



DesignWare
ARC EM Starter Kit 2.03a
Release Notes

Version 6292-013 March 2017

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Synopsys, Inc.
690 E. Middlefield Road
Mountain View, CA 94043
www.synopsys.com

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Introduction

This document describes features of the ARC EM Starter Kit 2.03a. It also provides information about supported platforms, installation structure, and release change information.

About This Release

This release contains the DesignWare® ARC EM Starter Kit 2.03a (EMSK).

The following release summary is available for the EMSK:

- [Supported Platforms](#)
- [Features](#)
- [Installation Structure](#)
- [Documentation](#)
- [Release Change Information](#)

Supported Platforms

The EMSK implementation supports the following products and platforms:

- | | |
|---|---|
| • Microsoft® | Windows 7 64-bit |
| • embARC Open Software Development Platform | 2017.03 |
| • DesignWare ARC MetaWare Lite | M-2016.12 |
| • DesignWare ARC MetaWare Development Toolkit | M-2016.12 |
| • GNU Toolchain for DesignWare ARC Processors | 2016.09 |
| • Digilent® Adept driver | 2.16.1 System
(32/64-bit Windows) or later |
| • Xilinx® LAB Tools ¹⁾ | 14.7 |

1) Only needed for firmware updates

Features

The EMSK supports the following features:

- Rapid system bring-up for early software development
- Ready to use out-of-the-box
- Based on Xilinx Spartan-6 LX150 128 MB DDR3
- Supports different configurations of ARC EM9D, ARC EM11D and ARC EM7D processors
- Flexible selection of UART, SPI, I2C and GPIO peripherals
- Six connectors for hardware extensions
- 2.5 MB available for application software
- Flash SD card for additional application software and data storage

Installation Structure

The ARC EM Starter Kit includes a set of packages. Documentation and software can be obtained from the embARC webpage (<https://www.embarc.org>).

Table 1 lists the downloadable packages. Unzip the documentation package and refer to the *User Guide* for instructions on getting started.

Table 1 Downloadable Packages

Package Name	Description
emsk_documentation_v2p03a.zip	This package contains the complete documentation.
emsk_image_v2p3.zip	This package contains the configuration files for the FPGA on the ARC EM Starter Kit board. The firmware comes pre-installed. This package may be needed for restoring factory settings.

Documentation

The complete documentation in PDF format is provided at the embARC webpage (<https://www.embarc.org>). in the `emsk_documentation_v2p03a.zip` package. You can find the documents under the “Help” menu.

A viewer, Acrobat Reader, can be obtained from <http://www.adobe.com/>.

The following documents are available for the EMSK:

- *ARC EM Starter Kit User Guide*
- *ARC EM Starter Kit 2.03a Release Notes*

Release Change Information

This chapter lists major changes from previous releases of the ARC EM Starter Kit 2.03a.

Release 2.03a

- Support for ARC EM 4.00a, including the following enhanced options compared to EMSK 2.2:
 - Enhanced Security Package (ESP) SecureShield™ extension for secure mode.
 - μ DMA.
- DMA support for DesignWare SPI master.
- ARC EM7D MPU update to support secure mode and multiple context IDs.

Release 2.2

- Support for ARC EM 3.1
- Support embARC Open Software Development Platform.
All software examples and documentation have moved to <https://forums.embarc.org/>.
- New configurations
 - EM9D configuration
 - EM11D configuration
- Changed package content

Release 2.1

- Added TCF files for `em4`, `em6`, and `em6fpu` configurations.
- Support MetaWare Lite J-2014.12.
- Improved the startup routine `crt0.s` for ARC GNU.
- Improved build environment for MetaWare and ARC GNU toolchains.
- Enabled DIV/REM radix2 option for all configurations.
- New version of bootloader fixed issue loading and running application on `em7d` and `em7dfpu` configurations.

- Improved documentation.

Release 2.0

- Support for ARC EM 2.0.
- Support for ARC EM-SEP (separate bitfile).
- DSP options for ARC EM
 - EM5D configuration
 - EM7D configuration
- Single-precision IEEE 754-compliant floating point support for ARC EM
 - EM7DFPU configuration
- DDR memory for all core configurations.
- New peripherals:
 - DesignWare WDT
 - DesignWare Timers
- Same peripherals available for all configurations.

Release 1.1

- Faster system clock frequencies for each configuration:
 - ARC_EM4 and ARC_EM4_16CR cores – 35 MHz clock.
 - ARC_EM6 and ARC_EM6_GP – 30 MHz clock.
- Decreased debounce clock frequency for GPIO.
- UART signal mappings are now programmable.
- Added ARC MetaWare Lite support.
- Added ARC GNU Toolchain and MetaWare IDE support.
- Added bare metal demo application for a temperature sensor PmodTmp2.
- *ARC EM Starter Kit Databook* renamed to *ARC EM Starter Kit User Guide*.

Release 1.0

Initial release.