

HALCoGen 04.07.01

Release Notes

11 Dec 2018

HALCoGen™ is the driver generation tool for TI's Hercules Microcontroller Family

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1 New In This Release

- Bug fix release. See fixed in this release.

Note:

Before using the AJSM please refer the forum link for support Tools info:

https://e2eprivate.ti.com/safeti_functional_safety_support/m/hercules_ajsm_related_media/3575.aspx

Note:

For all HALCoGen FreeRTOS based projects used with CCS 5 or earlier, in the Compiler options under Advanced Options → Language Options → "Enable support for GCC Extension (--gcc)". For CCS6 or later this option is ignored.

Note:

For TMS570LC43x and RM57x Family of Devices Safety Functions are support only in SafeTI Diagnostic Library version 2.x.y which can be installed along with HALCoGen 4.01.00 or later.

***For using SafeTI Diagnostic Library with HALCoGen please refer Examples → example_SafetyLib.c in following Help file
C:\ti\Hercules\HALCoGen\<vXX.YY.ZZ>\help\TMS570LC43x.chm (or)
C:\ti\Hercules\HALCoGen\<vXX.YY.ZZ>\help\RM57Lx.chm***

2 System Requirements

The system requirements for HALCoGen are as follows:

OS – Windows XP, Windows 7

Memory – 1GB

Disk Space – 750 MB

3 Installing HALCoGen

The Latest HALCoGen version can also be downloaded from the following Link
<http://www.ti.com/tool/HALCoGen>.

The tool gets installed in the directory named..**\HALCoGen\vXX.YY.ZZ**

Where **XX.YY** is the version number and **ZZ** is the Patch number if released. Multiple versions can co-exist, although it is advised to use the latest version.

4 Uninstall HALCoGen

The HALCoGen can be uninstalled one version at a time.

ti → Hercules → HALCoGen → vXX.YY.ZZ → uninstall.exe

5 Release Contents

This release supports the drivers for the following variants:

Modules	<i>TMS470M</i>	<i>TMS570LS 20x</i>	<i>TMS570LS 31x/RM48x</i>	<i>TMS570LS 12x/RM46x</i>	<i>TMS570LS 09x/07x/R M44x</i>	<i>TMS570LS 04x/RM42x</i>	<i>TMS570LC 4x/RM57x</i>
Cortex-R4	-	✓	✓	✓	✓	✓	-
Cortex-R5	-	-	-	-	-	-	✓
Cortex-M3	✓	-	-	-	-	-	-
freeRTOS	✓	✓	✓	✓	✓	✓	-
SYSTEM	✓	✓	✓	✓	✓	✓	✓
PINMUX	-	-	✓	✓	✓	✓	✓
MPU	✓	✓	✓	✓	✓	✓	✓
PMU	-	✓	✓	✓	✓	✓	✓
VIM	✓	✓	✓	✓	✓	✓	✓
ESM	-	✓	✓	✓	✓	✓	✓
Memory Map	✓	✓	✓	✓	✓	✓	✓
RAM	✓	✓	✓	✓	✓	✓	✓
FLASH	✓	✓	✓	✓	✓	✓	✓
GCM/Oscillator	✓	✓	✓	✓	✓	✓	✓
PLL	✓	✓	✓	✓	✓	✓	✓
DCC	-	-	✓	✓	✓	✓	✓
CCM	-	✗	✗	✗	✗	✗	✗
PMM	-	-	✓	✓	✓	✓	✓
POM	-	✗	✓	✓	-	-	✓
EMIF	-	✗	✓	✓	-	-	✓
PBIST	-	✓	✓	✓	✓	✓	✗
LBIST(STC)	✓	✗	✓	✓	✓	✓	✗
MBIST	✓	✗	✓	✓	✓	✓	✗
EFUSE	-	-	✓	✓	✓	✓	✗
RTP-IO	-	-	✓	-	-	-	✗
DMM-IO	-	-	✓	-	-	-	✗
ETPWM	-	-	-	✓	✓	-	✓
ECAP	-	-	-	✓	✓	-	✓
EQEP	-	-	-	✓	✓	✓	✓

- ✓ Available
- ✗ Not Available
- Not Applicable

Modules	TMS470 M	TMS570L S20x	TMS570L S31x/ RM48x	TMS570L S12x/ RM46x	TMS570L S09x/07x/ RM44x	TMS570L S04x/ RM42x	TMS570LC 4x/RM57x
RTI	✓	✓	✓	✓	✓	✓	✓
GIO	✓	✓	✓	✓	✓	✓	✓
SCI	✓	✓	✓	✓	✓	✓	✓
LIN	✓	✓	✓	✓	✓	✓	✓
SPI	✓	✗	✓	✓	✓	✓	✓
SPI/MIBSPI	✓	✓	✓	✓	✓	✓	✓
CAN	✓	✓	✓	✓	✓	✓	✓
ADC	✓	✓	✓	✓	✓	✓	✓
HET	✓	✓	✓	✓	✓	✓	✓
HTU	-	✗	✗	✗	✗	✗	✗
I2C	-	-	✓	✓	✓	✗	✓
EMAC	-	-	✓	✓	-	-	✓
DMA	-	✗	✓	✓	✓	✓	✓
PCR	-	✗	✓	✓	✓	✓	✓
EPC	-	-	-	-	-	-	✓
NMPU	-	-	-	-	-	-	✓
USB	-	-	- / ✓	- / ✓	-	-	-
FlexRay™	-	-	✗ / -	✗ / -	-	-	✗
FTU	-	-	✗ / -	✗ / -	-	-	✗
FEE	✓	-	✓	✓	✓	✓	✓

- ✓ Available
- ✗ Not Available
- Not Applicable

Current details of the Device wise Software Maturity Level and the Bug list can be found in the HALCoGen WIKI Page

<http://processors.wiki.ti.com/index.php/HALCoGen>

6 Fixed In This Release

Following are the list of issues fixed in version 04.07.01 from 4.07.00

References	Description	Updates
[HERCULES_SW-5082]	TI_Fee_SuspendResumeErase function does not store and restore FEE_ModuleState	Fixed for this release.
[HERCULES_SW-5083]	FEE Block Header not skipped during CRC calculation	Fixed for this release.
[HERCULES_SW-5084]	No Protection for TI_Fee_MainFunction re-entrancy.	Fixed for this release.
[HERCULES_SW-5702]	vimParityErrorHandler might clear pending pulse interrupt(s)	This is a weak function, application must have their own implementation.
[HERCULES_SW-5703]	EMAC_MII_ENABLE is not set correctly based on RMII/MII Selection in GUI	This checkbox does not affect device pin muxing. Device pin mux should be handled in PINMUX tab.
[HERCULES_SW-5712]	EMAC : EOQ flag not cleared by driver.	EOQ Flag is handled correctly by the EMAC driver.
[HERCULES_SW-5723]	Halcogen 4.06.01 function void trimLPO(voi) in system.c does not follow TRM recommendation	Fixed for this release.
[HERCULES_SW-5729]	HALCOGEN: Wrong version in about menu	Fixed for this release.
[HERCULES_SW-5730]	FREERTOS - link error while calling some FREERTOS APIs	Fixed for this release.
[HERCULES_SW-6008]	getResetSource GCC Naked Attribute should be removed	Fixed for this release.
[HERCULES_SW-6013]	Order of testing of reset causes in getResetSource(void) causes reset events to be lost	Fixed for this release.
[HERCULES_SW-6030]	AJSM unlocking key for TMS570LC43x is not correct	Fixed for this release.
[HERCULES_SW-6033]	HALCoGen: can not change LIN to slave mode	Fixed for this release.
[HERCULES_SW-6040]	gioGetConfigValue function bug: two register values are swapped with each other.	Fixed for this release.
[HERCULES_SW-6045]	Include workaround for erratum related to PLL start-up	Added errata workaround. Fixed for this release.

7 Known Issues and Limitations

References	Description	Updates
[HERCULES_SW-6074]	The EMAC loopback code generated by HALCoGen doesn't work	New issue.

8 User Notes

- 02.xx.xx HALCoGen Pjt cannot not be opened in 03.xx.xx or greater HALCoGen versions. User has to redo configuration with latest HALCoGen.
- Any directory should not have more than one HALCoGen project (.hcg and .dil files). Each project should be in an individual directory.
- From HALCoGen Version 3.00.00 onwards the header files are generated in include directory and other driver files in source directory. The user needs to set this include path in the 'project include settings' while building it.
(Eg: In compiler (cl470) add option → "--include path (**path**)/include").
- When selecting HET2 – Advanced Configuration Mode / Disable Black box user must make sure the "Select Header File & Source file" inputs are generated out of NHET assembler using option "-n1 -hc32".
- HALCoGen does not delete any files placed/generated under source or include folder generated by HALCoGen.
- To use USB drivers in RM48x and RM46x family of devices Enable support for GCC extensions (--gcc) in compiler options.
- If running CPU Self test in debug mode, the debug info are lost immediately after CPU self test eg., All breakpoints set before CPU self test are lost.
- CCM Self test cannot be run in debug mode.
- HALCoGen must be used with default **100% Font size** only.
<http://e2e.ti.com/support/microcontrollers/hercules/f/312/t/184660.aspx>
- Following options must be selected under **MULTI IDE** project to use HALCoGen generated code for GHS.
 - **-T** < Generated code path > \source\sys_link.cmd
 - **-I** < Generated code path > \include
 - **-no_auto_interrupt_table**
 - **-e resetEntry**