



Release Note for SMDK6410 (Windows Embedded CE 6.0)

S3C6410

Important Notice

The information in this publication has been carefully checked and is believed to be entirely accurate at the time of publication. Samsung assumes no responsibility, however, for possible errors or omissions, or for any consequences resulting from the use of the information contained herein.

Samsung reserves the right to make changes in its products or product specifications with the intent to improve function or design at any time and without notice and is not required to update this documentation to reflect such changes.

This publication does not convey to a purchaser of semiconductor devices described herein any license under the patent rights of Samsung or others.

Samsung makes no warranty, representation, or guarantee regarding the suitability of its products for any particular purpose, nor does Samsung assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation any consequential or incidental damages.

"Typical" parameters can and do vary in different applications. All operating parameters, including "Typicals" must be validated for each customer application by the customer's technical experts.

Samsung products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, for other applications intended to support or sustain life, or for any other application in which the failure of the Samsung product could create a situation where personal injury or death may occur.

Should the Buyer purchase or use a Samsung product for any such unintended or unauthorized application, the Buyer shall indemnify and hold Samsung and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, expenses, and reasonable attorney fees arising out of, either directly or indirectly, any claim of personal injury or death that may be associated with such unintended or unauthorized use, even if such claim alleges that Samsung was negligent regarding the design or manufacture of said product

S3C6410 RISC Microprocessor Release Note

Copyright © 2007-2010 Samsung Electronics Co., Ltd.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electric or mechanical, by photocopying, recording, or otherwise, without the prior written consent of Samsung Electronics Co., Ltd.

Samsung Electronics Co., Ltd.
San #24 Nongseo-Dong, Giheung-Gu
Yongin-City Gyeonggi-Do, Korea
446-711

Home Page: <http://www.samsungsemi.com/>

E-Mail: mobilesol.cs@samsung.com

Printed in the Republic of Korea



Preliminary product information describe products that are in development, for which full characterization data and associated errata are not yet available. Specifications and information herein are subject to change without notice.

Revision History

Revision No	Description of Change	Refer to	Author(s)	Date
0.0	Preliminary draft	-	Woosuk Chung	2008-03-31
0.1	Pre-Beta BSP Release		Woosuk Chung	2008-04-29
0.2	Beta BSP Release		Jiwon Kim	2008-06-13
0.3	RC1 BSP Release		Jiwon Kim	2008-07-04
0.4	Intermediate Update		Jiwon Kim	2008-07-09
0.5	Update Porting Guide		JinGoo Han	2008-07-21
0.6	VFP updates		Jiwon Kim	2008-07-30
0.7	SMDK6410_CE60_FMD_INT_0.27_080804 is added		Jiwon Kim	2008-08-04
0.8	SMDK6410_CE60_FMD_INT_0.28_080804 is added		Jiwon Kim	2008-08-04
0.9	SMDK6410_CE60_FMD_INT_0.29_080805 is added		Jiwon Kim	2008-08-05
0.10	SMDK6410_CE60_FMD_REL_0.30_080807_RC2 is added		Jiwon Kim	2008-08-07
0.11	SMDK6410_CE60_FMD_INT_0.31_080819		Jiwon Kim	2008-08-19
0.12	SMDK6410_CE60_FMD_INT_0.32_080821		Jung-Woo Nam	2008-08-21
0.13	SMDK6410_CE60_FMD_INT_0.33_080821		Jiwon Kim	2008-08-22
0.14	SMDK6410_CE60_FMD_REL_0.34_080902_RC3	Installation Manual & Porting Guide	Jiwon Kim	2008-09-02
0.15	SMDK6410_CE60_FMD_INT_0.35_080904		Jiwon Kim	2008-09-04
0.16	SMDK6410_CE60_FMD_INT_0.36_080909		Jiwon Kim	2008-09-09
0.17	SMDK6410_CE60_FMD_INT_0.37_080922		Jiwon Kim	2008-09-22
0.18	SMDK6410_CE60_FMD_INT_0.38_080922		YongSeung Kim	2008-09-22
0.19	SMDK6410_CE60_FMD_INT_0.39_080924		Jiwon Kim	2008-09-24
0.20	SMDK6410_CE60_FMD_INT_0.40_080927		JinGoo Han	2008-09-27

0.21	SMDK6410_CE60_FMD_INT_0.41_081001		Jiwon Kim	2008-10-01
0.22	SMDK6410_CE60_FMD_INT_0.42_081004		Jung-Woo Nam	2008-10-04
0.23	SMDK6410_CE60_FMD_INT_0.43_081006		Jiwon Kim	2008-10-06
0.24	SMDK6410_CE60_FMD_REL_0.44_081009_RC4		Jiwon Kim	2008-10-09
0.25	SMDK6410_CE60_FMD_INT_0.45_081010		JinGoo Han	2008-10-10
0.26	SMDK6410_CE60_FMD_INT_0.46_081011		YongSeung Kim	2008-10-11
0.27	SMDK6410_CE60_FMD_INT_0.47_081013		Jiwon Kim	2008-10-13
0.28	SMDK6410_CE60_FMD_INT_0.48_081017		Jiwon Kim	2008-10-17
0.29	SMDK6410_CE60_FMD_INT_0.49_081021		Jiwon Kim	2008-10-21
0.30	SMDK6410_CE60_FMD_INT_0.50_081025		JinGoo Han	2008-10-25
0.31	SMDK6410_CE60_FMD_INT_0.51_081026		YongSeung Kim	2008-10-26
0.32	SMDK6410_CE60_FMD_INT_0.52_081027		Jiwon Kim	2008-10-27
0.33	SMDK6410_CE60_FMD_INT_0.53_081116		YongSeung Kim	2008-11-16
0.34	SMDK6410_CE60_FMD_INT_0.54_081118		Chanwook Park	2008-11-18
0.35	SMDK6410_CE60_FMD_INT_0.55_081124		Peter Oh	2008-11-24
0.36	SMDK6410_CE60_FMD_INT_0.57_081126		Isaac Hong	2008-11-26
0.37	SMDK6410_CE60_FMD_REL_0.58_081202_RC5		Chanwook Park	2008-12-02
0.38	SMDK6410_CE60_FMD_INT_0.59_081208		Isaac Hong	2008-12-08
0.39	SMDK6410_CE60_FMD_INT_0.60_081211		JeGeon Jung	2008-12-11
0.40	SMDK6410_CE60_FMD_INT_0.61_081215		JinGoo Han	2008-12-15
0.41	SMDK6410_CE60_FMD_REL_0.62_081218_RC6		Jiwon Kim	2008-12-18
0.42	SMDK6410_CE60_FMD_INT_0.63_090129		YongSeung Kim	2009-01-29
0.43	SMDK6410_CE60_FMD_REL_0.64_090202_RC7	iROM_SDMMC_Installation Manual & Porting Guide	YongSeung Kim	2009-02-02
0.44	SMDK6410_CE60_FMD_INT_0.65_090204		Peter Oh	2009-02-04

0.45	SMDK6410_CE60_FMD_INT_0.66_090206		JeGeon Jung	2009-02-06
0.46	SMDK6410_CE60_FMD_INT_0.67_090209		Jiwon Kim	2009-02-09
0.47	SMDK6410_CE60_FMD_INT_0.68_090211		Jiwon Kim	2009-02-11
0.48	SMDK6410_CE60_FMD_INT_0.69_090307		Jiwon Kim	2009-03-07
0.49	SMDK6410_CE60_FMD_INT_0.70_090315		Jiwon Kim	2009-03-15
0.50	SMDK6410_CE60_FMD_REL_0.71_090316		Jungchul Park	2009-03-16
0.51	SMDK6410_CE60_FMD_REL_0.72_090317		Jiwon Kim	2009-03-17
0.52	SMDK6410_CE60_FMD_REL_0.73_090317		Chanwook Park	2009-03-17
0.53	SMDK6410_CE60_FMD_INT_0.74_090323		Chanwook Park	2009-03-23
0.54	SMDK6410_CE60_FMD_REL_0.75_090401		KiMoon Kim	2009-04-01
0.55	SMDK6410_CE60_FMD_REL_0.76_090406		KiMoon Kim	2009-04-06
0.56	SMDK6410_CE60_FMD_INT_0.77_090409		Jungchul Park	2009-04-09
0.57	SMDK6410_CE60_FMD_INT_0.78_090414		Jungchul Park	2009-04-14
0.58	SMDK6410_CE60_FMD_REL_0.79_090415		Yong Kim	2009-04-15
0.59	SMDK6410_CE60_FMD_REL_0.80_090509		KiMoon Kim	2009-05-09
0.60	SMDK6410_CE60_FMD_REL_0.81_090515		KiMoon Kim	2009-05-15
0.61	SMDK6410_CE60_FMD_REL_0.82_090526		YounHee Kim	2009-05-26
0.62	SMDK6410_CE60_FMD_REL_0.83_090708		YounHee Kim	2009-07-08
0.63	SMDK6410_CE60_FMD_REL_0.84_090727		KiMoon Kim	2009-07-27
0.64	SMDK6410_CE60_FMD_REL_0.85_090811		KiMoon Kim	2009-08-11
0.65	SMDK6410_CE60_FMD_INT_0.86_090818		Chanwook Park	2009-08-18
0.66	SMDK6410_CE60_FMD_REL_2.23_090820		Jiwon Kim	2009-08-20
0.67	SMDK6410_CE60_FMD_REL_2.24_090914	MS WEBAP results were applied	Jiwon Kim	2009-09-14
0.68	SMDK6410_CE60_FMD_REL_2.25_091008	MS WEBAP results were applied	Jiwon Kim	2009-10-08
0.69	SMDK6410_CE60_FMD_REL_2.26_091110	MultipleXip Bugfix	Jiwon Kim	2009-11-10
0.70	SMDK6410_CE60_FMD_INT_2.27_091214		AP DEV	2009-12-14
0.71	SMDK6410_CE60_FMD_REL_3.00_091223		AP DEV	2009-12-23
0.72	SMDK6410_CE60_FMD_REL_3.01_100210		AP DEV	2010-02-10

0.73	SMDK6410_CE60_FMD_REL_3.02_100416	-	SOC CSE	2010-04-21
0.74	SMDK6410_CE60_FMD_REL_3.03_100513	-	SOC CSE	2010-05-13
0.75	SMDK6410_CE60_FMD_REL_3.04_100701	-	SOC CSE	2010-07-01

Contents

1	SMDK6410_CE60_FMD_REL_3.04_100701.....	1
2	SMDK6410_CE60_FMD_REL_3.03_100513.....	1
3	SMDK6410_CE60_FMD_REL_3.02_100416.....	1
4	SMDK6410_CE60_FMD_REL_3.01_100210.....	2
5	SMDK6410_CE60_FMD_REL_3.00_091223.....	2
5.1	SMDK6410_CE60_FMD_INT_2.27_091214.....	2
6	SMDK6410_CE60_FMD_REL_2.26_091110.....	3
7	SMDK6410_CE60_FMD_REL_2.25_091008.....	3
8	SMDK6410_CE60_FMD_REL_2.24_090914.....	4
9	SMDK6410_CE60_FMD_REL_2.23_090820.....	4
9.1	SMDK6410_CE60_FMD_INT_0.86_090818.....	5
10	SMDK6410_CE60_FMD_REL_0.85_090811.....	5
11	SMDK6410_CE60_FMD_REL_0.84_090727.....	5
12	SMDK6410_CE60_FMD_REL_0.83_090708.....	6
13	SMDK6410_CE60_FMD_REL_0.82_090526.....	6
14	SMDK6410_CE60_FMD_REL_0.81_090515.....	7
15	SMDK6410_CE60_FMD_REL_0.80_090509.....	7
16	SMDK6410_CE60_FMD_REL_0.79_090415.....	7
16.1	SMDK6410_CE60_FMD_INT_0.78_090414.....	8
16.2	SMDK6410_CE60_FMD_INT_0.77_090409.....	8
17	SMDK6410_CE60_FMD_REL_0.76_090406.....	8
18	SMDK6410_CE60_FMD_REL_0.75_090401.....	9
19	SMDK6410_CE60_FMD_REL_0.73_090317.....	9
19.1	SMDK6410_CE60_FMD_INT_0.74_090323.....	9
20	SMDK6410_CE60_FMD_REL_0.72_090317.....	10
21	SMDK6410_CE60_FMD_REL_0.71_090316.....	10
21.1	SMDK6410_CE60_FMD_INT_0.70_090315.....	10
21.2	SMDK6410_CE60_FMD_INT_0.69_090307.....	11
21.3	SMDK6410_CE60_FMD_INT_0.68_090211.....	12
21.4	SMDK6410_CE60_FMD_INT_0.67_090209.....	12
21.5	SMDK6410_CE60_FMD_INT_0.66_090206.....	13
21.6	SMDK6410_CE60_FMD_INT_0.65_090204.....	13
22	SMDK6410_CE60_FMD_REL_0.64_090202_RC7	13
22.1	SMDK6410_CE60_FMD_INT_0.63_090129.....	14
23	SMDK6410_CE60_FMD_REL_0.62_081218_RC6	14
23.1	SMDK6410_CE60_FMD_INT_0.61_081215.....	15
23.2	SMDK6410_CE60_FMD_INT_0.60_081211.....	15
23.3	SMDK6410_CE60_FMD_INT_0.59_081208.....	15
24	SMDK6410_CE60_FMD_REL_0.58_081202_RC5	16

24.1	SMDK6410_CE60_FMD_INT_0.57_081126.....	16
24.2	SMDK6410_CE60_FMD_INT_0.55_081124.....	17
24.3	SMDK6410_CE60_FMD_INT_0.54_081118.....	17
24.4	SMDK6410_CE60_FMD_INT_0.53_081116.....	17
24.5	SMDK6410_CE60_FMD_INT_0.52_081027.....	18
24.6	SMDK6410_CE60_FMD_INT_0.51_081026.....	18
24.7	SMDK6410_CE60_FMD_INT_0.50_081025.....	19
24.8	SMDK6410_CE60_FMD_INT_0.49_081021.....	19
24.9	SMDK6410_CE60_FMD_INT_0.48_081017.....	19
24.10	SMDK6410_CE60_FMD_INT_0.47_081013.....	20
24.11	SMDK6410_CE60_FMD_INT_0.46_081011.....	20
24.12	SMDK6410_CE60_FMD_INT_0.45_081010.....	21
25	SMDK6410_CE60_FMD_REL_0.44_081009_RC4	21
25.1	SMDK6410_CE60_FMD_INT_0.43_081006.....	21
25.2	SMDK6410_CE60_FMD_INT_0.42_081004.....	22
25.3	SMDK6410_CE60_FMD_INT_0.41_081001.....	22
25.4	SMDK6410_CE60_FMD_INT_0.40_080927.....	22
25.5	SMDK6410_CE60_FMD_INT_0.39_080924.....	23
25.6	SMDK6410_CE60_FMD_INT_0.38_080922.....	23
25.7	SMDK6410_CE60_FMD_INT_0.37_080922.....	24
25.8	SMDK6410_CE60_FMD_INT_0.36_080909.....	24
25.9	SMDK6410_CE60_FMD_INT_0.35_080904.....	25
26	SMDK6410_CE60_FMD_REL_0.34_080902_RC3	25
26.1	SMDK6410_CE60_FMD_INT_0.33_080822.....	26
26.2	SMDK6410_CE60_FMD_INT_0.32_080821.....	26
26.3	SMDK6410_CE60_FMD_INT_0.31_080819.....	26
27	SMDK6410_CE60_FMD_REL_0.30_080807_RC2	27
27.1	SMDK6410_CE60_FMD_INT_0.29_080805.....	27
27.2	SMDK6410_CE60_FMD_INT_0.28_080804.....	28
27.3	SMDK6410_CE60_FMD_INT_0.27_080804.....	28
27.4	SMDK6410_CE60_FMD_INT_0.26_080801.....	28
27.5	SMDK6410_CE60_FMD_INT_0.25_080730.....	29
27.6	SMDK6410_CE60_FMD_INT_0.23_080721.....	29
27.7	SMDK6410_CE60_FMD_INT_0.20_080709.....	29
27.8	SMDK6410_CE60_FMD_INT_0.19_080709.....	30
27.9	SMDK6410_CE60_FMD_INT_0.18_080706.....	30
28	SMDK6410_CE60_FMD_REL_0.17_080704_RC1	30
29	SMDK6410_WINCE60_B2217_0.080613_BETA BSP RELEASE	31
30	SMDK6410_WINCE60_B2217_0.080429_PREBETA BSP RELEASE	32
31	SMDK6410_WINCE60_B2027_0.080331_ALPHA BSP RELEASE	33

1 SMDK6410_CE60_FMD_REL_3.04_100701

Updated on July 1, 2010

What's New?

Fixes made in this update

- The iROM SDMMC booting BSP supports Multiple-XIP.
- An explanation for Multiple-XIP image download was added into SMDK6410_Wince6.0_iROM_SDMMC_InstallationManual.

Known Issues

None

2 SMDK6410_CE60_FMD_REL_3.03_100513

Updated on May 13, 2010

What's New?

Fixes made in this update

- For Silverlight Xaml Renderer OpenGL plug-in, Shaders.dll sample codes is added. If BSP_XRPLUGIN_OPENGL=1, Shaders.dll will be compiled. The default plug-in option is DDRAW plug-in. The user can change this option in smdk6410.bat.

Known Issues

None

3 SMDK6410_CE60_FMD_REL_3.02_100416

Updated on April 21, 2010

What's New?

Fixes made in this update

- iROM SDMMC Booting Solution
The booting solution using SD/MMC card was tested in the Windows CE 6.0 R3 environment.

Known Issues

None

4 SMDK6410_CE60_FMD_REL_3.01_100210

Updated on February 10, 2010

What's New?

Fixes made in this update

- EBOOT
 - I. FrameBuffer size is increased to 2MB for 32BPP Display
 - II. Display codes are split to display.c from main.c
 - III. Now, after fusing OS image, Format Partition will be conducted once.
- Display Driver
 - I. OnScreen BitBlt codes are fixed with 2D HW
 - II. Window LocalPath Off codes are fixed for stability.
 - III. For YV12 and I420 format, DirectDraw Surface Creation codes are fixed. Now only 8 pixel-width aligned surfaces can be created with YV12 and I420. This is HW limitation.
- Some Hardtab character is replaced to 4 spaces in Serial Driver and USB driver.

Known Issues

None

5 SMDK6410_CE60_FMD_REL_3.00_091223

Updated on December 23, 2009

What's New?

Fixes made in this update

- D3DM is disabled at default. D3DM is implemented using only SW. OpenGL will provide HW 3D Acceleration. If the user want to use D3DM, they can enabled "BSP_NOD3DM=" environment in smdk6410.bat file.
- Some driver files is placed in XIP Kernel region in XIP image build.

Known Issues

None

5.1 SMDK6410_CE60_FMD_INT_2.27_091214

Updated on December 14, 2009

What's New?

Fixes made in this update

- A critical section was added because RTC functions are reentrant.

Known Issues

None

6 SMDK6410_CE60_FMD_REL_2.26_091110

Updated on November 10, 2009

What's New?

Fixes made in this update

- For MultipleXIP image, gwes.dll and softkb.dll now has no 'M' attribute(non-pagable). with 'M' attribute, display driver does not come up correctly before explorer.exe is loaded.
 - I. See FILES\MultipleXIP.bib
- KeyBD driver's laymgr.reg is modified

Known Issues

None

7 SMDK6410_CE60_FMD_REL_2.25_091008

Updated on October 8, 2009

What's New?

- This BSP is tested with CE6.0 R3
 - I. Some Environment variable is added to SMDK6410.bat, See the details on CE6 R3 Release Notes
 1. Added SYSGEN_SAMPLEXAMLPERF
 2. Added BSP_XRPLUGIN_DDRA and BSP_XRPLUGIN_OPENGL
- This version has changes from MS WEBAP project feedback
 - I. CETK Tux Test modules were fixed.
 1. MFC
 2. SPI
 3. I2C
 4. JPEG
 - II. The default setting for Image Compression option in config.bib is changed to 'OFF' to prohibit System hang with Single NK.bin image when sleep/wakeup.
 - III. USB RNDIS KITL codes is updated.
 - IV. SPI driver is updated
 - V. MFC Reserved Memory is shrinked for 3D.
- OpenGL driver is updated
 - I. Initial Memory Allocation setting is changed from 5Block*2MB to 4Block*4MB in the registry.

Fixes made in this update

Known Issues

None

8 SMDK6410_CE60_FMD_REL_2.24_090914

Updated on September 14, 2009

What's New?

- This version has changes from MS WEBAP project feedback
 - I. CETK Tux Test modules were added.
 1. AUDIO
 2. CMM
 3. I2C
 4. JPEG
 5. MFC
 6. PM
 7. SPI
 - II. Artheros AR6K WLAN module driver was added.
 - III. New Blitting codes using 2DHW is adopted for DirectDraw interface.
 - IV. MS license statement was changed.
 - V. Two NAND library is built for EBOOT that should not depend on CEDDK and OS FMD driver that depends on CEDDK.
 - VI. Ethernet download and KITL connection is available, using CS8900A(Lan 10Mbps)
 - VII. More secure codes were applied for all driver's iocontrol and interchanging buffer between drivers and applications

Fixes made in this update

- For 2D HW's Alphablend, SW AlphaBit workaround codes is added. It's in blt_alpha.cpp in the display driver. The user can enable this workaround using '#define ALPHABIT_WORKAROUND2 (TRUE)'
- Now SW9(EINT11) is soft reset button, and SW7(EINT9) is suspend/resume button

Known Issues

None

9 SMDK6410_CE60_FMD_REL_2.23_090820

Updated on August 20, 2009

What's New?

This version has no changes from SMDK6410_CE60_FMD_INT_0.86_090818. According to new Versioning Rule, the BSP's Label version has 2.23. Major number means system test request count and minor number is updates count from previous system test request.

So,

SMDK6410_CE60_FMD_INT_0.86_090818 = SMDK6410_CE60_FMD_REL_2.23_090820

SMDK6410_CE60_FMD_REL_0.62_081218_RC6 = SMDK6410_CE60_FMD_REL_2.00_081218_SQA2
SMDK6410_CE60_FMD_REL_0.17_080704_RC1 = SMDK6410_CE60_FMD_REL_1.00_080704_SQA

Fixes made in this update

- none

Known Issues

None

9.1 SMDK6410_CE60_FMD_INT_0.86_090818

Updated on August 18, 2009

What's New?

Fixes made in this update

- USB(device) driver is updated
 - I. Previous BSP USB driver makes UCBCV1.3 Chapter9 test. It is fixed.

Known Issues

None

10 SMDK6410_CE60_FMD_REL_0.85_090811

Updated on July 27, 2009

What's New?

Fixes made in this update

- MFC API is modified
 - I. MFC APIs is united without reference to OS.
 - II. Test application is modified as changed API.

Known Issues

None

11 SMDK6410_CE60_FMD_REL_0.84_090727

Updated on July 27, 2009

What's New?

Fixes made in this update

- MFC Driver is updated
 - I. MFC Driver can encode and decode together.
 - II. Update options in API, SsbSipMPEG4EncodeSetConfig()

Known Issues

None

12 SMDK6410_CE60_FMD_REL_0.83_090708

Updated on July 08, 2009

What's New?

Fixes made in this update

- UART serial driver is updated
 - I. TX DMA is implemented
 - 1. To use TX DMA, enable USE_DMA definition in sources file and add "TXDMAEnable" value in registry file.
 - II. Bug fix when sleep, wakeup : restore sequence of Special Function Register is changed fit for device specification.

Known Issues

None

13 SMDK6410_CE60_FMD_REL_0.82_090526

Updated on May 26, 2009

What's New?

Fixes made in this update

- UART serial driver is updated
 - I. UART1 is dedicated to use Hardware AFC(Auto flow control)

Known Issues

None

14 SMDK6410_CE60_FMD_REL_0.81_090515

Updated on May 15, 2009

What's New?

Fixes made in this update

- CMM Driver is updated
 - I. CMM Driver is updated to succeed in stress test.

Known Issues

None

15 SMDK6410_CE60_FMD_REL_0.80_090509

Updated on May 9, 2009

What's New?

Fixes made in this update

- MFC Driver is updated
 - I. A bug that can't run HybridDivX in MFC driver is fixed.

Known Issues

None

16 SMDK6410_CE60_FMD_REL_0.79_090415

Updated on April 15, 2009

What's New?

Fixes made in this update

- A fix of the high performance timer
 - I. The high performance timer was updated for "High Perf Timer Backwards Check" test of CETK.
- A fix of the RTC
 - I. A leap year rollover bug has been fixed.

Known Issues

None

16.1 SMDK6410_CE60_FMD_INT_0.78_090414

Updated on April 14, 2009

What's New?

Fixes made in this update

- A fix for the NULL spare area.
The SECC had an incorrect value if the spare area was NULL.
This bug has been fixed.

Known Issues

None

16.2 SMDK6410_CE60_FMD_INT_0.77_090409

Updated on April 9, 2009

What's New?

Fixes made in this update

- The kernel profiler(Monte Carlo) is supported now.
 - I. A bug on the code to start a timer for the kernel profiler was fixed.

Known Issues

None

17 SMDK6410_CE60_FMD_REL_0.76_090406

Updated on April 6, 2009

What's New?

Fixes made in this update

- MFC Driver is updated
 - I. MFC Driver that was updated for stress test supports multi instances in this version.

Known Issues

None

18 SMDK6410_CE60_FMD_REL_0.75_090401

Updated on April 1, 2009

What's New?

Fixes made in this update

- MFC & JPG Driver is updated to succeed in stress test.
- DirectDraw Create Fail issue : DirectDraw Custom FourCC format reporting method is changed from QFE Feb. 2009. This version has changed halcaps.cpp that it can report using new method, structure.
- Redundant codes are removed from FIMGDRV

Known Issues

None

19 SMDK6410_CE60_FMD_REL_0.73_090317

Updated on Mar 17, 2009

What's New?

Fixes made in this update

- USB (device) driver is updated to use DMA mode. USB interrupt mode is not supported from now on.

Known Issues

None

19.1 SMDK6410_CE60_FMD_INT_0.74_090323

Updated on Mar 23, 2009

What's New?

Fixes made in this update

- Display driver is updated

- I. Data abort issue is fixed when using StretchBlit H/W acceleration.

Known Issues

20 SMDK6410_CE60_FMD_REL_0.72_090317

Updated on Mar 17, 2009

What's New?

Fixes made in this update

- Workaround is applied for Alphablend doing Source Constant and Per-Pixel with HW. Now, the HW alpha-blending result has similar RGB value to MS SW alpha-blending result, but still the alpha-bit is source's one.

Known Issues

None

21 SMDK6410_CE60_FMD_REL_0.71_090316

Updated on Mar 16, 2009

What's New?

Fixes made in this update

- The multiple XIP is supported now. (by default)
- The PowerButton driver has been reverted to the version 0.69.
 - On the version 0.70, SMDK didn't go into the suspend mode.

Known Issues

None

21.1 SMDK6410_CE60_FMD_INT_0.70_090315

Updated on Mar 15, 2009

What's New?

Fixes made in this update

- On Screen Rotation, HW BitBlit with SRCCOPY will run
- Improved Drivers security. The following is list of drivers applied with TMD feedback.
 - CF_ATAPI
 - Display partial
 - Video Driver
 - Power Button
 - Power Controller
 - MFC
 - HSMMC
 - IIC
 - SPI
 - Backlight

Known Issues

- For backward compatibility, the IOCTLs of MFC, JPEG drivers about In/Out mixed parameter structure is not modified.
- Currently, Alphablend doing Source Constant and Per-Pixel with HW does not work correctly. This is occurred by HW limitation that does not blend AlphaBit of destination surface. HW just forward Source AlphaBit to Destination.

21.2 SMDK6410_CE60_FMD_INT_0.69_090307

Updated on Mar 7, 2009

What's New?

Fixes made in this update

- Fixed data abort from 2D Software Optimization Library
- Stabilized USB connection on Download and Transport
 - Tested with all download method, and KITL connection.
- Improved Drivers security. The following is list of drivers applied with TMD feedback.
 - Audio AC97 and IIS
 - Camera
 - Backlight

- Display partial
- CMM
- JPEG

Known Issues

None

21.3 SMDK6410_CE60_FMD_INT_0.68_090211

Updated on Feb 11, 2009

What's New?

Fixes made in this update

- Removed all Hard TAB in the source code
- Removed printf function in the source code.

Known Issues

None

21.4 SMDK6410_CE60_FMD_INT_0.67_090209

Updated on Feb 9, 2009

What's New?

Fixes made in this update

- EBOOT USB Initialization Code is moved for USB-Serial and USB-RNDIS connection with Platform builder
- STEPLDR.bin is added into SRC\BOOTLOADER\STEPLDR\BIN, This can be used for PlatformBuilder Download. To minimize code size of steploader, all UART function references are commented out.
- Display Driver's Directory Layout is changed to removing chip prefix
- 2D Control code is updated for supporting Per-Pixel Alphablend with Source Constant Alpha Blend(Pre-multiplied SCA) through GDI AlphaBlend functoin, but it's result still has some differences from SW result.

Known Issues

None

21.5 SMDK6410_CE60_FMD_INT_0.66_090206

Updated on Feb 06, 2009

What's New?

Fixes made in this update

- OpenGL ES Library
 - OpenGL ES Library follows the Khronos naming rule.
 - FIMG Driver source code for supporting OpenGL ES is added.

Known Issues

None

21.6 SMDK6410_CE60_FMD_INT_0.65_090204

Updated on Feb 04, 2009

What's New?

Fixes made in this update

- MFC driver
 - When dynamic parameter change for encoder, MFC clk is enabled.

Known Issues

None

22 SMDK6410_CE60_FMD_REL_0.64_090202_RC7

Updated on Feb 2, 2009

22.1 SMDK6410_CE60_FMD_INT_0.63_090129

Updated on Jan 29, 2009

What's New?

- Function on iROM boot using SD/MMC is added.
 - SMDK6410_WinCE6.0_iROM_SDMMC_InstallationManual is added newly.
 - In the porting guide, a chapter 1.4, Internal ROM-SD/MMC Boot is added newly.
 - You can find the configuration and installation guide through those documents.

Fixes made in this update

None

Known Issues

None

23 SMDK6410_CE60_FMD_REL_0.62_081218_RC6

Updated on Dec 18, 2008

What's New?

- Bitblt with Alphablending from 32bpp to 32bpp surfaces is enabled. DirectDraw Bitblt with Alphablending also supported.
- Touch Calibration application is added due to different LCD module between SMDK6410 board. This application will be launched automatically each boot time. So if you want to skip this calibration application launching. Comment out the line related with TouchCalibration.exe in platform.dat, platform.bib

Fixes made in this update

- Bug fixes to 2D SW optimized library
- WriteRawImageToBootMedia function in EBOOT will not check badblock for Block 0 that's used for Steploader.

Known Issues

- 2D HW has conformance issue
 - CETK GDI test 218 StretchBlt can fail even when disabling 2D Optimization codes.
 - CETK GDI test 231 Alphablend can fail when enabling 2D HW.
 - CETK DDraw Test 202 can fail when enabling 2D HW.

23.1 SMDK6410_CE60_FMD_INT_0.61_081215

Updated on Dec 15, 2008

What's New?

None

Fixes made in this update

- Serial driver is modified. The interrupt value to notify MDD is fixed.

Known Issues

None

23.2 SMDK6410_CE60_FMD_INT_0.60_081211

Updated on Dec 11, 2008

What's New?

None

Fixes made in this update

- OpenGL ES Library naming is changed to libGLESv1_CM.dll and libGLESv2.dll
- OpenGL ES 1.1/2.0 and EGL is more optimized.

Known Issues

None

23.3 SMDK6410_CE60_FMD_INT_0.59_081208

Updated on Dec 08, 2008

What's New?

None

Fixes made in this update

- Changed the SoC library names to be consistent with the SoC naming convention.
- USBHost registry keys modified
- RTC initialize code added in bootloader and OAL
- Fixed the SoC dirs file
- Fixed the incorrect reporting of alpha blending capabilities
- HalGetDriverInfo() function is modified

Known Issues

None

24 SMDK6410_CE60_FMD_REL_0.58_081202_RC5

Updated on Dec 2, 2008

What's New?

None

Fixes made in this update

- OTG device driver has bug in previous version BSP. It is fixed.
(If you repeat Sleep/Wakeup quickly connecting USB cable, system will be hanged.)
- In SMDK6410 board latest 4.8" LCD, since touch panel is changed, touch calibration default value is changed in platform.reg file. (If you use old version 4.8" LCD on SMDK6410 board, calibration value should be changed. Refer to the porting guide)

Known Issues

None

24.1 SMDK6410_CE60_FMD_INT_0.57_081126

Updated on Nov 26, 2008

What's New?

- USB management part in Main.c of Eboot was updated.
- I2C driver updated

Fixes made in this update

- USB connection for download image was updated for fluent connection.

- I2C clock divide value modified.

Known Issues

None.

24.2 SMDK6410_CE60_FMD_INT_0.55_081124

Updated on Nov 24, 2008

What's New?

- MFC Ring buf mode is deleted
- MFC Encoder test code is added

Fixes made in this update

- In case of VC1, the function for width/height information was updated.

Known Issues

None

24.3 SMDK6410_CE60_FMD_INT_0.54_081118

Updated on Nov 18, 2008

What's New?

- USB OTG device driver is updated to support USB test mode for USB HS Electrical compliance test.

Fixes made in this update

None

Known Issues

None

24.4 SMDK6410_CE60_FMD_INT_0.53_081116

Updated on Nov 16, 2008

What's New?

- Function on SC36410 XD POP was added, and content on supporting SC36410 XD POP was added into the installation guide and the porting guide.

Fixes made in this update

None

Known Issues

None

24.5 SMDK6410_CE60_FMD_INT_0.52_081027

Updated on Oct 27, 2008

What's New?

- Camera Driver code is cleaned up.
- Backlight Sample Driver is added

Fixes made in this update

None

Known Issues

None

24.6 SMDK6410_CE60_FMD_INT_0.51_081026

Updated on Oct 26, 2008

What's New?

- CF/ATAPI Driver is cleaned up.

Fixes made in this update

None

Known Issues

None

24.7 SMDK6410_CE60_FMD_INT_0.50_081025

Updated on Oct 25, 2008

What's New?

- Keyboard Driver is cleaned up.
- Serial Driver is cleaned up.
- USB OTG Device Driver is cleaned up.

Fixes made in this update

None

Known Issues

None

24.8 SMDK6410_CE60_FMD_INT_0.49_081021

Updated on Oct 21, 2008

What's New?

- Default KITL mode is set to Interrupt on EBOOT configuration

Fixes made in this update

None

Known Issues

None

24.9 SMDK6410_CE60_FMD_INT_0.48_081017

Updated on Oct 17, 2008

What's New?

- New KITL driver is added to support USB_RNDIS, USB_Serial, Ethernet
 - So, Bootloader's menu changes largely, 'U' Menu command to download using DNW is integrated to 'D' command, the original download command. '6' command to determine after downloading image is changed to 'T'

- USB will connect after 'D' command.
- OAL code was cleaned up.

Fixes made in this update

None

Known Issues

- USB Connection can be unstable for specific Evaluation Board.

24.10 SMDK6410_CE60_FMD_INT_0.47_081013

Updated on Oct 13, 2008

What's New?

- 2D Software Acceleration Library is updated for RGB565 to RGB555 BitBlit

Fixes made in this update

None

Known Issues

None

24.11 SMDK6410_CE60_FMD_INT_0.46_081011

Updated on Oct 11, 2008

What's New?

- HSMMC driver code was cleaned up.
 - Some comments and dummy code were cleaned up.
 - Some functions like SDMMCMicroTest for MMC were updated.

Fixes made in this update

None

Known Issues

None

24.12 SMDK6410_CE60_FMD_INT_0.45_081010

Updated on Oct 10, 2008

What's New?

- SPI Driver is cleaned up. A commented & dead code is removed. A validation of arguments is added. A function is added to free memory allocated.
- USB Host Driver is cleaned up. RETAILMSG is modified with DEBUGMSG. Hard-coding is fixed. A validation of arguments is added.
- USB OTG Device Driver is cleaned up. A short function header comment is added. Hard-coding is fixed. A validation of arguments is added. SD card detection mechanism solution is removed. UfnPdd_IsEndpointHalted() is modified.

Fixes made in this update

None

Known Issues

None

25 SMDK6410_CE60_FMD_REL_0.44_081009_RC4

Updated on Oct 9, 2008

What's New?

- Display Driver, Touch Driver, Serial Driver, Keyboard Driver and Audio Driver code is cleaned up.

Fixes made in this update

None

Known Issues

None

25.1 SMDK6410_CE60_FMD_INT_0.43_081006

Updated on Oct 6, 2008

What's New?

- NAND Library for FMD is cleaned up. fmd.cpp is splitted into fmd_lb.cpp and fmd_sb.cpp

Fixes made in this update

None

Known Issues

None

25.2 SMDK6410_CE60_FMD_INT_0.42_081004

Updated on Oct 4, 2008

What's New?

- Display Driver bug is fixed.

Fixes made in this update

- Data abort is fixed. It is happened to run wait vertical sync function.

Known Issues

None

25.3 SMDK6410_CE60_FMD_INT_0.41_081001

Updated on Oct 1, 2008

What's New?

- Display Driver, Power Button, Power Control's codes are cleaned up

Fixes made in this update

- Some issues about SW Emulation library that implement bitblt with 24bpp to 16bpp, 16bpp to 24bpp is fixed.
- EGL for OpenGL ES 1.1/2.0 is supported. OpenGL ES 1.1/2.0 support multi-process.

Known Issues

None

25.4 SMDK6410_CE60_FMD_INT_0.40_080927

Updated on Sep 27, 2008

What's New?

- IIC Driver is updated. RETAILMSG is modified with DEBUGMSG. Hard-coding is fixed.

Fixes made in this update

None

Known Issues

None

25.5 SMDK6410_CE60_FMD_INT_0.39_080924

Updated on Sep 24, 2008

What's New?

- Per-Pixel Alpha-Blended BitBlt using 2DHW from 32Bpp to 16Bpp or 32bpp to 32bpp is added. Bottom-Up Bitmap also can be treated.
- On Eboot, Debug UART's Clock is set by the value calculated from register value set by Steploader or USB Monitor Program. Still, Eboot do not change any PLL and Clock value. For this, s3c6410_util.c is added on soc/src/s3c6410_sec_v1/oal/system/s3c6410_util.c So you must rebuild s3c6410_sec_v1 common library before build BSP

Fixes made in this update

- in StepLoader, static identifier is used for g_bLargeBlock to limit on local module and to prevent variable allocation address from allocating after 2K address.

Known Issues

None

25.6 SMDK6410_CE60_FMD_INT_0.38_080922

Updated on Sep 22, 2008

What's New?

- The IROM(Internal ROM) - NAND Flash booting solution was added, and This BSP supports IROM booting basically. Read the Porting Guide how to use IROM Boot. Pure Nand Booting Option will be deprecated on next Release.

Fixes made in this update

None

Known Issues

None

25.7 SMDK6410_CE60_FMD_INT_0.37_080922

Updated on Sep 22, 2008

What's New?

- MFC Drivers
 - Unified Device Io Control to get parameters of MPEG4-ASP
 - Cache is invalidated in MFC driver for MV and MB_TYPE
- Display Driver
 - 2D Alpha-Blended BitBlt Acceleration is supported on Display driver through GDI. Only Constant Alpha blend and Per-Pixel Alpha Blend is supported with Top-Down Bitmap though AlphaBlend() function.

Fixes made in this update

None

Known Issues

None

25.8 SMDK6410_CE60_FMD_INT_0.36_080909

Updated on Sep 9, 2008

What's New?

- DFS(Dynamic Frequency Scaling) is tested on ARM 666Mhz Clock. For this, When you set TARGET_ARM_CLOCK as 666Mhz, eboot sets Internal Voltage as 1.3V. Eboot no more change PLL and Clock Divider. PLL&Clock Change code is still in startup.s in Eboot, but disabled.
- On Step Loader, Startup Clock is fixed to 532Mhz. Real Clock changing will be occurred on Kernel Boot time.

Fixes made in this update

- Some Message is refined in Power Control Driver and Display Driver.
- Fixed ARM Clock Divider Setting code on DVS.c.

Known Issues

- DVS(Dynamic Voltage Scaling) is not yet fully tested. Do not enable Voltage Scaling Code.

25.9 SMDK6410_CE60_FMD_INT_0.35_080904

Updated on Sep 4, 2008

What's New?

- DrvLib is removed. All DrvLib_MaploSpace function is replaced to MmMaploSpace, and DrvLib_UnmaploSpace function is replaced to MmUnmaploSpace.

Fixes made in this update

- In config.bib, COMPRESSION options is set as OFF at default. With Hive-Registry, This COMPRESSION option can cause system hang when sleep/wakeup
- g_oalAddressTable is moved to the next of Startup Entry in OALLIB/startup.s. This will prevent the assembler from failing with no possible immediate value.

Known Issues

None

26 SMDK6410_CE60_FMD_REL_0.34_080902_RC3

Updated on Sep 2, 2008

What's New?

- Installation Manual & Porting Guide is updated for describing SOC folder layout(PQ-OAL)
 - In Porting Guide, Change List of file is added.
 - Caution! When update BSP, there are two folders. One is PLATFORM\COMMON\SRC\SOC\S3C6410_SEC_V1 and another one is PLATFORM\SMDK6410. These two contents must be updated.
- In smdk6410.bat, IMGHIVEREG is set as 1. So, If you do not want to use Hive-based registry or not include Core OS component, Unset this variable.

Fixes made in this update

- Some DVFS feature is fixed. Current available and tested clock setting is 533/133/66.5 MHz that is default value. For the other clock, you must change DVFS transition table on PLATFORM\SMDK6410\SRC\COMMON\PM\dvs.h for each clock

Known Issues

- When using DVFS, System Tick can be distorted. This will be solved next Release Candidate. If you do not want System Tick is distorted, do not use DVS. Not to

use DVS, Unset BSP_USEDVS variable in smdk6410.bat.

26.1 SMDK6410_CE60_FMD_INT_0.33_080822

Updated on Aug 22, 2008

What's New?

- Hybrid DivX is updated. CMM module and UAO module is added.

Fixes made in this update

None

Known Issues

None

26.2 SMDK6410_CE60_FMD_INT_0.32_080821

Updated on Aug 21, 2008

What's New?

- Apply work-around for Bug of Local-Path using Post Processor & Display Controller.
- Remove useless Messages & codes about Display

Fixes made in this update

- Apply work-around for Bug of Local-Path.

Known Issue

None

26.3 SMDK6410_CE60_FMD_INT_0.31_080819

Updated on Aug 19, 2008

What's New?

- DVS module is split from Timer module. DVS modules is moved into SMDK6410/COMMON/PM from SOC/S3D6410_SEC_V1/OAL\TIMER
- More Clock Setting(Synchronous) is added. But this requires higher internal voltage.

Fixes made in this update

- Dynamic DRAM Clock control is off at default. stop_mem_clock in P1MEMCFG is off at default.

Known Issues

- DVS is not yet implemented and tested. So DVS selection option in SMDK6410.bat is off at default.
- stop_mem_clock setting can result in system hang or some memory corruption (ex. Checksum Error when USB download on Eboot, Unpredictable aborts when OS running)

27 SMDK6410_CE60_FMD_REL_0.30_080807_RC2

Updated on Aug 7, 2008

What's New?

None

Fixes made in this update

- Dynamic DRAM Clock control is on at default. stop_mem_clock in P1MEMCFG on at default. This will save more power consumption.

Known Issues

None

27.1 SMDK6410_CE60_FMD_INT_0.29_080805

Updated on Aug 5, 2008

What's New?

- OAL Structure is changed.
 1. Most Chip-dependent OAL Components are moved from PLATFORM\SMDK6410\COMMON\ to PLATFORM\COMMON\SRC\SOC\S3C6410_SEC_V1\OAL
- Chip Clock setting part is moved from \SMDK6410\INC\bsp_cfg.h to SOC\S3C6410_SEC_V1\OAL\INC\soc_cfg.h
- All oal_*.h from Common folder are removed from SMDK6410\INC

Fixes made in this update

None

Known Issues

None

27.2 SMDK6410_CE60_FMD_INT_0.28_080804

Updated on Aug 4, 2008

What's New?

- Acceleration code for 16bpp to 24bpp bitblt is added.

Fixes made in this update

- Rotation Problem on boot-up from Registry is fixed.
- Overlay creation problem when screen is rotated is fixed.

Known Issues

27.3 SMDK6410_CE60_FMD_INT_0.27_080804

Updated on Aug 4, 2008

What's New?

- All legacy codes about SMDK6400 are removed. Current BSP only handle SMDK6410 BSP.

Fixes made in this update

Known Issues

27.4 SMDK6410_CE60_FMD_INT_0.26_080801

Updated on Aug 1, 2008

What's New?

- Unstable USB connection issue is fixed in Eboot.

Fixes made in this update

Known Issues

27.5 SMDK6410_CE60_FMD_INT_0.25_080730

Updated on July 30, 2008

What's New?

- VFP Support code is applied. If user wants to use VFP in normal application, User must get Floating Point standard C library (FPCRT.dll) written by VFP code from ARM(www.arm.com). Samsung cannot provide this library. The document About this library also be provided by ARM

Fixes made in this update

- Generate CPU Arguments code(Args.c) is fixed.

Known Issues

27.6 SMDK6410_CE60_FMD_INT_0.23_080721

Updated on July 21, 2008

What's New?

Fixes made in this update

- The porting guide is updated to add the board revision about audio.

Known Issues

27.7 SMDK6410_CE60_FMD_INT_0.20_080709

Updated on July 9, 2008

What's New?

Fixes made in this update

- 2D StretchBlt SW workaround is applied. Now we can choose Stretching algorithm for StretchBlt, Bilinear or Center-based stretching. But, in both case, CETK 218,219 still can fail.
- All hard TAB character (\t, 0x09) in all text files(*.cpp, *.c, *.h, *.hpp, ...) is replaced to 4-spaces. So merge/compare tool can emit many differences.

Known Issues

27.8 SMDK6410_CE60_FMD_INT_0.19_080709

Updated on July 9, 2008

What's New?

None

Fixes made in this update

- The Interrupt handler of SDMMC driver use "Normal Interrupt Status Register" instead of "Slot Interrupt Status Register", because "Slot Interrupt Status Register" was not applied correctly to the SDMMC controller.

Known Issues

None

27.9 SMDK6410_CE60_FMD_INT_0.18_080706

Updated on July 6, 2008

What's New?

- The function to disable FASTPATH is added. FASTPATH is enabled basically.
- The list of memory cards passed the compatibility test can be found attached file.



MemoryCard_Co
mpatibility

Fixes made in this update

Known Issues

28 SMDK6410_CE60_FMD_REL_0.17_080704_RC1

Updated on July 4, 2008

What's New?

- Release Version Naming is changed. This will help the version in OS Dev. Team tracking problem.
- This BSP is tested on Windows Embedded CE 6.0 R2(B2217) and SMDK6410 EVT0 board.
- MFC & MFC Filter samples are included.
- JPEG driver and sample codes are included.
- 3D Driver and sample codes are included.
- 2D StretchBlt using HW feature is off at default. This can be on easily by editing precomp.h of display driver.
- The custom video control API document is added.

Fixes made in this update

Known Issues

- 2D HW StretchBlt Algorithm difference from SW StretchBlt

29 SMDK6410_WinCE60_B2217_0.080613_Beta BSP Release

Updated on June 13, 2008

What's New?

- Windows Embedded CE 6.0 R2 SMDK6410 EVT0 Beta BSP Release.
- HW 2D for GDI application is enabled.
- MFC & JPEG Driver is excluded. These drivers will be delivered separately from BSP.
- Default Setting value of Reserved Memory Area for Display, MFC&JPEG is increased from 8MB to 12MB each to process large size image and to use 2DHW feature. So, System Memory will be decreased by 8MB.

Fixes made in this update

Known Issues

- 2D StretchBlt function using 2DHW is bypassed. But, optionally code can be enabled.
 1. HW 2D StretchBlt differs from SW 2D StretchbIt. Because 2D HW has different stretching algorithm. So, in CETK. ID 218 StretchBlt, ID 219 TransparentBlt Test can fail. This difference can be acceptable for complex image or real-number multiplier.



2DHW



2DSW

(10x10 to 30x30 stretching comparison)

30 SMDK6410_WinCE60_B2217_0.080429_PreBeta BSP Release

Updated on April 29, 2008

What's New?

- Windows Embedded CE 6.0 R2 SMDK6410 EVT0 Pre-Beta BSP Release.
- USB Mass Storage Function, Camera, Serial, SPI, Key Interface, HSMMC, and Power Button Works.

Fixes made in this update

Known Issues

-

31 SMDK6410_WinCE60_B2027_0.080331_Alpha BSP Release

Updated on March 27, 2008

What's New?

- Windows Embedded CE 6.0 SMDK6410 EVT0 Alpha BSP Release.
- Display, Touch Screen, AC97/IIS Audio, USB 1.1 Host, USB 2.0 Serial Device Works.

Fixes made in this update

Known Issues

- Ethernet KITL is not working.