

Getting Started

In most cases, the AAT2803 evaluation board ships mounted onto a battery pack. The battery pack holds three AAA size, conventional alkaline batteries. A jumper is inline with the battery supply for connecting/disconnecting power. There are three other jumpers labeled LT, MV, and FL. They provide access to EN/SET, EN_FL, and EN3, respectively. To apply power to the board, connect the supply by jumpering ON, MCU. The red LED7 should illuminate, indicating that power has been connected. Ensure that LT, MV, and FL are jumpered so that the microcontroller can control the parts.

The user interface is provided by three buttons. The buttons are LIGHT, MOVIE, and FLASH. The modes of operation are detailed in Table 1. Each button handles a particular function. The LIGHT button controls the backlight section. When the LIGHT button is held down, the MCU will auto-cycle through the available brightness level settings after a short delay. The MOVIE button toggles on/off the movie mode illumination. The FLASH button provides a flash pulse and a red-eye reduction function. When the FLASH button is held down, red-eye reduction mode will be executed after a short delay.

Button(s) Pushed ¹	Description
LIGHT	Increment the number of EN/SET edges. Toggles through the available brightness level settings for the backlighting section. If held down, auto-cycle through the settings.
MOVIE	Toggle on/off movie mode illumination.
FLASH	Press once to produce a ~300ms flash pulse. Hold down to produce a sequence of red-eye reduction pulses.
LIGHT + FLASH	Decrement the number of EN/SET edges. Toggles through the available brightness level settings for the backlighting section. If held down, auto-cycle through the settings.
LIGHT + MOVIE	Increment the address. Cycles through addresses 1, 2, and 3 (i.e., main/sub, main-only, sub-only).
MOVIE + FLASH	Switch to the next current level scale. Cycles through the 20mA, 30mA, 15mA, and Low Current scales.
LIGHT + MOVIE + FLASH	Reset. All enable lines are pulled low.

Table 1: User Interface Functionality.

1. The + sign indicates that the specified buttons are all pressed and released together.

Printed Circuit Board

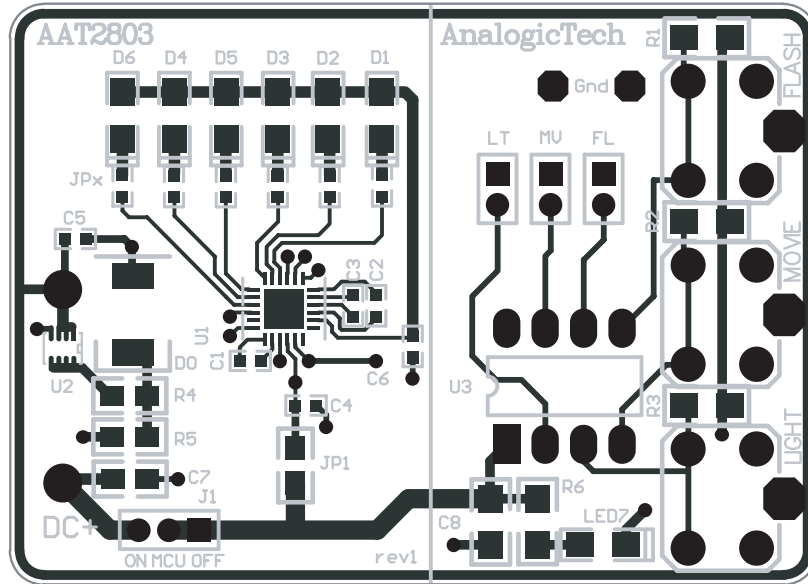


Figure 2: Top Layer (not to scale).

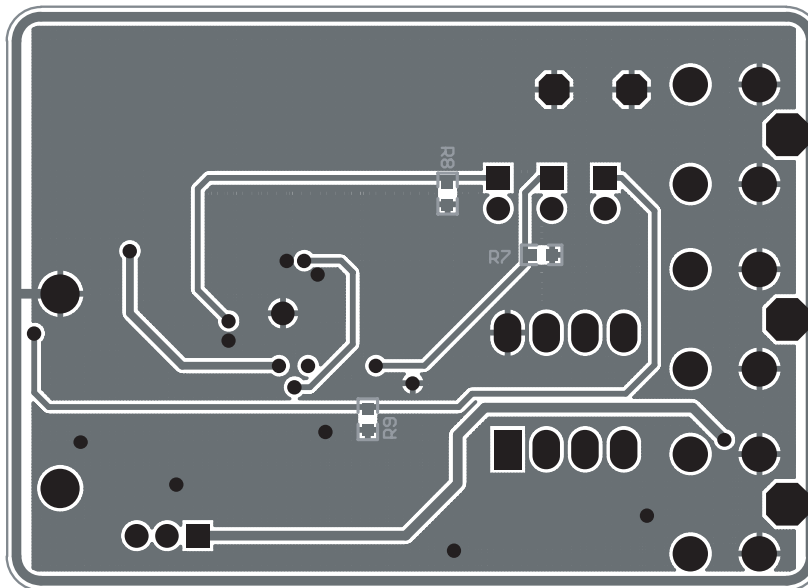


Figure 3: Bottom Layer (not to scale).

AAT2803 EVAL Component Listing

Component	Part Number	Description	Manufacturer
U1	AAT2803	Dual High Efficiency CP for Backlight and Flash; QFN44-24 Package	AnalogicTech
U2	AAT9513	65mΩ, N-Channel Power MOSFET; SC70JW-8 Package	AnalogicTech
U3	PIC12F675	8-Bit CMOS, FLASH-Based μC; 8-Pin PDIP Package	Microchip
D1-D6	LW M673	Mini-TOPLED White LED; SMT Package	OSRAM
D0	LMFLC4500	Flash White LED; 4-Chip Package	Lumimicro
R1-R3	Chip Resistor	1kΩ, 5%, 1/4W; 1206	Vishay
C1-C6	ECJ-1VB1A105K	1μF, 10V, X5R, 10%; 0603	Panasonic-ECG
C8	GRM31CR70J106KA01L	10μF, 6.3V, X7R, 10%; 1206	Murata
R4	Chip Resistor	1Ω, 5%, 1/8W; 0805	Vishay
R5	Chip Resistor	20Ω, 5%, 1/8W; 0805	Vishay
R6	Chip Resistor	330Ω, 5%, 1/4W; 1206	Vishay
JP1	Chip Resistor	0Ω, 5%; 0805	Vishay
JPx	Chip Resistor	0Ω, 5%; 0603	Vishay
LED7	CMD15-21SRC/TR8	Red LED; 1206	Chicago Miniature Lamp
J1, MV, LT, FL	PRPN401PAEN	Connecting Header, 2mm	Sullins Electronics
SW1-SW3	PTS645TL50	Switch Tact, SPST, 5mm	ITT Industries

Table 2: Component Listing.

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