

## pITX-i.MX8 M - Google Coral Edge TPU

▶ Document Revision 1.0

▶ Date: April 2021

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## Revision History

Rev. Index	Brief Description of Changes	Date of Issue
1.0	First official version	2021-04-13

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## 1/ Requirements

- Kontron pITX-i.MX8 M module
- Serial connection to the Kontron pITX-i.MX8 M module
- uSD card
- USB camera
- HDMI monitor

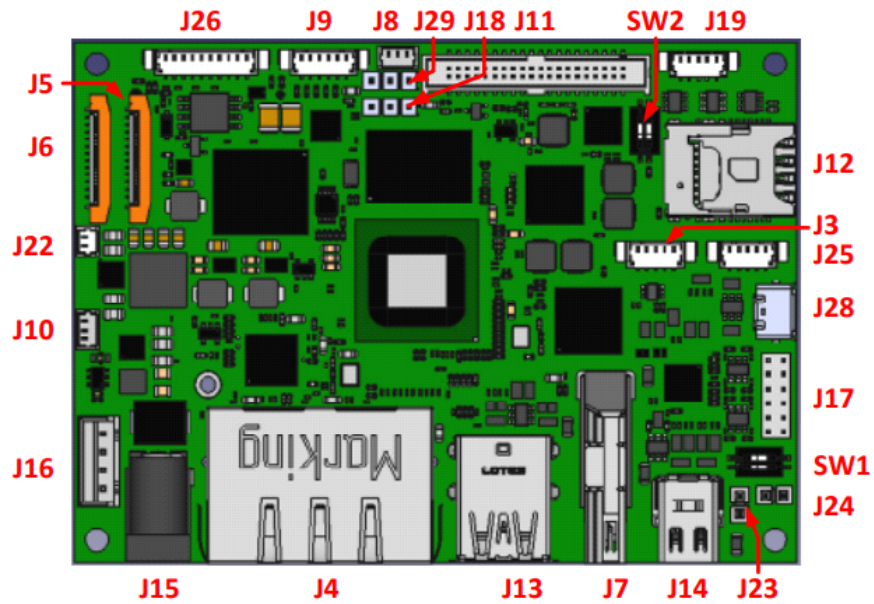


Figure 1: pITX-i.MX8 M Module

## 2/ Download and install the demo image

The software image can be found on the Kontron customer section <https://emdcustomersection.kontron.com>. Please navigate to the product „pITX-imx8m“ and use the menu „Software & Demo Images“.

1. Attach installation media (uSD card) to Linux host computer and determine a device node by analyzing system logs:

```
$ dmesg | tail | grep sd
```

---

**NOTICE**

An SD storage should be greater than 2 GB.

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2. Write the wic image to uSD card:

```
# bzcat <DEMO_IMAGE>.wic.bz2 | dd of=/dev/sdX bs=1M conv=fsync
```

---

**NOTICE**

sdX was determined on the previous step. Make sure you have chosen the right device. Writing to the wrong device may result in loss of data.

---

3. Configure serial connection on J19 port (Baudrate 115200), insert uSD card into J12 and power on the board.
4. Interrupt the boot process to enter U-boot command line by pressing any key.
5. Run the following command to boot from uSD card:  

```
=> run bootcmd_mmc1
```
6. After board is started login as user root. No password is needed.

For more details refer to "YOCTO\_BSP\_PITX\_IMX8M\_R12\_README.pdf".

### 3/ Evaluation of the functionality

1. To launch the demo, which processes video stream from camera via gstreamer, connect the USB camera and the HDMI monitor and execute following commands:

```
# cd /opt/edgetpu/examples-camera/gstreamer/  
# python3 detect.py --videosrc /dev/video1
```

---

**NOTICE**

To make this, connect a display and camera (CSI, USB) to the board.

---

2. To launch remaining demos, which do not depend on gstreamer and which can be found in /opt/edgetpu/pycoral on rootfs, use following commands:

```
# cd /opt/edgetpu/pycoral  
  
# python3 examples/classify_image.py \  
  
    --model test_data/mobilenet_v2_1.0_224_inat_bird_quant_edgetpu.tflite \  
    --labels test_data/inat_bird_labels.txt \  
    --input test_data/parrot.jpg
```

For more details refer to README.md for meta-coral-edgetpu <https://gitlab.kontron.com/imx/coral-edgetpu/-/blob/master/meta-coral-edgetpu/README.md>.



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Kontron, a global leader in embedded computing technology and trusted advisor in IoT, works closely with its customers, allowing them to focus on their core competencies by offering a complete and integrated portfolio of hardware, software and services designed to help them make the most of their applications.

With a significant percentage of employees in research and development, Kontron creates many of the standards that drive the world's embedded computing platforms; bringing to life numerous technologies and applications that touch millions of lives. The result is an accelerated time-to-market, reduced total-cost-of-ownership, product longevity and the best possible overall application with leading-edge, highest reliability embedded technology.

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