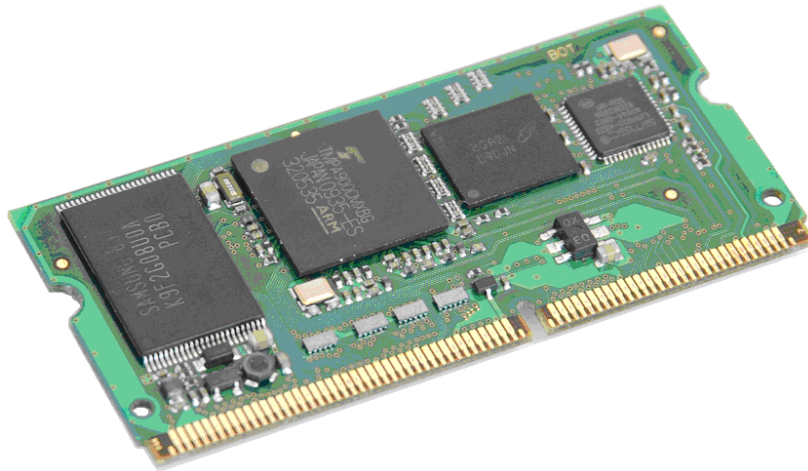


TMPA900-CPU-Board **News** September 2010



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New fully revised Manual is online:

www.toshiba-mikrocontroller.de

http://www.toshiba-mikrocontroller.de/PDF/TMPA900/Developers%20Manual%20TongARM%20-%20V1%207_September-eng.pdf

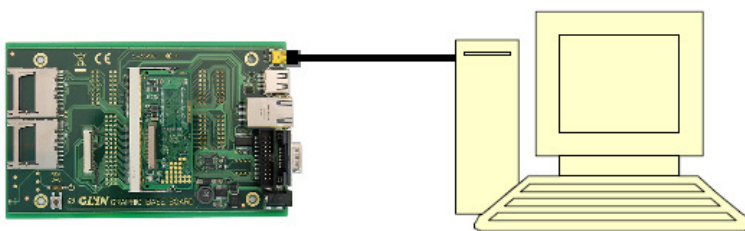
All Linux updates available online:

www.mucross.com/downloads/tonga-linux/

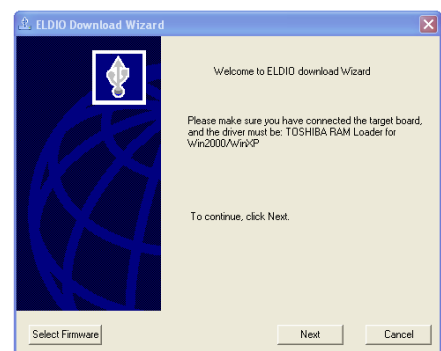
ELDIO Download Wizard Windows Programming Software

Programming Software over USB-Device with a small Windows program - This method works **only** if the memory (Flash) is empty (first time programming or cleared before).

Now it is possible to make one “big” image out of the components – u-boot, splashscreen, kernel and root-filesystem and program this in one.



Start up ELDIOUpdater.exe



You can download the program:

http://www.toshiba-mikrocontroller.de/PDF/TMPA900/Eldiouupdate_v1.00.zip

New U-Boot Features/Commands:

Easier handling – not longer absolute addressing is required

e.g. Install kernel:

Old Version	New Version
tftp 0x40600000 ulmage nand erase 0x80000 0x300000 nand write 0x40600000 0x80000 0x300000	>tftp ulmage >nand erase kernel >nand write \${fileaddr} kernel

After programming the new version of u-boot a bad block table (bbt) is generated
And after first reset you will find a device-specific 'dynamic' partition table with the startaddresses like this:

```
mtdparts=mtdparts=tmpa9x0-nand:0x00060000(u-boot),0x00020000(u-boot_env),0x00300000(splash),0x00300000(kernel),0x0f980000(rootfs)
```

Also the u-boot environment partition is stored in the out-of-band (OOB) bytes of the first page which is always fine.

More new features:

- **Splash Screen Support** - A splash screen is an image that appears after a very short time to notify the user that the system is in process of booting.
- **MAC Address Setup**
- **Configuration of the File System Type** - You can choose between JFFS2 and UBIFS.
- New u-boot commands like nand bad, dynpart, etc



NOTES: The OOB and partition layout has changed, you cannot use filesystems flashed with some of the the old U-Boot releases. Do not worry about bad error messages if you start your updated U-Boot - they will go away once you have installed a kernel image and saved the environment once. If you do have the environment from an old U-Boot in flash you might need to change the boot command to this:

```
setenv bootcmd nand read 0x40600000 0x80000 0x300000 \; bootm 0x40600000
```

How to update the old u-boot

First download the latest u-boot from web:

<http://www.mucross.com/downloads/tonga-linux/Release-20100830/>

u-boot_nand_tonga2.bin

When the serial terminal program (115200/8/no/1/no Flow) runs you have to power up your TMPA900-CPU-Board. You have to abort the boot process by pressing the SPACE bar. Now you can exchange the existing -old- u-boot via the serial terminal and TFTP server.

The following commands are re-entered via a serial terminal:

```
> tftp 0x40600000 u-boot_nand_tonga2.bin // Loads u-boot into RAM.
> nand erase 0 0x60000 // Erases old u-boot
> nand write 0x40600000 0 0x60000 // Writes new u-boot into flash
```

More details in the TMPA900 CPU Board Developer Manual.

Easier programming with the new u-boot

Install u-boot:

<i>New u-boot</i>	<i>Old u-boot</i>
<pre>>tftp u-boot_nand_tonga2.bin >nand erase u-boot >nand write \${fileaddr} u-boot</pre>	<pre>> tftp 0x40600000 u-boot_nand_tonga2.bin > nand erase 0 0x60000 > nand write 0x40600000 0 0x60000</pre>

Install kernel:

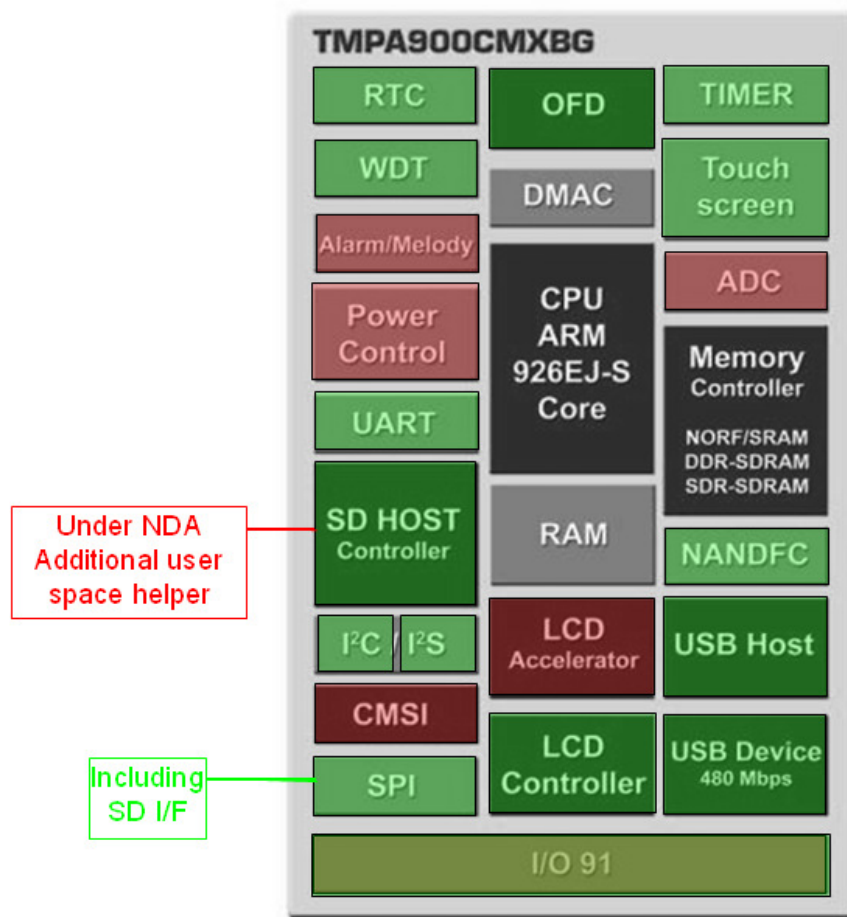
<i>New u-boot</i>	<i>Old u-boot</i>
<pre>>tftp ulmage >nand erase kernel >nand write \${fileaddr} kernel</pre>	<pre>>tftp 0x40600000 ulmage >nand erase 0x80000 0x300000 >nand write 0x40600000 0x80000 0x300000</pre>

Install Rootfs (max size ~60MB):

<i>New u-boot</i>	<i>Old u-boot</i>
<pre>>tftp filename.jffs2 >nand erase rootfs >nand write.jffs2 \${fileaddr} rootfs \${filesize}</pre>	<pre>>tftp 0x40600000 filename.jffs2 >nand erase 0x380000 >nand write.jffs2 0x40600000 0x380000 \${filesize}</pre>

TMPA900CMXBG Linux Driver Status

- Kernel updated to 2.6.34 release
- USB support is enabled as well as HID and storage drivers in kernel.
- NAND driver improvement
- Basic audio interface support, playback only
- PWM output for LCD backlight control
- Watchdog driver
- Updated USB client driver
- Updated serial driver
- Touch screen driver fixed to support larger displays properly



* Available drivers green.