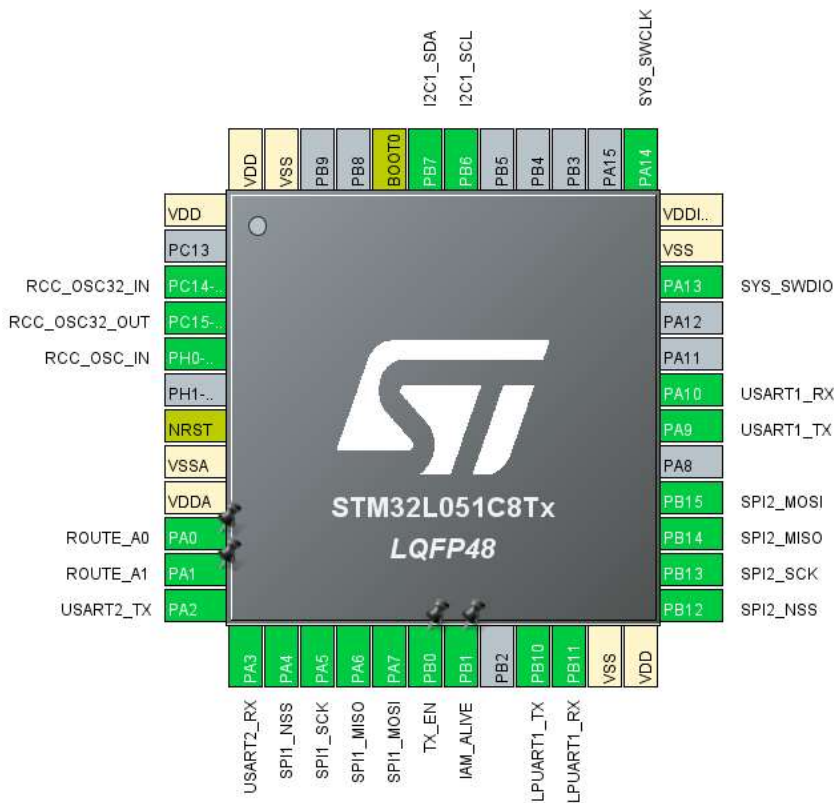


PSU-A1 Hardware Checklist

1. STM32 IO Assignment – PASS!



2. STM32 Core and IO Voltage – PASS!

Power supply schemes

- $V_{DD} = 1.65$ to 3.6 V: external power supply for I/Os and the internal regulator. Provided externally through V_{DD} pins.
- $V_{SSA}, V_{DDA} = 1.65$ to 3.6 V: external analog power supplies for ADC reset blocks, RCs and PLL. V_{DDA} and V_{SSA} must be connected to V_{DD} and V_{SS} , respectively.

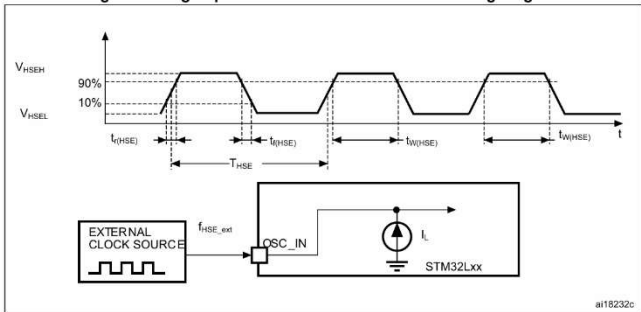
3. STM32 Clock & Reset – PASS!

External clock source characteristics

High-speed external user clock generated from an external source

In bypass mode the HSE oscillator is switched off and the input pin is a standard GPIO. The external clock signal has to respect the I/O characteristics in [Section 6.3.12](#). However, the recommended clock input waveform is shown in [Figure 19](#).

Figure 19. High-speed external clock source AC timing diagram

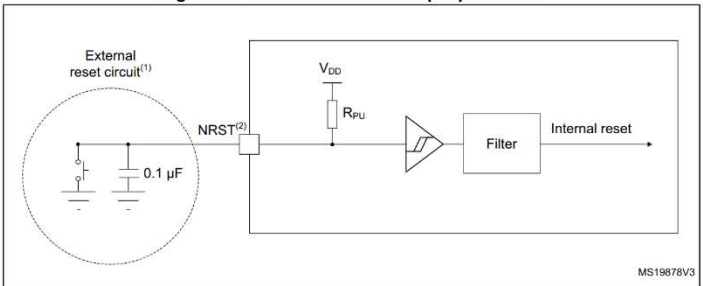


RST	Bidirectional reset pin with embedded weak pull-up resistor
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NRST pin characteristics

The NRST pin input driver uses CMOS technology. It is connected to a permanent pull-up resistor, R_{PU} , except when it is internally driven low (see [Table 57](#)).

Figure 27. Recommended NRST pin protection



4. STM32 BOOT: PASS!

Boot modes

At startup, BOOT0 pin and nBOOT1 option bit are used to select one of three boot options:

- Boot from Flash memory
- Boot from System memory
- Boot from embedded RAM

The boot loader is located in System memory. It is used to reprogram the Flash memory by using SPI1(PA4, PA5, PA6, PA7) or SPI2 (PB12, PB13, PB14, PB15), USART1(PA9, PA10) or USART2(PA2, PA3). See STM32™ microcontroller system memory boot mode AN2606 for details.

5. Add 0R resistors between power distribution tree: PASS!

Used to debug step by step in case of short-circuit.

6. Clear Silkscreen for Components with Polarities: PASS!

Integrated Circuit, Super Capacitor, LED, Laser Diode, Photodiode.

7. Test Points for Key Signals: PASS!

IAM_ALIVE, CHG_FULL, UV_SHDN, BOOST_EN.

8. Checking All Components Footprints: PASS!