PM5315

SPECTRA-2488 DEVICE DRIVER

RELEASE NOTES

PROPRIETARY AND CONFIDENTIAL

RELEASED

ISSUE 2: NOVEMBER, 01

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REVISION HISTORY

Issue No.	Issue Date	Details of Change
1	Nov 2000	Document created
2	Nov 2001	Updated for production release

1 ABOUT THIS RELEASE

This is release rel-1.0 of the PM5315 (SPECTRA-2488) device driver. Rel-1.0 is intended for use with PM5315 Revision A and B SPECTRA-2488 devices. Rel-1.0 is functionally complete and has been tested by PMC-Sierra as described in Section 4 below.

2 WHAT'S INCLUDED IN THIS RELEASE

This rel-1.0 release of the SPECTRA-2488 driver includes the following files:

Directory	Filename	File Version
/src	spe2488_api1.c	1.18
	spe2488_api2.c	1.43
	spe2488_hw.c	1.5
	spe2488_isr.c	1.14
	spe2488_prof.c	1.3
	spe2488_rtos.c	1.2
	spe2488_stat.c	1.14
	spe2488_util.c	1.17
/inc	spe2488_api.h	1.21
	spe2488_defs.h	1.18
	spe2488_err.h	1.2
	spe2488_fns.h	1.8
	spe2488_hw.h	1.6

Directory	Filename	File Version
/inc	spe2488_rtos.h	1.4
	spe2488_strs.h	1.13
	spe2488_typs.h	1.3
/example	spe2488_app.c	1.10
	spe2488_app.h	1.5
	spe2488_debug.c	1.6
	spe2488_debug.h	1.3
/	Makefile	1.10
/	software.lic	n/a
/	spe2488_relnotes_r2.pdf (this file)	n/a

Notes:

1. spe2488_app.c, spe2488_app.h contain example callback function implementation and example code.

2. spe2488_debug.c, spe2488_debug.h contain an example debugging task that reports register accesses to the device.

3 INSTALLATION

Please perform the following steps to install the PM5315 (SPECTRA-2488) device driver in your system.

- Unzip the release zip file, and install the files and its directory structure under your local drive. Modify the directory variable names in the `Makefile`, if necessary, to reflect your actual driver and directory names.

- Modify `spe2488_typs.h`, `spe2488_hw.h` and `spe2488_rtos.h` as per your system's characteristics. Also, modify/implement the hardware and RTOS dependent functions in `spe2488_hw.c` and `spe2488_rtos.c`. Please refer to Section 8 of the SPECTRA-2488 driver manual (PMC-2001285, Issue 2), Porting the SPECTRA-2488 driver, for detailed instructions on porting the driver to your specific environment.

- Set up compile switches or other environment variables in the `Makefile`. Please refer to the `Makefile` for a detailed description of the available compile switches.

- Compile the source files and build the SPECTRA-2488 driver using your make utility.

- Link the SPECTRA-2488 driver to your application code.

4 TESTING STATUS OF THIS RELEASE

All SPECTRA-2488 device driver Application Programming Interface (API) functions have been tested in-house using the PM5315 on a proprietary PMC-Sierra, Inc. validation platform running VxWorks™ RTOS. As of the publication date of this document, there are no known bugs in this release. However, the customer is advised to consult our web site (http://www.pmc-sierra.com) for any relevant errata that may have been issued subsequent to the publication of this document.

5 WHAT'S NEW IN THIS RELEASE?

rel-1.0: Production release for the PM5315 device driver

- Fixed parameter validation in `spe2488ReadBlock` and `spe2488WriteBlock` APIs.
- Added two new API functions to retrieve device status and counts on a per-port basis: `spe2488GetStatusStm4` and `spe2488GetCntStm4`. They provide a way to retrieve device status and counts when the device is used in QUAD mode and at least one port is not being used. Use of the new API functions lifts a limitation of `spe2488GetStatus` and `spe2488GetCnt`, which try and fail to access the indirect registers corresponding to the unused ports, therefore removing unnecessary code latency in this kind of setup. This limitation has been documented as a side effect in the function headers of `spe2488GetStatus` and `spe2488GetCnt`.

- Fixed offset calculations in `statSpe2488GetCntXX` functions where an incorrect register offset was used to poll the TIP bit, as well as in `statSpe2488GetStatusTAPI` where an incorrect offset was used to retrieve device status from TAPI.

- Fixed a bug in `spe2488GetStatus` where `statSpe2488GetStatusRRMP` was called with an incorrect `statLOH` field.

- Added additional required steps in `spe2488DiagSysSideLineLoop` to configure system-side line loopbacks as documented in the latest hardware data sheet.

- Added additional required steps in `spe2488DiagLineSideLineLoop` to configure line-side line loopbacks as documented in the latest hardware data sheet.

- Removed support for `spe2488DiagSysSideSysLoop` as this is no longer supported by the device.

- Software workarounds for Revision B devices have been added. Please refer to Section 6 for details.

6 WORKAROUNDS FOR DEVICE ERRATA

The SPECTRA-2488 driver performs software workarounds only for the applicable revision of the device, i.e., the driver performs Revision A workarounds only on Revision A devices and Revision B workarounds only on Revision B devices. Any exception to this rule is explicitly stated.

The SPECTRA-2488 driver includes these workarounds by default so that it is compatible with all revisions of the device.

6.1 Workarounds for Revision A devices

The PM5315 (SPECTRA-2488) device driver performs the following workarounds for the device errata for PM5315 Revision A devices. The reader is referred to the PM5315 SPECTRA-2488 Revision A Device Errata (PMC- 2001834, Issue 2) for a detailed description of the device errata.

- For the SPECTRA-2488 device issue where the receive SVCA is sensitive to mode transition from slave to master, a workaround is provided to force an NDF generation after the receive SVCA is configured.

- For the SPECTRA-2488 device issue where the DLL might lock to an invalid clock reference after a chip reset, a workaround is provided that resets the DLL after a software chip reset is performed.

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6.2   Workarounds for Revision B devices

The SPECTRA-2488 driver performs the following workarounds for the device errata for
PM5315 Revision B devices. The reader is referred to the PM5315 SPECTRA-2488 Revision B
Device Errata (PMC-2001834, Issue 3) for a detailed description of the device errata.

- For the SPECTRA-2488 device issue where the receive SVCA is sensitive to mode transition
  from slave to master, a workaround is provided to force an NDF generation after the receive
  SVCA is configured. Note this is the same erratum and workaround as that for Revision A
  devices described in section 6.1