EVB90621

User Guide

1. Scope

This document describes the design and use of the MLX90621 evaluation board(EVB) and demo software. For a general description about the functionality of the MLX90621 please refer to the MLX90621 datasheet.

2. Applications

The EVB90621 is intended to be used as an application example of the MLX90621 Low Noise High Speed FIR array. It was developed to demonstrate the features of the device with the help of the demonstration software.

- EVB90621 Layout
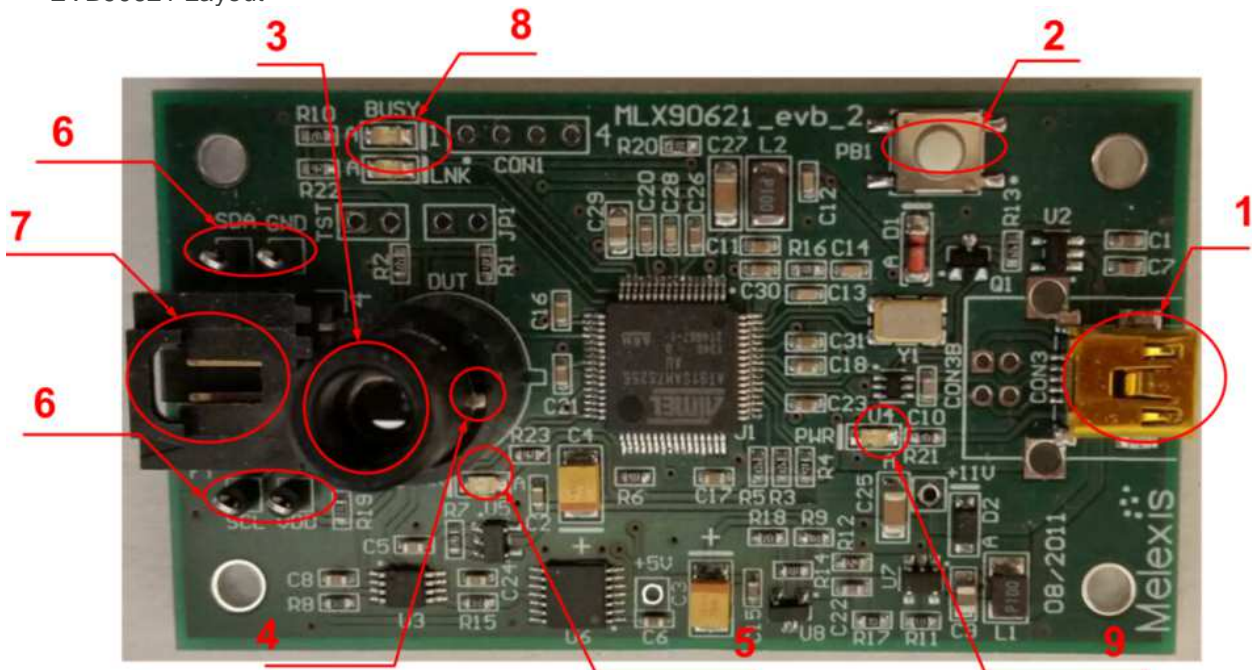
1 – USB connector;
2 – Reset button;
3 – MLX90621 device. This board is compatible with all versions of MLX90621 (40°, 60° and 100° Field of View);
4 – MLX90621 notch. Please mind the correct orientation of the device when putting it on the EVB;
5 – MLX90621 power led. When this LED is ON, the device is supplied by the EVB;
6 – Test points;
7 – Extension connector;
8 – Communication Busy and Link LEDs. Those LEDs indicate the status of the EVB;
9 – EVB power LED. When this LED is ON, the EVB is supplied by the USB.

- EVB90621 Demonstration Software

Please go to: www.melexis.com and search for the latest version of the demo software: https://www.melexis.com/en/documents/tools/tools-evb90621-software-exe

Download and install it on a Windows-based PC platform.

Normally, the installation creates a shortcut to the program on the Desktop. If this is not the case, the program can be started from C:\ > Program Files > Melexis > Mlx90621 Demo > Mlx9062x Demo.exe

3. Running the Software

Plug the EVB in a free USB port of the computer. If the connection is ok, the Power LED(9) shines and the Busy LED(8) shines for a while and stops.

Now start the software. When the initialization procedure finishes, the Link LED (8) shines and the Device Power LED (5) is on too. The application window is ready for operation:
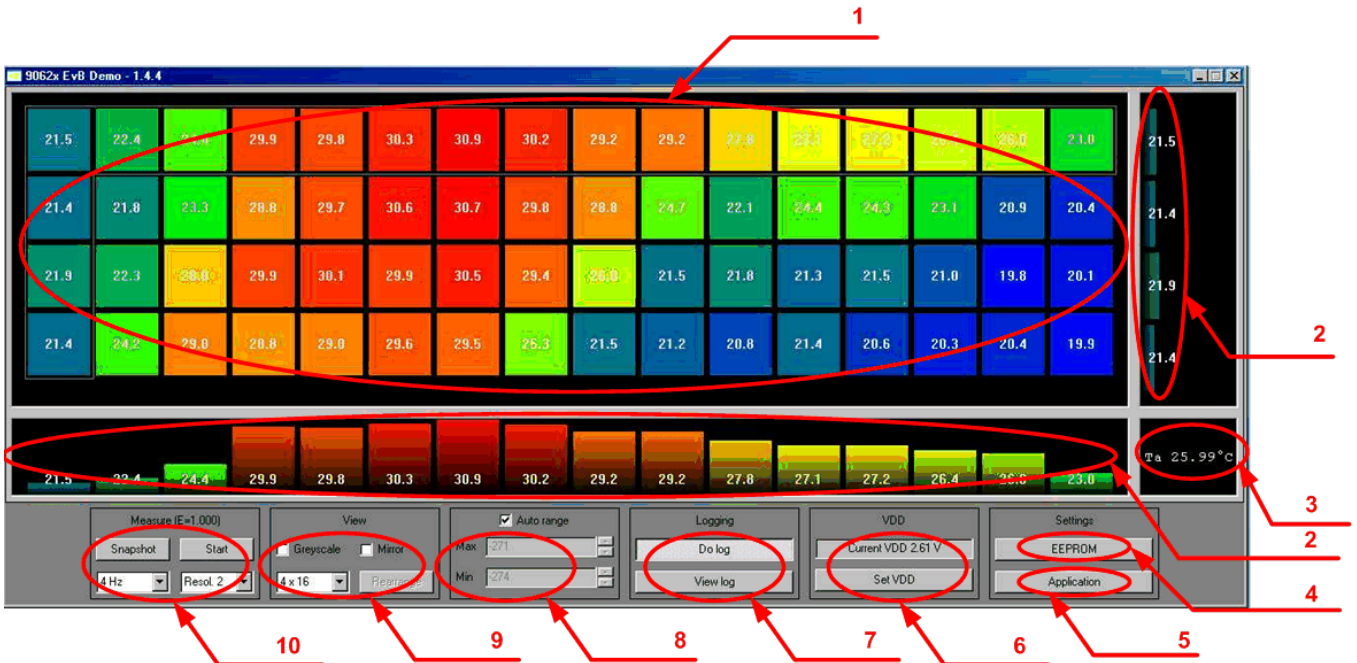
1 – Individual pixel readout. Depending on Application settings(5), those could be temperature or [LSB];

2 – Row and column bar graphs;

3 – Ambient temperature sensor readout;

4 – EEPROM dump button. We highly recommend that the EEPROM of the device is back-upped before further playing with the device;

5 – Application settings. See the description below;

6 – Operation voltage. Even though the EVB supports quite a wide range of voltages, please note that devices are calibrated at 2.6V;

7 – Enables or disables data logging;

8 – Configures the color scale maximum and minimum limits;

9 – Sets the view (grayscale or mirror) and resolution – 4x16pixels (native resolution) or the extrapolated: 8x32pixels, 16x64pix , 32x128pixels resolution.

10 – Sets the measurement related parameters: refresh rate (from 0.5Hz to 512Hz); single shot (snapshot) or continuous operation.

Application Settings. Clicking button 5 on the figure above opens the Application settings dialog. The following adjustments are possible:
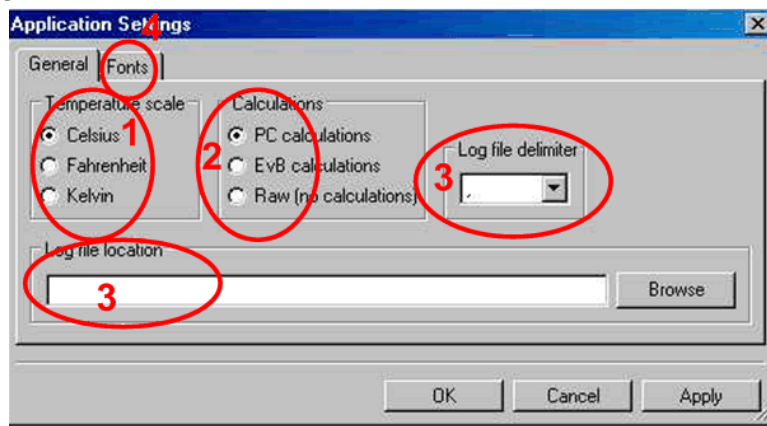
1 – Selects the temperature scale used to calculate the temperature in the application.

2 – Selects where the temperature calculations are done: In the PC, in the processor of the EVB, or no calculations is done (the raw Infrared data is displayed). **For the MLX90621, the calculation should be done in the PC**;

3 – sets the path for the log file and the delimiter used to separate the data;

4 – sets the fonts used in the application.

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