

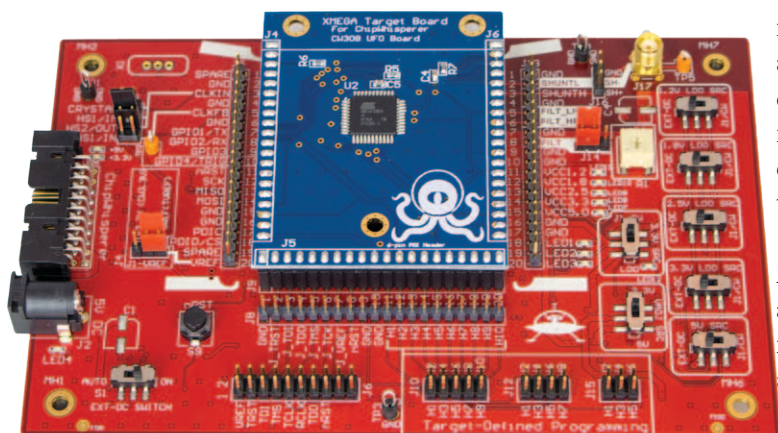


NewAE Technology Inc.  
newae.com

ChipWhisperer® Embedded Security Analysis Tools  
Stand-Alone Targets

# CW308 UFO Target Board

Product Datasheet



Get probing! The ChipWhisperer CW308 UFO board is the ultimate starting point for side-channel power analysis attacks when combined with a ChipWhisperer Capture solution. The CW308 puts all the standard requirements onto one board (such as power supplies, oscillators, filters) allowing you to make super-simple target victim boards.

A large variety of available target examples provides all levels of architectures for you to test against including 8-bit microcontrollers, 32-bit microcontrollers, and FPGAs.

## Product Highlights

1.2V, 1.8V, 2.5V, 3.3V, and V-ADJ (1.25V - 3.5V range) power supplies.

Oscillator driver with crystal socket to allow use of most 2 or 3-pin crystals to drive target device or ChipWhisperer.

On-board LC low-pass filter to provide “clean” power supply for resistive shunt measurement.

Diode protection on I/O lines to allow voltage glitch insertion on target with less risk to connected devices.

Soft-start on input power to avoid disconnecting ChipWhisperer-Lite USB when switching power on/off.

Includes 8-bit Atmel XMEGA and 32-bit STM32F3 (Cortex M3) target devices.

## Ordering Summary

### NAE-CW308

Includes base-board, two targets, and additional accessories (see detailed ordering description).

### NAE-CW308-ACCKIT

Includes 5.0V power supply & SMA-BNC cable. Connects board to regular oscilloscope (not used with ChipWhisperer-Capture).

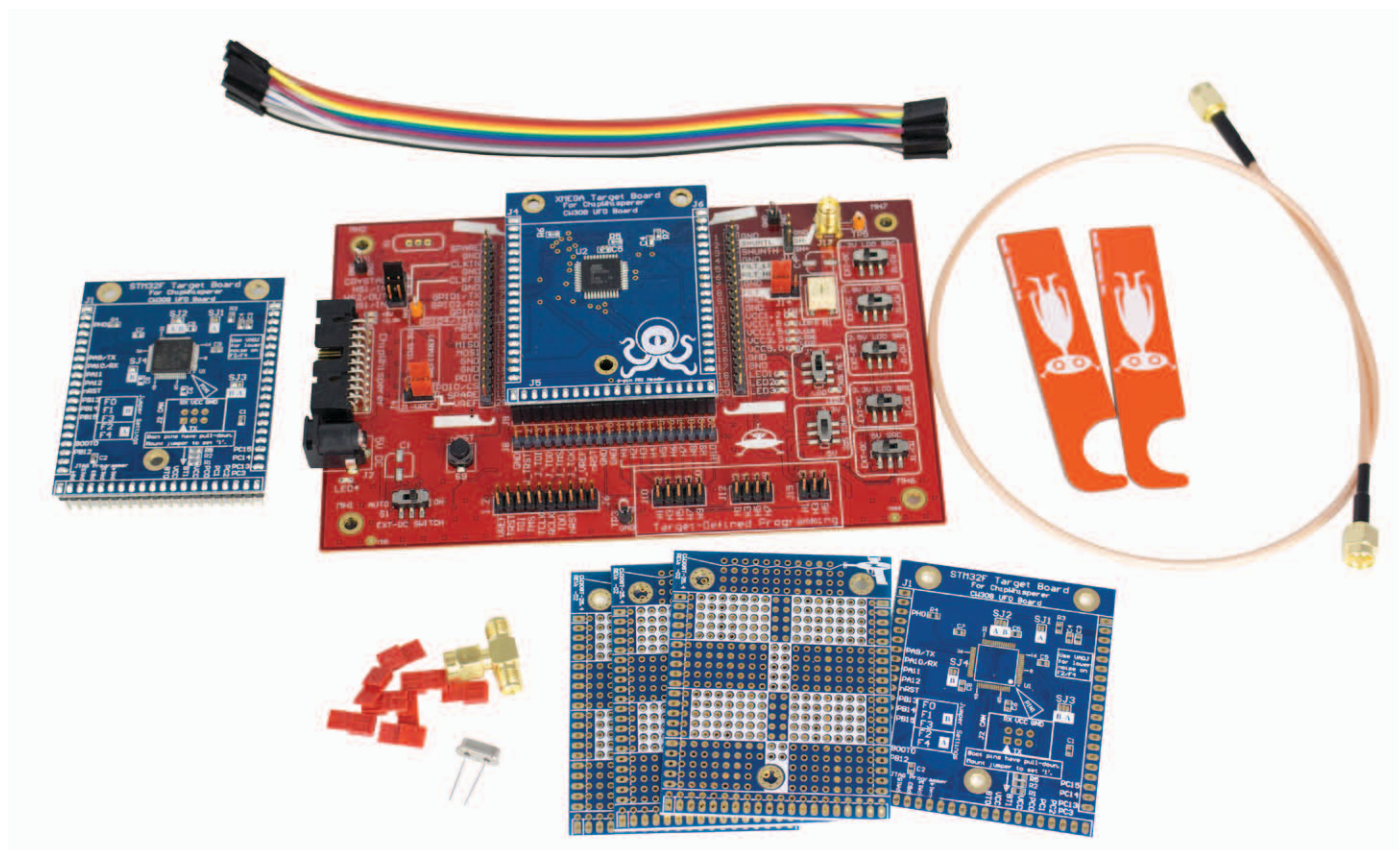
## Product Links

Full Documentation

<http://cwdocs.com/cw308>

## Detailed Ordering Options

### NAE-CW308



The CW308 comes with the following parts (shown above)

- CW308 Main Board
- CW308T-XMEGA Target Board (Atmel 8-bit microcontroller)
- CW308T-STM32F3 Target Board (ARM Cortex M3)
- CW308T Prototyping Boards (2.54mm prototyping board)
- NPCB-CW308T-STM32F Blank PCB (Fits STM32F0, F1, F2, F3, F4)
- Target Removal Tool
- 7.37 MHz crystal
- 8x jumper wires
- 30 cm SMA cable
- SMA Tee

### NAE-CW308-ACCKIT

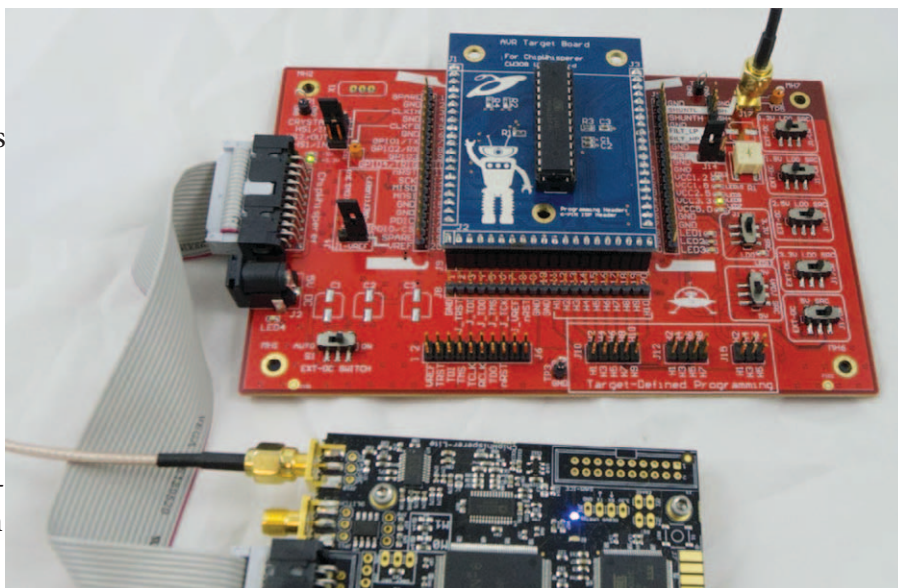
The accessory kit includes the additional required parts for powering the board stand-alone. The kit consists of the following items:

- 24 inch SMA to BNC Cable, Johnson P/N 415-0028-024
- 5.0 VDC Power Supply, XP Power P/N VER12US050-JA

## ChipWhisperer Capture

The CW308 seamlessly connects to the CW1173 and CW1200 capture hardware. The capture hardware provides power, serial communication, clock, shunt resistor monitoring, and power and voltage fault injection capability.

Select devices (including the AVR, XMEGA, and ST-M32Fx) targets can be programmed from the ChipWhisperer, avoiding the need for an external programmer.

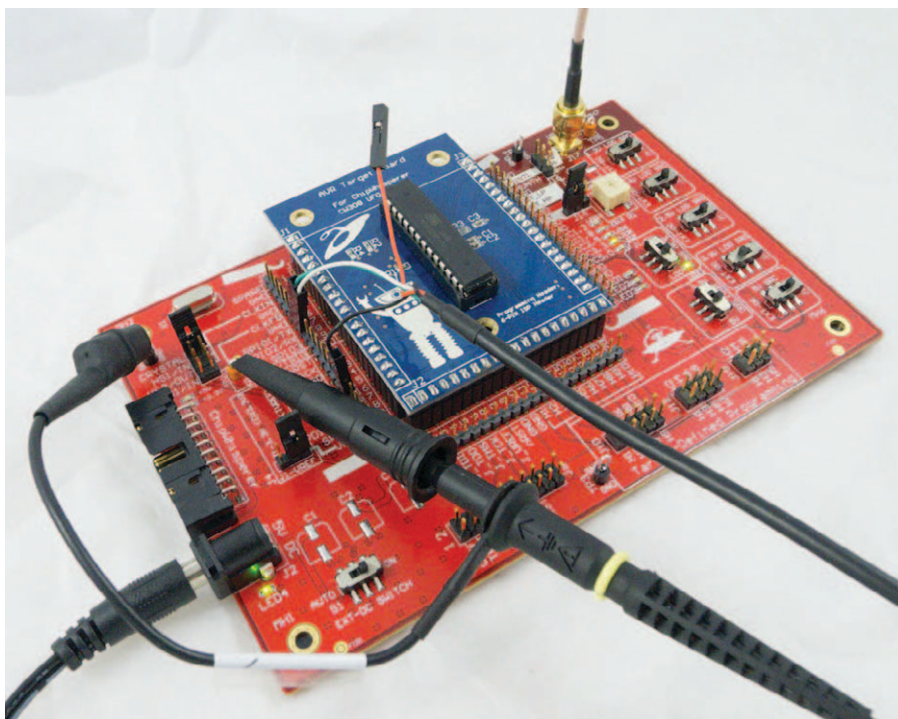


## Stand Alone Usage

Stand alone usage is possible by connecting the SMA measurement port to an oscilloscope input, recommended with the SMA to BNC cable (available option).

The CW308T targets implement the Simple-Serial protocol (see <http://wiki.newae.com>), and will require a suitable 3.3V serial interface to send and receive data.

External programmers will be needed for all targets.



## Full Documentation

See <http://cwdocs.com/cw308> for the UFO board documentation hosted at ChipWhisperer.com .



Schematic

1

2

3

4

A

B

C

D

Change Log

Changes in -04:

- \*Addition of S9, R53
- \*Removed C2/C3 (not used)

Changes in -03:

- \* Change clock resistor.
- \* Move switches slightly to give clearance for lifter board.
- \* Add adjustable regulator & jumper to select FILTIN source.

Changes in -02:

- \* Add test points for GND, Trig.
- \* Add 100K pull-up on JTAG, nRST.
- \* Fixed size of holes in XTAL pins.
- \* Add pull-downs on capacitors.
- \* LEDs moved from switches to beside terminals.
- \* Addition of 5V switch.

TP4

TP1

TP3

GND

FID1

FID2

FID3

FID4

FID5

FID6

FIDU-ROUND-FIDU-ROUND-FIDU-ROUND-FIDU-ROUND-FIDU-ROUND-FIDU-ROUND-1.0MM

MH2

MH1

MH6

MH7

Mounting-Hole-Mounting-Hole-Mounting-Hole-Mounting-Hole-Mounting-Hole-Mounting-Hole-RND-Altium

Title: **Mechanical & Notes**

Rev: **04**

Date: 07/02/2018

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Sheet1 of 5

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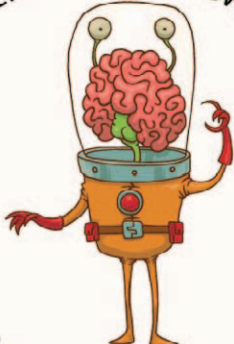
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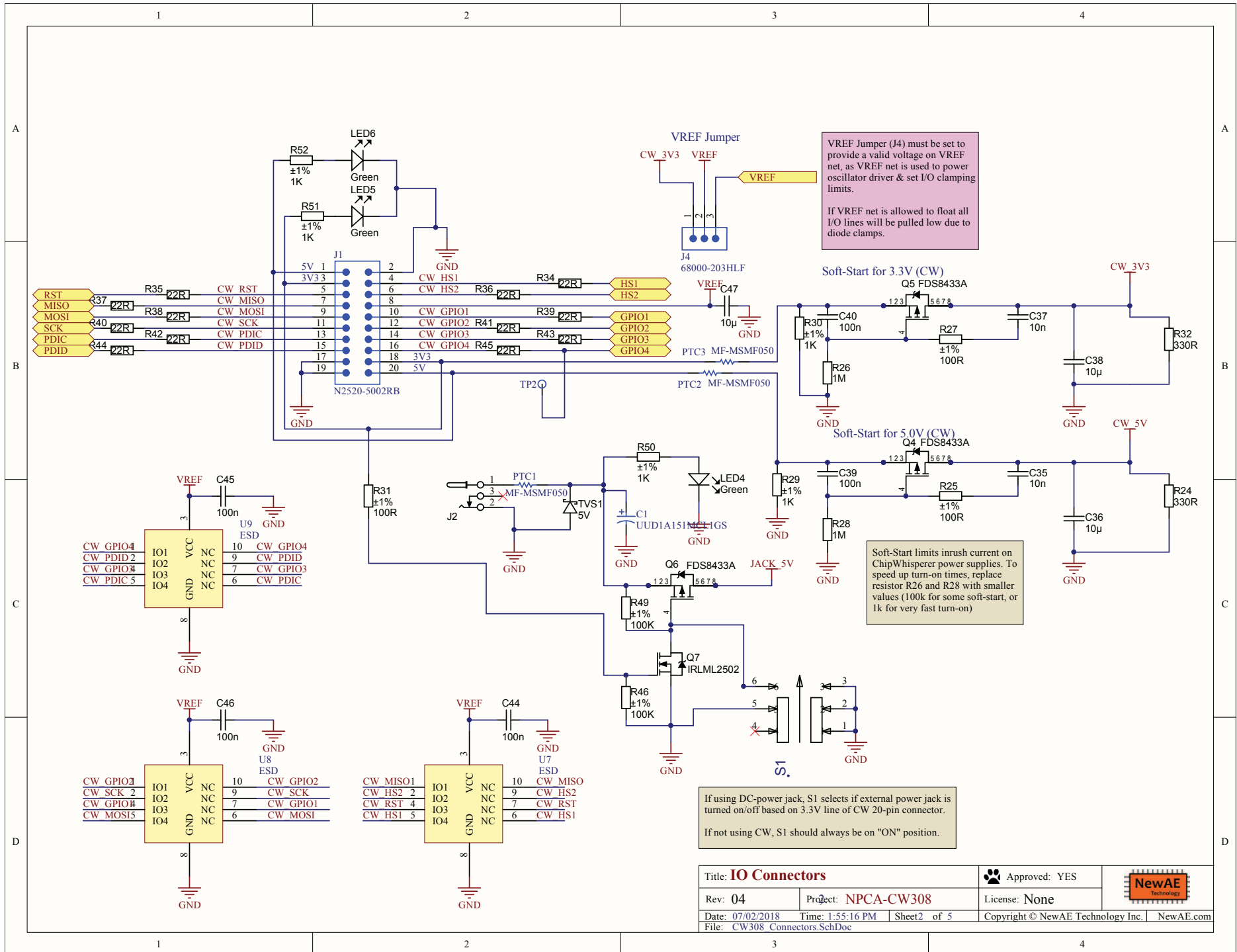
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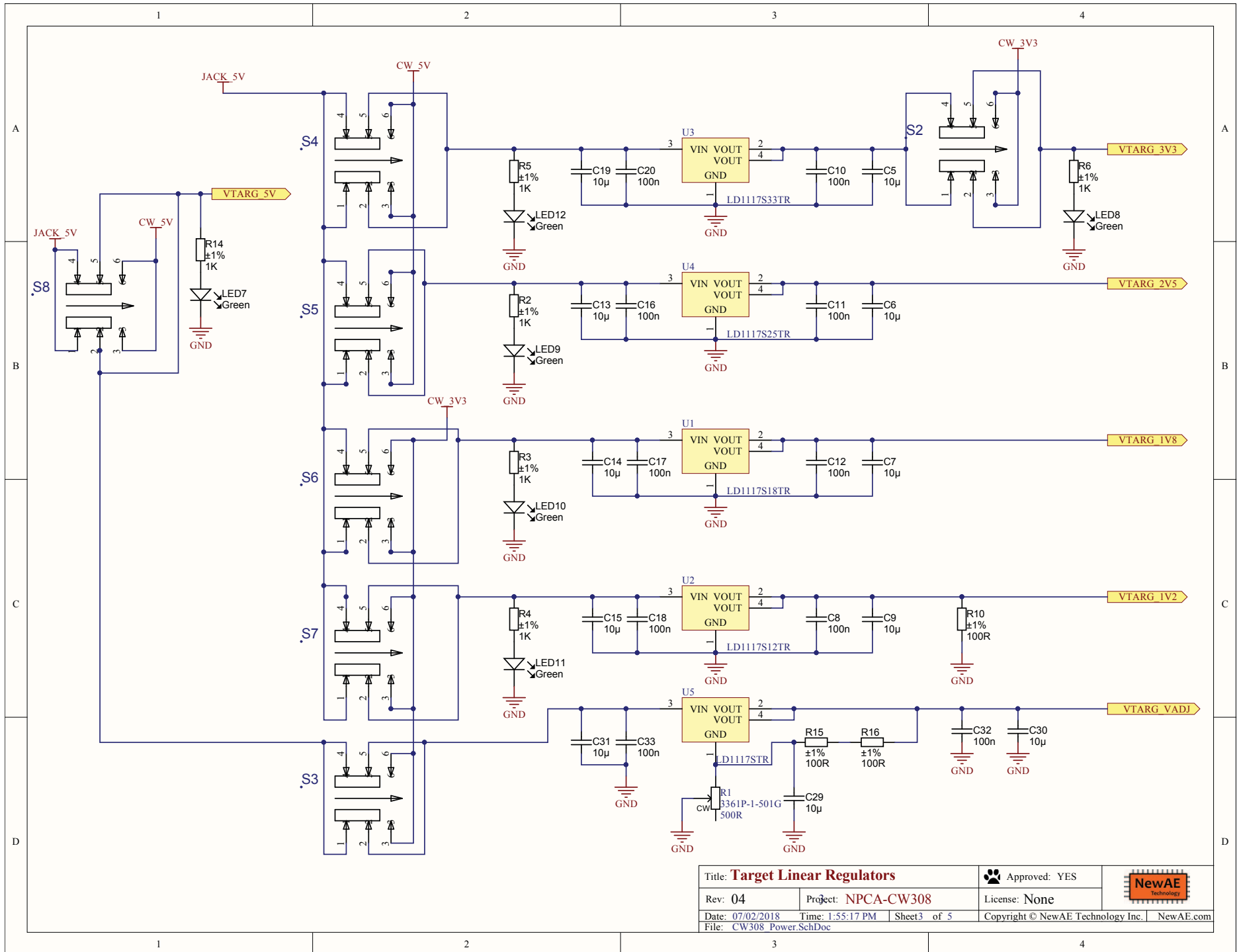


Allow Me to Probe You.

4

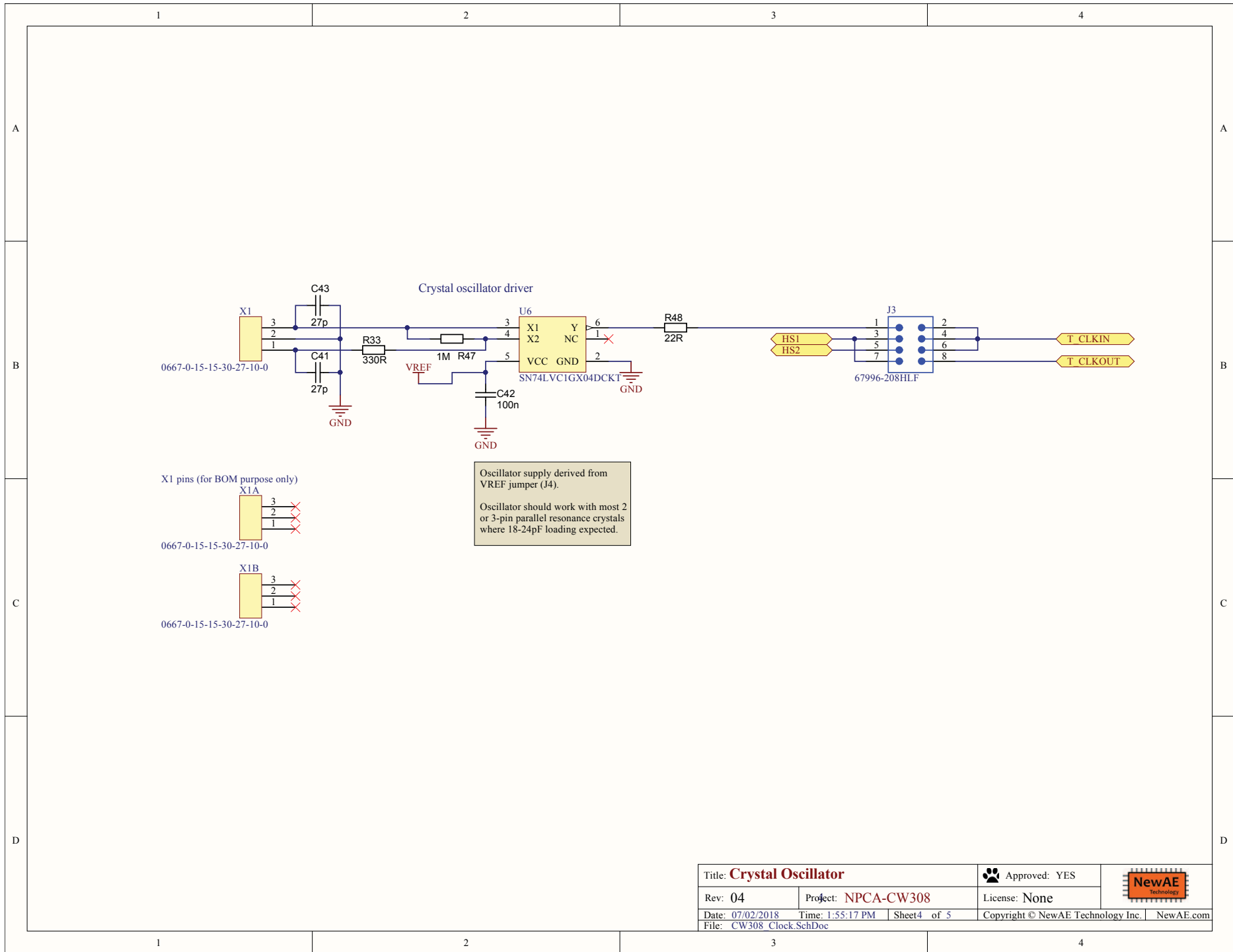
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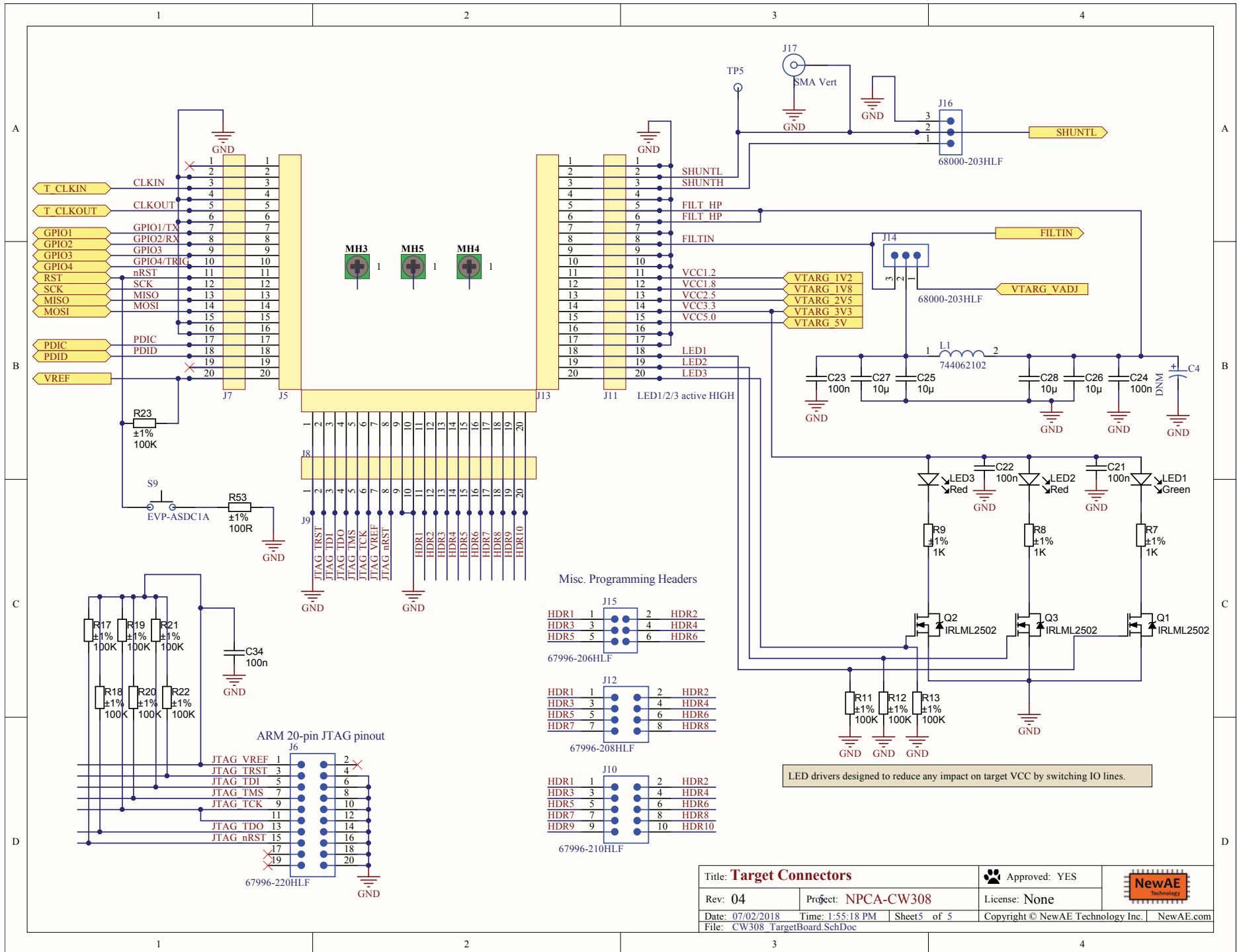




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|--|---------------------|---------------|---|
| Title: <b>Target Linear Regulators</b> |                     | Approved: YES |   |
| Rev: 04                                | Project: NPCA-CW308 | License: None |   |
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