to the SD card slot.
- It does not support video shooting and transmission.

SPECIFICATION

- Operating Voltage: 3.7V~5.5V (VCC)
- Output Voltage: 3.3V
- User-defined Button: tested by IO16(DI)
- RESET x1
- SD Card:

Bus Interface: SDIO Protocol
Default Transmission Rate: 10MHz
Max. Transmission Rate: 20MHz

- Camera OV7725: (data as below is just for reference; some functions could not be realized by ESP32 now).

Photosensitive/Light-sensitive Array: 640*480
Optical Size: 1/6"
Angle of View: 25°
SCCB Standard Interface
Output Pixel Format: Raw RGB, RGB(RGB4:2:2 ,RGB565/555/444), YCbCr (4:2:2)
Image Size: VGA,QVGA and CIF to 40x30
VarioPixel Subsampling
Auto Image Control: auto exposure control (AEC), auto gain control (AGC), auto white balance (AWB), auto band filter and auto black level (ABL) calibration.
Image Quality Control: saturation, tone, gamma, clarity and anti-interference
ISP: noise reduction and defect calibration
Lens Shading Correction
Auto Saturation Adjustment
Frame Synchronization
Fixed-focus

- NAU8822:

DAC:94dB SNR , -84db THD
ADC:90dB SNR , -80dB THD
Integrated BTL loudspeaker drive: 1W @ 8Ω
Integrated earphone drive: 40mW @ 16Ω
Integrated programmable microphone amplifier
Typical Sampling Rate: 8KHz, 48KHz, 96KHz, 192KHz
Standard Video Interface: PCM and I2S

- MIC:

Type: Electret Capacitor
Output: analog
Direction: omnidirectional
Frequency Range: 100Hz~15KHz
Sensitivity: -43dB ±5dB @ 94dB SPL
Signal-to-noise Ratio: 58Db

DOCUMENTS

- Product wiki
- More Documents

SHIPPING LIST

- FireBeetle Covers-Camera&Audio Media Board(V1.0) x1
- OV7725 Camera x1
- 18pin-2.54mm Male Pin Header ×2
- 18pin-2.54mm Female Pin Header ×2

REVIEW

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