

This document describes Zynq Video Board Rev.1.2 connectors' pinouts.

## General purpose buttons and LEDs

There are several buttons and LEDs which usage can be configured by the user. The table below shows their Mars ZX2 module and Zynq chip pin and ball assignment.

**LED pin assignment**

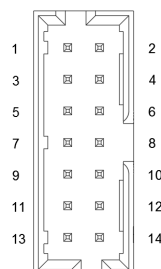
| PCB designator | ZX2 module pin (SO-DIMM) | ZX2 module signal name | Zynq-7020 ball | FPGA pin name  |
|----------------|--------------------------|------------------------|----------------|----------------|
| LED1           | 44                       | IO_B34_L8_W14_P        | W14            | IO_L8P_34      |
| LED2           | 46                       | IO_B34_L8_Y14_N        | Y14            | IO_L8N_34      |
| LED3           | 48                       | IO_B34_L6_P14_P        | P14            | IO_L6P_34      |
| LED4           | 50                       | IO_B34_L6_VREF_R14_N   | R14            | IO_L6N_VREF_34 |
| LED5           | 54                       | IO_B34_L5_T14_P        | T14            | IO_L5P_34      |
| LED6           | 56                       | IO_B34_L5_T15_N        | T15            | IO_L5N_34      |
| LED7           | 69                       | IO_B34_L22_W18_P       | W18            | IO_L22P_34     |
| LED8           | 71                       | IO_B34_L22_W19_N       | W19            | IO_L22N_34     |

**General purpose buttons pin assignment**

| PCB designator | ZX2 module pin (SO-DIMM) | ZX2 module signal name   | Zynq-7020 ball | FPGA pin name |
|----------------|--------------------------|--------------------------|----------------|---------------|
| SW1.U7         | 148                      | IO_MIO48_B13_L11_SRCC_U7 | B12            | PS_MIO48      |
| SW2.U10        | 152                      | IO_MIO50_B13_L12_MRCC_T9 | B13            | PS_MIO50      |
| SW3.V7         | 154                      | IO_MIO51_B13_L12_U10     | B9             | PS_MIO51      |
| SW4.T9         | 150                      | IO_MIO49_B13_L11_V7      | C12            | PS_MIO49      |

Note: PCB button designators do not match Mars ZX2 signal names (see table).

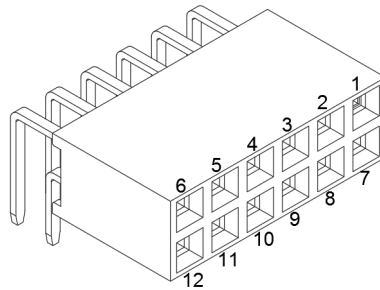
## JTAG connector pinout



### *JTAG pin description*

| Signal name | Pin | Pin | Signal name |
|-------------|-----|-----|-------------|
| GND         | 1   | 2   | +3V3        |
| GND         | 3   | 4   | JTAG_TMS    |
| GND         | 5   | 6   | JTAG_TCK    |
| GND         | 7   | 8   | JTAG_TDO    |
| GND         | 9   | 10  | JTAG_TDI    |
| GND         | 11  | 12  | NC          |
| GND         | 13  | 14  | SRST_RDYN   |

## Digilent Pmod connectors



### *Digilent Pmod J6 connector pinout*

| Pin number | ZX2 module pin (SO-DIMM) | ZX2 module signal name | Zynq-70 20 ball | FPGA pin name |
|------------|--------------------------|------------------------|-----------------|---------------|
| 1          | 64                       | IO_B34_L24_P15_P       | P15             | IO_L24P_34    |
| 2          | 66                       | IO_B34_L24_P16_N       | P16             | IO_L24N_34    |
| 3          | 74                       | IO_B34_L16_V20_P       | V20             | IO_L16P_34    |
| 4          | 76                       | IO_B34_L16_W20_N       | W20             | IO_L16N_34    |
| 5          | GND                      | ---                    | ---             | ---           |
| 6          | +3V3                     | ---                    | ---             | ---           |
| 7          | 68                       | IO_B34_L23_N17_P       | N17             | IO_L23P_34    |
| 8          | 70                       | IO_B34_L23_P18_N       | P18             | IO_L23N_34    |
| 9          | 78                       | IO_B34_L15_T20_P       | T20             | IO_L15P_34    |
| 10         | 80                       | IO_B34_L15_U20_N       | U20             | IO_L15N_34    |
| 11         | GND                      | ---                    | ---             | ---           |
| 12         | +3V3                     | ---                    | ---             | ---           |

### ***Digilent Pmod J7 connector pinout***

| Pin number | ZX2 module pin (SO-DIMM) | ZX2 module signal name | Zynq-7020 ball | FPGA pin name   |
|------------|--------------------------|------------------------|----------------|-----------------|
| 1          | 43                       | IO_B34_L13_MRCC_N18_P  | N18            | IO_L13P_MRCC_34 |
| 2          | 45                       | IO_B34_L13_MRCC_P19_N  | P19            | IO_L13N_MRCC_34 |
| 3          | 55                       | IO_B34_L10_V15_P       | V15            | IO_L10P_34      |
| 4          | 57                       | IO_B34_L10_W15_N       | W15            | IO_L10N_34      |
| 5          | GND                      | ---                    | ---            | ---             |
| 6          | +3V3                     | ---                    | ---            | ---             |
| 7          | 49                       | IO_B34_L14_SRCC_N20_P  | N20            | IO_L14P_SRCC_34 |
| 8          | 51                       | IO_B34_L14_SRCC_P20_N  | P20            | IO_L14N_SRCC_34 |
| 9          | 59                       | IO_B34_L7_Y16_P        | Y16            | IO_L7P_34       |
| 10         | 61                       | IO_B34_L7_Y17_N        | Y17            | IO_L7N_34       |
| 11         | GND                      | ---                    | ---            | ---             |
| 12         | +3V3                     | ---                    | ---            | ---             |

## **MIPI-CSI connector pinout**

The Zynq Video Board supports two 2-lane CSI-MIPI interfaces broken-out on FPC connector.

### ***MIPI CSI connector pinout***

| Pin number | ZVB signal name | ZX2 module pin (SO-DIMM) | ZX2 module signal name | Zynq-7020 ball | FPGA pin name    |
|------------|-----------------|--------------------------|------------------------|----------------|------------------|
| 1          | +5V0            | ---                      | ---                    | ---            | ---              |
| 2          | +5V0            | ---                      | ---                    | ---            | ---              |
| 3          | +3V3            | ---                      | ---                    | ---            | ---              |
| 4          | +3V3            | ---                      | ---                    | ---            | ---              |
| 5          | NC              | ---                      | ---                    | ---            | ---              |
| 6          | NC              | ---                      | ---                    | ---            | ---              |
| 7          | NC              | ---                      | ---                    | ---            | ---              |
| 8          | NC              | ---                      | ---                    | ---            | ---              |
| 9          | I2C_1_SCL_2V8   | 84                       | IO_B35_L23_M14_P       | M14            | IO_L23P_35       |
| 10         | I2C_1_SDA_2V8   | 86                       | IO_B35_L23_M15_N       | M15            | IO_L23N_35       |
| 11         | I2C_0_SCL_2V8   | 97                       | IO_B35_L10_AD11_K19_P  | K19            | IO_L10P_AD11P_35 |
| 12         | I2C_0_SDA_2V8   | 99                       | IO_B35_L10_AD11_J19_N  | J19            | IO_L10N_AD11N_35 |
| 13         | NC              | ---                      | ---                    | ---            | ---              |

|    |            |     |                      |     |                |
|----|------------|-----|----------------------|-----|----------------|
| 14 | NC         | --- | ---                  | --- | ---            |
| 15 | NC         | --- | ---                  | --- | ---            |
| 16 | NC         | --- | ---                  | --- | ---            |
| 17 | NC         | --- | ---                  | --- | ---            |
| 18 | GPIO       | 134 | IO_B35_L6_VREF_F17_N | F17 | IO_L6N_VREF_35 |
| 19 | NC         | --- | ---                  | --- | ---            |
| 20 | NC         | --- | ---                  | --- | ---            |
| 21 | GND        | --- | ---                  | --- | ---            |
| 22 | CSI1_CLK_P | --- | ---                  | --- | ---            |
| 23 | CSI1_CLK_N | --- | ---                  | --- | ---            |
| 24 | GND        | --- | ---                  | --- | ---            |
| 25 | CSI1_D0_P  | --- | ---                  | --- | ---            |
| 26 | CSI1_D0_N  | --- | ---                  | --- | ---            |
| 27 | CSI1_D1_P  | --- | ---                  | --- | ---            |
| 28 | CSI1_D1_N  | --- | ---                  | --- | ---            |
| 29 | NC         | --- | ---                  | --- | ---            |
| 30 | NC         | --- | ---                  | --- | ---            |
| 31 | NC         | --- | ---                  | --- | ---            |
| 32 | NC         | --- | ---                  | --- | ---            |
| 33 | GND        | --- | ---                  | --- | ---            |
| 34 | NC         | --- | ---                  | --- | ---            |
| 35 | NC         | --- | ---                  | --- | ---            |
| 36 | GND        | --- | ---                  | --- | ---            |
| 37 | NC         | --- | ---                  | --- | ---            |
| 38 | NC         | --- | ---                  | --- | ---            |
| 39 | GND        | --- | ---                  | --- | ---            |
| 40 | CSI2_CLK_P | --- | ---                  | --- | ---            |
| 41 | CSI2_CLK_N | --- | ---                  | --- | ---            |
| 42 | GND        | --- | ---                  | --- | ---            |
| 43 | CSI2_D0_P  | --- | ---                  | --- | ---            |
| 44 | CSI2_D0_N  | --- | ---                  | --- | ---            |
| 45 | CSI2_D1_P  | --- | ---                  | --- | ---            |
| 46 | CSI2_D1_N  | --- | ---                  | --- | ---            |
| 47 | NC         | --- | ---                  | --- | ---            |
| 48 | NC         | --- | ---                  | --- | ---            |
| 49 | NC         | --- | ---                  | --- | ---            |
| 50 | NC         | --- | ---                  | --- | ---            |

# Testpad list

Testpad list

| Designator | Side   | Description              |
|------------|--------|--------------------------|
| GND        | top    | GND                      |
| TP1        | top    | CAM1_PWDN signal         |
| TP4        | top    | CAM2_PWDN signal         |
| TP5        | bottom | VOUT_1V8 signal          |
| TP6        | bottom | Mars ZX2 SO-DIMM pin 123 |
| TP7        | bottom | Mars ZX2 SO-DIMM pin 65  |
| TP11       | bottom | GND                      |