

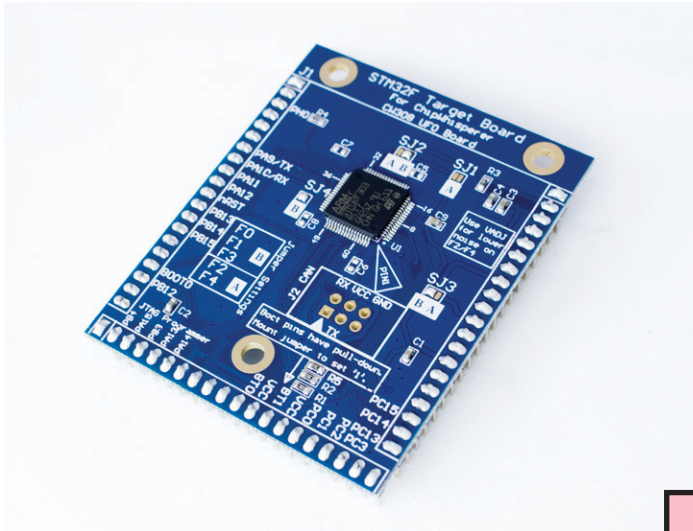


NewAE Technology Inc.
newae.com

ChipWhisperer® Embedded Security Analysis Tools CW308 UFO Targets

STM32Fx/STM32Lx UFO Target

Product Datasheet



The CW308T-STM32F target series allows experiments on the popular STM32F/STM32L series of Arm devices in TQFP-64 package. This includes the STM32F0, STM32F1, STM32F2, STM32F3, STM32F4, STM32L4, and STM32L5. Devices within this family have varying core types, peripheral options, and hardware cryptographic peripheral support.

Devices within this family also have differing support for a data and instruction caches, allowing you to compare code and libraries running on different processor architectures while keeping the same development setup. The ChipWhisperer capture supports programming this series of devices via a serial bootloader.

CW308 UFO Baseboard Required for use!

ST-LINK/V2 Recommended for Debug.

Product Highlights

STM32Fx and STM32Lx series in TQFP64 package supported.

Optional CAN header allows connection of CANoodler (only for devices with CAN peripheral).

JTAG header on CW308 baseboard allows use of ST-Link/V2 or other JTAG programmers and debuggers.

Example serial program and HAL library allows use of most ChipWhisperer firmware examples and tutorials directly.

32-bit cores (Arm Cortex) with variety of peripheral options, including multiple security cores.

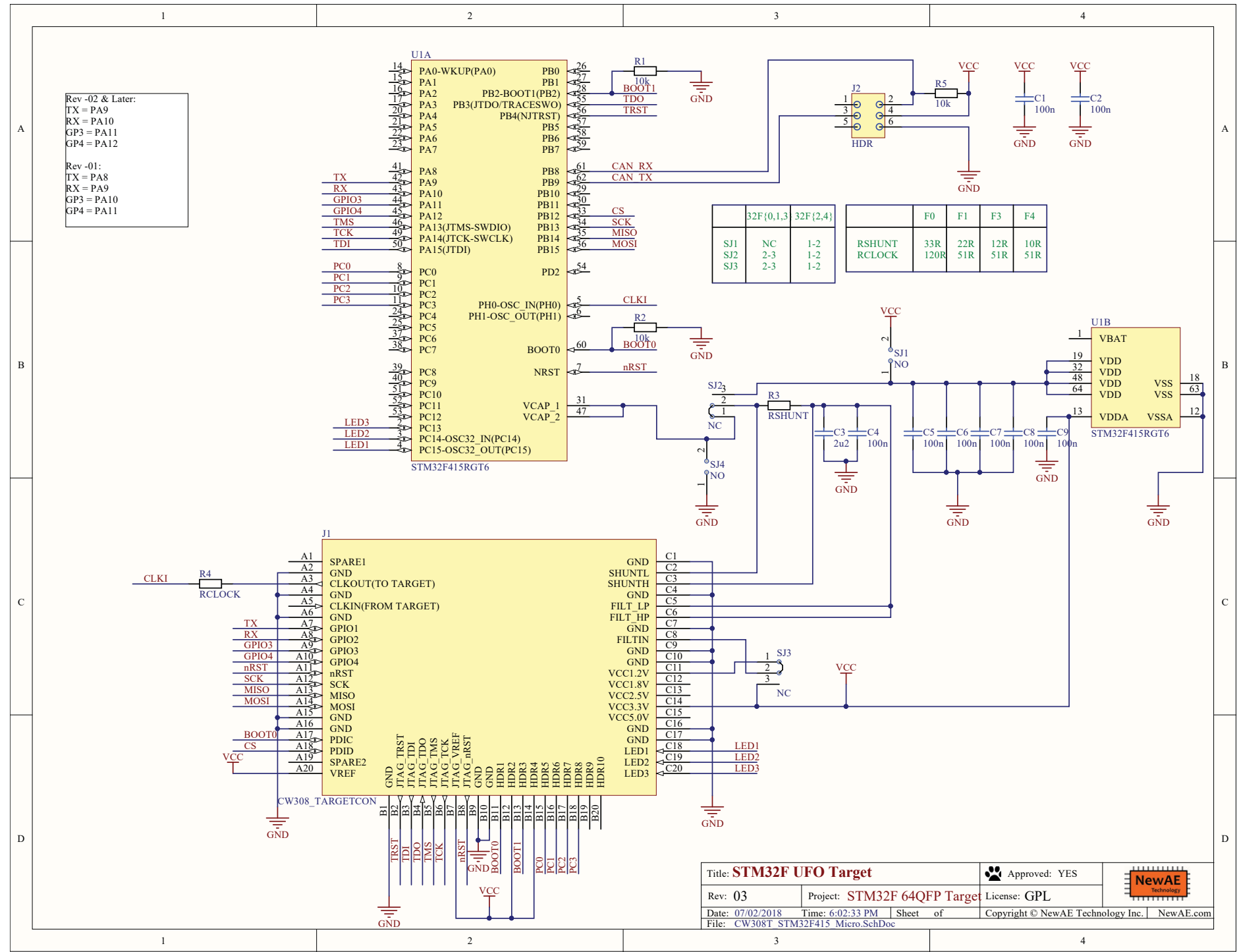
Ordering Summary

NewAE Part Number	Series	Target Part Number	HW AES	Flash	SRAM
NAE-CW308T-STM32F0	F0	STM32F071RBT6	No	128KB	16KB
NAE-CW308T-STM32F1	F1	STM32F100RBT6B	No	128KB	8KB
NAE-CW308T-STM32F2HWC	F2	STM32F215RET6	Yes	512KB	132KB
NAE-CW308T-STM32F3	F3	STM32F303RCT7	No	256KB	40KB
NAE-CW308T-STM32F4HWC	F4	STM32F415RGT6	Yes	1MB	192KB
NAE-CW308T-STM32F4	F4	STM32F405RGT6	No	1MB	192KB
NAE-CW308T-STM32L4	L4	STM32L443RCT6	Yes	256KB	64KB
NAE-CW308T-STM32L5HWC	L5	STM32L562RET6	Yes	512KB	256KB

Product Links

Full Documentation <https://wiki.newae.com/CW308T-STM32F>
Firmware Examples <https://github.com/newaetech/chipwhisperer/tree/master/hardware/victims/firmware>
Design Files <https://github.com/newaetech/chipwhisperer-target-cw308t>

Schematic



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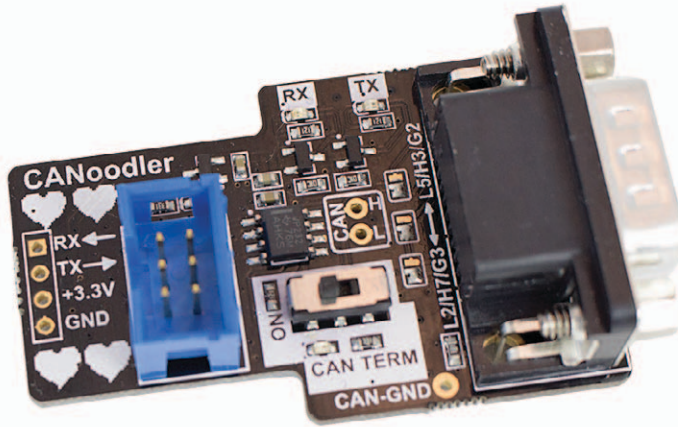


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CANoodler

Product Datasheet



CANoodler is a simple CAN (not CAN-FD) interface, which provides logic-level 3.3V output. It's designed to be used with microcontrollers that have CAN blocks inside them, and in particular uses a pinout present on some ChipWhisperer CW308 (UFO) Target boards.

It is powered from 3.3V only (does not require a 5V supply) making it easier to interface with existing 3.3V systems compared to many CAN interfaces.

The design is fully open source and can be modified for your own use (or integrated into your product).

Product Highlights

Switchable CAN termination resistor with LED feedback on current state.

LEDs for TX/RX (uses MOSFET to drive LEDs so doesn't slow your I/O pins down).

SN65HVD232DR Can Transceiver IC

Reverse-polarity protection on 3.3V power supply, device requires only a single 3.3V supply.

Solder jumpers select one of two possible DB9 CAN pinouts.

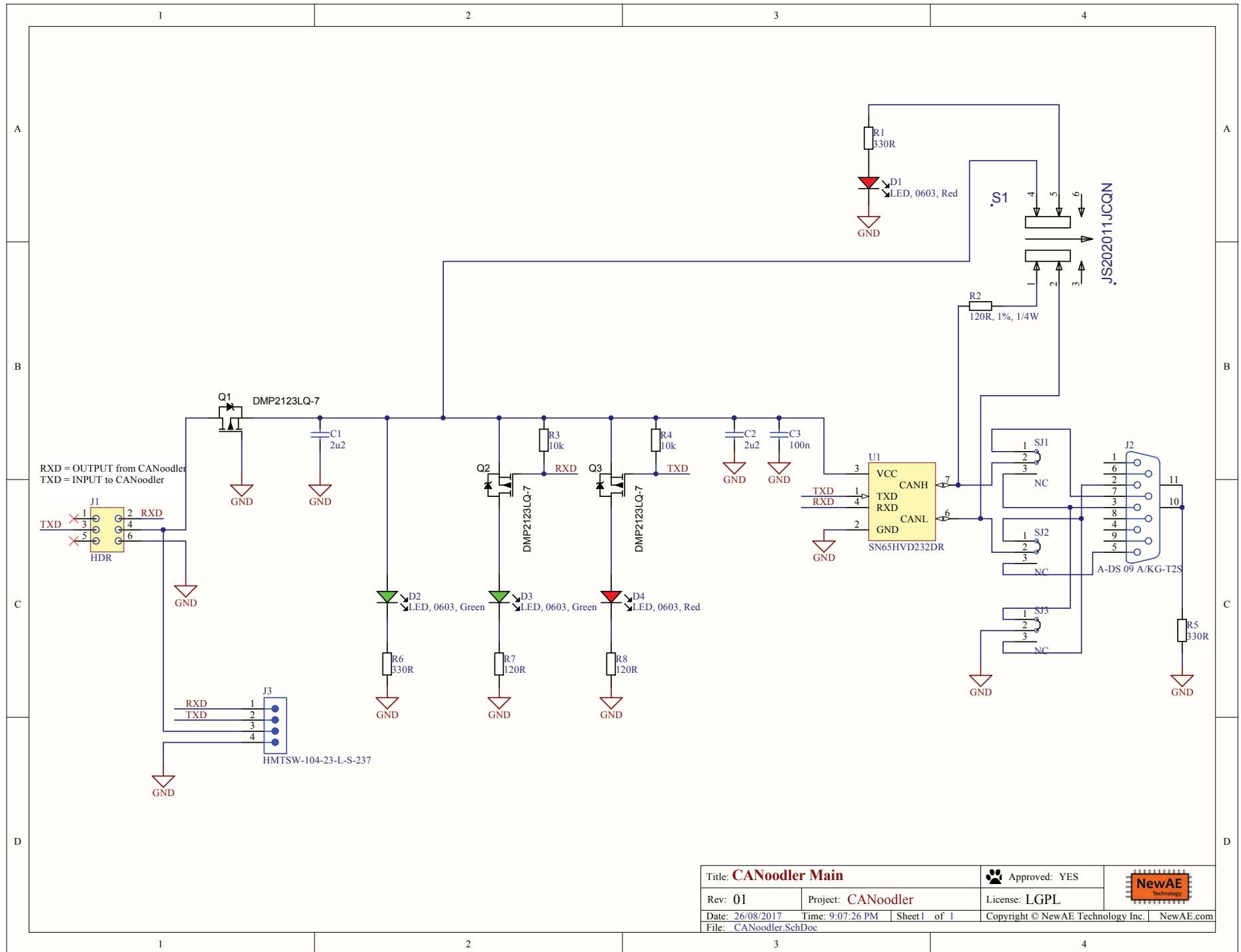
Ordering Summary

NAE-CANOODLER CANoodler assembled unit (does not come with cables).

Product Links

Full Documentation <https://github.com/newaetech/CANoodler>

Schematic



Using CANoodler

CANoodler is simple to use. Simply:

- Connect the RX pin to your microcontroller CAN-RX pin (this is an OUTPUT from the CANoodler).
- Connect the TX pin to your microcontroller CAN-TX pin (this is an INPUT to the CANoodler).
- Provide 3.3V power to the board.
- Select if you'd like the termination resistor ON or OFF with the switch.
- Write an entire CAN stack for your microcontroller from scratch, along with a test framework to ensure you meet applicable relevant standards.

Solder Jumpers

The solder jumpers specify which pinout you'd like on the male DB9 connector.

The default pinout is selected by shorting the LOWER and MIDDLE solder jumpers. It is used by many boards and the Peak CAN USB interface:

- CAN-Low = Pin 2
- CAN-High = Pin 7
- CAN-GND = Pin 3

The "option" pinout is set by moving each of the three solder jumpers to short the UPPER and MIDDLE pads. This pinout is used by cheap ODB-II to DB9 connectors:

- CAN-Low = Pin 5
- CAN-High = Pin 3
- CAN-GND = Pin 2

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