

Porting a TE0300 desing to TE0630

TE0630 series modules have been designed to be mechanically and (as far as possible) electrically backward compatible with TE0300 series modules. Designs based on a TE0300 module can be ported to a TE0600 module as described below.

Mechanical compatibility

TE0630 series modules are mechanically equivalent to the TE0300 series modules:

- module dimensions: same length, width, height;
- mount holes: same dimensions and placements;
- B2B (board to board) connectors: same type and placements.

Designs based on a TE0300 module can be ported to a TE0600 module without any mechanical redesign.

Power supply compatibility

TE0300 and TE0630 series modules have the same power supply requirements. Designs based on a TE0300 module can be ported to a TE0600 module without any power supply redesign.

Power supply pins and ground pins of TE0300 series modules match those of TE0630 series modules. Designs based on a TE0300 module can be ported to a TE0600 module without any power supply pin and ground pin redesign.

Signal type compatibility

Most user signal pins of TE0300 series modules match their corresponding pins on TE0630 series modules. Designs based on a TE0300 module can be ported to a TE0600 module without any redesign for those pins.

User signal pins of TE0300 series modules NOT matching their corresponding pins on TE0630 series modules are listed in the following table. Designs based on a TE0300 module using the user signal pins listed in the following table can be ported to a TE0600 module by adapting the project to the type (SIO, DIO, CIO) and polarity (_P, _N) change of the corresponding signal pins.

Connector:Pin	TE0300 pin name	TE0300 type	TE0630 pin name	TE0630 type
J4:5	B3_L01_P	DIO	V3_IO_01	SIO
J4:7	B3_L01_N	DIO	V3_IO_02	SIO
J4:9	B3_L02_P	DIO	V3_IO_03	SIO
J4:11	B3_L02_N	DIO	V3_IO_04	SIO
J4:17	B0_L24_N	DIO	V0_IO_01	SIO
J4:19	B0_L24_P	DIO	V0_IO_01_N	DIO
J4:6	B3_L07_P	DIO	V3_IO_06	SIO
J4:8	B3_L07_N	DIO	V3_IO_07	SIO
J4:10	B3_L03_N	DIO	V3_IO_08	SIO
J4:12	B3_L03_P	DIO	V3_IO_09	SIO
J5:13	B3_L22_P	DIO	V3_IO_12	SIO
J5:15	B3_L22_N	DIO	V3_IO_13	SIO
J5:19	B3_L20_P	DIO	V3_IO_14	SIO
J5:21	B3_L20_N	DIO	V3_IO_15	SIO
J5:16	B3_L21_N	DIO	V3_IO_17	SIO

J5:18	B3_L21_P	DIO	V3_IO_18	SIO
J5:20	B3_L23_N	DIO	V3_IO_19	SIO
J5:22	B3_L23_P	DIO	V3_IO_20	SIO
J5:32	B2_L06_P	DIO	V3_IO_24	SIO
J5:34	B2_L06_N	DIO	V3_IO_25	SIO
J5:41	B2_GCLK13	CIO	V2_IO_02	SIO
J5:49	B2_GCLK_L13_N	CIO	V2_IO_24_P	DIO
J5:51	B2_GCLK_L13_P	CIO	V2_IO_24_N	DIO

TE0300 and TE0630 pin type differences.

User signal type definitions are listed in the table below.

Type color code	Description
DIO	Unrestricted, general-purpose differential user-I/O pin.
SIO	Unrestricted, general-purpose (single-ended) user-I/O pin.
CIO	Unrestricted, general-purpose <i>differential</i> user-I/O pin. This pin also can be used as FPGA clock input.

TE0300 and TE0630 pin types

Signals routed as one differential signal pair can be also used as two single-ended signals.

I/O bank compatibility

The I/O bank of most user signal pins of TE0300 series modules matches the I/O bank of their corresponding pins on TE0630 series modules. Designs based on a TE0300 module can be ported to a TE0600 module without any redesign for those pins.

User signal pins of TE0300 series modules whose I/O bank does NOT match the I/O bank of their corresponding pins on TE0630 series modules are listed in the following table. Designs based on a TE0300 module using the user signal pins listed in the following table can be ported to a TE0600 module by adapting the project to the I/O bank change of the corresponding signal pins.

Connector:Pin	TE0300 I/O bank	TE0630 I/O bank
J4:15	0	3
J4:36	0	3
J4:52	0	3
J5:33	2	3
J5:28	2	3
J5:30	2	3
J5:32	2	3
J5:34	2	3
J5:38	2	3
J5:40	3	2
J5:42	3	2
J5:50	3	2

J5:52	3	2
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TE0300 and TE0630 user signals I/O banks differences.

The following table lists the supply voltage of I/O banks for both TE0300 and TE0630 series modules.

Bank	TE0300	TE0630
B0	VCCIO (1.2 V - 3.3 V)	VCCIO (1.2 V - 3.3 V)
B1	2.5 V	1.5 V
B2	3.3 V	3.3 V
B3	3.3 V	3.3 V

TE0300 and TE0630 I/O bank supply voltages.

The supply voltage of I/O bank 0 of both module series can be [configured by the user](#).

If the supply voltage of bank 0 of the TE0300 module is 3.3 V, designs based on a TE0300 module using the user signal pins of bank 0 listed in the table above can be ported to a TE0600 module without any redesign for those pins.

If the supply voltage of bank 0 of the TE0300 module is lower than 3.3 V, designs based on a TE0300 module using the user signal pins of bank 0 listed in the table above can be ported to a TE0600 module by adapting the project to the I/O bank change of the corresponding signal pins.

The supply voltage of I/O bank 2 and 3 of both module series is 3.3 V. Designs based on a TE0300 module using the user signal pins of banks 2 and 3 listed in the table above can be ported to a TE0600 module without any redesign for those pins.