



Example of directory structure for Packages

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==Article purpose== This article aims at proposing a way to organize, on the host PC, the software packages of the different Packages (Starter, Developer and Distribution) for a given release of the STM32MPU Embedded Software distribution. The main objective of the proposed organization is to keep together the software packages corresponding to a given release because there are links between them. For example: * Flashing the image from the Starter Package on the board is mandatory before modifying the source code from the Developer Package. Both the image and the source code must belong to the same software release. * The SDK (Developer Package) and the image (Starter Package) have both been generated from the Distribution Package. A software release thus guarantees that there is no misalignment between the different software packages. An example of organization for tools is proposed [\[Example of directory structure for tools|here\]](#). [\[info|The objective of this article is to describe one organization among all the possible organizations. Feel free to organize the delivered Packages in any other way that would better match your way of working.\]](#) [\[info|In practice, this article uses the release "STM32MP15-Ecosystem-v1.0.0" for the STM32MPU Embedded Software distribution as an example to illustrate the proposed organization. If you are using a different release, the names of the directories and files might differ.\]](#) [\[UpdateNeededForNewRelease|The trees below shall be updated periodically, even if the information banner specifies that they might not be up-to-date\]](#) The directories are shown in [\[Green|green\]](#), while the files are in black. ==Creating the structure== * Create your <working directory> and assign a unique name to it (for example by including the release name): `PC$} mkdir STM32MP15-Ecosystem-v1.0.0 PC$} cd STM32MP15-Ecosystem-v1.0.0` * Create the first-level directories that will host the software packages delivered through the STM32MPU Embedded Software distribution release note: `PC$} mkdir Starter-Package PC$} mkdir Developer-Package PC$} mkdir Distribution-Package` * The resulting directory structure looks as follows: [\[Green|STM32MP15-Ecosystem-v1.0.0\]](#) [\[Highlight|STM32MPU Embedded Software release\]](#) [\[Green|Developer-Package\]](#) [\[Highlight|Developer Package installation directory\]](#) [\[Green|Distribution-Package\]](#) [\[Highlight|Distribution Package installation directory\]](#) [\[Green|Starter-Package\]](#) [\[Highlight|Starter Package installation directory\]](#) Once all software packages have been installed according to the instructions given in the STM32MPU Embedded Software distribution release note, the resulting directory structure looks as follows: [\[Green|STM32MP15-Ecosystem-v1.0.0\]](#) [\[Highlight|STM32MPU Embedded Software release\]](#) [\[Green|Developer-Package\]](#) [\[Highlight|Developer Package installation directory\]](#) [\[Green|SDK\]](#) [\[Highlight|SDK for OpenSTLinux distribution\]](#) [\[Green|STM32Cube_FW_MP1_V1.0.0\]](#) [\[Highlight|STM32CubeMP1 Package\]](#) [\[Green|stm32mp1-openstlinux-4.19-thud-mp1-19-02-20\]](#) [\[Highlight|Linux kernel, U-Boot, TF-A and OP-TEE OS source code \(OpenSTLinux distribution\)\]](#) [\[Green|Distribution-Package\]](#) [\[Highlight|Distribution Package installation directory\]](#) [\[Green|stm32mp1-openstlinux-4.19-thud-mp1-19-02-20\]](#) [\[Highlight|OpenSTLinux distribution \(full source code and OpenEmbedded-based build framework\)\]](#) [\[Green|Starter-Package\]](#) [\[Highlight|Starter Package installation directory\]](#) [\[Green|stm32mp1-openstlinux-4.19-thud-mp1-19-02-20\]](#) [\[Highlight|Software image \(binaries\)\]](#) ==Focus on the Starter Package directory== The "Starter-Package" directory contains the software image for the STM32MPU Embedded Software distribution. The trusted boot chain is the default solution delivered by STMicroelectronics. It includes the superset of features (for example, all Flash memory devices are supported). The basic boot chain is also upstreamed by STMicroelectronics, with a limited number of features (for example microSD card memory boot only). Refer to the [\[Boot chains overview\]](#) article for details. Flash memory partitions (e.g. rootfs, bootfs...) are explained in the [\[STM32MP15 Flash mapping\]](#) article. [\[Green|Starter-Package\]](#) [\[Green|stm32mp1-openstlinux-4.19-thud-mp1-19-02-20\]](#) [\[Green|images\]](#) [\[Green|stm32mp1\]](#) [\[Green|flashlayout_st-image-weston\]](#) [\[Highlight|Flash layout files \(description of the partitions\) for the supported Flash devices and boards\]](#) [FlashLayout_emmc_stm32mp157c-ev1-optee.tsv](#) [\[Highlight|Flash layout file for eMMC and trusted boot chain, with OP-TEE OS STM32MP157C-EV1\]](#) [FlashLayout_emmc_stm32mp157c-ev1-trusted.tsv](#) [\[Highlight|Flash layout file for eMMC and trusted boot chain STM32MP157C-EV1\]](#) [FlashLayout_nand-4-256_stm32mp157c-ev1-optee.tsv](#) [\[Highlight|Flash layout file for NAND Flash and trusted boot chain, with OP-TEE OS STM32MP157C-EV1\]](#) [FlashLayout_nand-4-256_stm32mp157c-ev1-trusted.tsv](#) [\[Highlight|Flash layout file for NAND Flash and trusted boot chain STM32MP157C-EV1\]](#) [FlashLayout_nor-emmc_stm32mp157c-ev1-optee.tsv](#) [\[Highlight|Flash layout file for NOR Flash \(and eMMC\) and trusted boot chain, with OP-TEE OS STM32MP157C-EV1\]](#) [FlashLayout_nor-emmc_stm32mp157c-ev1-trusted.tsv](#) [\[Highlight|Flash layout file for NOR Flash \(and eMMC\) and trusted boot chain STM32MP157C-EV1\]](#) [FlashLayout_nor-nand-4-256_stm32mp157c-ev1-optee.tsv](#) [\[Highlight|Flash layout file for NOR Flash \(and NAND Flash\) and trusted boot chain, with OP-TEE OS STM32MP157C-EV1\]](#) [FlashLayout_nor-nand-4-256_stm32mp157c-ev1-trusted.tsv](#) [\[Highlight|Flash layout file for NOR Flash \(and NAND Flash\) and trusted boot chain STM32MP157C-EV1\]](#) [FlashLayout_nor-sdcard_stm32mp157c-ev1-optee.tsv](#) [\[Highlight|Flash layout file for NOR Flash \(and microSD card\) and trusted boot chain, with OP-TEE OS STM32MP157C-EV1\]](#) [FlashLayout_nor-sdcard_stm32mp157c-ev1-trusted.tsv](#) [\[Highlight|Flash layout file for NOR Flash \(and microSD card\) and trusted boot chain STM32MP157C-EV1\]](#)



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{{Highlight|Flash layout file for NOR Flash (and microSD card) and trusted boot chain STM32MP157C-EV1}}
FlashLayout_sdcard_stm32mp157a-dk1-basic.tsv {{Highlight|Flash layout file for microSD card and basic boot
chain STM32MP157A-DK1}} FlashLayout_sdcard_stm32mp157a-dk1-optee.tsv {{Highlight|Flash layout file for
microSD card and trusted boot chain, with OP-TEE OS STM32MP157A-DK1}}
FlashLayout_sdcard_stm32mp157a-dk1-trusted.tsv {{Highlight|Flash layout file for microSD card and trusted boot
chain ("recommended setup") STM32MP157A-DK1}} FlashLayout_sdcard_stm32mp157c-dk2-basic.tsv
{{Highlight|Flash layout file for microSD card and basic boot chain STM32MP157C-DK2}}
FlashLayout_sdcard_stm32mp157c-dk2-optee.tsv {{Highlight|Flash layout file for microSD card and trusted boot
chain, with OP-TEE OS STM32MP157C-DK2}} FlashLayout_sdcard_stm32mp157c-dk2-trusted.tsv
{{Highlight|Flash layout file for microSD card and trusted boot chain ("recommended setup") STM32MP157C-
DK2}} FlashLayout_sdcard_stm32mp157c-ev1-basic.tsv {{Highlight|Flash layout file for microSD card and basic
boot chain STM32MP157C-EV1}} FlashLayout_sdcard_stm32mp157c-ev1-optee.tsv {{Highlight|Flash layout file
for microSD card and trusted boot chain, with OP-TEE OS STM32MP157C-EV1}}
FlashLayout_sdcard_stm32mp157c-ev1-trusted.tsv {{Highlight|Flash layout file for microSD card and trusted boot
chain ("recommended setup") STM32MP157C-EV1}} {{Green|scripts}} create_sdcard_from_flashlayout.sh st-
image-bootfs-openstlinux-weston-stm32mp1.ext4 {{Highlight|Binary for "bootfs" partition}} st-image-bootfs-
openstlinux-weston-stm32mp1.manifest st-image-userfs-openstlinux-weston-stm32mp1.ext4 {{Highlight|Binary for
"userfs" partition}} st-image-userfs-openstlinux-weston-stm32mp1.manifest st-image-vendorfs-openstlinux-
weston-stm32mp1.ext4 {{Highlight|Binary for "vendorfs" partition}} st-image-weston-openstlinux-weston-
stm32mp1.ext4 {{Highlight|Binary for "rootfs" partition}} st-image-weston-openstlinux-weston-stm32mp1.license
st-image-weston-openstlinux-weston-stm32mp1-license_content.html st-image-weston-openstlinux-weston-
stm32mp1.manifest st-image-weston-openstlinux-weston-stm32mp1_nand_4_256_multivolume.ubi tee-[header
/pageable/pager]_v2-stm32mp157a-dk1-optee.stm32 {{Highlight|Binaries for OP-TEE OS runtime services
(trusted boot chain) STM32MP157A-DK1}} tee-[header/pageable/pager]_v2-stm32mp157c-dk2-optee.stm32
{{Highlight|Binaries for OP-TEE OS runtime services (trusted boot chain) STM32MP157C-DK2}} tee-[header
/pageable/pager]_v2-stm32mp157c-ev1-optee.stm32 {{Highlight|Binaries for OP-TEE OS runtime services (trusted
boot chain) STM32MP157C-EV1}} tf-a-stm32mp157a-dk1-optee.stm32 {{Highlight|TF-A binary for "FSBL"
partition (trusted boot chain), with OP-TEE OS STM32MP157A-DK1}} tf-a-stm32mp157a-dk1-trusted.stm32
{{Highlight|TF-A binary for "FSBL" partition (trusted boot chain) STM32MP157A-DK1}} tf-a-stm32mp157c-dk2-
optee.stm32 {{Highlight|TF-A binary for "FSBL" partition (trusted boot chain), with OP-TEE OS STM32MP157C-
DK2}} tf-a-stm32mp157c-dk2-trusted.stm32 {{Highlight|TF-A binary for "FSBL" partition (trusted boot chain)
STM32MP157C-DK2}} tf-a-stm32mp157c-ev1-optee.stm32 {{Highlight|TF-A binary for "FSBL" partition (trusted
boot chain), with OP-TEE OS STM32MP157C-EV1}} tf-a-stm32mp157c-ev1-trusted.stm32 {{Highlight|TF-A
binary for "FSBL" partition (trusted boot chain) STM32MP157C-EV1}} u-boot-spl.stm32-stm32mp157a-dk1-basic
{{Highlight|U-Boot binary for "FSBL" partition (basic boot chain) STM32MP157A-DK1}} u-boot-spl.stm32-
stm32mp157c-dk2-basic {{Highlight|U-Boot binary for "FSBL" partition (basic boot chain) STM32MP157C-DK2}}
u-boot-spl.stm32-stm32mp157c-ev1-basic {{Highlight|U-Boot binary for "FSBL" partition (basic boot chain)
STM32MP157C-EV1}} u-boot-stm32mp157a-dk1-basic.img {{Highlight|U-Boot binary for "SSBL" partition (basic
boot chain) STM32MP157A-DK1}} u-boot-stm32mp157a-dk1-optee.stm32 {{Highlight|U-Boot binary for "SSBL"
partition (trusted boot chain), with OP-TEE OS STM32MP157A-DK1}} u-boot-stm32mp157a-dk1-trusted.stm32
{{Highlight|U-Boot binary for "SSBL" partition (trusted boot chain) STM32MP157A-DK1}} u-boot-stm32mp157c-
dk2-basic.img {{Highlight|U-Boot binary for "SSBL" partition (basic boot chain) STM32MP157C-DK2}} u-boot-
stm32mp157c-dk2-optee.stm32 {{Highlight|U-Boot binary for "SSBL" partition (trusted boot chain), with OP-TEE
OS STM32MP157C-DK2}} u-boot-stm32mp157c-dk2-trusted.stm32 {{Highlight|U-Boot binary for "SSBL" partition
(trusted boot chain) STM32MP157C-DK2}} u-boot-stm32mp157c-ev1-basic.img {{Highlight|U-Boot binary for
"SSBL" partition (basic boot chain) STM32MP157C-EV1}} u-boot-stm32mp157c-ev1-optee.stm32 {{Highlight|U-
Boot binary for "SSBL" partition (trusted boot chain), with OP-TEE OS STM32MP157C-EV1}} u-boot-
stm32mp157c-ev1-trusted.stm32 {{Highlight|U-Boot binary for "SSBL" partition (trusted boot chain)
STM32MP157C-EV1}} ==Focus on the Developer Package directory== The "Developer-Package" directory
contains: * The source code for the following OpenSTLinux software packages (development for Arm<sup>&reg;</sup><
/sup> Cortex<sup>&reg;</sup></sup> A processor): ** Linux<sup>&reg;</sup></sup> kernel ** U-Boot ** TF-A ** OP-TEE OS *
The debug symbol files for Linux kernel, U-Boot, TF-A and OP-TEE OS * The SDK (for cross-development on an
host PC) * The STM32Cube MPU Package (developed for Arm<sup>&reg;</sup></sup> Cortex<sup>&reg;</sup></sup>-M
processor) {{Green|Developer-Package}} {{Green|SDK}} {{Highlight|"SDK for OpenSTLinux distribution": details
in [[Standard SDK directory structure]] article}} environment-setup-cortexa7t2hf-neon-vfpv4-openstlinux_weston-
linux-gnueabi {{Highlight|"Environment setup script" for Developer Package}} site-config-cortexa7t2hf-neon-
vfpv4-openstlinux_weston-linux-gnueabi {{Green|sysroots}} {{Green|cortexa7t2hf-neon-vfpv4-
openstlinux_weston-linux-gnueabi}} {{Highlight|Target syroot (libraries, headers, and symbols)}} [ 1

```



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openstlinux_weston-linux-gnueabi}} {{Highlight|Target sysroot (libraries, headers, and symbols)}} [...]
{{Green|x86_64-openstlinux_weston_sdk-linux}} {{Highlight|Native sysroot (libraries, headers, and symbols)}} [...]
  version-cortexa7t2hf-neon-vfpv4-openstlinux_weston-linux-gnueabi {{Green|STM32Cube_FW_MP1_V0.4.0}}
{{Highlight|STM32CubeMP1 Package": details in [[STM32CubeMP1 Package#STM32CubeMP1 Package
Content|STM32CubeMP1 Package content]] article}} {{Green|Drivers}} {{Green|BSP}} {{Highlight|BSP drivers
for the supported STM32MPU boards}} [...] {{Green|CMSIS}} [...] {{Green|STM32MP1xx_HAL_Driver}}
{{Highlight|HAL drivers for the supported STM32MPU devices}} [...] {{Green|_htmresc}} [...] License.md
{{Highlight|License types for the components}} {{Green|Middlewares}} {{Highlight|Middlewares used by the
examples and applications}} [...] package.xml {{Green|Projects}} STM32CubeProjectsList.html
{{Highlight|List of examples and applications for STM32CubeMP1 Package}} {{Green|STM32MP157C-DK2}}
{{Highlight|Set of examples and applications STM32MP157C-DK2}} [...] {{Green|STM32MP157C-EV1}}
{{Highlight|Set of examples and applications STM32MP157C-EV1}} [...] Readme.md Release_Notes.html
{{Highlight|Release note for STM32CubeMP1 Package}} {{Green|Utilities}} [...] {{Green|stm32mp1-openstlinux-
4.19-thud-mp1-19-02-20}} {{Highlight|Source code for OpenSTLinux distribution}} {{Green|images}}
{{Green|stm32mp1}} {{Highlight|Debug symbol files installation directory"}} tf-a-bl2-optee.elf {{Highlight|Debug
symbol file for TF-A, with OP-TEE OS trusted boot firmware stage}} tf-a-bl2-trusted.elf {{Highlight|Debug symbol
file for TF-A trusted boot firmware stage}} tf-a-bl32-trusted.elf {{Highlight|Debug symbol file for TF-A runtime
software stage}} u-boot-stm32mp157a-dk1-optee.elf {{Highlight|Debug symbol file for U-Boot, with OP-TEE OS
STM32MP157A-DK1}} u-boot-stm32mp157a-dk1-trusted.elf {{Highlight|Debug symbol file for U-Boot
STM32MP157A-DK1}} u-boot-stm32mp157c-dk2-optee.elf {{Highlight|Debug symbol file for U-Boot, with OP-TEE
OS STM32MP157C-DK2}} u-boot-stm32mp157c-dk2-trusted.elf {{Highlight|Debug symbol file for U-Boot
STM32MP157C-DK2}} u-boot-stm32mp157c-ev1-optee.elf {{Highlight|Debug symbol file for U-Boot, with OP-
TEE OS STM32MP157C-EV1}} u-boot-stm32mp157c-ev1-trusted.elf {{Highlight|Debug symbol file for U-Boot
STM32MP157C-EV1}} vmlinux {{Highlight|Debug symbol file for Linux kernel}} {{Green|sources}} {{Green|arm-
openstlinux_weston-linux-gnueabi}} {{Green|linux-stm32mp-4.19-r0}} {{Highlight|Linux kernel installation
directory"}} [*].patch {{Highlight|ST patches for Linux kernel}} fragment-[*].config {{Highlight|ST configuration
fragments for Linux kernel}} {{Green|linux-4.19.9}} {{Highlight|Linux kernel source code directory"}} linux-
4.19.9.tar.xz README.HOW_TO.txt {{Highlight|Helper file for Linux kernel management: "reference" for Linux
kernel build}} series {{Green|optee-os-stm32mp-3.3.0-r0}} {{Highlight|OP-TEE OS installation directory"}} [*].
patch {{Highlight|ST patches for OP-TEE OS}} 3.3.0.tar.gz Makefile.sdk {{Highlight|Makefile for the OP-TEE OS
compilation}} {{Green|optee_os-3.3.0}} {{Highlight|OP-TEE OS source code directory"}} README.HOW_TO.
txt {{Highlight|Helper file for OP-TEE OS management: "reference" for OP-TEE OS build}} series {{Green|tf-a-
stm32mp-2.0-r0}} {{Highlight|TF-A installation directory"}} [*].patch {{Highlight|ST patches for TF-A}}
{{Green|arm-trusted-firmware-2.0}} {{Highlight|TF-A source code directory"}} Makefile.sdk {{Highlight|Makefile
for the TF-A compilation}} README.HOW_TO.txt {{Highlight|Helper file for TF-A management: "reference" for
TF-A build}} series v2.0.tar.gz {{Green|u-boot-stm32mp-2018.11-r0}} {{Highlight|U-Boot installation
directory"}} [*].patch {{Highlight|ST patches for U-Boot}} Makefile.sdk {{Highlight|Makefile for the U-Boot
compilation}} README.HOW_TO.txt {{Highlight|Helper file for U-Boot management: "reference" for U-Boot
build}} series {{Green|u-boot-2018.11}} {{Highlight|U-Boot source code directory"}} v2018.11.tar.gz [[#Appendix
A: directory structure after build (Developer Package)|Appendix A]] shows the structure of the Linux kernel, U-
Boot, TF-A and OP-TEE OS installation directories after these software packages have been built. ==Focus on the
Distribution Package directory== The "Distribution-Package" directory contains all the OpenEmbedded layers
required to get the source code of any STM32MPU Embedded Software component, as well as a build framework
based on OpenEmbedded. {{Green|Distribution-Package}} {{Green|openstlinux-4.19-thud-mp1-19-02-20}}
{{Highlight|OpenSTLinux distribution"}} {{Green|layers}} {{Green|meta-openembedded}} {{Highlight|Collection of
layers for the OpenEmbedded-Core universe ([[OpenEmbedded]] standard)}} [...] {{Green|meta-qt5}}
{{Highlight|QT5 layer for OpenEmbedded (standard)}} [...] {{Green|meta-st}} {{Green|meta-st-openstlinux}}
{{Highlight|STMicroelectronics layer that contains the settings of the frameworks and images for the OpenSTLinux
distribution}} {{Green|recipes-samples}} {{Green|images}} | st-example-image-qt.bb {{Highlight|ST example
of image based on QT framework}} | st-example-image-x11.bb {{Highlight|ST example of image based on X11}}
| st-example-image-xfce.bb {{Highlight|ST example of image based on XFCE framework}} | st-image-usersfs.
bbappend {{Highlight|Additional packages (application launcher, demo...) for ST Weston image}} [...]
{{Green|recipes-st}} {{Green|images}} st-image-core.bb {{Highlight|Core image for OpenSTLinux
distribution}} st-image.inc st-image-weston.bb {{Highlight|Weston image with basic Wayland support for
OpenSTLinux distribution: "recommended setup"}} {{Green|packagegroups}} [...] [...] {{Green|meta-st-
stm32mp}} {{Highlight|STMicroelectronics layer that contains the description of the BSP for the STM32 MPU
devices}} {{Green|recipes-bsp}} {{Green|alsa}} {{Highlight|Recipes for ALSA control configuration}} [...]
{{Green|drivers}} {{Highlight|Recipes for Vivante CONANO GPGPU kernel drivers}} [...] {{Green|trusted-firmware-

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Example of directory structure for Packages

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{{Green|drivers}} {{Highlight|Recipes for vivante GCNANO GPU kernel drivers}} [...] {{Green|trusted-firmware-a}}
{{Highlight|Recipes for TF-A}} [...] {{Green|u-boot}} {{Highlight|Recipes for U-Boot}} [...]
{{Green|recipes-extended}} {{Green|m4projects}} {{Highlight|Recipes for STM32Cube MPU Package within the OpenSTLinux distribution}}
[...] [...] {{Green|recipes-graphics}} {{Green|gcnano-userland}}
{{Highlight|Recipes for Vivante libraries OpenGL ES, OpenVG and EGL (multi backend)}} [...] [...]
{{Green|recipes-kernel}} {{Green|linux}} {{Highlight|Recipes for Linux kernel}} [...] {{Green|linux-firmware}}
{{Highlight|Recipes for Linux firmwares (example, Bluetooth firmware)}} [...] {{Green|recipes-st}}
{{Green|images}} st-image-bootfs.bb {{Highlight|Recipes for the "bootfs" partition binary}} st-image-userfs.bb
{{Highlight|Recipes for the "userfs" partition binary}} st-image-vendorfs.bb {{Highlight|Recipes for the "vendorfs" partition binary}}
[...] {{Green|meta-st-stm32mp-addons}} {{Highlight|STMicroelectronics layer that helps managing the STM32CubeMX integration}}
[...] {{Green|scripts}} envsetup.sh {{Highlight|"Environment setup script" for Distribution Package}} [...]
{{Green|meta-timesys}} {{Highlight|Timesys layer for OpenEmbedded (standard)}} [...] {{Green|openembedded-core}}
{{Highlight|Core metadata for current versions of [[OpenEmbedded]] (standard)}} [...]
[[#Appendix B: directory structure after build (Distribution Package)|Appendix B]] shows the structure of the build directory.
==Appendix A: directory structure after build (Developer Package)==
Provided you have followed the recommendations of the "README.HOW_TO.txt" helper files to build the Linux kernel, the U-Boot and the TF-A, then the following
{{Green|new directories and files}} contain the build outputs.
Developer-Package stm32mp1-openstlinux-4.19-thud-mp1-19-02-20 {{Highlight|Source code for OpenSTLinux distribution}}
sources arm-openstlinux_weston-linux-gnueabi linux-stm32mp-4.19-r0 {{Highlight|"Linux kernel installation directory"}}
{{Green|build}} {{Highlight|"Linux kernel build directory"}} {{Green|install_artifact}}
{{Green|lib}} {{Green|modules}} {{Green|4.19.9}} {{Green|[...]}} {{Highlight|Kernel modules hierarchy ("*.ko" files)}}
{{Green|boot}} {{Green|stm32mp157a-dk1[*].dtb}} {{Highlight|Linux kernel device tree blob files for "bootfs" partition STM32MP157A-DK1}}
{{Green|stm32mp157c-dk2[*].dtb}} {{Highlight|Linux kernel device tree blob files for "bootfs" partition STM32MP157C-DK2}}
{{Green|stm32mp157c-ev1[*].dtb}} {{Highlight|Linux kernel device tree blob files for "bootfs" partition STM32MP157C-EV1}}
{{Green|ulmage}} {{Highlight|Linux kernel binary image file (with U-Boot wrapper) for "bootfs" partition}}
{{Green|[...]}} {{Green|vmlinux}} {{Highlight|Debug symbol file for Linux kernel}}
{{Green|[...]}} [...] optee-os-stm32mp-3.3.0-r0 {{Highlight|"OP-TEE OS installation directory"}}
{{Green|build}} {{Highlight|"OP-TEE OS build directory"}} {{Green|tee-[header/pageable/pager]_v2-stm32mp157a-dk1-optee.stm32}}
{{Highlight|Binaries for OP-TEE OS runtime services (trusted boot chain) STM32MP157A-DK1}}
{{Green|tee-[header/pageable/pager]_v2-stm32mp157c-dk2-optee.stm32}}
{{Highlight|Binaries for OP-TEE OS runtime services (trusted boot chain) STM32MP157C-DK2}}
{{Green|tee-[header/pageable/pager]_v2-stm32mp157c-ev1-optee.stm32}}
{{Highlight|Binaries for OP-TEE OS runtime services (trusted boot chain) STM32MP157C-EV1}}
{{Green|[...]}} [...] tf-a-stm32mp-2.0-r0 {{Highlight|"TF-A installation directory"}}
{{Green|build}} {{Highlight|"TF-A build directory"}} {{Green|optee}}
{{Highlight|TF-A, with OP-TEE OS}} {{Green|tf-a-bl2-optee.elf}} {{Highlight|Debug symbol file for TF-A, with OP-TEE OS trusted boot firmware stage}}
{{Green|tf-a-stm32mp157a-dk1-optee.stm32}} {{Highlight|TF-A binary for "FSBL" partition (trusted boot chain), with OP-TEE OS STM32MP157A-DK1}}
{{Green|tf-a-stm32mp157c-dk2-optee.stm32}}
{{Highlight|TF-A binary for "FSBL" partition (trusted boot chain), with OP-TEE OS STM32MP157C-DK2}}
{{Green|tf-a-stm32mp157c-ev1-optee.stm32}}
{{Highlight|TF-A binary for "FSBL" partition (trusted boot chain), with OP-TEE OS STM32MP157C-EV1}}
{{Green|[...]}} {{Green|trusted}}
{{Highlight|TF-A, without OP-TEE OS}} {{Green|tf-a-bl2-trusted.elf}}
{{Highlight|Debug symbol file for TF-A trusted boot firmware stage}}
{{Green|tf-a-bl32-trusted.elf}}
{{Highlight|Debug symbol file for TF-A trusted boot firmware stage}}
{{Green|tf-a-stm32mp157a-dk1-trusted.stm32}}
{{Highlight|TF-A binary for "FSBL" partition (trusted boot chain) STM32MP157A-DK1}}
{{Green|tf-a-stm32mp157c-dk2-trusted.stm32}}
{{Highlight|TF-A binary for "FSBL" partition (trusted boot chain) STM32MP157C-DK2}}
{{Green|tf-a-stm32mp157c-ev1-trusted.stm32}}
{{Highlight|TF-A binary for "FSBL" partition (trusted boot chain) STM32MP157C-EV1}}
{{Green|[...]}} [...] u-boot-stm32mp-2018.11-r0 {{Highlight|"U-Boot installation directory"}}
{{Green|build-basic}} {{Highlight|"U-Boot build directory for basic boot chain"}}
{{Green|u-boot-spl.stm32-stm32mp157a-dk1-basic}}
{{Highlight|U-Boot binary for "FSBL" partition (basic boot chain) STM32MP157A-DK1}}
{{Green|u-boot-spl.stm32-stm32mp157c-dk2-basic}}
{{Highlight|U-Boot binary for "FSBL" partition (basic boot chain) STM32MP157C-DK2}}
{{Green|u-boot-spl.stm32-stm32mp157c-ev1-basic}}
{{Highlight|U-Boot binary for "FSBL" partition (basic boot chain) STM32MP157C-EV1}}
{{Green|u-boot-stm32mp157a-dk1-basic.img}}
{{Highlight|U-Boot binary for "SSBL" partition (basic boot chain) STM32MP157A-DK1}}
{{Green|u-boot-stm32mp157c-dk2-basic.img}}
{{Highlight|U-Boot binary for "SSBL" partition (basic boot chain) STM32MP157C-DK2}}
{{Green|u-boot-stm32mp157c-ev1-basic.img}}
{{Highlight|U-Boot binary for "SSBL" partition (basic boot chain) STM32MP157C-EV1}}
{{Green|build-optee}} {{Highlight|"U-Boot build directory for trusted boot chain, with OP-TEE OS"}}
{{Green|u-boot-stm32mp157a-dk1-optee.elf}}
{{Highlight|Debug symbol file for U-Boot, with OP-TEE OS STM32MP157A-DK1}}
{{Green|u-boot-stm32mp157c-dk2-optee.stm32}}
{{Highlight|U-Boot binary for "SSBL"

```



```

STM32MP157A-DK1}} {{Green|u-boot-stm32mp157a-dk1-optee.stm32}} {{Highlight|U-Boot binary for "SSBL"
partition (trusted boot chain), with OP-TEE OS STM32MP157A-DK1}} {{Green|u-boot-stm32mp157c-dk2-optee.
elf}} {{Highlight|Debug symbol file for U-Boot, with OP-TEE OS STM32MP157C-DK2}} {{Green|u-boot-
stm32mp157c-dk2-optee.stm32}} {{Highlight|U-Boot binary for "SSBL" partition (trusted boot chain), with OP-TEE
OS STM32MP157C-DK2}} {{Green|u-boot-stm32mp157c-ev1-optee.elf}} {{Highlight|Debug symbol file for U-
Boot, with OP-TEE OS STM32MP157C-EV1}} {{Green|u-boot-stm32mp157c-ev1-optee.stm32}} {{Highlight|U-
Boot binary for "SSBL" partition (trusted boot chain), with OP-TEE OS STM32MP157C-EV1}} {{Green|[...]}
}
{{Green|build-trusted}} {{Highlight|"U-Boot build directory for trusted boot chain"}} {{Green|u-boot-stm32mp157a-
dk1-trusted.elf}} {{Highlight|Debug symbol file for U-Boot STM32MP157A-DK1}} {{Green|u-boot-stm32mp157a-
dk1-trusted.stm32}} {{Highlight|U-Boot binary for "SSBL" partition (trusted boot chain) STM32MP157A-DK1}}
{{Green|u-boot-stm32mp157c-dk2-trusted.elf}} {{Highlight|Debug symbol file for U-Boot STM32MP157C-DK2}}
{{Green|u-boot-stm32mp157c-dk2-trusted.stm32}} {{Highlight|U-Boot binary for "SSBL" partition (trusted boot
chain) STM32MP157C-DK2}} {{Green|u-boot-stm32mp157c-ev1-trusted.elf}} {{Highlight|Debug symbol file for U-
Boot STM32MP157C-EV1}} {{Green|u-boot-stm32mp157c-ev1-trusted.stm32}} {{Highlight|U-Boot binary for
"SSBL" partition (trusted boot chain) STM32MP157C-EV1}} {{Green|[...]} } [...] ==Appendix B: directory
structure after build (Distribution Package)== Provided you have followed the build method explained in
[[OpenSTLinux distribution]], then the following {{Green|new directories}} contain the build outputs. As long as you
did not modify the source code: * the {{STPurple|files in STPurple}} are the same as the ones available in the
"Starter Package": flash layout, binaries for "bootfs", "rootfs", "userfs" and "vendorfs" partitions * the {{Grey|files
in grey}} are the same as the ones available in the "Starter and Developer Packages": binaries for "FSBL" and
"SSBL" partitions, and for OP-TEE OS runtime services * the {{Orange|files in orange}} are the same as the ones
available in the "Developer Package": Linux kernel image and device tree blobs, and debug symbol files
Distribution-Package/openstlinux-4.19-thud-mp1-19-02-20/build-openstlinuxweston-stm32mp/{{Green|tmp-glibc
/deploy}} {{Green|images}} {{Green|stm32mp1}} {{STPurple|flashlayout_st-image-weston}} {{Highlight|Flash
layout files (description of the partitions) for the supported flash devices}}
{{STPurple|FlashLayout_emmc_stm32mp157c-ev1-optee.tsv}} {{Highlight|Flash layout file for eMMC and trusted
boot chain, with OP-TEE OS STM32MP157C-EV1}} {{STPurple|FlashLayout_emmc_stm32mp157c-ev1-trusted.
tsv}} {{Highlight|Flash layout file for eMMC and trusted boot chain STM32MP157C-EV1}}
{{STPurple|FlashLayout_nand-4-256_stm32mp157c-ev1-optee.tsv}} {{Highlight|Flash layout file for NAND Flash
and trusted boot chain, with OP-TEE OS STM32MP157C-EV1}} {{STPurple|FlashLayout_nand-4-
256_stm32mp157c-ev1-trusted.tsv}} {{Highlight|Flash layout file for NAND Flash and trusted boot chain
STM32MP157C-EV1}} {{STPurple|FlashLayout_nor-emmc_stm32mp157c-ev1-optee.tsv}} {{Highlight|Flash
layout file for NOR Flash (and eMMC) and trusted boot chain, with OP-TEE OS STM32MP157C-EV1}}
{{STPurple|FlashLayout_nor-emmc_stm32mp157c-ev1-trusted.tsv}} {{Highlight|Flash layout file for NOR Flash
(and eMMC) and trusted boot chain STM32MP157C-EV1}} {{STPurple|FlashLayout_nor-nand-4-
256_stm32mp157c-ev1-optee.tsv}} {{Highlight|Flash layout file for NOR Flash (and NAND Flash) and trusted boot
chain, with OP-TEE OS STM32MP157C-EV1}} {{STPurple|FlashLayout_nor-nand-4-256_stm32mp157c-ev1-
trusted.tsv}} {{Highlight|Flash layout file for NOR Flash (and NAND Flash) and trusted boot chain STM32MP157C-
EV1}} {{STPurple|FlashLayout_nor-sdcard_stm32mp157c-ev1-optee.tsv}} {{Highlight|Flash layout file for NOR
Flash (and microSD card) and trusted boot chain, with OP-TEE OS STM32MP157C-EV1}}
{{STPurple|FlashLayout_nor-sdcard_stm32mp157c-ev1-trusted.tsv}} {{Highlight|Flash layout file for NOR Flash
(and microSD card) and trusted boot chain STM32MP157C-EV1}}
{{STPurple|FlashLayout_sdcard_stm32mp157a-dk1-basic.tsv}} {{Highlight|Flash layout file for microSD card and
basic boot chain STM32MP157A-DK1}} {{STPurple|FlashLayout_sdcard_stm32mp157a-dk1-optee.tsv}}
{{Highlight|Flash layout file for microSD card and trusted boot chain, with OP-TEE OS STM32MP157A-DK1}}
{{STPurple|FlashLayout_sdcard_stm32mp157a-dk1-trusted.tsv}} {{Highlight|Flash layout file for microSD card and
trusted boot chain ("recommended setup") STM32MP157A-DK1}}
{{STPurple|FlashLayout_sdcard_stm32mp157c-dk2-basic.tsv}} {{Highlight|Flash layout file for microSD card and
basic boot chain STM32MP157C-DK2}} {{STPurple|FlashLayout_sdcard_stm32mp157c-dk2-optee.tsv}}
{{Highlight|Flash layout file for microSD card and trusted boot chain, with OP-TEE OS STM32MP157C-DK2}}
{{STPurple|FlashLayout_sdcard_stm32mp157c-dk2-trusted.tsv}} {{Highlight|Flash layout file for microSD card and
trusted boot chain ("recommended setup") STM32MP157C-DK2}}
{{STPurple|FlashLayout_sdcard_stm32mp157c-ev1-basic.tsv}} {{Highlight|Flash layout file for microSD card and
basic boot chain STM32MP157C-EV1}} {{STPurple|FlashLayout_sdcard_stm32mp157c-ev1-optee.tsv}}
{{Highlight|Flash layout file for microSD card and trusted boot chain, with OP-TEE OS STM32MP157C-EV1}}
{{STPurple|FlashLayout_sdcard_stm32mp157c-ev1-trusted.tsv}} {{Highlight|Flash layout file for microSD card and
trusted boot chain ("recommended setup") STM32MP157C-EV1}} [...] {{STPurple|scripts}}
{{STPurple|create_sdcard_from_flashlayout.sh}} {{STPurple|st-image-bootfs-openstlinux-weston-stm32mp1

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{{STPurple|create_sucard_from_nashlayout.sh}} {{STPurple|st-image-boots-openstlinux-weston-stm32mp1.
ext4}} {{Highlight|Binary for "boots" partition}} {{STPurple|st-image-usersfs-openstlinux-weston-stm32mp1.ext4}}
{{Highlight|Binary for "usersfs" partition}} {{STPurple|st-image-vendorfs-openstlinux-weston-stm32mp1.ext4}}
{{Highlight|Binary for "vendorfs" partition}} {{STPurple|st-image-weston-openstlinux-weston-stm32mp1.ext4}}
{{Highlight|Binary for "rootfs" partition}} {{Orange|stm32mp157a-dk1[*].dtb}} {{Highlight|Linux kernel device tree
blob files for "boots" partition STM32MP157A-DK1}} {{Orange|stm32mp157c-dk2[*].dtb}} {{Highlight|Linux kernel
device tree blob files for "boots" partition STM32MP157C-DK2}} {{Orange|stm32mp157c-e[*].dtb}}
{{Highlight|Linux kernel device tree blob files for "boots" partition STM32MP157C-EV1}} {{Grey|tee-[header
/pageable/pager]_v2-stm32mp157a-dk1-optee.stm32}} {{Highlight|Binaries for OP-TEE OS runtime services
(trusted boot chain) STM32MP157A-DK1}} {{Grey|tee-[header/pageable/pager]_v2-stm32mp157c-dk2-optee.
stm32}} {{Highlight|Binaries for OP-TEE OS runtime services (trusted boot chain) STM32MP157C-DK2}}
{{Grey|tee-[header/pageable/pager]_v2-stm32mp157c-ev1-optee.stm32}} {{Highlight|Binaries for OP-TEE OS
runtime services (trusted boot chain) STM32MP157C-EV1}} {{Orange|tf-a-bl2-optee.elf}} {{Highlight|Debug
symbol file for TF-A, with OP-TEE OS trusted boot firmware stage}} {{Orange|tf-a-bl2-trusted.elf}}
{{Highlight|Debug symbol file for TF-A trusted boot firmware stage}} {{Orange|tf-a-bl32-trusted.elf}}
{{Highlight|Debug symbol file for TF-A runtime software stage}} {{Grey|tf-a-stm32mp157a-dk1-optee.stm32}}
{{Highlight|TF-A binary for "FSBL" partition (trusted boot chain), with OP-TEE OS STM32MP157A-DK1}}
{{Grey|tf-a-stm32mp157a-dk1-trusted.stm32}} {{Highlight|TF-A binary for "FSBL" partition (trusted boot chain)
STM32MP157A-DK1}} {{Grey|tf-a-stm32mp157c-dk2-optee.stm32}} {{Highlight|TF-A binary for "FSBL" partition
(trusted boot chain), with OP-TEE OS STM32MP157C-DK2}} {{Grey|tf-a-stm32mp157c-dk2-trusted.stm32}}
{{Highlight|TF-A binary for "FSBL" partition (trusted boot chain) STM32MP157C-DK2}} {{Grey|tf-a-stm32mp157c-
ev1-optee.stm32}} {{Highlight|TF-A binary for "FSBL" partition (trusted boot chain), with OP-TEE OS
STM32MP157C-EV1}} {{Grey|tf-a-stm32mp157c-ev1-trusted.stm32}} {{Highlight|TF-A binary for "FSBL" partition
(trusted boot chain) STM32MP157C-EV1}} {{Grey|u-boot-spl.stm32-stm32mp157a-dk1-basic}} {{Highlight|U-
Boot binary for "FSBL" partition (basic boot chain) STM32MP157A-DK1}} {{Grey|u-boot-spl.stm32-
stm32mp157c-dk2-basic}} {{Highlight|U-Boot binary for "FSBL" partition (basic boot chain) STM32MP157C-DK2}}
{{Grey|u-boot-spl.stm32-stm32mp157c-ev1-basic}} {{Highlight|U-Boot binary for "FSBL" partition (basic boot
chain) STM32MP157C-EV1}} {{Grey|u-boot-stm32mp157a-dk1-basic.img}} {{Highlight|U-Boot binary for "SSBL"
partition (basic boot chain) STM32MP157A-DK1}} {{Orange|u-boot-stm32mp157a-dk1-optee.elf}}
{{Highlight|Debug symbol file for U-Boot, with OP-TEE OS STM32MP157A-DK1}} {{Grey|u-boot-stm32mp157a-
dk1-optee.stm32}} {{Highlight|U-Boot binary for "SSBL" partition (trusted boot chain), with OP-TEE OS
STM32MP157A-DK1}} {{Orange|u-boot-stm32mp157a-dk1-trusted.elf}} {{Highlight|Debug symbol file for U-Boot
STM32MP157A-DK1}} {{Grey|u-boot-stm32mp157a-dk1-trusted.stm32}} {{Highlight|U-Boot binary for "SSBL"
partition (trusted boot chain) STM32MP157A-DK1}} {{Grey|u-boot-stm32mp157c-dk2-basic.img}} {{Highlight|U-
Boot binary for "SSBL" partition (basic boot chain) STM32MP157C-DK2}} {{Orange|u-boot-stm32mp157c-dk2-
optee.elf}} {{Highlight|Debug symbol file for U-Boot, with OP-TEE OS STM32MP157C-DK2}} {{Grey|u-boot-
stm32mp157c-dk2-optee.stm32}} {{Highlight|U-Boot binary for "SSBL" partition (trusted boot chain), with OP-TEE
OS STM32MP157C-DK2}} {{Orange|u-boot-stm32mp157c-dk2-trusted.elf}} {{Highlight|Debug symbol file for U-
Boot STM32MP157C-DK2}} {{Grey|u-boot-stm32mp157c-dk2-trusted.stm32}} {{Highlight|U-Boot binary for
"SSBL" partition (trusted boot chain) STM32MP157C-DK2}} {{Grey|u-boot-stm32mp157c-ev1-basic.img}}
{{Highlight|U-Boot binary for "SSBL" partition (basic boot chain) STM32MP157C-EV1}} {{Orange|u-boot-
stm32mp157c-ev1-optee.elf}} {{Highlight|Debug symbol file for U-Boot, with OP-TEE OS STM32MP157C-EV1}}
{{Grey|u-boot-stm32mp157c-ev1-optee.stm32}} {{Highlight|U-Boot binary for "SSBL" partition (trusted boot chain),
with OP-TEE OS STM32MP157C-EV1}} {{Orange|u-boot-stm32mp157c-ev1-trusted.elf}} {{Highlight|Debug
symbol file for U-Boot STM32MP157C-EV1}} {{Grey|u-boot-stm32mp157c-ev1-trusted.stm32}} {{Highlight|U-
Boot binary for "SSBL" partition (trusted boot chain) STM32MP157C-EV1}} {{Orange|ulmage}} {{Highlight|Linux
kernel binary image file (with U-Boot wrapper) for "boots" partition}} {{Orange|vmlinux}} {{Highlight|Debug symbol
file for Linux kernel}} [...] [...] <noinclude> {{PublicationRequestId | 7649 | 2018-06-11 | AnneJ}} [[Category:
STM32MPU Embedded Software distribution]] </noinclude>

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- [Template:Highlight \(view source\)](#)
- [Template:Info \(view source\)](#)
- [Template:STDarkBlue \(view source\)](#)

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