AmP Configuration

The AmP platform supports two modes of configuration through the SPI compliant serial interface. In master mode, the AmP device loads its configuration bitfile (.HEX) from an external non-volatile memory. In slave mode, the AmP device is loaded with its configuration bitfile (.HAX) by an external controller/AmPLink.

AmP SPI Master Configuration Interface

The AmP device simply receives valid input power and takes control of the external FLASH memory to load its configuration. The AmP device acts as the SPI master and controls the external FLASH memory as a slave. Master mode is ideally suited for applications where the AmP device is independently providing FLASH power.

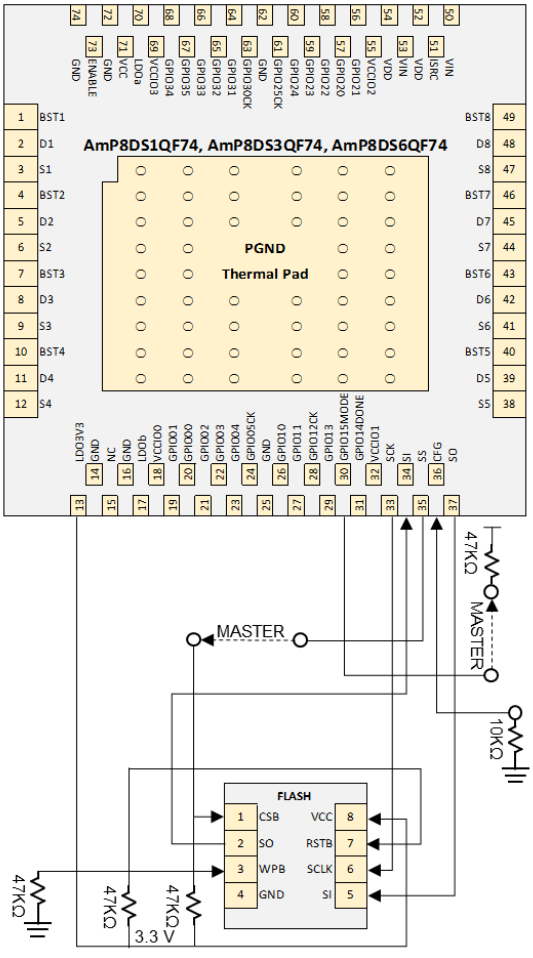
AmP SPI Slave Configuration Interface

An external controller/AmPLink acts as the SPI bus master and drives the AmP device as a slave. Configuration data for the device is provided over a sequence of SPI commands. Slave mode is ideally suited for applications where the AmP device is configured by a processor (also AmPLink).

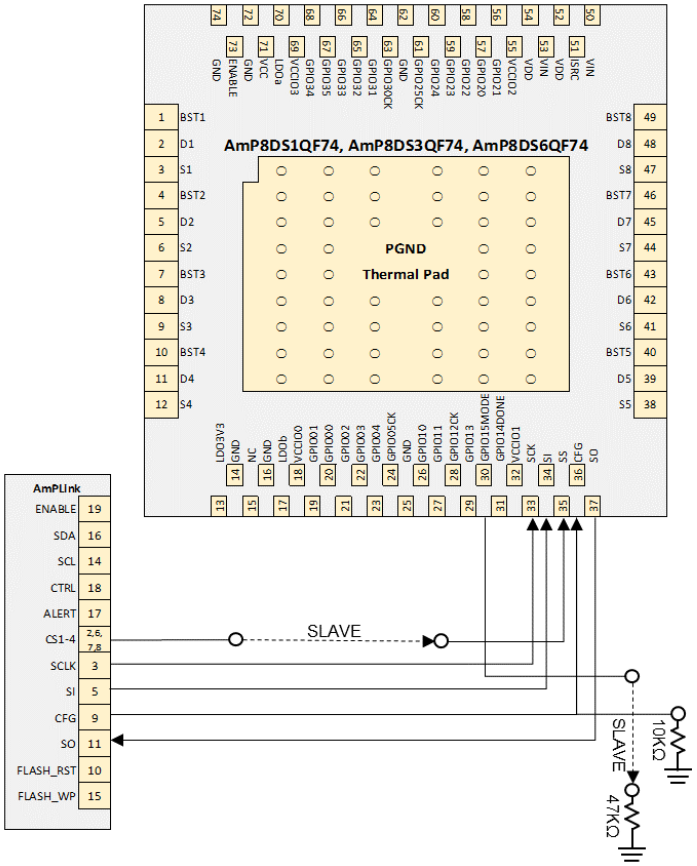
AmPLink and WebAmP

The AmPLink™ USB Adapter provides the interface between the AmPDB1 Demonstration Board and the WebAmP design tool to program and control AmP and FLASH memory devices using SPI, I^2C and GPIO interfaces. The I^2C bus provides control and monitoring of the power supply functions of the AmP device, independent of configuration method.

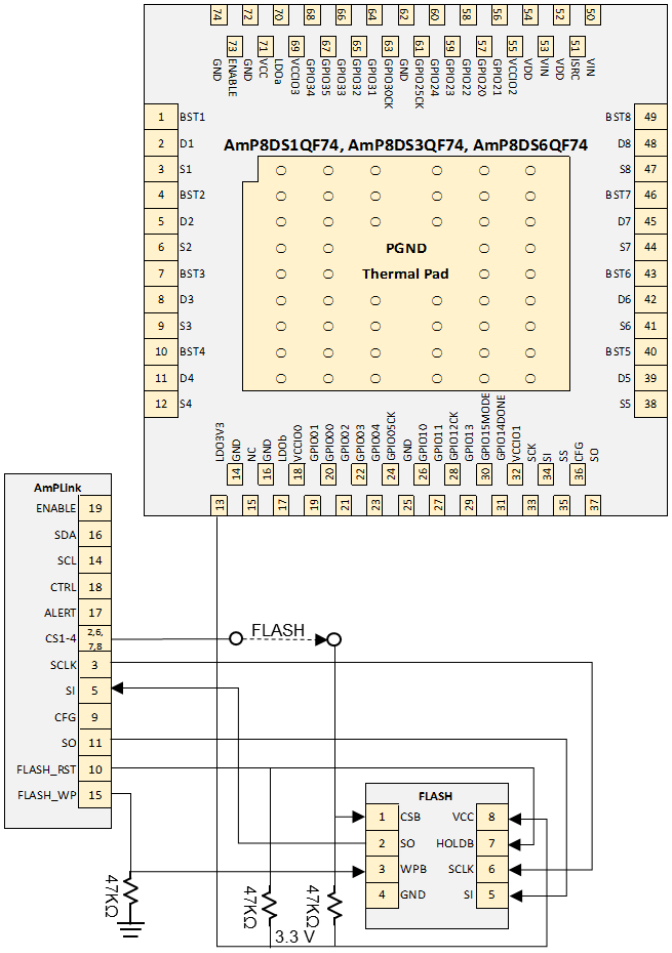
SPI Master



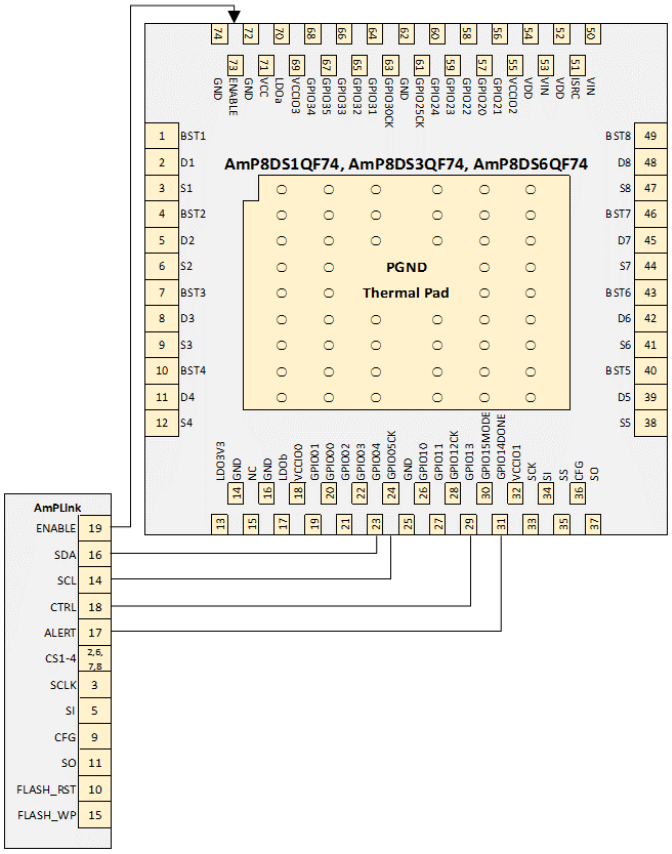
SPI Slave



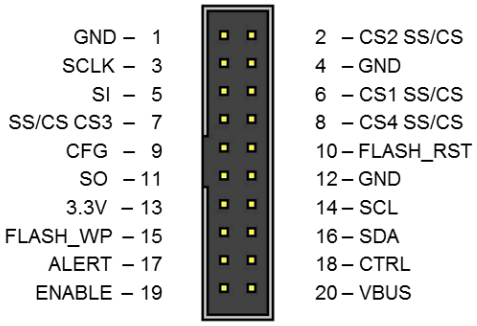
FLASH



I²C



AmPLink Pin Out



AmPLink Pin Functional Description

AmP Configuration	AmP	ENABLE	High(float): AmP power on, Low: AmP power off
		CFG	High: config reset, High-to-Low: start config
FLASH Program	SPI	SCLK	Clock output, Hi-Z when not in use
		SI	MOSI output when connecting to AmP devices MISO input when programming flash devices Hi-Z when not in use
		SO	MISO input when connecting to AmP devices MOSI output when programming flash devices Hi-Z when not in use
		SS	Active low chip select enables AmP
	CS	CS1, CS2, CS3, CS4	Active low chip selects connect to AmP SS or FLASH CS Hi-Z when not in use
	FLASH	FLASH_WP	Flash write protect output
		FLASH_RST	Flash reset output
I²C	AmP GPIOs	SCL	Clock output. Open drain with internal 2.2kΩ pull up resistor
		SDA	Bidirectional data line. Open drain with internal 2.2kΩ pull up resistor
		ALERT	alert signal input
		CTRL	control signal output
	Power	GND	Connected to USB GND and shield
		VBUS	5V output 0.5A to 0.7A current limiting
		3.3V	3.3V output with 0.5A current limiting