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snickerdoodle PYNQ 2.5 - Ubuntu 18.04 SD Card README

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The BOOT partition of this SD card (where this file is located) must contain the bootable components for the snickerdoodle and/or baseboard that the card will be used on. The BOOT partition contains a set of folders; each with the necessary boot components for a single system. To configure the SD card for the corresponding system, copy the contents of the folder into the top level of the BOOT partition.

Boot Components

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By default, this SD card image contains the Linux kernel, U-Boot script and a couple of configuration files at the top-level directory. These are files that are normally used by all configurations, although some customization may be desired to fit a specific application.

This un-configured SD card image does have the necessary bootloader or flattened image tree at the top-level directory to boot the system. Before attempting to boot with this SD card, a boot.bin (bootloader) and image.ub (image tree) must be added. To use a pre-built configuration, simply copy the contents of the directory to the top level of the BOOT partition. Below is an overview of the top-level files that should be found in the BOOT partition before booting:

BOOT.BIN*
image.ub*
system.bit**
uEnv.txt
config.txt
uboot.scr

* Needs to be copied before booting
** Optional, needs to be copied before booting

Prebuilt Configurations

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The BOOT partition of this SD card contains basic configurations for each snickerdoodle variant and various baseboards. Each configuration is represented by a directory containing the boot files. To boot a prebuilt

configuration, copy the contents of the directory to the top level of the BOOT partition and insert the SD card into J6 on the snickerdoodle.

snickerdoodle Configuration

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The config.txt file is used by the Linux init scripts to configure users and network settings. This file can be used to pre-configure the wireless access point and/or station network settings before booting. It can also be used to pre-configure user passwords in anticipation of remote login. See the config.txt file for details on setting network and system configuration parameters.

Additional Configuration

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The uEnv.txt file contains additional configuration options such as setting the ethernet MAC (hardware) address and specifying the boot arguments. This file is read by U-Boot and can be used to specify a bitstream (system.bit by default) to be loaded by U-Boot.

Runtime and Pre-Boot Configuration

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Various peripheral and boot settings are configured during runtime, or during the boot process, by snickerdoodle's platform microcontroller. Examples include: customizing LED behavior, antenna selection, and setting the boot mode. The necessary 'spi-ctrl' application and an accompanying README can be found in the /usr/local/bin directory. Visit krtkl.com/downloads for updates.