DSP PAW Specifications and Requirements

Development board

Supported boards:

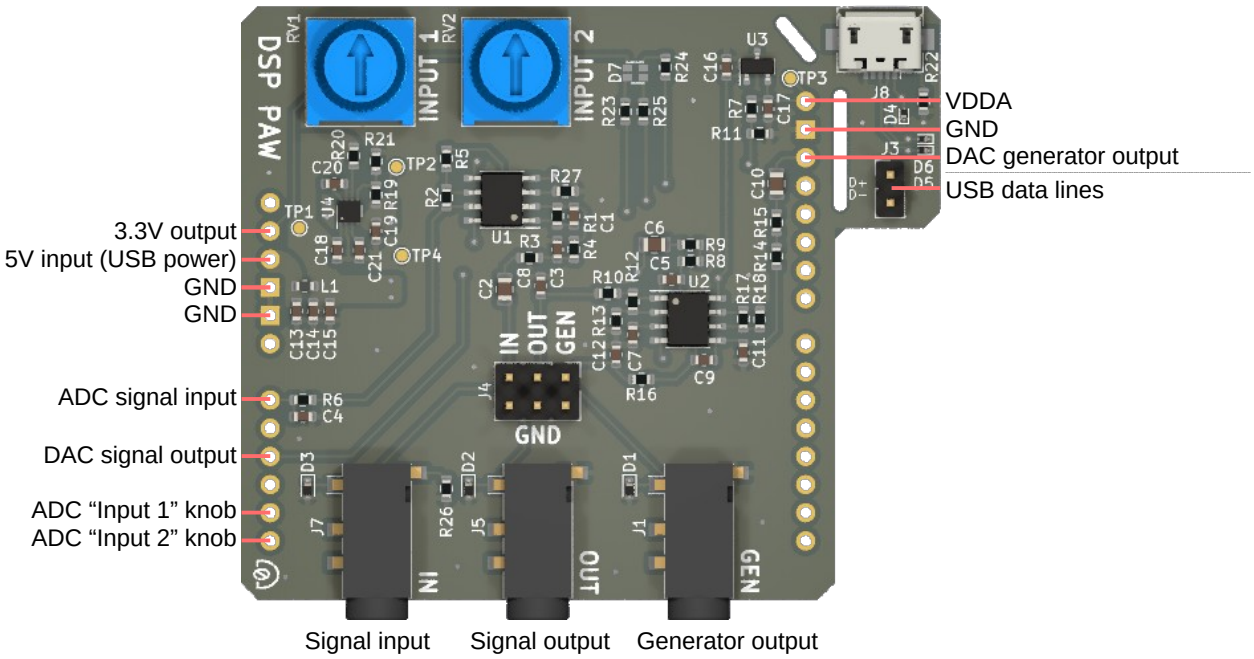
- NUCLEO-L476RG from STMicroelectronics

Firmware requirements (for new boards):

- ChibiOS support
- USB Device functionality
- 1 ADC input with 12-bit resolution and support for up to 96kHz sampling rate
- 2 DAC outputs with 12-bit resolution and support for up to 96kHz sampling rate
- Timer capable of producing 96kHz tick with divisions down to 8kHz
- 96kB or more of RAM

DSP add-on board

Pinout



Electrical and functional specifications

	Min	Typical	Max	Units
Signal input	-2.0[1]		+2.0[1]	Volts
Signal/generator output	-2.0[1]		+2.0[1]	Volts
VDDA		2.048		Volts
USB input power	3.6	5.0	5.5	Volts
Sampling rate	8	32[2]	96	kHz
Sample buffer size	100	4,096[2]	4,096	count
ADC/DAC resolution		12		bits
Processing latency	1[3]	128[2][3]	512[3]	milliseconds
Algorithm binary size			16,384	bytes
Algorithm stack size		13,000[4]	15,360[5]	bytes

[1] Exceeding this specification may cause damage to the microcontroller.
[2] Default setting after power-on or reset.
[3] Determined by sample buffer size divided by sampling rate.
[4] This much stack space is guaranteed to be available for the algorithm.
[5] Usable maximum is less than this due to firmware overhead. Exceeding the usable maximum will interrupt algorithm execution.