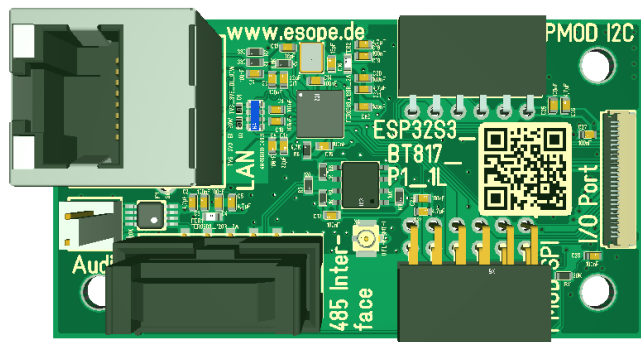


ESP32S3_BT817_P1

Highlights



- ✓ PMOD-Interface (I²C, SPI)
- ✓ LAN-Interface
- ✓ Audio-Amplifier
- ✓ RS485-Data Interface
- ✓ Long range WLAN-Antenna
- ✓ Industrial standard

Features

The ESP32S3_BT817_P1 clip-on module is an interface module of the ESoPe platform and serves as an extension for the ESP32S3_BT817 system.

The plug-on module has the following interfaces:

- PMOD I²C
- PMOD SPI
- RS485-Interface / Power
- LAN-Interface
- Class-D Audio-Amplifier
- WLAN Antenna

The interfaces are used to communicate with peripheral devices and, if necessary, to power the system.

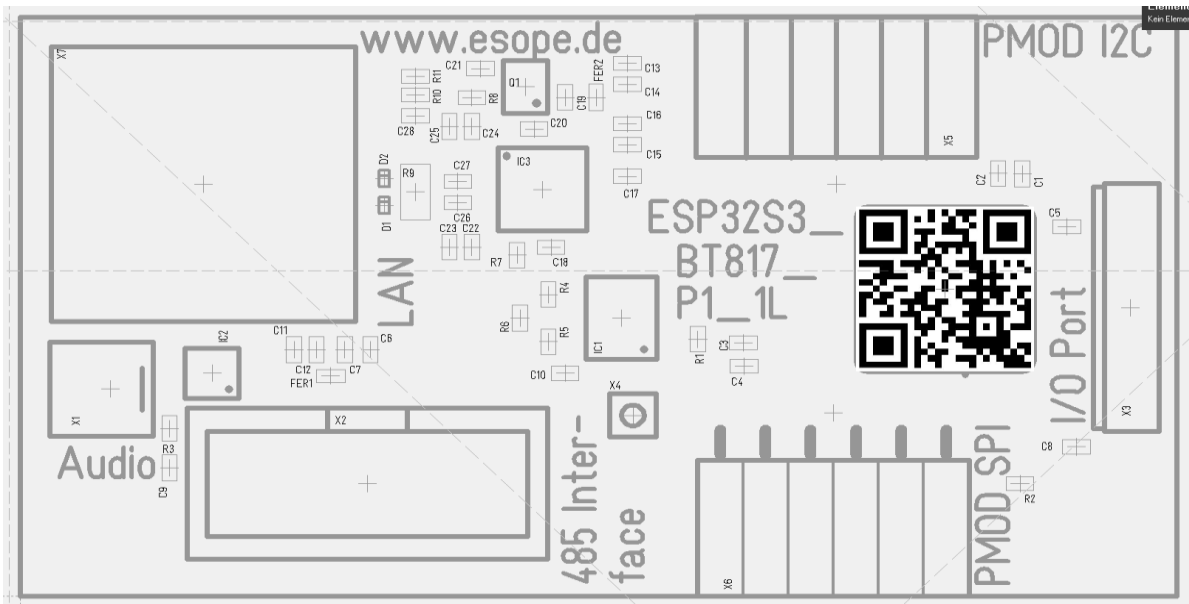
Technical Specification

Parameter	Value
Power Supply	via ESP32S3_BT817
Power Consumption	approx. 125mA
Operating Ambient Temperature	-10...+70°C
Dimensions	80mm x 50mm
Weight	18g
Conformity	RoHS

Schematic

Details in document ESP32S3_BT817_P1_1A_SCH.pdf

Board



Connection Plan

Audio / Loudspeaker



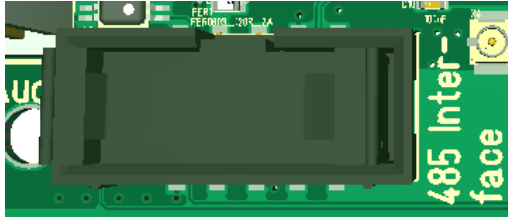
X1: connection loudspeaker, NSL25 / 2-pole

pin	function
1	loudspeaker +



2 loudspeaker -

RS485-Interface



X2: connection, male box header, 10-pole, grid 2.54

pin	function
1	+12V
2	+12V
3	GND
4	NC
5	GND
6	GND
7	485 A
8	485 B
9	GND
10	GND

I/O – port / communication with ESP32S3_BT817 board

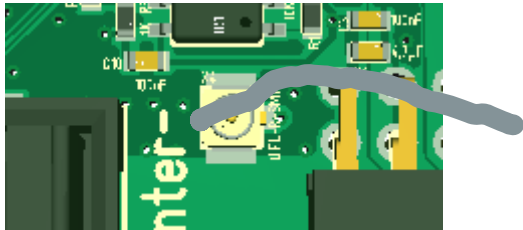


X3: ZIF-connector 26-pole

pin	function
1	Audio_L
2	PMOD SPI2 /CS
3	PMOD SPI2 /CS2
4	PMOD SPI2 /INT
5	PMOD SPI2 /RESET
6	PMOD SPI MISO
7	PMOD SPI MOSI
8	PMOD SPI Clock

9	PMOD SPI /CS
10	PMOD SPI /CS2
11	/SD SGM2820 (Audio)
12	PMOD SPI /INT
13	PMOD SPI /RESET
14	GND
15	I ² C SDA
16	I ² C SCL
17	I ² C /RESET
18	I ² C INT
19	GND
20	RS485 /RE_DE
21	RS485 RXD
22	RS485 TXD
23	+3V3 DC
24	+3V3 DC
25	+12V DC
26	+12V DC

Connection Antenna



X4: U.FL-R-SMT-1

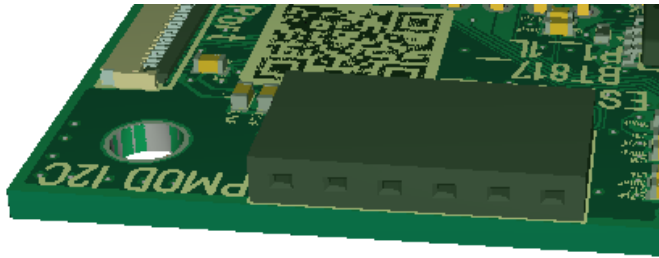
pin	function
1	GND
2	HF-signal

Connection antenna cable:

Connection between ESP32S3_BT817_P1 (antenna) and ESP32S3_BT817 board. The antenna cable enables the WLAN functionality.

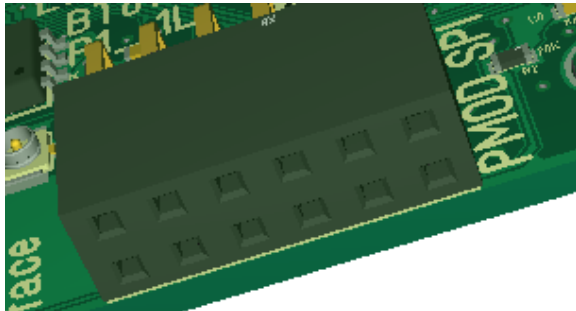
PMOD I²C

X5: connection socket header, 6-pole, grid 2.54, connection acc. to PMOD I²C



pin	function
1	PMOD I ² C INT
2	PMOD I ² C /RESET
3	PMOD I ² C SCL
4	PMOD I ² C SDA
5	GND
6	+3V3

PMOD SPI

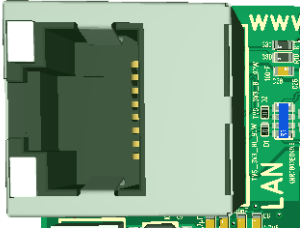


X6: connection socket header, 12-pole, grid 2.54, connection acc. to PMOD SPI

pin	function
1	PMOD SPI CS
2	PMOD SPI MOSI
3	PMOD SPI MISO
4	PMOD SPI CLK
5	GND
6	+3V3
7	PMOD SPI /INT
8	PMOD SPI /RESET
9	PMOD SPI CS2
10	NC
11	GND
12	+3V3



Connection LAN



X7: RJ45 connector / 8-pole

PIN	Function
1	Send +
2	Send -
3	Receive +
4	NC
5	NC
6	Receive -
7	NC
8	NC

Function LEDs:

LED	State	Meaning
Green	LED dark	No LAN-connection
	LED aktive	LAN-connection
Yellow	LED dark	No LAN-data
	LED flashes	Data connection

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Change History

File: ESP32S3_BT817_P1_1A_DS_en

Revision	Date	State	Author
1.0	2024-02-25	Initial release	Stefan Peters

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