ATCA-F125

Release Notes

GA Release

6806800M21B

May 2011

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Abbreviations

Abbreviation	Description
ATCA	Advanced Telecommunications Computing Architecture
BBS	Basic Blade Services
BITS	Building Integrated Timing Supply
CGM	Clock Generator Module
CLI	Command Line Interface
DTB	Device Tree Binary
FPGA	Field Programmable Gate Array
FUF	Firmware Upgrade Facility
HPI	Hardware Platform Interface
HPI-B	Hardware Platform Interface Version B
HPM	Hardware Platform Management
IPMC	Intelligent Platform Management Controller
IPMI	Intelligent Platform Management Interface
LED	Light Emitting Diode
LHC	Link Health Check
MIB	Management Information Base
OIDs	Object Identifiers
PCB	Printed Circuit Board
PICMG	PCI Industrial Computers Manufacturers Group
PNE	Platform for Network Equipment
PTP	Precision Time Protocol
RFS	Root File System
RTM	Rear Transition Module
SAF	Service Availability Forum

Abbreviation	Description
SPI	Serial Peripheral Interface
SRstackware	Switching and Routing stackware
TCM	Telco Clocking Module

Summary of Changes

Part Number	Publication Date	Description
6806800M21A	March 2011	Early Access (EA) Release Notes
6806800M21B	May 2011	General Access (GA) Release Notes

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1 Introduction

This document refers to the General Access (GA) release software update for the ATCA-F125 blade. Please read the Release Notes carefully before installing and using it.

1.1 Purpose of this Document

This document describes the release notes for ATCA-F125 GA release.

1.2 Format of the Delivery

The ATCA-F125 is delivered with GA software including U-Boot and IPMI firmware. For a description of the software packages, please refer to Content of the Release.

2 Content of the Release

2.1 Hardware Content

This Release Notes is applicable to the following blade(s) and corresponding part number(s):

Table 1 Hardware Content

Product Name	Part Number
ATCA-F125	SA-BBS-WR30-F125

2.2 Software Content

This section describes the software/firmware versions and software contents of the ATCA-F125 GA release.

Table 2 Software/Firmware Version

Software/Firmware	Version
BCM-ucode	0511
DTB	1.0.10
F125-TCM	2.11.1-0
FPGA	version 0x01, build code 01.11033100
FPGA-RTM	version 0x0, build code 00.11022500
FUF	Version 1.3.10-4 FUF_MODULE_1_3_10_ZWG57_LB
HPI-B	2.0.14-1
HPM	Version 1.3.19-4 HPMAGENTCMD_MODULE_1_3_19_ZWG57_LB
IPMC	2.00.008
IPMC B/L	2.00.003
LHC	4.2.0-26
prom-utils	1.0.1-1

Semtech Firmware	5.0.0 Cyclic Redundancy Check (CRC) number is E8967877.
sfptool	1.0.6
SRstackware	2.1.3-7
U-Boot	2009.11.09
uboot-utils	1.0.0-1
WindRiver Linux PNE3.0	2.6.27.39-35395

Table 3 Software Content

File	**Description**
atca-f125.dtb	Device tree for installation
atcaf125-initrd.gz.uboot	INITRD image for installation
bbs-atcaf125-bcm-ucode-0511.rpm	BCM PHY microcode
bbs-atcaf125-cpu-2009.11_09.rpm	CPU firmware (U-Boot)
bbs-atcaf125-dtb-1.0.10.rpm	Device Tree Binary
bbs-atcaf125-fpga-01.11033100.rpm	Front panel FPGA image
bbs-atcaf125-fpga-rtm-00.11022500.rpm	RTM FPGA image
bbs-atcaf125-ipmc-2.00.008.rpm	IPMC firmware
bbs-atcaf125-ipmc-boot-2.00.003.rpm	IPMC Boot Loader
bbs-atcaf125-kernel-2.6.27.39_35395.rpm	Kernel image
bbs-atcaf125-semtech-5.0.0.rpm	Semtech ToPSync CGM firmware image
bbs-fuf-atcaf125-1.3.10-4-wrspne3.0.rpm	Firmware upgrade facility
bbs-hpib-2.0.14-1.ppc_e500v2-wrspne3.0-linux.rpm	HPI-B package
bbs-hpib-clientsrc-2.0.14-1.ppc_e500v2-wrspne3.0-linux.rpm	HPI-B client package
bbs-hpib-daemon-2.0.14-1.ppc_e500v2-wrspne3.0-linux.rpm	HPI-B daemon package

bbs-hpib-debug-2.0.14-1.ppc_e500v2-wrspne3.0-linux.rpm	HPI-B debugger package
bbs-hpib-devel-2.0.14-1.ppc_e500v2-wrspne3.0-linux.rpm	HPI-B developer package
bbs-hpib-snmp-2.0.1-1.ppc-wrspne3.0-linux.rpm	HPI-B SNMP package
bbs-hpmagentcmd-atcaf125-1.3.19-4-wrspne3.0.rpm	Hardware Platform Management
bbs-lhc-4.2.0-26.windriver.powerpc.rpm	Link Health Check
bbs-prom-utils-atcaf125-1.0.1-1-wrspne3.0.rpm	FPGA and PROM Upgrade utilities
bbs-sfptool-atcaf125-1.0.6-windriver.rpm	SFP utility
bbs-tcm-atca-2.11.1-0-wrspne3.0.rpm	Telco Clocking Module package
bbs-uboot-utils-atcaf125-1.0.0-1-wrspne3.0.rpm	U-Boot environment variable editor
bbs-version-atcaf125-4.2.0-26-wrspne3.0.rpm	BBS Build Version information
files.sha1sum	Installation file
kernel	Operating System Kernel (Kernel version 2.6.27)
kernel.tar.gz	kernel source files
modules.tar.gz	Linux Modules
nfs.tar.gz	Root file system
ramdisk.image.gz	Ramdisk root file system image
srstackware-config-f125-2.1.3-7.powerpc.rpm	SRstackware configuration & script files
srstackware-demo-config-f125-2.1.3-7.powerpc.rpm	SRstackware demonstration files
srstackware-enhanced-f125-2.1.3-7.powerpc.rpm	SRstackware enhanced features binaries
srstackware-f125-2.1.3-7.powerpc.rpm	SRstackware basic features binaries
u-boot-2009.11_09.bin	Raw U-Boot image for installation

2.3 Corrected Incident Reports

Table 4 Corrected Incident Reports ATCA-F125

IR	Issue
IR00104791	ATCA-F125: payload power does not restart if -48V input dips below -39V and returns to nominal range.
IR00105289	F125 TCM BITS support
IR00105292	F125 TCM AMC clocks support
IR00105294	F125 TCM Extension Shelf and Pass-Thru modes support
IR00105325	ATCA-F125 GA Feature: Mux Switch Driver for non-default switch routing modes
IR00105327	ATCA-F125 RTM I2C expander driver
IR00105967	ATCA-F125: Add nfs RPMs to F125 builds.
IR00106003	ATCA-F125: tclk_agent can get into hung state.
IR00106006	ATCA-F125: B23 image failed 1410 power cycle testing at ambient temp. sfptool responded back with "nothing there".
IR00106092	ATCA-F125: Error running 'vconfig'
IR00106096	F125 TCM support for new FPGA ToPSync input routing.
IR00106107	ATCA-F125: Add support to m100 script for SAM-1411.
IR00106132	ATCA-F125: Include FPGA 01.11033100
IR00106133	ATCA-F125: Include IPMC 2.00.007
IR00106156	F125 logrotate restarts snmpd with different configuration.
IR00106160	F125 TCM CC GA release files
IR00106161	ATCA-F125: Include RTM FPGA 00.11022500
IR00106174	ATCA-F125: Remove unwanted/unneeded RPMs from the root file system image.
IR00106186	F125 TCM phase build-out
IR00106200	ATCA-F125: The sfptool "-t" command succeeds but receives a driver busy error.
IR00129737	F125 RTM blue LED is always showing solid blue.

2.4 Known Limitations

- Telco frequency monitors not fully debugged (IR00105452).
- Phase clock out modules not yet tested.
- Modules related to RTM 1PPS not yet tested.
- Modules related to UART not tested.
- S3 Wander Filtering not working (IR00105350).
- S3E Wander setup not yet done.
- The Telco Clocking Watchdog feature should not be used at this time. Refer to TCM IR00106145. Set the `TCMWatchdogEnable` configuration item to disable since the default is to have this feature enabled. There is no known workaround.
- The TCM features for the Extension Shelf and Pass-Thru modes should not be used at this time. Refer to FPGA IR00106231. There is no known workaround.
- The TCM features for the AMC clocks are offered as an Early Access basis. The AMC clocks should be usable as documented in the *BBS on ATCA-F125 Programmer's Reference*, but these features have not yet been adequately tested.
- The TCM features for BITS and LIUs are offered as an Early Access basis. These features are not documented in the *BBS on ATCA-F125 Programmer's Reference* and have not yet been adequately tested. Some documentation for these features can be found in the CGM MIB.
- When a Master/Slave Protection Partner fails and is subsequently restarted, the Revertive Mode of the Slave of the new Protection Partner Pair may not always be determined by the current setting of the Master. Refer to TCM IR00106067. The workaround is to have the startup configuration for the Revertive Mode set to the same for both Partners and never changed via SNMP during runtime. Refer to the `cgmProtectionRevertiveModeState` configuration item.
- The `tclk_agent` is not likely to operate as intended unless the user defines an appropriate configuration file. Refer to the *BBS on ATCA-F125 Programmer's Reference* for specifics.
- Although existing OIDs and MIB object names are not expected to change in new releases, new MIB objects and OIDs may be added as new TCM features are added.
- The TCM MIBs describe features currently not supported. These features are subject to change and should be ignored. Refer to the *BBS on ATCA-F125 Programmer's Reference* for specifics on the currently supported features.
- Rows of the `cgmInputTable` for unsupported clocks are only partially implemented.

- Specifying invalid LOGOPTS with the `tclk_agent -L` command line option can cause a core dump. This is a known defect of the version of the Net-SNMP APIs used for the Sub-Agent. There is no known workaround.
- Using the "reconfigure" feature of the snmpd Master Agent can cause transmitted trap messages to be duplicated. This is a known defect of the version of the Net-SNMP APIs used for the Master Agent. There is no known workaround.
- Once the CGM has been started, changing many of the TCM mode attributes has no effect unless the CGM is restarted. However, restarting the CGM is currently not supported. This restriction may be removed in future implementations.
- TCM IR00105128 (foreground `tclk_agent` reports memory corruption after exit of `main()`) should not be an issue for the user. The memory corruption seems to be related to C++ static destructors invoked at exit for certain Semtech APIs. As a workaround the `tclk_agent` does not invoke these destructors.
- At startup, the first attempt to communicate with the Semtech ACS9510 via the SPI bus sometimes fails and the `tclk_agent` reports either "TCM: ControlMsgReceived(): MessageReceived() SPI error: 0" or possibly "TCM: TopSync Exception: code 2: Timed out Waiting for message response". As long as these error messages only occur once at startup, the failure seems to be harmless and can be ignored. There is currently no known workaround for the user.
- The TCM can be run on blades with improper firmware support. The resulting behavior is not defined and should be avoided.
- Major functional areas planned for future releases include:
    - Clock Frequency Validation
    - Stratum 3E
    - PTP (Precision Time Protocol)
    - RTM Clocks
    - Telco status LEDs

  Refer to the *BBS on ATCA-F125 Programmer's Reference* for specifics on the currently supported features.

2.4.1 Dependencies Concerning Hardware and/or Software

This release of the ATCA-F125 requires:

- IPMC Firmware version 2.00.08
- FPGA 01.11033100
- CGM-CONTROL-MIB Revision 201103091200Z
- ToPSync firmware files Release_5.0.0.hex with Cyclic Redundancy Check (CRC) number E8967877.

2.4.2 Workarounds

1. Workaround for IR00105271: ATCA-F125: hpibsnmp fails to start
   a. As root, execute the following command:

      `ldconfig`

   b. Edit the `/etc/snmp/snmp.conf` file as shown below.

      Change:

      ```
      com2sec notConfigUser  default       public
      ```

      To:

      ```
      com2sec notConfigure default rwcommunity
      rwcommunity public
      master  agentx
      trap2sink  localhost  public
      AgentXTimeout 1200
      AgentXRetries 50
      ```

   c. As root, restart the snmpd daemon:

      `service snmpd restart`

   d. Edit the `/opt/bladeservices/etc/bbs-hpib/bbs-hpibclient.conf` file as shown below.

      Change:

      ```
      daemon= localhost
      ```

      To:

      ```
      daemon=<IP address of your shelfmanager>
      ```

   e. As root, execute the following command:

      `/etc/rc.d/init.d/hpibsnmp start`

2.5 Known Issues

2.5.1 General

Table 5 Known Issues

IR	Issue
IR00105128	Foreground tclk_agent reports memory corruption after exit of main().
IR00105271	ATCA-F125: hpibsnmp fails to start.
IR00105276	ATCA-F125: LONG/SHORT POST test not working.
IR00105935	Ethernet Fabric: Verify Using AMC-XFP connected to the fat pipe region, ports 8-11 in a F125 AMC slot E-Keying not turn on.
IR00105954	ATCAF125 U-Boot cannot boot from SATA drive.
IR00105989	ATCA-F125: Setting becomeSlave in cgmProtectionCmd has no effect on clock mastership.
IR00105993	ATCA-F125: BMC watchdog setting for power down option does not power down the blade immediately like F120.
IR00106009	Failed ATCA Tester test case: Req 3.28 Event Generation in Response to Set Event Receiver Command
IR00106010	Failed ATCA Tester test case: Req 3.83 Get Address Info Support for IPM Controller
IR00106011	Failed ATCA Tester test case: Req 3.400 IPMC as Event Generator
IR00106012	Failed ATCA Tester test case: Req 3.403 IPM Controller Sends All Events to Event Receiver
IR00106014	Failed ATCA Tester test case: Req 3.682 Power Draw Adjustment Due to Set Power Level Command
IR00106015	Failed ATCA Tester test case: Req 3.684 FRU Power up by Set Power Level Command
IR00106016	Failed ATCA Tester test case: Req 3.746 Assert Deassert Temperature Events Critical
IR00106017	Failed ATCA Tester test case: Req 3.747 Assert Deassert Temperature Events Upper Non Recoverable.
IR00106018	Failed ATCA Tester test case: Req 3.776 Sensor Specific Event Reading Type

IR00106019	Failed ATCA Tester test case: Req 3.777 Entity ID Assignment
IR00106026	Failed ATCA Tester test case: Req 3.111 Hot Swap Event Message from IPMC
IR00106030	Failed ATCA Tester test case: Req 3.177 Support of FRU Control Command
IR00106032	Failed ATCA Tester test case: Req 3.754 FRU Deactivation after Temperature Alert Condition reaches Critical
IR00106067	F125 TCM Revertive Mode not re-established after restart
IR00106094	ATCA-F125: Front-panel Ethernet traffic (eth1) fails after cable is reconnected.
IR00106145	F125 TCM watchdog triggers false alarm
IR00106185	F125 BBS-23 snmpd cold start does not create AgentX socket.
IR00106240	ATCA-F125: RTM out-of-service LED on when front-blade out-of-service is off (and in-service is on).
IR00106252	SAM1411 is not powering up F125 RTM after an upgrade from the F125's fcu. This occurs with a SAM1411.
IR00106254	ATCAF125: AMC in F125 are not detected at the time upon boot.
IR00106255	sfptool -f does not detect the RTM.
IR00106276	ATCA-F125: RTM I2C comm lockup with continuous LED traffic testing 2.00.08.
IR00129741	Port is showing up and running even when other side port is not enabled.
IR00130234	1g port link RUNNING status does not change even when other connected port is shutdown.

3 Installation

For ATCA-F125 BBS Installation procedure, refer *BBS on ATCA-F125 with SRstackware Programmer's Reference*.

Applicable Documents

Emerson Network Power Embedded Computing Documentation

Title	Publication Number
BBS on ATCA-F125 with SRstackware Programmer's Reference	6806800L83

Third-Party Documents

Company/Title	Source
Intel www.developer.intel.com/design/servers/ipmi	IPMI Specification v2.0
PICMG www.picmg.org/specifications.stm	PICMG 3.0 Revision 1.0 AdvancedTCA Base Specification
SAF http://www.saforum.org	Service Availability Forum (SAF) Specifications