

Evaluation Board for the AAT2866 Backlight/Flash LED Driver and Triple LDO Lighting Management Unit

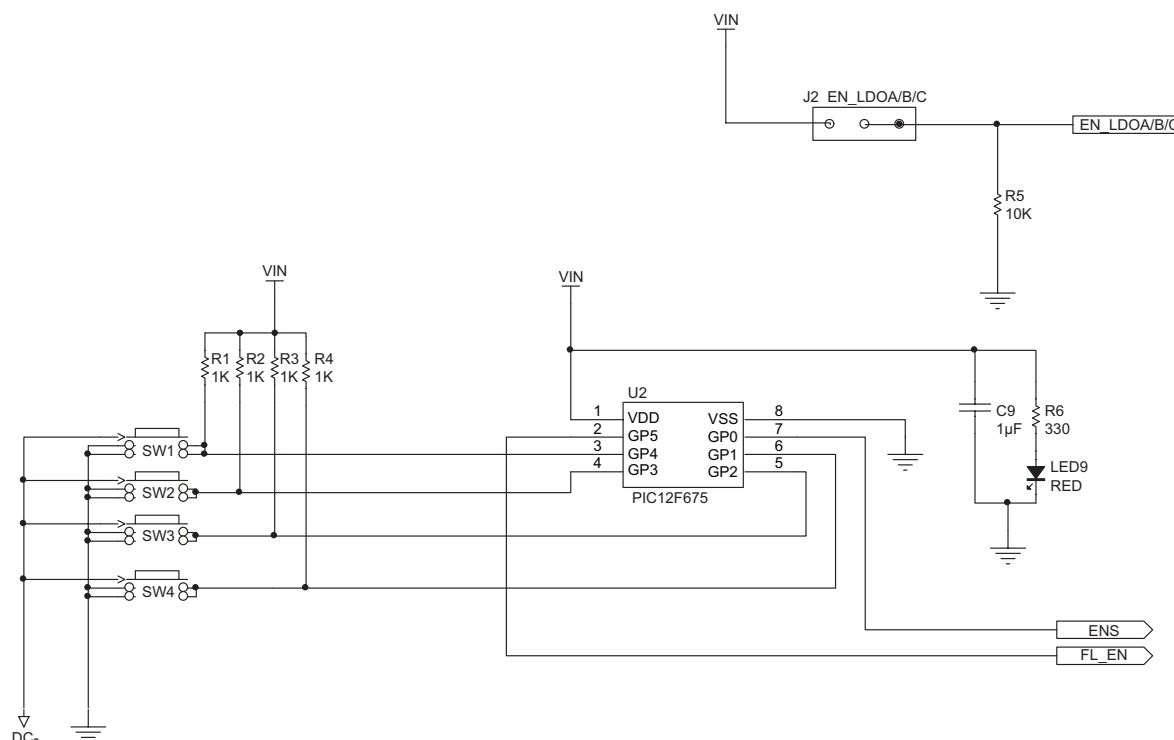


Figure 2: AAT2866 Evaluation Board Microcontroller Schematic.

Getting Started

Connect the external power (3.6V-4.2V, typical battery operational range) to the DC+ and DC- terminals. A jumper labeled J1 is inline with the terminal VIN to turn power ON/OFF. The red LED9 should illuminate, indicating that power has been connected. EN/SET stream is provided by the PIC controller. J2 is connected to the EN_LDO A/B/C line. There is an additional clip-on point for enabling the PWM function through PWMM input. PWMM needs to be connected to high potential when the PWM function is not in use.

The user interface is provided by four buttons: SW1, SW2, SW3 and SW4. The modes of operation are detailed in Table 1:

- SW1 button controls the four LDOs
- SW2 button controls the backlight
- SW3 button controls the two flash channels
- SW4 controls flash enable. Press and release lights the flash with 2 second default timer.

*Evaluation Board for the AAT2866
Backlight/Flash LED Driver and Triple LDO Lighting Management Unit*

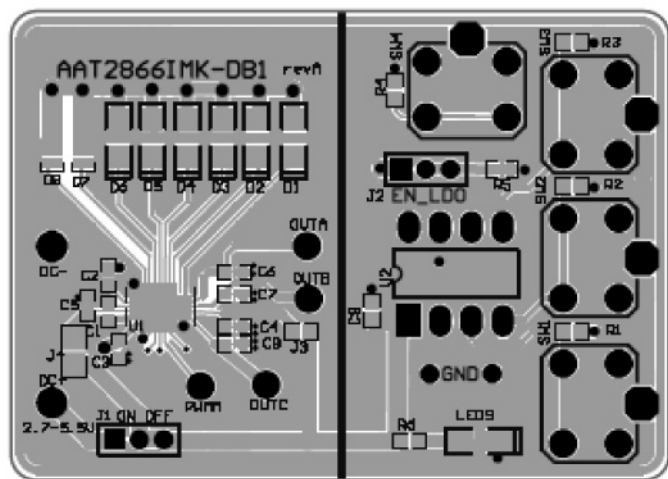


Figure 3: AAT2866 Evaluation Board Top Layer.

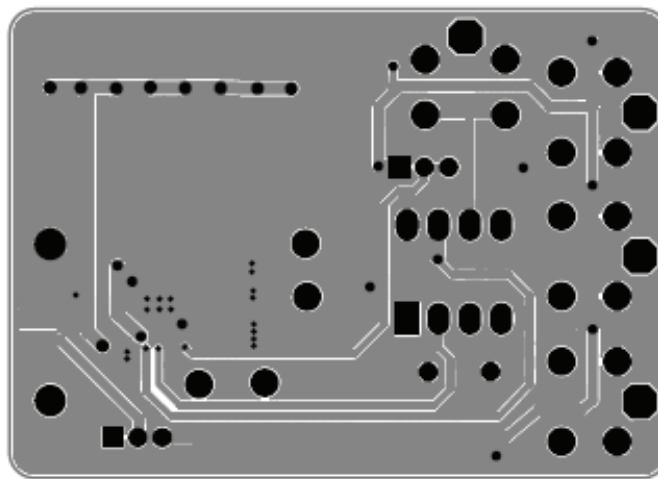


Figure 4: AAT2866 Evaluation Board Bottom Layer.

AAT2866 Evaluation Board User Interface Functionality

Button(s) Pushed	Description
SW1 (LDOs)	[Push/Release once] All LDOs will be turned on with default output voltage 1.2V. Every push release will increment output voltage according to datasheet table.
SW2 (Backlight)	[Push/Release once] Turning on all backlight LEDs with default current 31mA per channel. Every push release will decrement the current according to datasheet table.
SW3 (Flash)	[Push/Release once] Turning on the flash LEDs with default current 300mA per channel. Every push release will decrement the current according to datasheet table.
SW4 (Flash Enable)	[Push/Release once] Turning on the flash LEDs with default timer 2 seconds for flash data 1 through 12. Flash data 13, 14 and 15 will automatically disable the timer function.

Table 1: User Interface Functionality between AAT2866 and the PIC Microcontroller.

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AAT2866 Evaluation Board Component Listing

Component	Part Number	Description	Manufacturer
U1	AAT2866IMK	Backlight LED driver with 3 LDOs	Skyworks
U2	PIC12F675	8-bit CMOS, FLASH-based μ C; 8-pin PDIP package	Microchip
SW1-SW4	PTS645TL50	Switch Tact, SPST, 5mm	ITT Industries
R1, R2, R3, R4	Chip Resistor	1k Ω , 5%, 1/4W; 0603	Vishay
R5	Chip Resistor	10k Ω , 5%, 1/4W; 0603	Vishay
R6	Chip Resistor	330 Ω , 5%, 1/4W; 0603	Vishay
C3, C6, C7, C8	GRM188R71A225KE15	2.2 μ F, 10V, X7R, 0603	MuRata
C1, C2, C9	GRM216R61A105KA01	1 μ F, 10V, X5R, 0603	MuRata
C4, C5	GRM18x	4.7 μ F, 10V, X5R, 0603	MuRata
D1-D6	LW M673	Mini TOPLED White LED; SMT	OSRAM
D7, D8	LXCL PWF3	Mini TOPLED Flash LED; SMT	Lumileds, Philips
LED9	CMD15-21SRC/TR8	Red LED; 1206	Chicago Miniature Lamp
J1, J2	PRPN401PAEN	Conn. Header, 2mm zip	Sullins Electronics
J3	Chip Resistor	0 Ω , 5%, 1/4W; 0603	Vishay
J4	Chip Resistor	0 Ω , 5%, 1/2W; 0805	Vishay

Table 2: AAT2866 Evaluation Board Component Listing.

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