

EVK75026

GEN3 QVGA

TIME-OF-FLIGHT  
EVALUATION KIT



Microbats generate ultrasound via the larynx and emit the sound through the nose or open mouth; from 14,000 to over 100,000 hertz, well beyond the range of the human ear. The emitted vocalizations form a broad beam of sound used to probe the environment, as well as communicate with other bats.

## QVGA TIME-OF-FLIGHT EVALUATION KIT

EVK75026 is the evaluation platform for Melexis automotive qualified MLX75026 Time-of-Flight (TOF) image sensor. This sensor enables real-time 3D imaging at QVGA resolution with unsurpassed accuracy & sunlight robustness. The evaluation kit is a complete camera that can be connected directly to a PC for real-time visualization, recording and analysis of image data, whilst allowing easy access to many configuration settings. The onboard compute platform enables customer to load their own SW application!

**The evaluation kit is available with a 110° horizontal field-of-view and 940 nm automotive qualified VCSEL illumination, designed in collaboration with Lumentum and Lextar.**



### KEY FEATURES

- ✓ MLX75026 QVGA Time-of-Flight sensor
- ✓ VCSEL illumination (110° HFOV at 940 nm)
- ✓ Modular (interchangeable) platform architecture
- ✓ HW & SW reference design
- ✓ ROS compatible including web GUI
- ✓ Distance and confidence data at >100 FPS
- ✓ Advanced feature support on demand
  - Range de-aliasing
  - Multi-path error correction
  - High dynamic range (HDR)
  - Non-synchronized cross interference rejection
- ✓ Small form factor 50 x 40 x 45 mm



## ILLUMINATION BOARD

- ✓ 2 VCSELs (110° x 85° FOV @940nm)
- ✓ Over temperature protection
- ✓ Eye safe certificate available

## TOF SENSOR BOARD

- ✓ MLX75026 QVGA (320x240 pixels) TOF sensor array
- ✓ Optimized optics incl. 38nm optical band-pass filter
- ✓ Standard S mount (M12x0.5) lens holder
- ✓ EEPROM for calibration parameters

## INTERFACE BOARD

- ✓ Physical interface between MLX75026 & Zynq Ultrascale+
- ✓ Power distribution with 12V input and RJ45 ethernet connector
- ✓ Pin header (GPIO, VIN, I<sup>2</sup>C)
- ✓ Gigabit ethernet interface

## PROCESSOR BOARD

- ✓ Xilinx Zynq Ultrascale
- ✓ COTS Trenz TE0820-04-3BE21xL board
- ✓ Proprietary Melexis firmware

## PACKAGE CONTENTS

- ✓ 1x HW module
- ✓ 1x external AC/DC 12V PSU
- ✓ 1x ethernet cable
- ✓ Web-based visualizer
- ✓ C API, Python & Matlab SDK (+ example code)
- ✓ Unique registration key (for documentation, software, updates & support)

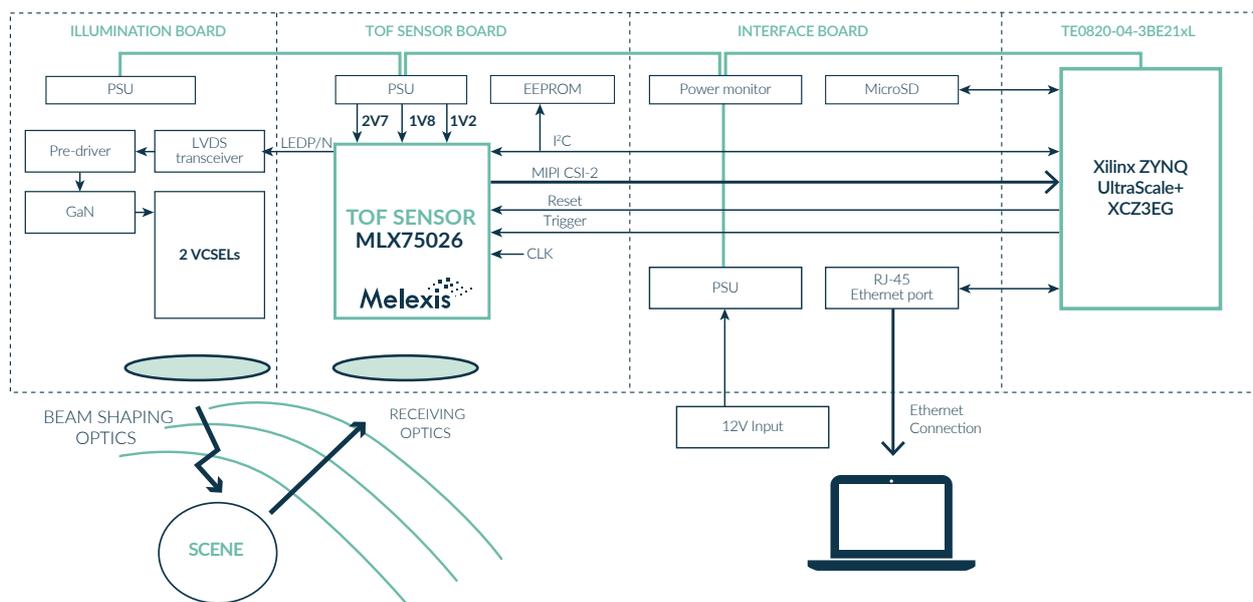
## ORDERING CODE

- ✓ EVK75026-110-940-2

## AVAILABILITY

Check [www.melexis.com/en/contact/distributors](http://www.melexis.com/en/contact/distributors) for a local distributor in your region.

## BLOCK DIAGRAM



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