

### Product Description

The Amp Platforms B and C have 4 integrated LDOs of which two are fixed output voltages (3.3V and 1.2V) and two are user programmable. The user programmable LDOa and LDOb are described here and can be customized by using WebAMP Tools. The user programmable LDOs can be dynamically enabled/disabled from the digital fabric, allowing sequencing and external control. Combine these LDO components with other Power Components to create a highly integrated, custom-defined, AnDAPT AMP™ on-demand power management device.

### Features

- Linear, constant voltage, low-dropout regulators
- Adjustable V<sub>OUT</sub> LDOa, LDOb, 0.6 V to 4.5 V
- V<sub>OUT</sub> ± 3% accuracy
- Maximum output current: 200 mA
- 10% typical line and load regulation
- Very low dropout :100 mV dropout
- Enable input allowing sequencing and external control
- -40°C to +125°C operating junction temperature

Figure 1: LDOa application schematic

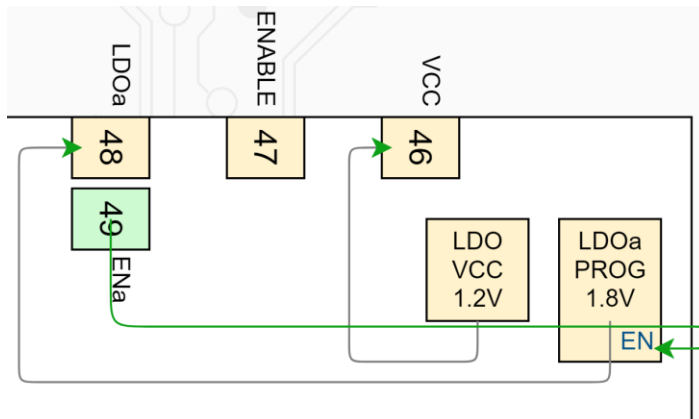
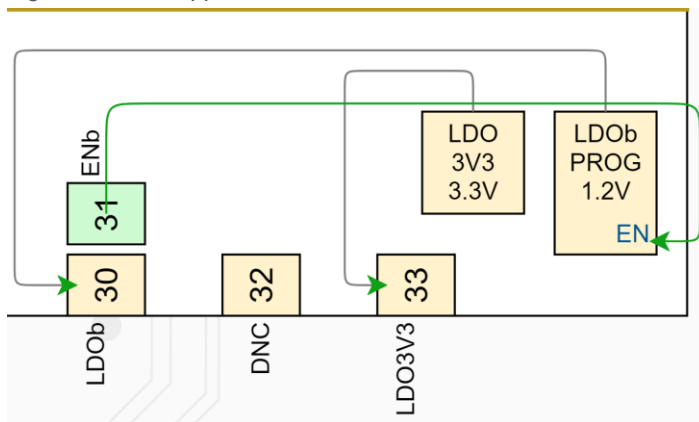


Figure 2: LDOb application schematic



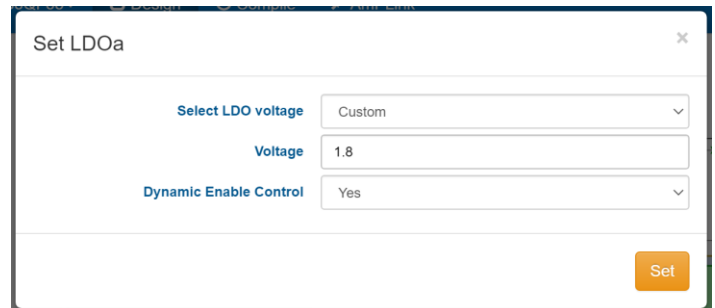
### Applications

- Powering server, processor, memory, storage, network switcher and router platforms
- FPGA, processor, SSD, subsystem power control & sequencing
- Imaging: CMOS Sensors, Video ASICs
- Test and Measurement
- Regulated power noise sensitive, phase-locked loops (PLLs), voltage-controlled oscillators (VCOs), and PLLs with integrated VCOs

### Product Detail

The input voltage to LDOa and LDOb is from the internal 4.5V bias voltage. The pin locations of these integrated LDOs, are fixed and cannot be modified by WebAMP Tools. The two programmable outputs are on pins 17/30 and 70/48 respectively in QF74 and QF65 package.

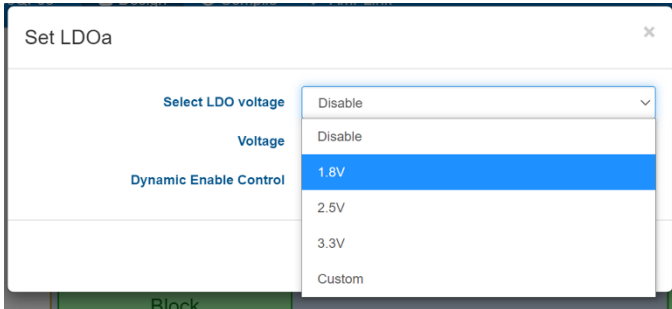
Sequencing and external control of the user programmable LDOa and LDOb can be dynamically enabled/disabled from the digital fabric, when “Yes” is selected in the WebAMP menu as shown below:



Simply double-click the LDOa or LDOb symbol to select voltage, then drag a wire from any GPIO pin or power component to the EN port of LDOa or LDOb as shown in Figures 1 and 2.

## Product Detail (continued)

The user programmable LDOa and LDOb can be set to standard voltages of 1.8V, 2.5 V, or 3.3V by selecting in the WebAMP menu as shown below:



These standard voltage selections save Nref resources as shown in the Resource Usage reports below:

### LDOa, LDOb Resource Usage with Enable

#### Circuit Stats...

Number of AnD_Prog_LDOB	1
Number of AnD_Prog_LDOA	1
Number of AnD_Analog_IO	2
Number of AnD_ATC_IO	2
Number of AnD_Nref_fix	2
Number of LUT4	2

### LDOa, LDOb Resource Usage without Enable

#### Circuit Stats...

Number of AnD_Prog_LDOB	1
Number of AnD_Prog_LDOA	1
Number of AnD_Analog_IO	2
Number of LUT4	2