Release Notes

CodeWarrior Development Studio for StarCore 3850 DSP v10.7.1 SP1

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1 About This Release

The 10.7.1 SP1 service pack of CodeWarrior for StarCore 3850 Development tools introduces updated build tools version 23.11.6.80 for both BSC9131 and BSC9132.

1.1 Version Information

This release note provides important information for users of CodeWarrior Development Studio for StarCore 3850 DSP v10.7.1.

Users looking for productized solutions for BSC913x processors are encouraged to use CodeWarrior for StarCore 3850 DSP v10.7.1 product.

1.2 Important Note

Due to the fix in O0 (debug mode only) for ENGR314930, the generated code may be larger than with the previous compiler. For example, the following SDOS debug targets fail to link and one has to move some descriptors from M2 to DDR:

demos/starcore/psc9x3x/maple_pdsch/project PSC9131 PDSCH Non Sync – Debug

demos/starcore/psc9x3x/maple_pdsch/project PSC9131 PDSCH – Debug

demos/starcore/psc9x3x/maple_soft_reset/project/maple_soft_reset MAPLE RESET PSC9131 – Debug

2 Getting Help

2.1 User Forum and FAQ

After looking through these release notes, and the documentation that comes with the installation of CodeWarrior, the next best place to look for answers to your questions is the online user forums located at

http://forums.freescale.com

Please check:

- **CodeWarrior for StarCore DSPs** forum for issues related to CodeWarrior development tools. The Frequently Asked Questions about CodeWarrior for StarCore DSP are posted here.
- **StarCore DSPs** forum for issues related to the silicon and hardware platforms.

The forums provide a great way to learn by seeing the questions and answers posted by other users. Of course, you can post your own questions and responses as well.

2.2 Contacting Freescale concerning CodeWarrior Development Tools

Finally, if you still have questions not addressed in the release notes, or want to provide feedback, please use the Freescale online support web page. To use this page, follow these steps:

1. In a web browser, go to http://www.freescale.com/TechSupport.

   Freescale's **Technical Support** web page appears.
2. On this page, click the Create service request online link.

   The **New Service Request — Category/Topic** page appears.
3. From the Category dropdown menu, select Technical Request.
4. From the Topic dropdown menu, select CodeWarrior (or other appropriate topic).
5. Click **Next**.

   The **New Service Request — SR Details** page appears.
6. In this page, enter the requested information.

   At a minimum, enter information in each field marked by an *.
7. Click **Submit**.

   If you are already logged in, the **Service Request Confirmation** page appears. Go to the last step.

   If you are not already logged in, the **Log-in** page appears.
8. If you are a registered member, login with your user name and password.

   The **Service Request Confirmation** page appears. Go to the last step.
9. If you have not yet registered,
   a. If you want to become registered member, click **Register Now** and complete the registration process.

      The **Service Request Confirmation** page appears.
   b. If you do not want to register, supply your contact information in the **I do not want to register - Provide contact information** form and click **Submit**.

      The **Service Request Confirmation** page appears.
10. Click **Done**.

Your service request is submitted.

3 System Requirements

Recommended Configuration

- 3GHz Intel® Pentium® P4 processor or better. Dual-core processor preferable.
- Microsoft® Windows Vista, Windows 7
- 2GB RAM (Experience on machines with 1GB RAM is significantly reduced)
- 2.3 GB free disk space

Note: 500MB of free space is required on the OS drive, regardless of the free space available on the destination drive.

Note: The users need Windows Administrator rights when installing the CodeWarrior within Program Files location. Otherwise CodeWarrior internal processes might fail to start during run time execution.

4 Who Should Use this Release?

Users developing for the BSC9131, BSC9132 devices

Developers seeking better performance from code not previously hand-optimized or developers willing to tune their code for performance

5 Who Should NOT Use this Release?

Users developing for StarCore MSC8157/8, MSC8154/6/2/1, MSC8256/4/2/1, MSC8144, MSC8122/26, MSC8113/12, MSC8101/3, or MSC711x DSPs.

6 Errata – Known Issues for this Release

This list includes only P1 and P2 issues that are not fixed in this release.

IDE	
ENGR00236407	debug_print project fails to build with CW10.5.0 for multicore Workaround: Set correct path towards linked libraries.
ENGR00220108	Issue: RSE sytem persistence uses too long directory names Workaround: Use a workspace at the top level hierarchy of a windows drives (e.g. c:\workspace).
Software Analysis	
ENGR00186856	SA reports function calls "not covered" in some cases Workaround: none
ENGR00202735	Issue: "Trace and Profile" Support for G1110 was enable in Creation wizard but not in Debug launch Configurations window Workaround: none
ENGR00236912	Issue: Cannot build SDOS project with Trace enable support HSST as Trace offload method Workaround: none
ENGR00199263	Issue: Cannot build the imported project successful Workaround: none

ENGR00192655	Issue: Export trace window is not able to closed/disappeared if you don't want to replace an existed csv file Workaround: open location of existed csv file by window exploer and rename this file. now back to 'Export Trace Data to CSV' window of CodeWarrior and you can export with your desired name
ENGR00190261	Issue: No Trace is collected after removing all Trace points when debug session started. Workaround: If you want to remove all tracepoints, do this offline (not when you are debugging the project). If you don't want to remove all tracepoints, you can do this in both online and offline mode.
ENGR00187044	Issue: CW behaves abnormal when ETH get disconnected Workaround: none
ENGR00210174	Issue: Error connecting to simulator when Debug and Resume profilerdemo_SC3x50 project Workaround: none
Simulator	
ENGR00208009	Issue: Profiler module ver 1.1.12 for simulator outputs empty results Workaround: None
Debugger	
ENGR00225771	Issue: Breakpoints hit not correct after executed "Mulitcore Resume" Workaround: the user can enable/disable the breakpoint instances individually for each core, from the breakpoint view.
CCS	
ENGR00193932	Issue: CWTAP: Starcore 8156 board tested with temporary flying leads probe. Found that register write failed after step core operation during step test. Workaround: none
ENGR00231737	Issue: CCS drivers do not pass WinLogo verification (on Win XP) Workaround: none
Build tools	
ENGR00183307	Issue: It takes more than 8 minutes to build the attached project. Workaround: Use lower optimization level –O0, -O1, -O2
ENGR00185514	Issue: C_L_conj gives wrong result when input parameter is -1 Workaround: none
ENGR00185626	Issue: Error: Can't find mapping (2-1), for IL2986 in extract_mapping_solutions Workaround: -Xicode --disable_standard_op to disable standard optimizations in icode.
ENGR00186055	Issue: EVRC Codec is not bit-exact anymore Workaround: - use -Xicode --achieve_cross_compo=FALSE for file evrc_bqiir.c

ENGR00186389	Issue: Incorrect code generated in function pexInitialize
	Workaround: Add following lines in file msc8156_drivers_smartdsp_os.appli
	   module "pex_init"
	   [
	     function _pexInitialize [
	       active_sequential_access = FALSE
	     ]
	   ]

ENGR00192550	Issue: HwdrvGetGainOffset works abnormal when O3 is used Workaround: Add "-e0 -ee0" to the LLT options
ENGR00192872	Issue: Some strange code generated for function cif_ue_context_config_processing_action()

	Workaround: use -O3 optimization level for the whole file
ENGR00192893	Issue: Icode internal error on EDM_GMSK_ACS kernel Workaround: use fewer modulo registers in loops, as it is not efficient for the compiler to spill them
ENGR00194567	Issue: ICODE crash when tries to perform modulo addressing Workaround: don't use #pragma safe_mod for the 2 loops
ENGR00195487	Issue: Performance degradation after "unroll & jam" Workaround: none
ENGR00196023	Issue: Loop issue in customer kernel Workaround: none
ENGR00197523	Issue: Compilation time is too long: Customer accepts less than 60 seconds compilation time per file Workaround: none
ENGR00197639	Issue: Unsigned 64 bit value misinterpreted as signed 32 bit Workaround: –Xicode --achieve_induction=false
ENGR00198461	Issue: FATAL ERROR: Internal compiler error 11.. Aborting... Workaround: Remove #pragma align dio_chunk 0x10000000 and replace with struct dio_mem_area dio_chunk __attribute__((section("dio_chunk_seg"))) ; This way the variable is in a separate section which can be aligned from the linker command file to any desired value.

ENGR00199029	Issue: Compiler generates incorrect code with optimization
	Workaround: Following work around seems to cure the problem:
	  1- Define the function extract_command as non static and disable inlining of taht function.
	  2- Remove initialization of *pActualLength to 0 at line 148
	  3- Build with ICODE option --scalarization=FALSE

ENGR00199341	Issue: Wrong input parameter to memset function Workaround: none
ENGR00201338	Issue: Linker reports error when moving global definition from one file to another Workaround: none
ENGR00203863	Issue: Can't generate code based on MACRO from command line with newer linux compilers Workaround: A workaround is to use -Xcfe "-D..." to bypass SCC's -D handler, e.g.; something like this: scc -v -arch sc3850 -be -Xcfe "-DMACRO=\"Hello World\"" test.c
ENGR00204856	Issue: Execution result is incorrect in case of opt level 1 or higher Workaround: Build function ImageConvert within module test.c with ICODE option achieve_composition = FALSE
ENGR00205346	Issue: Performance degradation in WCDMA function ArkFilterAlfaBeta (Test case 29) for about 14.5% between 23.11.1.27D and 23.11.3.26 Workaround: none
ENGR00206943	Issue: Switch_To_Rom=TRUE generated jump-to table is not suitable for multi-core Workaround: Do NOT use Switch_To_Rom=TRUE.
ENGR00235314	Issue: segment is not aligned Workaround: none
ENGR00235392	Issue: Internal compiler error with statement like if ((modulatorSettings[i].symbol_rate > 0) == (0)) Workaround: 1- Change the line 12631 from if ((modulatorSettings[i].symbol_rate > 0) == (0))

to
    if (!(modulatorSettings[i].symbol_rate > 0))
 	
2- add following pragma prior to the implementation of function init_modulator
    #pragma fspeephole off
  You can then add following pragma at the end of the function implementation
    #pragma fspeephole on

7 Errata – Fixed in this Release

This list includes the issues reported by external customers and additional issues that that are now fixed.

Build Tools	
ENGR314930	Compiler issue in generating code for constant operands in O0
ENGR318596	Emulation library for shr_ intrinsics are incorrect
	Remove week binding warning generated by the linker
ENGR326498	Compiler 10.7.1 generate wrong asm for while loop.
ENGR326500	Wrong pointer modification in 10.7.1