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Board Support Package Certificate
Phytec phyCORE-MPC5200B-tiny

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OSADL-BSP-Certificate-20080722-1-Phytec-phyCORE-MPC5200B-tiny.odt

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1 Request for Certification (supplied by the applicant)

1.1 Applicant

Name and address of the applicant:
Phytec Messtechnik GmbH Robert-Koch-Str.39 55129 Mainz Germany

1.2 Deliverables – Certification Request

Hardware

The following hardware has been supplied to the OSADL Testlab:
phyCORE-MPC5200B-tiny

Software

The following software has been supplied to the OSADL Testlab:
OSELAS.BSP-Phytec-phyCORE-MPC5200B-tiny-6

1.3 Installation Instructions

The following installation instructions have been provided to the OSADL Testlab:
OSELAS.BSP-Phytec-phyCORE-MPC5200B-tiny-Quickstart.pdf

The BSP has been provided in the following format:
PTXdist-project. Download from ftp://ftp.phytec.de/pub/product/phyCORE-MPC5200/pcm030/OSELAS-6/

1.4 Provided Linux Kernel and Patches

Please specify the "official" kernel revision this BSP is based on:
2.6.23.1

Please specify which patches are provided along with the expected OBSP patch level:

```
# fixes against rt-preempt
rt-preempt-ptxfixes/fix_rtpreempt.patch
      (Expected: OBSPS Level 2)

rt-preempt-ptxfixes/fix_lock_bug.patch
      (Expected: OBSPS Level 1)

# bestcom and fec fixes from upstream
powerpc/fec_bestcomm/0001-powerpc-exports-rheap-symbol-to-modules.patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0002-powerpc-Changes-the-config-mechanism-for-rheap.patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0003-powerpc-ppc32-Update-mpc52xx_psc-structure-with-B-r.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0004-powerpc-BestComm-core-support-for-Freescale-
MPC5200.patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0005-powerpc-BestcComm-ATA-task-support.patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0006-powerpc-BestcComm-FEC-task-support.patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0007-powerpc-BestcComm-GenBD-task-support.patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/domen-fec
      (Expected: OBSPS Level 1)


powerpc/fec_bestcomm/0009-sound-Add-support-for-Freescale-MPC5200-AC97-interf.-
patch
      (Expected: OBSPS Level 2)

powerpc/fec_bestcomm/0010-powerpc-In-rheap.c-move-the-EXPORT_SYMBOL-and-use.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0011-powerpc-BestComm-move-the-EXPORT_SYMBOL-and-use-th.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0012-powerpc-BestComm-ATA-task-move-the-EXPORT_SYMBOL-a.-
patch
```

```
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0013-powerpc-BestComm-FEC-task-move-the-EXPORT_SYMBOL-a.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0014-powerpc-BestComm-GenBD-task-move-the-EXPORT_SYMBOL.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0015-powerpc-BestComm-Replace-global-variable-bcom-by-b.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0016-powerpc-Make-the-BestComm-driver-a-standard-of_plat.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0017-powerpc-Fix-typo-in-BestComm-ATA-task-support-code.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0018-powerpc-BestComm-ATA-task-microcode-insert-copyri.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0019-powerpc-BestComm-FEC-task-microcode-insert-copyri.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0020-powerpc-BestComm-GenBD-task-microcode-insert-copy.-
patch
      (Expected: OBSPS Level 4)

powerpc/fec_bestcomm/0021-powerpc-Fix-errors-in-bcom-bcom_eng-renaming.patch
      (Expected: OBSPS Level 4)



# fixes against bestcom and fec, backported from mailing list
powerpc/fec_bestcomm/rothwell_remarks.patch
      (Expected: OBSPS Level 1)

powerpc/fec_bestcomm/last-fixes.patch
      (Expected: OBSPS Level 1)

powerpc/fec_bestcomm/fec_fix_rfifo.diff
      (Expected: OBSPS Level 1)

powerpc/fec_bestcomm/fec_phy_fix_timeout.diff
      (Expected: OBSPS Level 1)

powerpc/fec_bestcomm/fec_enable_bcom_after_reset.diff
```

```
      (Expected: OBSPS Level 1)

powerpc/fec_bestcomm/fec_more_rx_buffers.diff
      (Expected: OBSPS Level 1)

# socket-can
can-mainline/patch-2.6.23-socketcan-all-r466
      (Expected: OBSPS Level 4)

# fixes against socket-can
can-mainline/mscan-fixed.diff
      (Expected: OBSPS Level 4)

can-mainline/calc_bit_time-allow-more-error.diff
      (Expected: OBSPS Level 4)

can-mainline/docu.txt
      (Expected: OBSPS Level 4)

can-mainline/socketcan_ptx_generic_bitrates.diff
      (Expected: OBSPS Level 3)

can-mainline/socketcan_ptx_hack_enobufs.diff
      (Expected: OBSPS Level 3)

# gpio framework
misc/gpio_frame_base.diff
      (Expected: OBSPS Level 2)

misc/gpio_frame_powerpc.diff
      (Expected: OBSPS Level 2)

# powerpc
powerpc/mpc5200_spi.diff
      (Expected: OBSPS Level 2)

powerpc/mpc52xx_restart.diff
      (Expected: OBSPS Level 4)

powerpc/mpc52xx_extirq_set_type.diff
      (Expected: OBSPS Level 1)

# drivers & other fixes
fs/fs_jffs2_use_memcpy_fromio.diff
      (Expected: OBSPS Level 2)

sound/sound_pci_ac97_ac97_patch_master_inv_switch.diff
      (Expected: OBSPS Level 2)

powerpc/mpc52xx_ac97_efika_hack.diff
      (Expected: OBSPS Level 2)

# bsp
```

```
powerpc/pcm030_bsp_powerpc.diff
      (Expected: OBSPS Level 4)

powerpc/pcm030_bsp_dts.diff
      (Expected: OBSPS Level 4)

powerpc/pcm030_bsp_gpio.patch
      (Expected: OBSPS Level 2)

powerpc/pcm030_ac97_sound.diff
      (Expected: OBSPS Level 4)

powerpc/pcm030_pci_support.diff
      (Expected: OBSPS Level 4)

powerpc/pcm030_ata_support.diff
      (Expected: OBSPS Level 4)

versions/version_pcm030.diff
      (Expected: OBSPS Level 4)

#
# i2c
#
drivers/drivers_i2c_device_st24cxx.diff
      (Expected: OBSPS Level 1)

#
# to let linux know the most recent flash devices
#
mainline-fixes/cfi_query_table.patch
      (Expected: OBSPS Level 2)
```

1.5 Boot Preparations

Specify necessary steps to make the system boot, until some command line. Note that this may involve entering user names, passwords, booting to the serial console or an xterm (depends on the system):

```
Serial console on ttyPSC0

login:root

password:
```

1.6 Config Files

Are any config files or special property sets required such as a ".config" file, a particular U-Boot environment, an Open Firmware Device Tree, a partition table etc.?

```
U-Boot environment:

      netdev=eth0
      mtdparts=mtdparts=physmap-flash.0:
            256k(ubootl),
            1792k(kernel),
            13312k(jffs2),
            256k(uboot)ro,
            256k(oftree),
            -(space)

      ipaddr=192.168.3.11
      netmask=255.255.255.0
      serverip=192.168.3.10
      gateway=192.168.3.1
      uimage=uImage-pcm030
      oftree=oftree-pcm030.dtb
      jffs2=root-pcm030.jffs2
      uboot=u-boot-pcm030.bin

      bargs_base=setenv bootargs console=ttyPSC0,$(baudrate) $(mtdparts) rw

      bargs_flash=setenv bootargs $(bootargs) root=/dev/mtdblock2
rootfstype=jffs2

      bargs_nfs=setenv bootargs $(bootargs) root=/dev/nfs
ip=$(ipaddr):$(serverip):$(gatewayip):$(netmask)::$(netdev):off
nfsroot=$(serverip):$(nfsrootfs),v3,tcp

      bcmd_net=run bargs_base bargs_nfs; tftpboot 0x500000 $(uimage); tftp
0x400000 $(oftree); bootm 0x500000 - 0x400000

      bcmd_flash=run bargs_base bargs_flash; bootm 0xff040000 - 0xfff40000
      prg_kernel=tftp 0x400000 $(uimage); erase 0xff040000 0xff1fffff; cp.b
0x400000 0xff040000 $(filesize)

      prg_jffs2=tftp 0x400000 $(jffs2); erase 0xff200000 0xffefffff; cp.b
0x400000 0xff200000 $(filesize)

      prg_oftree=tftp 0x400000 $(oftree); erase 0xfff40000 0xfff5ffff; cp.b
0x400000 0xfff40000 $(filesize)

      update=tftpboot 0x400000 $(uboot);erase 0xFFF00000 0xfff3ffff; cp.b
0x400000 0xFFF00000 $(filesize)

      unlock=yes

Partition table:
```

```
0xFF000000 - 0xFF03FFFF U-Boot-Low (256k)
0xFF040000 - 0xFF1FFFFF Kernel (1792k)
0xFF200000 - 0xFFEFFFFF Root-FS(13312k)
0xFFF00000 - 0xFFF3FFFF U-Boot (256k)
0xFFF40000 - 0xFFF7FFFF Oftree (256k)
0xFFF80000 - 0xFFFFFFFF Space (768k)
```

1.7 List of Supported Features

The applicant has to provide a list of all features to be considered as regular part of the BSP's functionality.	
Feature Name: Additional Info:	FEC Ethernet driver driver: FEC_mpc52xx
Feature Name: Additional Info:	CAN driver driver: 'mscan_mpc52xx', socketCAN interface
Feature Name: Additional Info:	2 Uarts
Feature Name: Additional Info:	USB driver: 'ohci_hcd'
Feature Name: Additional Info:	I2C EEPROM driver: 'eeprom'
Feature Name: Additional Info:	I2C RTC driver: 'rtc_pcf8563'
Feature Name: Additional Info:	GPIO
Feature Name: Additional Info:	IDE/ATA driver: 'pata_mpc52xx'

2 Protocol (completed by the OSADL Test Lab Engineer)

On which revision of the OSADL Board Support Package Specification is this certificate based?
Revision 20080522-1 (http://www.osadl.org/Board-Support-Packages.board-support-packages.0.html)

Is it necessary to perform manual modifications to the kernel?
No.

Was is possible to install the system?
Yes.

Was it possible to boot the system into a command line console?
Yes.

Are all patches in the canonical patch format?
No. (Most, not all.)

Are all patches separated per topic?
Yes.

Is the rest of the kernel tree still intact and not modified by the BSP?
Yes.

Have all patches been signed by their originators?
No. (Most, not all.)

Does the BSP contain "not for upstream" patches? If yes, are they marked and documented according to the specification?
Yes. They are marked.

Results of obvious function tests of the supported features	
Feature Name: Additional Info:	FEC Ethernet Works. (ping test)
Feature Name: Additional Info:	CAN Works. (messages were sent and received)
Feature Name: Additional Info:	2 Uarts Work. (getty terminals were usable)
Feature Name: Additional Info:	USB Works. (USB-Stick was accessible)
Feature Name: Additional Info:	I2C EEPROM Works. (content could be read)
Feature Name: Additional Info:	I2C RTC Works. (accessible by hwclock)
Feature Name: Additional Info:	GPIO Works. (can switch LED on/off) Note: Documentation is inaccurate. '0' activates LED, not '1', and vice versa.
Feature Name: Additional Info:	IDE/ATA Works. (could access partitions on CF-card)

3 Certified Levels of Conformance

Has the applicant specified the expected OBSPS patch level for all patches?
Yes.

Are there patches in the stack which fulfill the "tainted" requirements?
No.

Resulting overall OBSPS Patch Level
Patch level 1.

Activities required to match the expected OBSPS Patch Level
Patches do match the expected level.

4 Toolchains

Did the applicant provide a toolchain?
Yes.

Technical Data of the Toolchain	
Binary or Sourcecode:	sourcecode
gcc version:	4.1.2
glibc version:	2.5
binutils version:	2.15

If sourcecode, was it possible to build the toolchain in the testlab?
Yes.

Are there special requirements for the host system, i.e. Windows instead of Linux? If yes, the OBSPS probably has to be extended.
No.

5 Out-of-Tree Drivers

Are there any out-of-tree drivers?
Yes. st24cxx – EEPROM driver gpio - GPIO userspace adapter

Do all out-of-tree drivers compile without warnings?
Yes.

6 Appendix

By signing this document, the applicant recognizes that the applicant can decide whether the certificate in the current form can be published at the OSADL web site.

As an addendum, this document contains a form to acknowledge that OSADL is allowed to publish this certificate.

7 History

Revision	Comment
20080618-1 (wsa)	Initial revision
20080620-1 (wsa)	Section 1 filled by the applicant
20080625-1 (wsa)	First set of test results added
20080627-1 (wsa)	Completed certificate
20080627-2 (rsc)	Checked and released
20080718-1 (wsa)	Added OSADL BSPS revision Corrected typo in description of supplied hardware Added applicant signature field to release section
20080722-1 (wsa)	Fixed minor layout issues

8 Release

Test Engineer: Wolfram Sang (wsa)	
Team Lead Pengutronix: Robert Schwebel (rsc)	
For the Applicant: Alexander Bauer	

The display of the signatures has been suppressed in the online version of the document.