

Creating a "Hello World" Sample Application in Code Composer Studio v5.1.0 for the DM3730/AM3703 SOM-LV, DM3730/AM3703 Torpedo SOM, and DM3730/AM3703 Torpedo + Wireless SOM Application Note 529

Logic PD // Products Published: March 2012 Last revised: June 2012

This document contains valuable proprietary and confidential information and the attached file contains source code, ideas, and techniques that are owned by Logic PD, Inc. (collectively "Logic PD's Proprietary Information"). Logic PD's Proprietary Information may not be used by or disclosed to any third party except under written license from Logic PD, Inc.

Logic PD, Inc. makes no representation or warranties of any nature or kind regarding Logic PD's Proprietary Information or any products offered by Logic PD, Inc. Logic PD's Proprietary Information is disclosed herein pursuant and subject to the terms and conditions of a duly executed license or agreement to purchase or lease equipment. The only warranties made by Logic PD, Inc., if any, with respect to any products described in this document are set forth in such license or agreement. Logic PD, Inc. shall have no liability of any kind, express or implied, arising out of the use of the Information in this document, including direct, indirect, special or consequential damages.

Logic PD, Inc. may have patents, patent applications, trademarks, copyrights, trade secrets, or other intellectual property rights pertaining to Logic PD's Proprietary Information and products described in this document (collectively "Logic PD's Intellectual Property"). Except as expressly provided in any written license or agreement from Logic PD, Inc., this document and the information contained therein does not create any license to Logic PD's Intellectual Property.

The Information contained herein is subject to change without notice. Revisions may be issued regarding changes and/or additions.

© Copyright 2012, Logic PD, Inc. All Rights Reserved.

# **Revision History**

REV	EDITOR	DESCRIPTION	APPROVAL	DATE
А	JO	-Initial Release	BSB, GJ	03/28/12
в	SO	-Throughout: Added language for AM3703 configuration of Torpedo + Wireless SOM; -Section 1.2: Removed statement about Blackhawk XDS 100v2 being included in DM3730 Development Kit	SO	06/20/12

## **Table of Contents**

1	Intro	duction	. 1
	1.1	Nomenclature	. 1
	1.2	Requirements	. 1
2	Setu	p	. 2
	2.1	Install CCS v5.1.0	.2
	2.2	Connect the Blackhawk XDS100v2	.2
3	Creat	ting a "Hello World" Sample Application for the DM3730 SOM	. 2
4	Crea	ting a "Hello World" Sample Application for the AM3703 SOM	10
5	Trou	bleshooting	17
	5.1	DM3730 Console Expected Output	17
	5.2	AM3703 Console Expected Output	17

## 1 Introduction

The purpose of this document is to provide the necessary steps for creating a "Hello World" sample application in Code Composer Studio (CCS) v5.1.0 for the DM3730/AM3703 SOM-LV, DM3730/AM3703 Torpedo SOM, and DM3730/AM3703 Torpedo + Wireless SOM using the Blackhawk XDS100v2 model D USB JTAG controller.

Section 3 addresses how to create the sample application for the DM3730 SOM-LV, DM3730 Torpedo SOM, and DM3730 Torpedo + Wireless SOM. Section 4 addresses how to create the sample application for the AM3703 SOM-LV, AM3703 Torpedo SOM, and AM3703 Torpedo + Wireless SOM.

#### 1.1 Nomenclature

- This document covers the DM3730 SOM-LV, DM3730 Torpedo SOM, and DM3730 Torpedo + Wireless SOM. Use of "DM3730 SOM" suggests text that applies to all three platforms; information specific to one platform will call out the precise name.
- This document also covers the AM3703 SOM-LV, AM3703 Torpedo SOM, and AM3703 Torpedo + Wireless SOM. Use of "AM3703 SOM" suggests text that applies to all three platforms; information specific to one platform will call out the precise name.
- Use of "DM3730 Development Kit" suggests text that applies to both the DM3730 SOM-LV Development Kit and DM3730 Torpedo SOM Development Kit; information specific to one development kit will call out the precise name.

#### 1.2 Requirements

This application note assumes the following:

- Your DM3730 Development Kit or similar platform is properly assembled as described in the appropriate QuickStart Guide.
  - DM3730 Torpedo Development Kit QuickStart Guide<sup>1</sup>
  - DM3730 SOM-LV Development Kit QuickStart Guide<sup>2</sup>
- You are familiar with the User Guide associated with your DM3730 Development Kit or similar platform.
  - DM3730 Torpedo Development Kit User Guide<sup>3</sup>
  - DM3730 SOM-LV Development Kit User Guide<sup>4</sup>
- You have the <u>Blackhawk XDS100v2 model D USB JTAG controller.</u><sup>5</sup>(See Figure 1.1 below.) IMPORTANT NOTE: Do not attach the Blackhawk XDS100v2 until CCS v5.1.0 has been installed on your host PC.

<sup>&</sup>lt;sup>1</sup> <u>http://support.logicpd.com/downloads/1420/</u>

http://support.logicpd.com/downloads/1421/

http://support.logicpd.com/downloads/1450/

<sup>&</sup>lt;sup>4</sup> http://support.logicpd.com/downloads/1449/

<sup>&</sup>lt;sup>5</sup> http://www.blackhawk-dsp.com/products/USB100.aspx



Figure 1.1: Blackhawk XDS100v2 with JTAG adapter

Your Blackhawk XDS100v2 must have the latest firmware. For information on how to update to the latest firmware, please refer to the Texas Instruments' (TI) <u>How Can I Update the</u> <u>CPLD on My XDS100v2 wiki article</u>.<sup>6</sup>

■ Your host PC has an available USB port and active Internet connection.

### 2 Setup

This section explains how to install CCS v5.1.0 on your DM3730 SOM or AM3703 SOM and connect the Blackhawk XDS100v2 to your DM3730 Development Kit.

#### 2.1 Install CCS v5.1.0

Install CCS v5.1.0 if it is not already installed on your host PC. TI's <u>Code Composer Studio v5</u> wiki article<sup>7</sup> provides information for properly installing the software.

Again, this application note was tested on and written specifically for CCS v5.1.0.

#### 2.2 Connect the Blackhawk XDS100v2

- 1. Ensure the DM3730 Development Kit is assembled as described in the appropriate QuickStart Guide.
- Connect the Embedded Trace Macrocell<sup>™</sup> (ETM) Adapter Board (included in the development kit) to the SOM as documented in the appropriate DM3730 Development Kit User Guide.
- 3. Connect the Blackhawk XDS100v2 to connector J3 on the ETM Adapter Board.
- Using the USB cable provided, connect the Debug USB port on the baseboard to the USB port on your host PC. (See the appropriate DM3730 Development Kit User Guide for the location of this port on the baseboard.)
- 5. Power on the DM3730 Development Kit as documented in the QuickStart Guide.

## 3 Creating a "Hello World" Sample Application for the DM3730 SOM

This section will describe the steps to create a "Hello World" sample application in CCS v5.1.0 for the DM3730 SOM using the Blackhawk XDS100v2.

- 1. Download the necessary files:
  - a. On TI's <u>Device Support files wiki page</u>, <sup>8</sup> download the DaVinci (DMxxxx) v1.0.3 files and follow the directions in the "Usage" section on the same wiki page.

<sup>&</sup>lt;sup>6</sup> http://processors.wiki.ti.com/index.php/XDS100#Q: How can I update the CPLD on my XDS100v2.3F

<sup>&</sup>lt;sup>7</sup> http://processors.wiki.ti.com/index.php/Code\_Composer\_Studio\_V5

- b. On TI's <u>OMAP and Sitra CCS Support wiki page</u>,<sup>9</sup> download the GEL files for the DM3730 processor.
- c. On TI's Linker CMD Files for CCS wiki page,<sup>10</sup> download the linker command file for the DM3730 processor.
- 2. Create a temporary workspace in CCS v5.1.0 called *HelloWorld* as shown below and click OK.

🕸 Workspace Launcher 🛛 🔀								
Select a w	Select a workspace							
Code Composer Studio stores your projects in a folder called a workspace. Choose a workspace folder to use for this session.								
<u>W</u> orkspace:	C:\ccsv5\HelloWorld	✓ Browse						
Use this a	s the default and do not ask again							
		OK Cancel						

3. Close the TI Explorer page and create a new project in the CCS Edit perspective by selecting File > New > CCS Project.

<sup>10</sup> http://processors.wiki.ti.com/index.php/Device\_support\_miss <sup>10</sup> http://processors.wiki.ti.com/index.php/OMAP\_and\_Sitara\_CCS\_support#DM3730\_and\_DM3725 <sup>10</sup> http://processors.wiki.ti.com/index.php/ index.php/ Eilas\_for\_CCS#DaVinci"

<sup>&</sup>lt;sup>8</sup> http://processors.wiki.ti.com/index.php/Device\_support\_files

http://processors.wiki.ti.com/index.php/Linker\_CMD\_Files\_for\_CCS#DaVinci"

4. In the *New CCS Project* window, choose the settings that best match your configuration and click Finish. An example of one possible configuration is shown below.

🕸 New CCS Project 📃 🗆 🔀						
CCS Project Create a new C	ICS Project.					
Project name: Output type: Use default Location: Device Eamily: Variant: Connection:	SampleProject Executable Iocation C:\Justin\Assignments\Ticket2185\tr C6000 DaVinci DM37xx Texas Instruments XDS100v2 USB Er	emp\SampleProject Browse				
<ul> <li>Advanced s</li> <li>Project tem</li> <li>type filter tex</li> <li>Emption</li> <li>E E</li> <li>E E</li></ul>	ettings plates and examples it y Projects mpty Project mpty Assembly-only Project mpty RTSC Project Examples lello World D Examples BIOS v5.xx Examples mot I/O Examples	Simple Hello World executable application printing the string "Hello World!" to standard output. Although this is a simple example, it is not recommended for devices with small memory-maps (such as the MSP430 or C2000 families of devices).				
?	< <u>B</u> ack	Next > Einish Cancel				

5. Add the DM3730.cmd file downloaded above in Step 1c by right clicking [Project Name] and then selecting Add Files... as shown below. Navigate to where you have the DM3730.cmd file saved, select Open, and choose to copy it into the workspace.

R

🏠 Project Ex	plorer 🛛 📄 🕏 🏸	
🗉 📛 Hellov	Name	
🖻 👘 Ir	New	
🕀 🖻 🖬	E Copy	Ctrl+C
<u>E</u> D	💼 Paste	Ctrl+V
	💢 Delete	Delete
	Source	
	Move	
	Rename	F2
	迠 Import	
	🛃 Export	
	Build Options	
	Build Project	I
	Clean Project	
	🗞 Refresh	F5
	Close Project	
	Build Configurations	•
	Make Targets	
	Index	•
	Add Files	
	Debug As	+
	Team	•
	Compare With	+
	Restore from Local History	
	Source	•
	Refactor	<u> </u>
	Properties	Alt+Enter

 Edit your target configuration file by double clicking on *DM3730.ccxml* in your *Project* window. Choose the Advanced section (circled below in red) and click on the Cortex\_A8\_0 option. Browse to the folder that contains the GEL files downloaded in Step 1b. From those files, choose the *am-dm37x\_cortexA.gel* file and click Open.

arget Configuration		Eno Proper	ties		8 11
	Beport Add Duiste Up Down Test Connection Save	Contex_AB C Set the prop Dypess Initialization Slave Pro Address	CPU serties of the selected (pu, script) coessor [0xd4011000	-	Browse
	Open Look in Wy Recert Documents Dealtop My Documents	DM3730.25 am-dm37 Contex.48_O Contex.48_C Contex.48_C am-dm37 Contex.48_C am-dm37 contex.48_C am-dm37 am-dm37 contex.48_C am-dm37 am-dm37 contex.48_C am-dm37 am-dm37 contex.48_C am-dm37 am-dm37 contex.48_C am-dm37	S_GELs_CCSv4 controlApp1 drc_configs.pd drc_configs.pd drc_configs.pd drc_configs.pd drc_configs.pd econfigure_frewals.pd	0 ø e 🖬	
~	My Computer	Flenane	am-dm37x contex4 and	2	0.000

7. Build the project by right clicking on [Project Name] and selecting Build Project.

8. Now we want to launch the target configuration. To do this, select View > Target Configurations in the *CCS Edit* perspective.

File	Edit	View	Navigate	Project	Run	Scripts
: [	<u>9</u> - [	נד 🕖	<b>9</b> •			
	Projec	Pr Co Pr Co State Pr Pr Pr Pr Pr Pr Pr Pr Pr Pr	roject Explo utline roblems onsole ebug	rer		
		ja So	ripting Con isassembly	sole		
		[] M ₩₩ Ri &@ E: (X)= V @ Br	emory Brow egisters «pressions ariables reakpoints	vser		
		0	ther			

9. In the *Target Configuration* window, navigate to your target configuration file by selecting Projects > Hello World. Right click on the *DM3730.ccxml* file and choose Launch Selected Configuration.

	🕄 Target Configura 🔀 📒 🗖						
	🖹 🗶 🖑 🗖						
	type filter text						
	🖃 🗁 Projects						
	🖻 📂 HelloWorld						
	🔤 🗟 DM3730.ccxml [I						
😭 New Target	😭 New Target Configuration						
💢 Delete	Delete						
Rename	F2						
🦑 Refresh	F5						
🜍 Launch Selec	💱 Launch Selected Configuration						
Set as Default							
Link File To F	roject 🕨						
Properties Alt+Enter							

10. To connect to the ARM core, right-click on Texas Instruments XDS100v2 USB Emulator/Cortex\_A8\_0 and select Connect Target.

🏇 Debug 🖂	🎽 🕨 🖬	- 2 C 2 C 1 C	🌸 • 🖑	🤣 ∽ 🗖 🗆	🗱 Variab	les 🛛 🙀 Exp
🖃 🜍 DM3730.ccxml [Code	Composer Studio - Device [	Debugging]			Name	
Texas Instrumen	ts XDS100v2 USB Emulator/ to XDS100v2 USB Emulator/	C64XP_0 (Disconnected : Unk	nown)			
	is ADSTUUVZ USB Emulatory	Cortex_Ao_0 (Disconnected :	UTINIUWI	🐺 Connect Targe	t	Ctrl+Alt+C
				Disconnect Tar	get	Ctrl+Alt+D
				Enable Global B	Preakpoints	
				Enable Halt On	Reset	
				Enable OS Deb	ugging	
				Open GEL Files	View	
				💢 Hide core(s)		
				Show all cores		
■ DM07001 ×				Group core(s)		
E DM3730.ccxmi 23				Ungroup core(	5)	
Target Configura	ation			Rename		
			5		minated	
All Lonnections				Relaunch	in lacoa	
🖃 💃 Texas Instrumen	its XDS100v2 USB Emulator			SEdit DM2720 o	-vml	
🖻 🥋 DM3730				Eale Divisiy Solid	D	
🖻 🥀 IcePick_(	C_0			🗙 rerminate and	kemove	
🖃 💐 Subp	iath_0			ie Terminate/Disc	onnect All	
<b>₩</b> (	164XP_0			Properties		
📃 🔍 Subp	/ath_2					

11. Run a script to wake up the DSP by selecting Scripts > IVA2200\_Startup > IVA22\_GEM\_startup.

(je	composer studio		
n	Scripts Window Help		
n - D Emi Emi	Scripts         Window         Help           IVA2200_Startup         IVA2200_MMU           IVA2200_PD         WatchDogs           Debug During WFI         CortexA8_Features           NEON         OMAP35xx_Resets           SECURITY         PRCM_CLOCK_CONFIGS           DRAMS         Cross Triggering           Embedded_Trace_Macrocell(ETM)_Decisters	<b>•</b> • • • • • • • • • • • •	IVA22_GEM_startup         Image: Startup         Ima
	Embedded_Trace_Macrocell(ETM)_Registers	•	

12. Now connect to the DSP core the same way you connected to the ARM core by right-clicking on 0x402063E4 and selecting Connect Target.

🏇 Debug 🛛	🎉 🕪 II 🔳 🔍 🕾 🕾 LA 🛸 🕹	🏟 🗸 🗖 🖸 🕅	)= Va
🖃 🜍 DM3730	).ccxml [Code Composer Studio - Device Debugging]	P	Nam
	as Instruments XDS100V2 USB Emulator/C64XP_0 (Suspended) 0x402063E4 (no symbols are defined for 0x402063E4)	chulu Albu c	
Te>	as Instruments XDS100v2 USB Emulator/Cortex_A8_0       ✓               Connect Target             Disconnect Target             Enable Global Breakpo             Enable Halt On Reset             Enable OS Debugging             Open GEL Files View                  With the core(s)               Show all cores             Group core(s)             Ungroup core(s)              Rename	Ctrl+Alt+C Ctrl+Alt+D ints	
	Remove All Terminate Relaunch Edit DM3730.ccxml Terminate and Remov Terminate/Disconnect Properties	d 'e All	

13. Download the program onto the DSP by selecting Run > Load > Load Program....

-	ain		
:	Run Scripts Window Help		
	<ul> <li>Connect Target</li> <li>Disconnect Target</li> </ul>	Ctrl+Alt+C Ctrl+Alt+D	L
365	🇞 Restore Debug State	Alt+E	□ 🛛 🖾 Variables 🖾 🛱 Expressions
:u	🔂 Load		🕨 🙆 Load Program Ctrl+Alt+L 🛛 Тур
U a	<b>.</b> ]⊳Resume	F8	Reload Program Ctrl+Alt+R
U	Suspend		Add Symbols
а	📕 Terminate	Ctrl+F2	<ul> <li>Add Symbols</li> <li>Beneue all Symbols</li> </ul>
	🔍 Go Main	Alt+M	Remove All Symbols
	le set	I	•
	🖑 Restart		
	🔁 Step Into	F5	
	🗇 Step Over	F6	

- 14. Choose Browse Project and select the *HelloWorld.out* file. Click OK twice.
- 15. Run the program. You should see "[C64XP\_0] Hello World!" in the console window.

# 4 Creating a "Hello World" Sample Application for the AM3703 SOM

This section will describe the steps to create a "Hello World" sample application in CCS v5.1.0 for the AM3703 SOM using the Blackhawk XDS100v2.

- 1. Download the necessary files:
  - a. On TI's <u>Device Support files wiki page</u>, <sup>11</sup> download the Sitra (AMxxxx) v1.0.3 files and follow the directions in the "Usage" section on the same wiki page.
  - b. On TI's <u>OMAP and Sitra CCS Support wiki page</u>,<sup>12</sup> download the GEL files for the DM3730 processor.
  - c. On TI's <u>Linker CMD Files for CCS wiki page</u>,<sup>13</sup> download the linker command file for the DM3730processor.
- Create a temporary workspace in CCS v5.1.0 called HelloWorld as shown below and click OK.

😵 Workspace Launcher	
Select a workspace Code Composer Studio stores your projects in a folder called a workspace. Choose a workspace folder to use for this session.	
Workspace: C:\ccsv5\HelloWorld	Browse
Use this as the default and do not ask again	
	OK Cancel

3. Close the TI Explorer page and create a new project in the CCS Edit perspective by selecting File > New > CCS Project.

<sup>&</sup>lt;sup>11</sup> <u>http://processors.wiki.ti.com/index.php/Device\_support\_files</u>

<sup>&</sup>lt;sup>12</sup> http://processors.wiki.ti.com/index.php/OMAP\_and\_Stara\_CCS\_support#DM3730\_and\_DM3725\_

<sup>&</sup>lt;sup>13</sup> http://processors.wiki.ti.com/index.php/Linker\_CMD\_Files\_for\_CCS#DaVinci"

4. In the *New CCS Project* window, choose the settings that best match your configuration and click Finish. An example of one possible configuration is shown below.

🕸 New CCS P	roject	
CCS Project Create a new C	ICS Project.	
Project name: Output type: ✓ Use default Location: Device Eamily: Variant: Connection: ► Advanced s	HelloWorld Executable location C:\Justin\Assignments\Ticket2185\tri ARM AM37x - Cortex A8 Texas Instruments XDS100v2 USB Er ettings	amp2\HelloWorld Browse
Project tem     type filter tex     Type filter tex     E     E     E     E     E     E     E     E     E     E     E     E     Syste     Syste	plates and examples t y Projects mpty Project mpty Assembly-only Project mpty RTSC Project Examples ello World nd I/O Examples 8105 m Apalyzer (LITA)	Simple Hello World executable application printing the string "Hello World!" to standard output. Although this is a simple example, it is not recommended for devices with small memory-maps (such as the MSP430 or C2000 families of devices).
?	< <u>B</u> ack	Next > Einish Cancel

5. Add the *DM3730.cmd* file downloaded above in Step 1c by right clicking on [Project Name] and selecting Add Files... as shown below. Navigate to where you have the *DM3730.cmd* file saved, select Open, and choose to copy it into the workspace.

🖃 🛱 HelloWorld [Active - Deb		
🛓 👘 🎧 Includes	New	•
Hello.c	📄 Сору	Ctrl+C
II AM3703.ccxmi [Active/De	💼 Paste	Ctrl+V
	💢 Delete	Delete
	Source	+
	Move	
	Rename	F2
	Rea Import	
	A Export	
	Build Options	
	Build Project	
	Clean Project	
	8 Refresh	F5
	Close Project	
	Build Configuration	is 🕨
	Make Targets	•
	Index	•
	Add Files	
	Debug As	•
	Team	•
	Compare With	+
	Restore from Loca	l History
	Source	•
	Refactor	•
	Properties	Alt+Enter

 Edit your target configuration file by double clicking on the AM3703.ccxml file in your Project window. Choose the Advanced section (circled below in red) and click on the Cortex\_A8\_0 option. Browse to the folder that contains the GEL files downloaded in Step 1b. From those files, choose the am-dm37x\_cortexA.gel file and click Open.



7. Change the *Device endianness* of the project by right clicking on [Project Name] and selecting Properties. In the *General* tab, change the *Device endianness* to *little* and click OK.

🕸 Properties for HelloWorld			
type filter text	General		⇔ • ⇔ • ▼
Resource     General     General     TMS470 Compiler     MS470 Compiler     Sasic Options     Command Files     Default File Extensions     Diagnostic Options     Directory Specifier     Entry/Exit Hook Options     File Type Specifier     Include Options     Language Options     Library Function Assumptions     MISRA-C:2004: MISRA Rules	Configuration: Debug [ Ac	tive ]	Manage Configurations
	Output type: Executable		<b>V</b>
	Eamily: ARM		✓
	Variant: <select or<="" td=""><td>type filter text&gt; 💽 AM370</td><td>)3</td></select>	type filter text> 💽 AM370	)3
	Connection: Texas Instr	ruments XDS100v2 USB Emulator	<ul> <li>(applies to whole project)</li> </ul>
Optimizations     Parser Preprocessing Options     Decide final Combute	✓ Advanced settings		
- Runtime Model Options	Device endianness:	little	✓
TMS470 Linker	Compiler version:	TI v4.9.1	<u> </u>
···· Debug	Output format:	legacy COFF	<u> </u>
	Linker command file:	DM373U.cmd	Browse
	Runtime support library:	<automatic></automatic>	Browse
			Restore Defaults Apply
Show advanced settings			OK Cancel

8. Build the project by right clicking on [Project Name] and selecting Build Project.

9. Now we want to launch the target configuration. To do this, select View > Target Configurations in the *CCS Edit* perspective.



10. In the *Target Configuration* window, navigate to your target configuration file by selecting Projects > Hello World. Right click on the *AM3703.ccxml* file and choose Launch Selected Configuration.

- 8	🕄 Target Configura 🛛 🗖 🗖			
	🖹 🗶 🖑 🖻			
	type filter text			
📮 🔁 Projects				
🖻 😂 HelloWorld				
🔜 🔤 🔂 🔤 🔤				
😭 New Target (	Configuration			
x_ 💢 Delete	Delete			
Rename	F2			
🛷 Refresh	F5			
Staunch Selected Configuration				
Set as Default				
Link File To Project				
Properties	Alt+Enter			

11. To connect to the ARM core, right-click on Texas Instruments XDS100v2 USB Emulator/Cortex\_A8\_0 and select Connect Target.



12. Download the program onto the ARM core by selecting Run > Load > Load Program....

-	dib						
:	Run Scripts Windov	v Help		_			
	🗸 💂 Connect Target		Ctrl+Alt+C				
_	Disconnect Targ	et	Ctrl+Alt+D				
386	🍓 Restore Debug S	State	Alt+E	🗖 🗱 🛛 🖾	riables 🖾	🕵 Expressions	1010 0101
:u	I 🔂 Load		•	Load Pro	gram	Ctrl+Alt+L	Тур
U	l Besume		F8	🚳 Reload P	rogram	Ctrl+Alt+R	
a	III Suspend			🏂 Load Syn	nbols		F
a	Terminate		Ctrl+F2	🛠 Add Sym	bols		F
	🔍 Go Main		Alt+M	💥 Remove	All Symbols		
	Reset		•				_
	Restart						
	💫 Step Into		F5				
	🔿 Step Over		F6				
	I						

- 13. Choose Browse Project and select the HelloWorld.out file. Click OK twice.
- 14. Run the program. You should see "[Cortex\_A8\_0] Hello World!" in the console window.

## 5 Troubleshooting

This section shows what the correct output of the console should be when connecting to the DM3730 SOM and the AM3703 SOM.

#### 5.1 DM3730 Console Expected Output

```
Cortex A8 0: GEL Output: OMAP 32K Watchdog Timer is disable
Cortex_A8_0: GEL Output: Putting DPLL into bypass before proceeding
Cortex_A8_0: GEL Output: Putting CORE DPLL into bypass before
proceeding
Cortex_A8_0: GEL Output: Locking CORE DPLL
Cortex_A8_0: GEL Output: PRCM clock configuration IIA setup has been
completed
Cortex_A8_0: GEL Output: SystemClock = 26.0 MHz
Cortex_A8_0: GEL Output: DPLL_MULT_VALUE = 332
Cortex_A8_0: GEL Output: DPLL_DIV_VALUE = 25
Cortex A8 0: GEL Output: CORE DPLL CLK = 664.0 MHz
Cortex A8 0: GEL Output: CORE CLK = 332.0 MHz
Cortex_A8_0: GEL Output: L3_CLK = 166.0 MHz
Cortex_A8_0: GEL Output: mDDR Hynix H8KDS0UN0MER - 2048 Mbit(256MB) on
CS0, 16M x 32bit x 4Banks
Cortex A8 0: GEL Output: Waiting for SDRC DLL to lock...
Cortex A8 0: GEL Output: SDRC DLL successfully locked
Cortex_A8_0: GEL Output: common_sdram_init() completed
Cortex A8 0: GEL Output: SDRC initilization for mDDR Hynix H8KDS0UN0MER
completed
Cortex_A8_0: GEL Output: 26MHz clock configuration IIa
Cortex A8 0: GEL Output: 26MHz clock configuration IIa
Cortex A8 0: GEL Output: CORTEXA8 CORE VERSION = 0x413FC082
Cortex A8 0: GEL Output: Target contains version r3p2 of the
CortexA8...
Cortex_A8_0: GEL Output: Read the ETM_POWER_DOWN_STATUS
register...
Cortex_A8_0: GEL Output:ETM_POWER_DOWN_STATUS = 0x0000001Cortex_A8_0: GEL Output:ETM Access is enabled!Cortex_A8_0: GEL Output:ETM_ID = 0x410CF236
Cortex_A8_0: result: C64x+ release from reset
```

#### 5.2 AM3703 Console Expected Output

```
Cortex_A8_0: GEL Output: OMAP 32K Watchdog Timer is disable

Cortex_A8_0: GEL Output: Putting DPLL into bypass before proceeding

Cortex_A8_0: GEL Output: Putting CORE DPLL into bypass before

proceeding

Cortex_A8_0: GEL Output: Locking CORE DPLL

Cortex_A8_0: GEL Output: PRCM clock configuration IIA setup has been

completed

Cortex_A8_0: GEL Output: SystemClock = 26.0 MHz

Cortex_A8_0: GEL Output: DPLL_MULT_VALUE = 332

Cortex_A8_0: GEL Output: DPLL_DIV_VALUE = 25

Cortex_A8_0: GEL Output: CORE_DPLL_CLK = 664.0 MHz
```

Cortex A8 0: GEL Output: CORE CLK = 332.0 MHz Cortex\_A8\_0: GEL Output: L3\_CLK = 166.0 MHz Cortex\_A8\_0: GEL Output: mDDR Hynix H8KDS0UN0MER - 2048 Mbit(256MB) on CSO, 16M x 32bit x 4Banks Cortex\_A8\_0: GEL Output: Waiting for SDRC DLL to lock... Cortex\_A8\_0: GEL Output: SDRC DLL successfully locked Cortex A8 0: GEL Output: common sdram init() completed Cortex\_A8\_0: GEL Output: SDRC initilization for mDDR Hynix H8KDS0UN0MER completed Cortex\_A8\_0: GEL Output: 26MHz clock configuration IIa Cortex\_A8\_0: GEL Output: 26MHz clock configuration IIa Cortex A8 0: GEL Output: CORTEXA8 CORE VERSION = 0x413FC082 Cortex\_A8\_0: GEL Output: Target contains version r3p2 of the CortexA8... Cortex\_A8\_0: GEL Output: Read the ETM\_POWER\_DOWN\_STATUS register... Cortex\_A8\_0: GEL Output: ETM\_POWER\_DOWN\_STATUS = 0x00000001 Cortex A8 0: GEL Output: ETM Access is enabled! Cortex\_A8\_0: GEL Output: ETM\_ID = 0x410CF236