

# SDSoC Projects

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## TE-SDSoC Platforms

For newest available TE Platforms see: [TE Reference Designs Overview](#). For older SDSoC Version examples check download area.

## SDSoC 2018.2

SDSoC Platforms Projects with Examples are available for some Modules, see [TE Reference Designs Overview](#) and [Trenz Electronic Download Area](#).

## Install Trenz Electronic SDSoC Platform

### (optional) Create SDSoC Platform from TE Reference Design

1. Requirements:
  - a. SDSoC 2018.2 (Includes automatically VIVADO 2018.2 and Vivado HLS 2018.2)
  - b. (optional) Petalinux 2018.2
2. Unzip Reference Design
  - a. Do not change base folder name after extraction!
3. Enable SDSOC, set install path of Xilinx tools, set your hardware assembly option in: "design\_basic\_settings.cmd"
4. Create Reference Design: run "vivado\_create\_project\_gui mode.cmd"
5. VIVADO:
  - a. TCL-Console type: TE::hw\_build\_design -export\_prebuilt
  - b. (optional) find hardware handoff file .hdf under prebuilt folder, build your own Petalinux image using Petalinux BSP provided under os folder and place new images to correct subfolder in prebuilt/os
  - c. (optional) TCL-Console type: TE::ADV::beta\_util\_sdso\_c\_project -check\_only
    - i. SDSoC Ready Check without modify project
  - d. TCL-Console type: TE::ADV::beta\_util\_sdso\_c\_project
    - i. Attention: Vivado project will be modified by copying constrain files locally to project. Recreate project with Bachtfile to restore original Vivado project with externally linked constraints.
  - e. Wait for project creation:
    - i. SDSoC Platform is created on subfolder <design\_name>/../SDSoC\_PFM/<TE::SHORTDIR>/<design\_name>

### Variant (a): Set TE SDSoC Platform as Xilinx SDSoC Example Platform

1. Attention wrong modification can damage the SDSoC Installation!
2. Copy SDSoC Platform into the Xilinx <SDSoC install path>/platforms
  - a. Attention: local templates from "<SDSoC Platform>/samples/" will be ignored from Xilinx SDSoC tools in this folder!
3. Open <SDSoC install path>/data/SDSoCManifest.xml
  - a. Add SDSoC Platform to all sample template which should be visible
  - b. <platform name="<SDSoC Project Name>" />  
Example: <platform name="SK0808\_zusys\_SDSoC" />

### Variant (b): Set TE SDSoC Platform as local SDSoC Platform

1. Copy SDSoC Platform to your preferred folder
  - a. Use SDSoC Platform ZIP from Download or exported from Reference Project (<design\_name>/../SDSoC\_PFM/<TE::SHORTDIR>/<design\_name>)

## Create SDSoC Project

1. Start SDSoC 2018.2
2. Select Workspace
3. Click "Create SDSoC Project"
  - a. Choose "Application project" radio button
  - b. Set Project Name
  - c. Set Platform:
    - i. Installed like Variant (a): Select one of built in Platforms: ex. SK0808\_zusys\_SDSoC
    - ii. Installed like Variant (b): Others (Path to Project is: <design\_name>/../SDSoC\_PFM/<TE::SHORTDIR>/<design\_name>)
  - d. Select OS: Standalone, Linux or RTOS
  - e. Click "Next"
  - f. Select Template Application
  - g. Click "Finished"

## SDSoC 2017.4

SDSoC Platforms Projects with Examples are available for some Modules, see [TE Reference Designs Overview](#) and [Trenz Electronic Download Area](#).

## Install Trenz Electronic SDSoC Platform

### (optional) Create SDSoC Platform from TE Reference Design

1. Requirements:
  - a. SDSoC 2017.4 (Includes automatically VIVADO 2017.4)
  - b. (optional) Petalinux 2017.4
2. Unzip Reference Design
  - a. Do not change base folder name after extraction!
3. Enable SDSOC, set install path of Xilinx tools, set your hardware assembly option in: "design\_basic\_settings.cmd"
4. Create Reference Design: run "vivado\_create\_project\_guiemode.cmd"
5. VIVADO:
  - a. TCL-Console type: TE::hw\_build\_design -export\_prebuilt
  - b. (optional) find hardware handoff file .hdf under prebuilt folder, build your own Petalinux image using Petalinux BSP provided under os folder and place new images to correct subfolder in prebuilt/os
  - c. (optional) TCL-Console type: TE::ADV::beta\_util\_sdsoc\_project -check\_only
    - i. SDSoC Ready Check without modify project
  - d. TCL-Console type: TE::ADV::beta\_util\_sdsoc\_project
    - i. Attention: Vivado project will be modified by copying constrain files locally to project. Recreate project with Bachtfile to restore original Vivado project with externally linked constrains.
  - e. Wait for project creation:
    - i. SDSoC Platform is created on subfolder <design\_name>/../SDSoC\_PFM/<TE::SHORTDIR>/<design\_name>

### Variant (a): Set TE SDSoC Platform as Xilinx SDSoC Example Platform

1. Attention wrong modification can damage the SDSoC Installation!
2. Copy SDSoC Platform into the Xilinx <SDSoC install path>/platforms
  - a. Attention: local templates from "<SDSoC Platform>/samples/" will be ignored from Xilinx SDSoC tools in this folder!
3. Open <SDSoC install path>/data/SDSoCManifest.xml
  - a. Add SDSoC Platform to all sample template which should be visible
  - b. <platform name="<SDSoC Project Name>"/>  
Example: <platform name="SK0808\_zusys\_SDSoC"/>

### Variant (b): Set TE SDSoC Platform as local SDSoC Platform

1. Copy SDSoC Platform to your preferred folder

- a. Use SDSoC Platform ZIP from Download or exported from Reference Project (<design name>/../SDSoC\_PFM/<TE::SHORTDIR>/<design name>)

## Create SDSoC Project

1. Start SDSoC 2017.4
2. Select Workspace
3. Click "Create SDSoC Project"
  - a. Set Project Name
  - b. Set Platform:
    - i. Installed like Variant (a): Select one of built in Platforms: ex. SK0808\_zusys\_SDSoC
    - ii. Installed like Variant (b): Others (Path to Project is: <design\_name>/../SDSoC\_PFM/<TE::SHORTDIR>/<design\_name>)
  - c. Select OS: Standalone, Linux or RTOS
  - d. Click "Next"
  - e. Select Template Application
  - f. Click "Finished"

## SDSoC 2017.1

- SDSoC Platforms Projects with Examples are available for some Modules, see [TE Reference Designs Overview](#) and [Trenz Electronic Download Area](#).
- general description is currently not available.

## SDSoC 2016.2

## Install Trenz Electronic SDSoC Platform

### (optional) Create SDSoC Platform from TE Reference Design

1. Requirements:
  - a. VIVADO 2016.2
  - b. SDSoC 2016.2
  - c. 7-ZIP
2. Unzip Reference Design
  - a. Do not change base folder name after extraction!
3. Enable SDSOC and set 7-ZIP path in: "design\_basic\_settings.cmd"
4. Create Reference Design: run "vivado\_create\_project\_guiomode.cmd"
5. VIVADO:
  - a. (optional) TCL-Console type:TE::ADV::beta\_util\_sdsoc\_project -check\_only
    - i. SDSoC Ready Check without modify project
  - b. TCL-Console type:TE::ADV::beta\_util\_sdsoc\_project
    - i. Attention: Vivado project will be modified permanently. Recreate project with Bachtfile to restore original Vivado project
  - c. Wait for project creation:
    - i. SDSoC workspace is created on subfolder <design\_name>/sdsoc
    - ii. SDSoC Platform is created on subfolder <design\_name>/sdsoc/<design\_name>
  - d. (optional) TCL-Console type:TE::ADV::beta\_util\_sdsoc\_project -start\_sdsoc
  - e. (optional) SDSoC Workspace will be started in subfolder <design name>/sdsoc/

### Variant (a): Set TE SDSoC Platform as Xilinx SDSoC Example Platform

1. Attention wrong modification can damage the SDSoC Installation!
2. Copy SDSoC Platform into the Xilinx <SDSoC install path>/platforms
  - a. Attention: local templates from "<SDSoC Platform>/samples/" will be ignored from Xilinx SDSoC tools in this folder!
3. Open <SDSoC install path>/data/SDSoCManifest.xml
  - a. Add SDSoC Platform to all sample template which should be visible
  - b. <platform name="<SdSoC Project Name">"/>
   
Example: <platform name="te0726\_sdsoc"/>

## Variant (b): Set TE SDSoC Platform as local SDSoC Platform

1. Copy SDSoC Platform to your preferred folder
  - a. Use SDSoC Platform ZIP from Download or exported from Reference Project (<design name>/sdsoc/<design name>)
  - b. Attention: Xilinx templates from "<SDSoC Install Path>/samples/" will be ignored from Xilinx SDSoC tools.

## Create SDSoC Project

1. Start SDSoC 2016.2
2. Select Workspace
3. Click "Create SDSoC Project"
  - a. Set Project Name
  - b. Set Platform:
    - i. Installed like Variant (a): Select Platform: ex. te0726\_sdsoc
    - ii. Installed like Variant (b): Others (Path to Project is: <design\_name>/sdsoc/<design\_name>)
  - c. Select OS: Standalone, Linux or RTOS
  - d. Click "Next"
  - e. Select Template Application
  - f. Click "Finished"

## References

- SDSoC Environment - User Guide (UG1027)
- SDSoC Environment User Guide - An Instruction to SDSoC Environment (UG1028)
- SDSoC Environment User Guide - Platforms and Libraries (UG1146)