## General Description

The epc660 CC Chip Carrier (Card-edge Connector Chip Carrier) is an easy-to-use board with an epc660 chip (fully integrated 3D-TOF imager with a resolution of 320 x 240 pixels, QVGA). It allows a simple mounting and interconnection to a PCB board which carries the necessary illumination and application system. The lens mounting for standard lenses with lens holders is also easily be done.

This pre-assembled board is well suited for small and medium volume production of 3D TOF cameras.

Only few additional components are needed to generate a complete 3D camera. Depending on illumination power and optical design, a resolution in the millimeter range for distances up to dozens of meters is feasible. Up to 158 full frame TOF images are delivered in rolling mode. The extremely high sensitivity of the chip allows for a reduced illumination power and reduced overall power consumption compared to other TOF imagers.

epc660 is based on the same technology and instruction set as the existing epc635 Half-QQVGA TOF imager from ESPROS.

An evaluation kit for the epc660 is available with hard- and software examples and a comprehensive manual to speed up system integration.

## Features

- epc660 chip assembled on carrier for easy-to-use application
- Easy lens mounting by using standard lens mounts and lenses
- Well suited for small and medium volume production

## Applications

- People detection and counting
- Mobile postal parcel size measurement
- Machine safety
- Helicopter near terrain flight assistance
- Car collision avoidance systems
- Pedestrian detection and breaking systems
- Man-Machine interface
- Gesture control
- Body size measurement
- General volumetric mapping
- Mobile robotics
- Simultaneous localization and mapping (SLAM)

Figure 1: epc660 CC Chip Carrier

## 1. Ordering information

| Part Number | Part Name | Package | RoHS compliance |
|---|---|---|---|
| P100 244 | epc660 CC Chip Carrier | PCB 37.25 x 36.00 mm | Yes |

Table 1: Ordering Information

## 2. Technical data

The epc660 CC Chip Carrier is a PCB board with an epc660 chip, all most important decoupling capacitors and a card-edge connector. The board allows the access all the pins of the chip according the Datasheet epc660.

The user does not need a special technical manual for this carrier. Use and operate the chip according the Datasheet epc660 which contains a detailed and complete description of the chip's functionality.

Technical note: Carrier versions up -002 are backward compatible.

## 3. Schematics

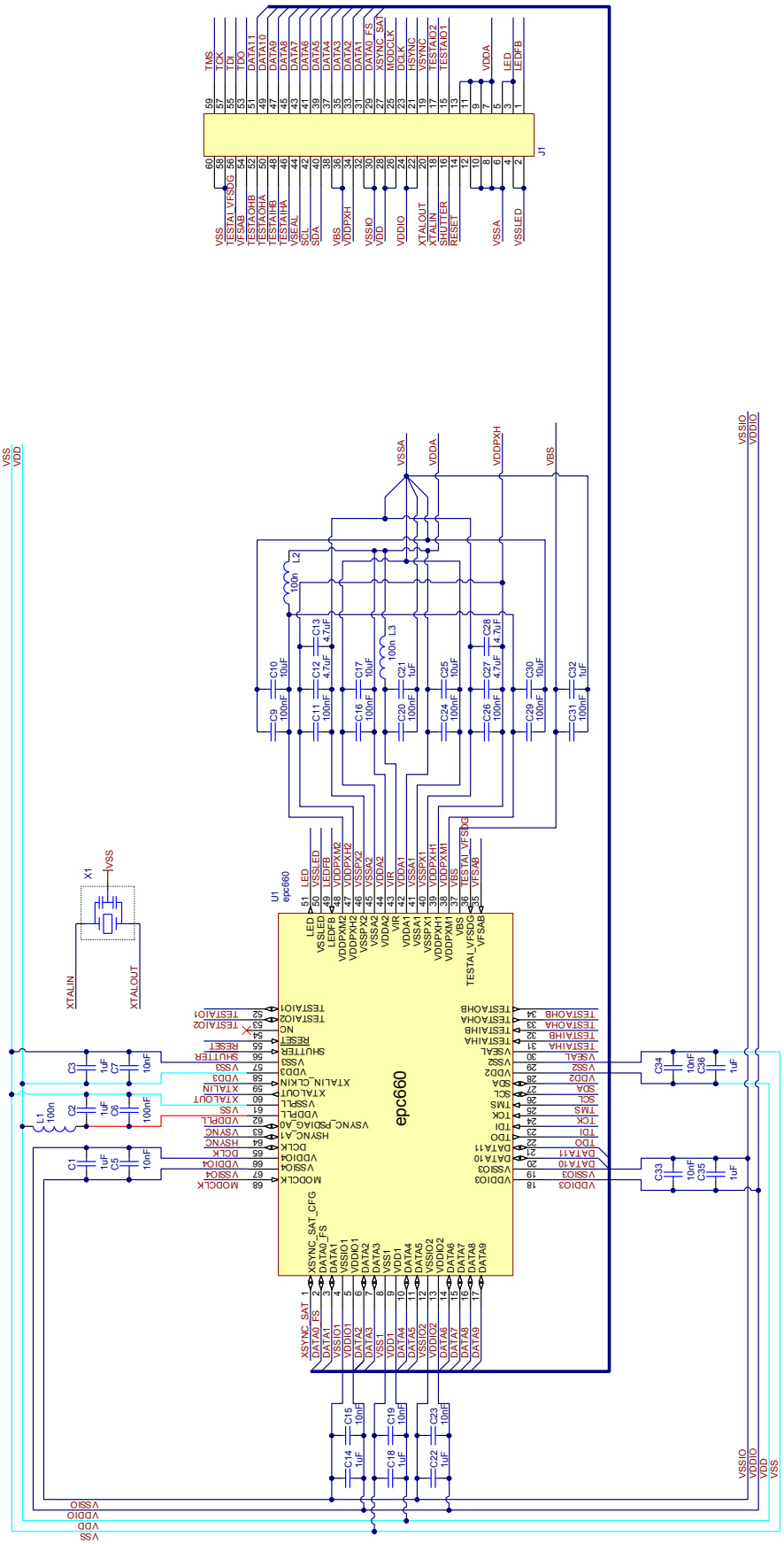



Figure 2: Schematic of epc660-xxx CC Chip Carrier no version
Note: -xxx is the chip version. The carrier version is at the end of the product designator

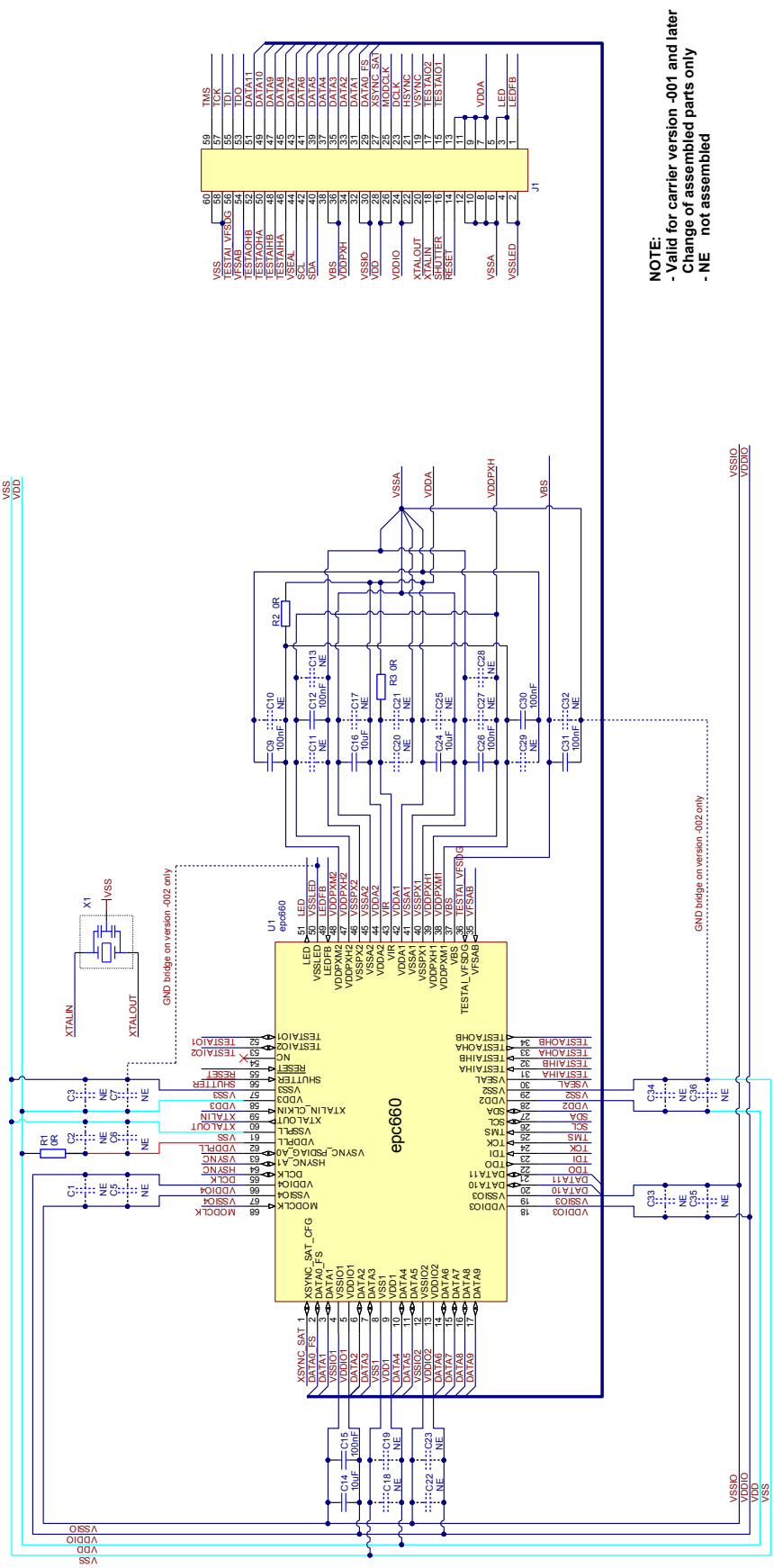



Figure 3: Schematic of epc660-xxx CC Chip Carrier-001 and -002 or later
Note: -xxx is the chip version. The carrier version is at the end of the product designator

Remark: Carrier versions up -002 are backward compatible.

## 4. Board layout and assembly

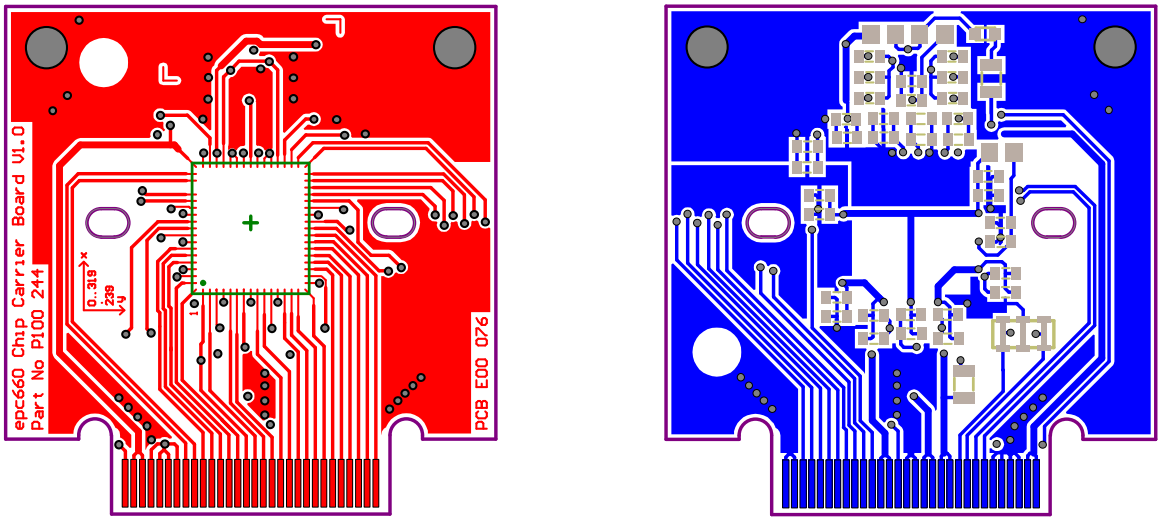



Figure 4: epc660 CC Chip Carrier: Layout top and bottom

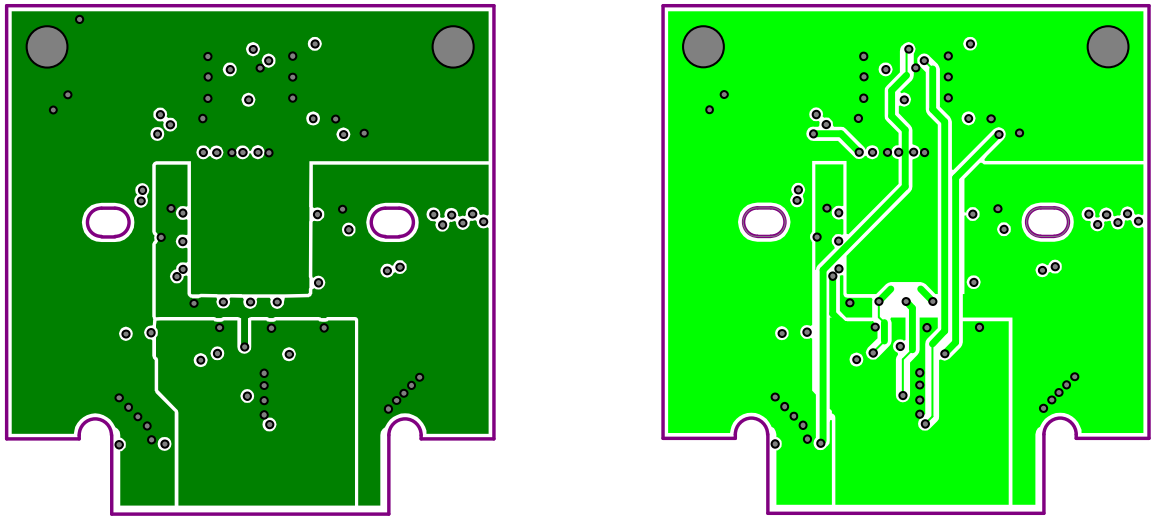


Figure 5: epc660 CC Chip Carrier: Layout middle top and bottom

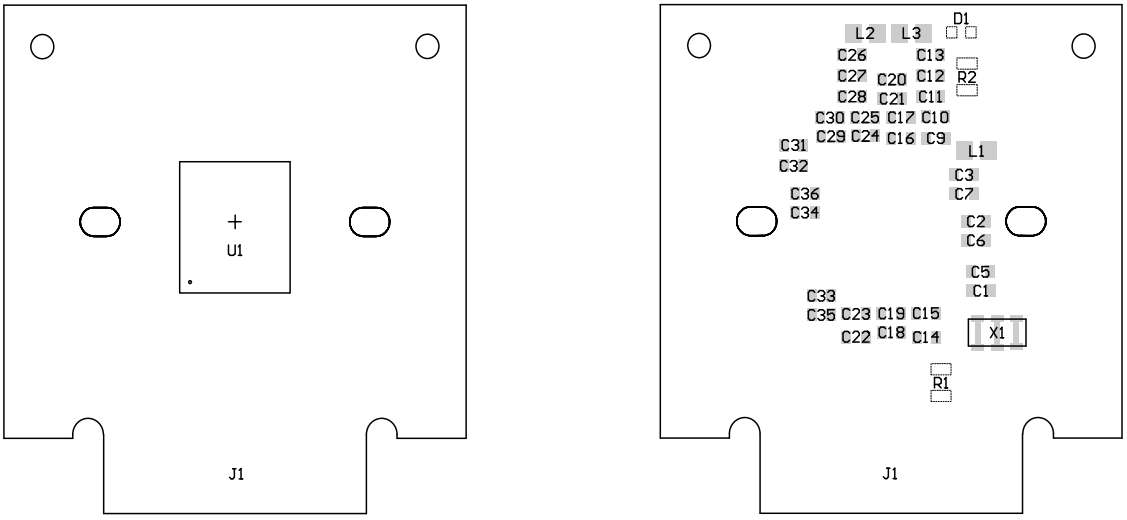
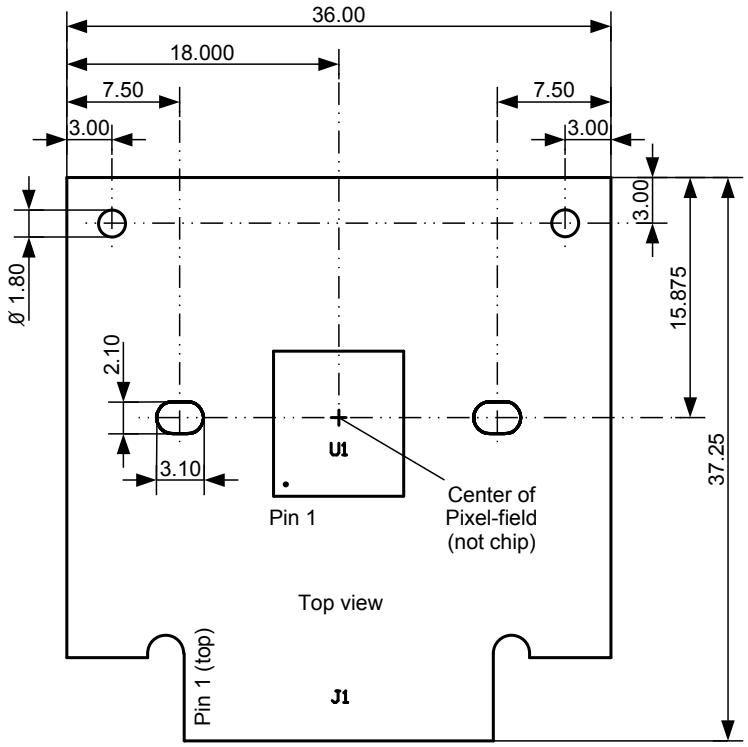



Figure 6: epc660 CC Chip Carrier: Assembly top and bottom

## 5. Mechanical dimensions




PCB material: Glass epoxy FR-4, thickness 1.6mm

Figure 7: epc660 CC Chip Carrier: Dimensions
(all measures in mm, top side is illumination side)

## 6. Card-edge connector J1

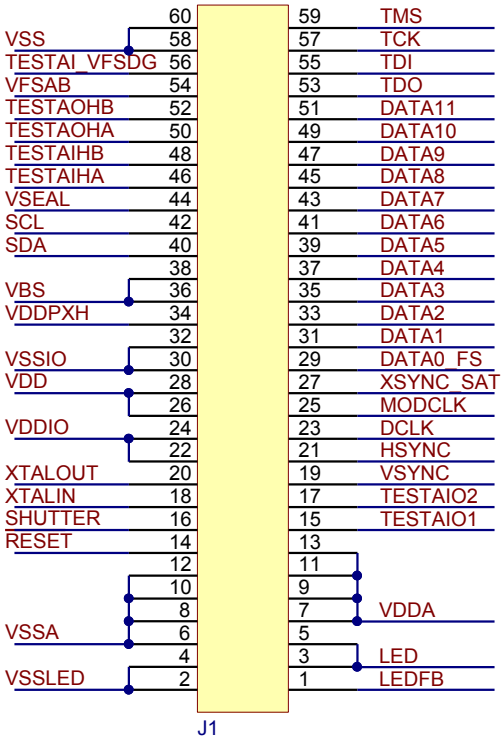



Figure 8: Pin table card-edge connector J1

**IMPORTANT NOTE:**
Use for connector J1 Pin 1 marking of the schematic, PCB and assembly drawing. Pin 1 marking on connector housing J1 can deviate.

Figure 9 and Figure 10 show possible card connectors for interfacing the CC Chip Carrier with the user's application board
e.g. SAMTEC MEC6-130-02-L-DV-A / -RA1

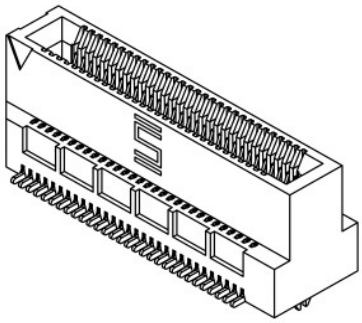


Figure 9: Vertical mount mini-edge card connector

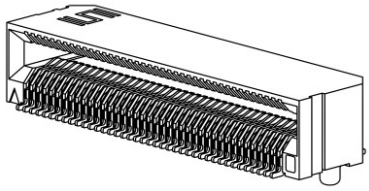


Figure 10: Right angle mini-card connector (Source: Samtec)

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