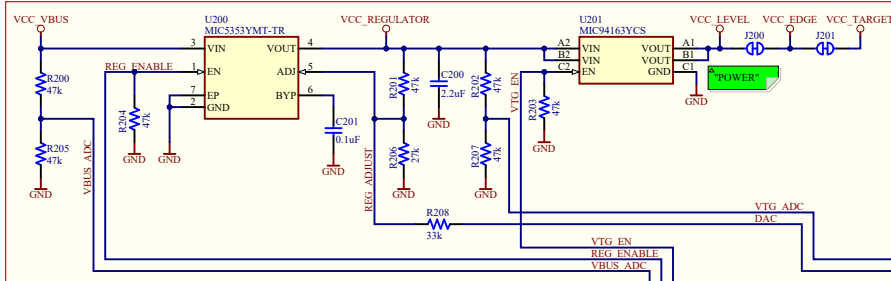


TARGET ADJUSTABLE REGULATOR



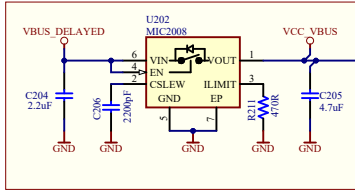
J200:
- Cut-strap used for full separation of target power from the level shifters and on-board regulators.
- For current measurements using an external power supply, this strap could be cut for more accurate measurements. Leakage back through the switch is in the micro ampere range.
J201:
- For current measurements using the on-board power supply, this strap must be cut and an ammeter connected across.

MIC5353:
Vin: 2.6V to 6V
Vout: 1.25V to 5.1V
Imax: 500mA
Dropout (typical): 50mV @ 150mA, 160mV @ 500mA
Accuracy: 2% initial
Thermal shutdown and current limit
Maximum output voltage is limited by the input voltage and the dropout voltage in the regulator. ($V_{max} = V_{in} - \text{dropout}$)

Interface	ICSP™ TARGET	UPDI TARGET	SWD TARGET
Signal	TARGET	TARGET	TARGET
CDC TX	UART RX	UART RX	UART RX
CDC RX	UART TX	UART TX	UART TX
DBG0	DAT	UPDI	SWDAT
DBG1	CLK	GPIO	SWCLK
DBG2	GPIO	GPIO	SWO/GPIO
DBG3	MCLR	RESET	RESET
VCC	-	-	-

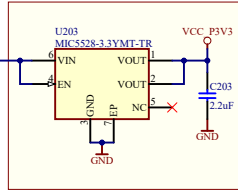
ADJUSTABLE OUTPUT AND LIMITATIONS:
- The DEBUGGER can adjust the output voltage of the regulator between 1.25V and 5.1V to the target.
- The voltage output is limited by the input (USB), which can vary between 4.40V to 5.25V.
- The level shifters have a minimal voltage level of 1.65V and will limit the minimum operating voltage allowed for the target to still allow communication.
- The MIC94163 has a minimal voltage level of 1.70V and will limit the minimum voltage delivered to the target.
- Firmware configuration will limit the voltage range to be within the target specification.

VBUS SLEW RATE- & CURRENT-LIMIT



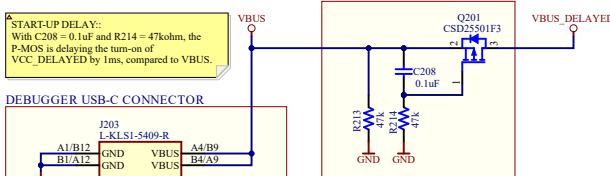
CURRENT LIMIT:
- With R211 set to 470 ohms, the current through the power switch MIC2008 is limited to 500mA.
SLEW RATE LIMIT:
- The CSLEW feature is implemented incorrectly. CSLEW may instead be connected to VIN with a capacitor. The actual slew rate for VCC_VBUS is approximately 50V/ms.

DEBUGGER REGULATOR

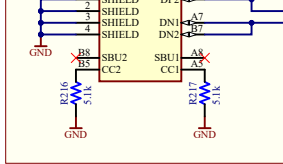


MIC5528:
Vin: 2.5V to 5.5V
Vout: Fixed 3.3V
Imax: 500mA
Dropout: 260mV @ 500mA

VBUS START-UP DELAY

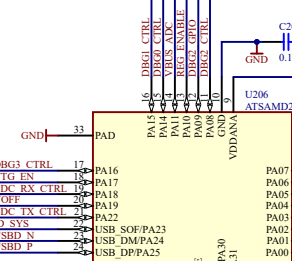


DEBUGGER USB-C CONNECTOR

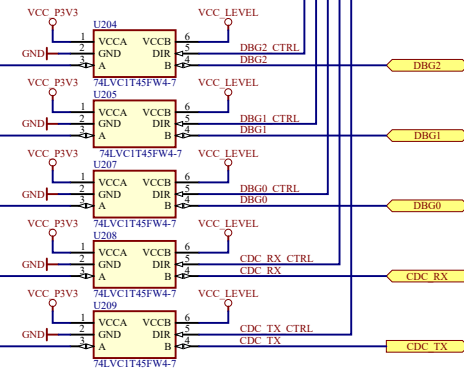
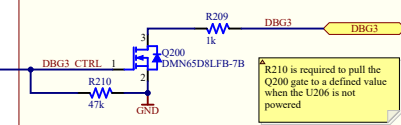


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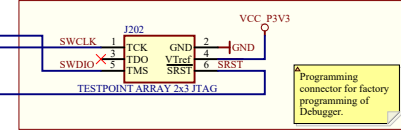
DEBUGGER



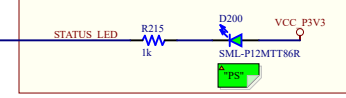
DBG3 OPEN DRAIN



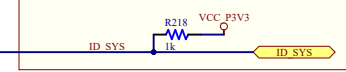
DEBUGGER TESTPOINT



DEBUGGER POWER/STATUS LED



ID PIN



Project Owner:
TF

PCB Layout Contact:
TF

Part Number:
EVB14L29A

Sheet Title:
Debugger

Size:
A3

Rev: 1

Date: 3/19/2025

File: PIC16F17576_Curiosity_Nano_Debugger_SchDoc

Project Title:
PIC16F17576 Curiosity Nano

Variant: Default Assembly

Designed with:
Altium

Microchip

CS800-Templates-Revision 2.2