

### GENERAL DESCRIPTION

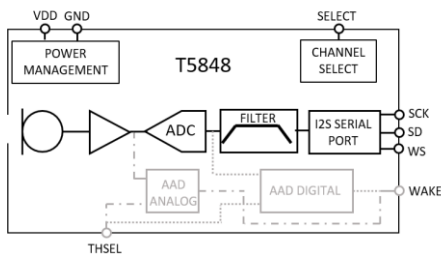
The T5848 is a digital I2S MEMS microphone. This user guide provides information on how to use the flexible evaluation board for this part, EV\_T5848-FX2.

This is a simple evaluation board that allows quick evaluation of the performance of I2S MEMS microphones. The small size and low profile of the flexible PCB enables direct placement of the microphone into a prototype or an existing design for an in situ evaluation. The evaluation board consists of a bottom port microphone soldered to a flexible PCB with an edge connector. Other components on the board are a 0.1  $\mu$ F supply bypass capacitor and a 50  $\Omega$  series resistor on the data line. The flex edge is an 8 position 0.5mm pitch connector which mates to a standard connector such as Kyocera (MPN 046288008000846+, Digkey PN 478-5454-1-ND) or Molex (MPN 0527450897, Digkey PN WM3772TR-ND).

**Table 1** describes the functions of the wire connections. **Table 2** describes the performance specifications of the microphone flex board.

### TABLE 1. PIN FUNCTION DESCRIPTIONS

Pin #	Pin label	Microphone Pin	Description
1	T	THSEL	Threshold select input for AAD
2	G	GND	Ground
3	V	VDD	Power Supply. 1.65 - 1.98 VDC
4	D	DATA	Data output
5	C	CLK	Clock input
6	S	L/R SELECT	L/R select; Right = 0, Left = 1
7	WS	WORD SELECT	Ground
8	W	WAKE	Wake output for AAD



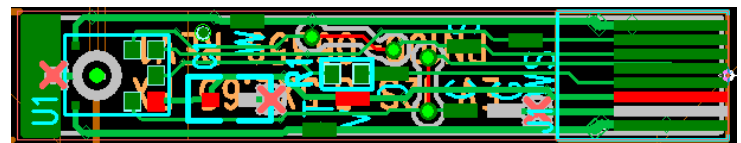
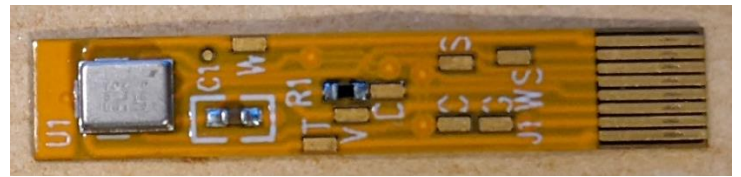
**Figure 1. EV\_T5848-FX2 Schematic**

### TABLE 2. MICROPHONE PERFORMANCE SPECIFICATIONS

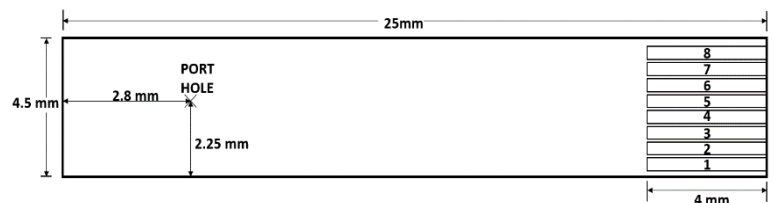
Sensitivity	Typical Supply Current	SNR	AOP	Clock Frequency
<u>High Quality Mode:</u> -37 dBFS +/- 1	310 $\mu$ A	68 dB	133 dB SPL	2.0 - 3.7 MHz
<u>Low Power Mode:</u> -26 dBFS +/- 1	120 $\mu$ A	65 dB	119 dB SPL	400 – 800 kHz

### EVALUATION BOARD CIRCUIT

**Figure 1** shows the schematic of the evaluation board **Figure 2** shows the flex board and layout. See the respective microphone data sheets for complete descriptions and specifications of the microphones **Figure 3** shows the dimensions of the flex board and identifies the location of the sound port. **Figure 4** shows the lid marking to verify the microphone PN



**Figure 2. EV\_T5848-FX2 Top View**



**Figure 3. EV\_T5848-FX2 Dimensions in Millimeters**

T5848 Flex EVB User Guide

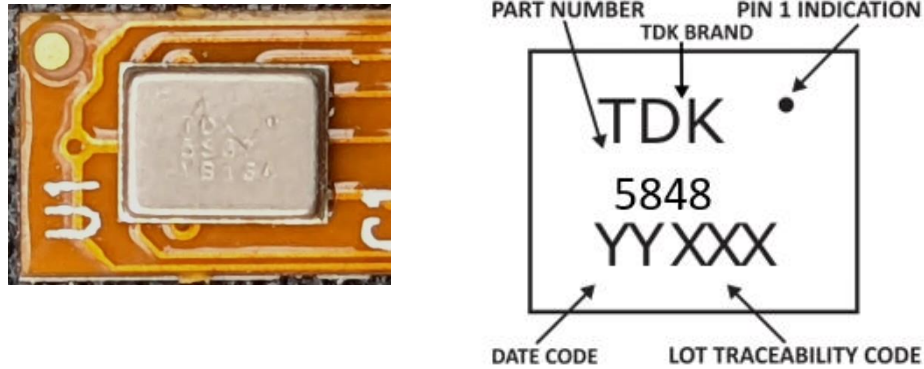


Figure 4. T5837 lid marking

REVISION HISTORY

REVISION DATE	REVISION	DESCRIPTION
8/11/2022	1.0	Initial release

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