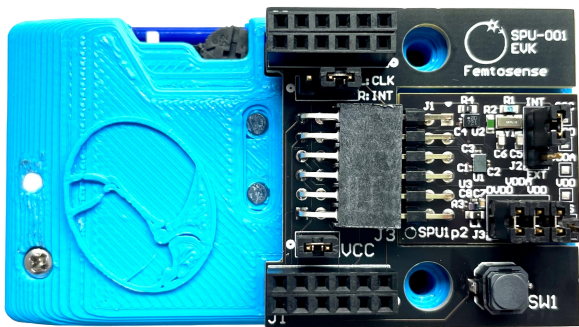
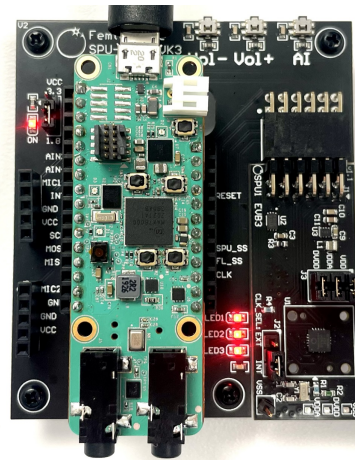


EVK PCB Adapter Boards

There are several versions of the Femtosense SPU-001 EVK as shown below. In each, a PCB adapter board connects the host processor to the SPU-001 EVB Board. This application note describes the hardware configuration of these boards.



EVK2 (Tympan Host w/ EVB2)



EVK3 (ADI Host w/ EVB3)

Table of Contents

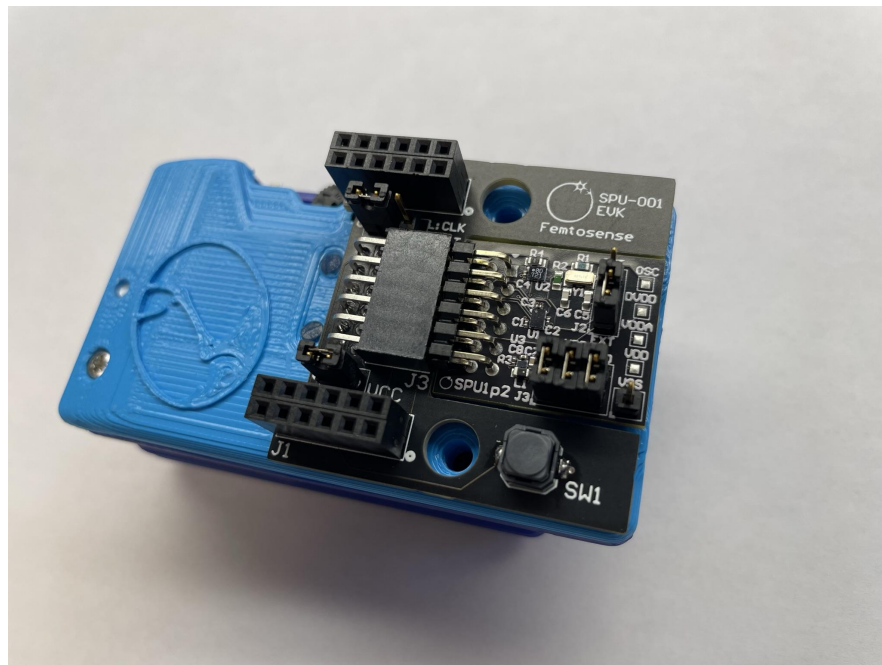
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EVK2 PCB Adapter Board

The EVK2 PCB Adapter Board connects the Tympan to the SPU-001 EVB2 circuit board so that jumper wires are not needed. It also contains a user button marked "SW1" that can be used to toggle the AINR model on and off.

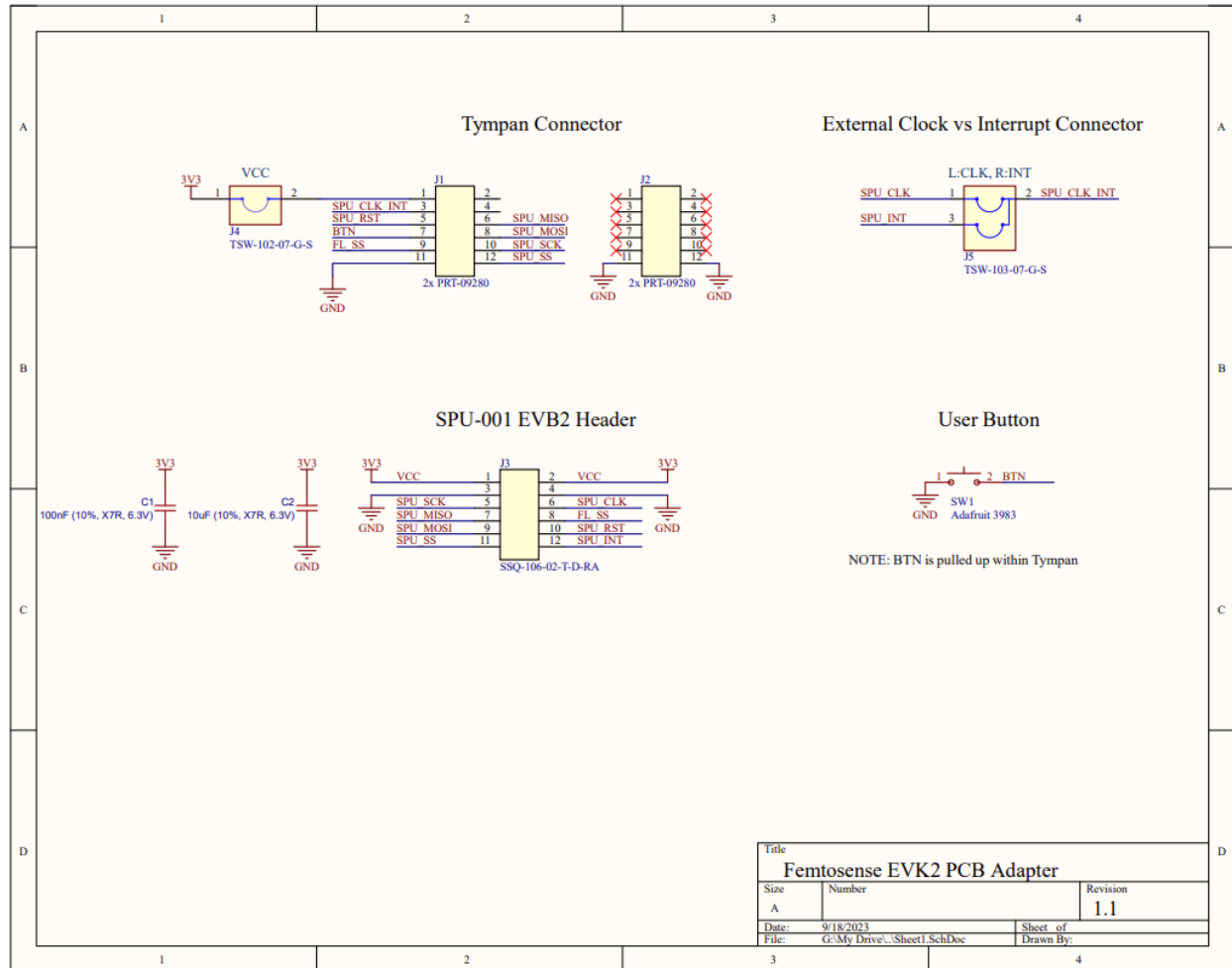
Connect the board between the Tympan and the SPU-001 EVB2 circuit board as shown in the following photo. The PCB should be oriented so that it does NOT cover the Tympan LEDs, volume knob, or power switch. The orientation of the text written on the Tympan and the text written on the PCBs is opposite. Plugging in the PCB in the wrong orientation may damage it.

Note: Power should be turned off when connecting PCBs!



Correct installation of the EVK2 PCB adapter board

Schematic



Jumpers & Buttons

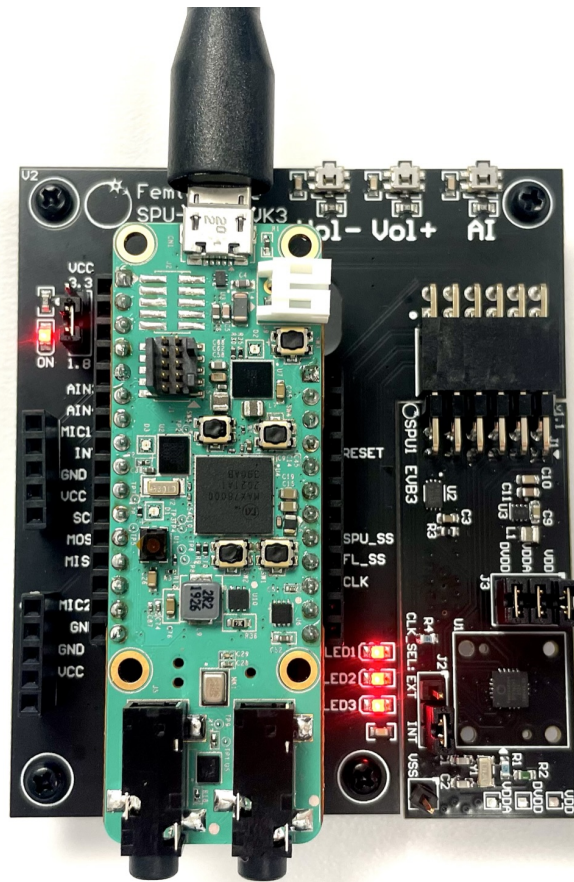
Pins	Description	Configuration
J4 (VCC)	VCC Power Disconnect	Connect jumper to enable power rail
J5 (L:CLK R:INT)	External Clock or Interrupt Select	Connect jumper in the left position (CLK) to connect the external clock to the Tympan. Connect jumper in the right position (INT) to connect the interrupt to the Tympan
SW1	AI Toggle Button	Access in Arduino as pin 25. Active Low, includes hardware pull-up.

EVK3 PCB Adapter Board

The EVK3 PCB Adapter Board connects the ADI MAX78000FTHR host board to the SPU-001 EVB2 circuit board so that jumper wires are not needed. It also contains headers for analog inputs, a voltage rail selector, and some user buttons and LEDs.

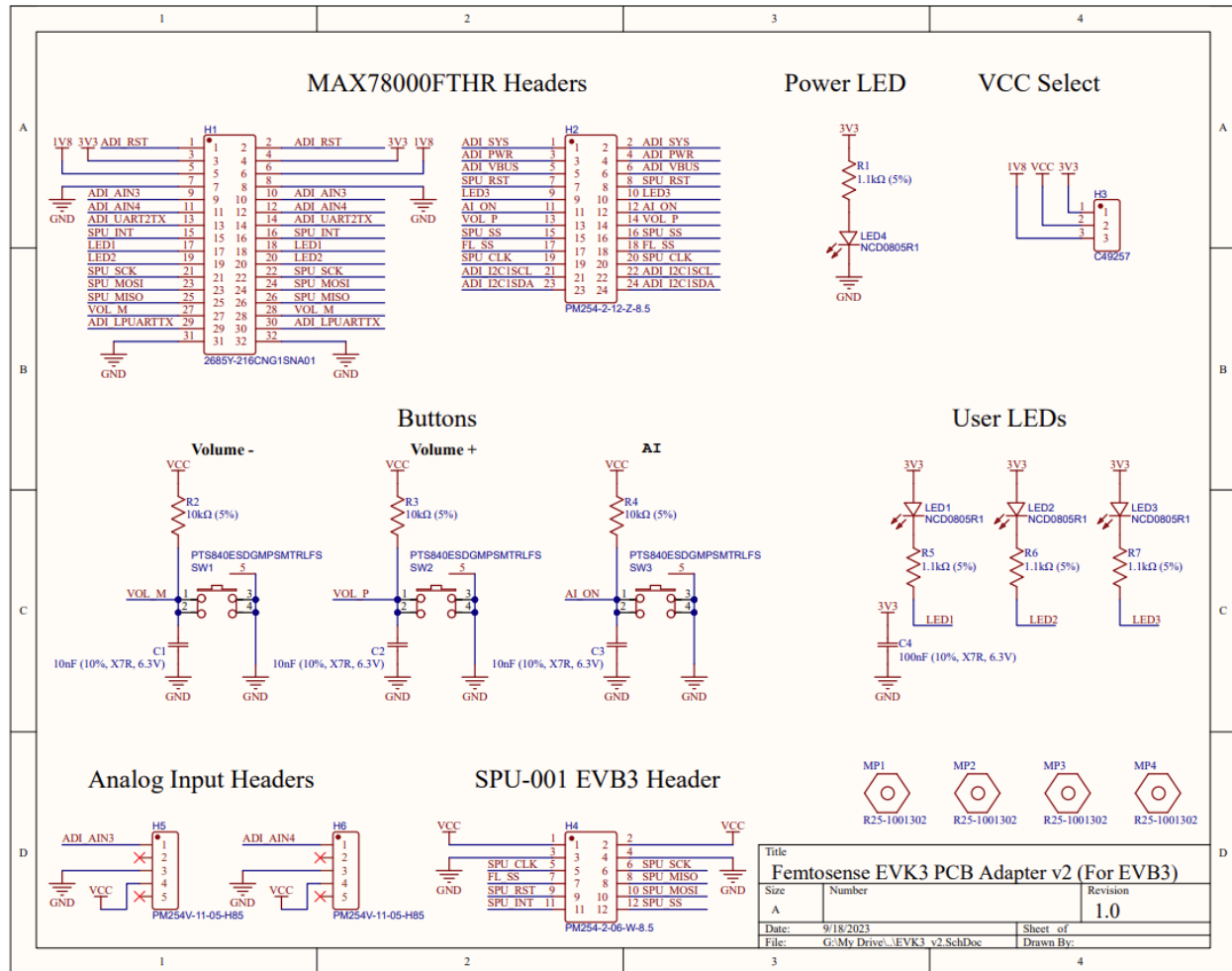
Connect the board between the ADI MAX78000FTHR and the SPU-001 EVB3 circuit board as shown in the following photo. Plugging in the PCB in the wrong orientation may damage it.

Note: Power should be turned off when connecting PCBs!



Correct installation of the EVK3 PCB adapter board

Schematic



Application Note 003

Jumpers, Buttons, & LEDs

Pins	Description	Configuration
H3 (VCC)	VCC Power Select	Connect the jumper to connect either the 1.8V or 3.3V power supply to the SPU. This should be set to the SPI IO voltage selected on the host.
SW1 (VOL-)	Volume Up Button	Access with port P2_6, Active Low
SW2 (VOL+)	Volume Down Button	Access with port P0_8, Active Low
SW3 (AI)	AI Toggle Button	Access with port P0_9, Active Low
LED1	User LED 1	Access with port MCP1 (PMIC), Active Low
LED2	User LED 2	Access with port MCP2 (PMIC), Active Low
LED3	User LED 3	Access with port MCP3 (PMIC), Active Low
LED4 (ON)	Power LED	LED is illuminated with EVK is on

Change Log

Version	Release Date	Description
1.0	2023-06-14	Initial release
1.1	2023-08-24	Updated Schematics and Added EVK3 information
1.2	2023-09-18	Added EVK3 v2 information
1.3	2023-12-28	Consolidated EVK variants