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\*\*\*\*\*/

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^^^^^^^^^^^^^^^^^^^^

NOTE: If CONFIG\_FAT\_LFN is defined in your NuttX configuration file, then there may be some legal, patent issues. The following was extracted from the entry "File Allocation Table from Wikipedia, the free encyclopedia:

"On December 3, 2003 Microsoft announced it would be offering licenses for use of its FAT specification and 'associated intellectual property', at the cost of a US\$0.25 royalty per unit sold, with a \$250,000 maximum royalty per license agreement.

- o "U.S. Patent 5,745,902 (<http://www.google.com/patents?vid=5745902>) - Method and system for accessing a file using file names having different file name formats. ...
- o "U.S. Patent 5,579,517 (<http://www.google.com/patents?vid=5579517>) - Common name space for long and short filenames. ...
- o "U.S. Patent 5,758,352 (<http://www.google.com/patents?vid=5758352>) - Common name space for long and short filenames. ...
- o "U.S. Patent 6,286,013 (<http://www.google.com/patents?vid=6286013>) -

Method and system for providing a common name space for long and short file names in an operating system. ...

"Many technical commentators have concluded that these patents only cover FAT implementations that include support for long filenames, and that removable solid state media and consumer devices only using short names would be unaffected. ..."

This Wikipedia entry has been updated with recent legal decisions in favor of Microsoft. Refer to:

[http://en.wikipedia.org/wiki/File\\_Allocation\\_Table#Legal\\_issues](http://en.wikipedia.org/wiki/File_Allocation_Table#Legal_issues)

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If you enable CONFIG\_MEMCPY\_VIK, then you will build with the optimized version of memcpy from Daniel Vik. Licensing information for that version of memcpy() follows:

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libc/math  
^^^^^^^^

If you enable CONFIG\_LIB, you will build the math library at libc/math.

This library was taken from the math library developed for the Rhombus OS by Nick Johnson (<https://github.com/nickbjohnson4224/rhombus>). This port was contributed by Darcy Gong. The Rhombus math library has this compatible MIT license:

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```
uIP include/nuttx/net/arp.h include/nuttx/net/can.h include/nuttx/net/dns.h
include/nuttx/net/ethernet.h include/nuttx/net/icmp.h include/nuttx/net/icmpv6.h
include/nuttx/net/igmp.h include/nuttx/net/ip.h include/nuttx/net/netconfig.h
include/nuttx/net/netdev.h include/nuttx/net/netstats.h include/nuttx/net/tcp.h
include/nuttx/net/tun.h include/nuttx/net/udp.h net/arp/arp_input.c net/arp/arp_dump.c
net/arp/arp_format.c net/arp/arp_ipin.c net/arp/arp_out.c net/arp/arp_table.c
net/devif/devif.h net/devif/devif_initialize.c net/devif/devif_send.c net/devif/ipv4_input.c
net/icmp/icmp_input.c net/tcp/tcp_appsend.c net/tcp/tcp_conn.c net/tcp/tcp_devpoll.c
net/tcp/tcp_input.c net/tcp/tcp_listen.c net/tcp/tcp_send.c net/tcp/tcp_seqno.c
net/tcp/tcp_timer.c net/udp/udp_conn.c net/udp/udp_devpoll.c net/udp/udp_input.c
net/udp/udp_send.c libs/libc/netdb/lib_dns.h libs/libc/netdb/lib_dnsquery.c
=====
```

Many lower-level networking components of NuttX derive from uIP:

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## Rhombus Math Library

The math library used in NuttX derives from the Rhombus OS by Nick Johnson (with many, many additions):

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## IGMP

IGMP support, if enabled, adds additional logic by Steve Reynolds:

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## The HID Parser in drivers/usbhost

Adapted from the LUFA Library (HPND-sell-variant):

None

```
Copyright 2011 Dean Camera (dean [at] fourwalledcubicle [dot] com)
dean [at] fourwalledcubicle [dot] com, www.lufa-lib.org
```

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```
fs/nfs include/nuttx/fs/nfs.h =====
```

NFS:

None

```
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of  
California. All rights reserved.
```

and RPC also has:

None

```
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Copyright (c) 2004 Weston Andros Adamson <muzzle@umich.edu>.  
Copyright (c) 2004 Marius Aamodt Eriksen <marius@umich.edu>.
```

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## fs/spiffs

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## **strtod()**

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## **dtoa()**

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## **libc/string/lib\_vikmemcpy.c**

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libs/libc/machine/arm/armv7-r/gnu/arch\_memchr.S  
libs/libc/machine/arm/armv7-m/gnu/arch\_memchr.S  
libs/libc/machine/arm/armv8-m/gnu/arch\_memchr.S

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libs/libc/machine/arm/armv7-a/gnu/arch\_memcpy.S

libs/libc/machine/arm/armv7-a/gnu/arch\_strlen.S

libs/libc/machine/arm/armv7-r/gnu/arch\_memcpy.S

libs/libc/machine/arm/armv7-r/gnu/arch\_strlen.S

libs/libc/machine/arm64/gnu/arch\_strlen.S

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libs/libc/machine/arm/armv7-a/gnu/arch\_memmove.S

libs/libc/machine/arm/armv7-r/gnu/arch\_memmove.S

libs/libc/machine/arm/armv7-m/gnu/arch\_memmove.S

libs/libc/machine/arm/armv7-m/gnu/arch\_memset.S

libs/libc/machine/arm/armv8-m/gnu/arch\_memmove.S

libs/libc/machine/arm/armv8-m/gnu/arch\_memset.S

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libs/libc/machine/arm/armv7-a/gnu/arch\_memset.S

libs/libc/machine/arm/armv7-r/gnu/arch\_memset.S

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libs/libc/machine/arm/armv7-a/gnu/arch\_strerror.S

libs/libc/machine/arm/armv7-r/gnu/arch\_strerror.S

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libs/libc/machine/arm/armv8-m/gnu/arch\_memcpy.S

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libs/libc/machine/arm/armv8-m/gnu/arch\_strerror.S  
libs/libc/machine/arm/armv7-m/gnu/acle-compat.h  
libs/libc/machine/arm/armv8-m/gnu/acle-compat.h  
libs/libc/machine/arm/armv7-r/gnu/acle-compat.h  
libs/libc/machine/arm/armv7-a/gnu/acle-compat.h

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libs/libc/machine/arm64/gnu/arch\_memchr.S libs/libc/machine/arm64/gnu/arch\_strchr.S  
libs/libc/machine/arm64/gnu/arch\_strchrnul.S  
libs/libc/machine/arm64/gnu/arch\_strrchr.S  
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## **libs/libc/machine/arm64/gnu/arch\_memcmp.S**

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libs/libc/machine/arm64/gnu/arch\_memcpy.S  
libs/libc/machine/arm64/gnu/arch\_memmove.S  
libs/libc/machine/arm64/gnu/arch\_memset.S  
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## **libs/libc/machine/arm64/gnu/arch\_strerror. S**

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## **libs/libc/machine/arm64/gnu/arch\_strcpy.S**

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## libs/libc/machine/arm64/gnu/arch\_strlen.S

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# libs/libc/machine/arm64/gnu/arch\_strncmp.S

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libs/libc/machine/risc-v/gnu/arch\_memset.S libs/libc/machine/risc-v/gnu/arch\_strncmp.S  
=====

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## libs/libc/misc/lib\_crc32.c

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First, the polynomial itself and its table of feedback terms. The polynomial is:

None

$X^{32} + X^{26} + X^{23} + X^{22} + X^{16} + X^{12} + X^{11} + X^{10} + X^8 + X^7 + X^5 + X^4 + X^2 + X^1 + X^0$

Note that we take it “backwards” and put the highest-order term in the lowest-order bit. The  $X^{32}$  term is “implied”; the LSB is the  $X^{31}$  term, etc. The  $X^0$  term (usually shown as “+1”) results in the MSB being 1

Note that the usual hardware shift register implementation, which is what we’re using (we’re merely optimizing it by doing eight-bit chunks at a time) shifts bits into the lowest-order term. In our implementation, that means shifting towards the right. Why do we do it this way? Because the calculated CRC must be transmitted in order from highest-order term to lowest-order term. UARTs transmit characters in order from LSB to MSB. By storing the CRC this way we hand it to the UART in the order low-byte to high-byte; the UART sends each low-bit to high-bit; and the result is transmission bit by bit from highest- to lowest-order term without requiring any bit shuffling on our part. Reception works similarly

The feedback terms table consists of 256, 32-bit entries. Notes

- The table can be generated at runtime if desired; code to do so is shown later. It might not be obvious, but the feedback terms simply represent the results of eight shift/xor operations for all combinations of data and CRC register values
- The values must be right-shifted by eight bits by the updcrc logic; the shift must be `u_` (bring in zeroes). On some hardware you could probably optimize the shift in assembler by using byte-swap instructions polynomial \$edb88320

## **libs/libc/misc/lib\_fnmatch.c**

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## **libs/libc/misc/lib\_utsname.c**

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## **libs/libc/net/lib\_\_addrconfig.c**

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libs/libc/stdlib/lib\_strtod.c libs/libc/stdlib/lib\_strtof.c libs/libc/stdlib/lib\_strtold.c  
=====

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## **libs/libc/stdlib/lib\_wctomb.c**

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## **libs/libc/string/lib\_vikmemcpy.c**

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Adaptations include: - File name change - Use of types defined in `stdint.h` - Integration with the NuttX configuration system - Other cosmetic changes for consistency with NuttX coding standards

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Description: Implementation of the standard library function `memcpy`. This implementation of `memcpy()` is ANSI-C89 compatible.

The following configuration options can be set:

`CONFIG_ENDIAN_BIG` Uses processor with big endian addressing. Default is little endian.

`CONFIG_MEMCPY_PRE_INC_PTRS` Use pre increment of pointers. Default is post increment of pointers.

`CONFIG_MEMCPY_INDEXED_COPY` Copying data using array indexing. Using this option, disables the `CONFIG_MEMCPY_PRE_INC_PTRS` option.

`CONFIG_MEMCPY_64BIT` - Compiles `memcpy` for 64 bit architectures

## **libs/libc/math**

If you enable `CONFIG_LIB`, you will build the math library at `libc/math`. This library was taken from the math library developed for the Rhombus OS by Nick Johnson (<https://github.com/nickbjohnson4224/rhombus>). This port was contributed by Darcy Gong. The Rhombus math library has this compatible MIT license:

None

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libs/libc/lzf include/lzf =====

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# include/nuttx/lcd/ili9488.h

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```
include/nuttx/input/x11_keysym.h include/nuttx/input/x11_keysymdef.h
include/nuttx/input/x11_xf86keysym.h =====
```

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## **include/nuttx/input/xbox-controller.h**

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## **include/nuttx/ioexpander/tca64xx.h**

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```
include/nuttx/power/relay.h arch/arm/src/tiva/hardware/tiva_epi.h
```

```
=====
```

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# **include/sys/tree.h**

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```
include/nuttx/video/edid.h include/nuttx/video/vesagtf.h include/nuttx/video/videomode.h
=====
```

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## **include/sys/epoll.h**

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## **arch/xtensa/src/esp32/chip\_macros.h**

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[Actually, I think that all of the Atmel functions are commented out now]

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arch/arm/src/armv7-a/cp15\_cacheops.h arch/arm/src/armv7-a/cp15\_clean\_dcache.S  
arch/arm/src/armv7-a/cp15\_clean\_dcache\_all.S  
arch/arm/src/armv7-a/cp15\_coherent\_dcache.S  
arch/arm/src/armv7-a/cp15\_flush\_dcache.S  
arch/arm/src/armv7-a/cp15\_flush\_dcache\_all.S  
arch/arm/src/armv7-a/cp15\_invalidate\_dcache.S  
arch/arm/src/armv7-a/cp15\_invalidate\_dcache\_all.S

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arch/arm/src/armv7-m/arm\_cache.c arch/arm/src/armv8-m/arm\_cache.c  
=====

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arch/arm/src/armv7-m/arm_stackcheck.c arch/arm/src/armv8-m/arm_stackcheck.c
=====
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arch/arm/src/armv6-m/arm\_vectors.c arch/arm/src/armv7-m/arm\_vectors.c  
arch/arm/src/armv8-m/arm\_vectors.c =====

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arch/arm/src/armv7-m/arm\_itm.c arch/arm/src/armv7-m/dwt.h  
arch/arm/src/armv7-m/itm.h arch/arm/src/armv7-m/tpi.h  
arch/arm/src/armv8-m/arm\_itm.c arch/arm/src/armv8-m/dwt.h  
arch/arm/src/armv8-m/itm.h arch/arm/src/armv8-m/tpi.h  
=====

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arch/arm/src/armv7-m/gnu/arm\_exception.S arch/arm/src/armv8-m/arm\_exception.S  
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arch/arm/src/armv7-m/etm.h arch/arm/src/armv8-m/etm.h
arch/arm/src/efm32/efm32_flash.c arch/arm/src/efm32/hardware/efm32_acmp.h
arch/arm/src/efm32/hardware/efm32_adc.h arch/arm/src/efm32/hardware/efm32_aes.h
arch/arm/src/efm32/hardware/efm32_burtc.h
arch/arm/src/efm32/hardware/efm32_calibrate.h
arch/arm/src/efm32/hardware/efm32_cmdu.h arch/arm/src/efm32/hardware/efm32_dac.h
arch/arm/src/efm32/hardware/efm32_devinfo.h
arch/arm/src/efm32/hardware/efm32_dma.h
arch/arm/src/efm32/hardware/efm32_emu.h
arch/arm/src/efm32/hardware/efm32_flash.h
arch/arm/src/efm32/hardware/efm32gg_memorymap.h
arch/arm/src/efm32/hardware/efm32g_memorymap.h
arch/arm/src/efm32/hardware/efm32_gpio.h arch/arm/src/efm32/hardware/efm32_i2c.h
arch/arm/src/efm32/hardware/efm32_lcd.h
arch/arm/src/efm32/hardware/efm32_lesense.h
arch/arm/src/efm32/hardware/efm32_letimer.h
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arch/arm/src/efm32/hardware/efm32_rtc.h
arch/arm/src/efm32/hardware/efm32tg_memorymap.h
arch/arm/src/efm32/hardware/efm32_timer.h
arch/arm/src/efm32/hardware/efm32_usart.h
arch/arm/src/efm32/hardware/efm32_usb.h
arch/arm/src/efm32/hardware/efm32_vcmp.h
arch/arm/src/efm32/hardware/efm32_wdog.h
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# arch/arm/src/armv7-r/cp15\_cacheops.h

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arch/arm/src/armv7-r/cp15\_cacheops.h arch/arm/src/armv7-r/cp15\_clean\_dcache.S  
arch/arm/src/armv7-r/cp15\_clean\_dcache\_all.S  
arch/arm/src/armv7-r/cp15\_coherent\_dcache.S  
arch/arm/src/armv7-r/cp15\_flush\_dcache.S  
arch/arm/src/armv7-r/cp15\_flush\_dcache\_all.S  
arch/arm/src/armv7-r/cp15\_invalidate\_dcache.S

arch/arm/src/armv7-r/cp15\_invalidate\_dcache\_all.S

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arch/arm/src/sam34/sam4cm\_freerun.c arch/arm/src/sam34/sam4cm\_oneshot.c  
arch/arm/src/sam34/sam4cm\_tc.c arch/arm/src/sama5/sam\_gf1024.c  
arch/arm/src/sama5/sam\_gf512.c arch/arm/src/sama5/sam\_pmecc.c

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arch/arm/src/sam34/sam\_twi.c arch/arm/src/sama5/sam\_adc.c  
arch/arm/src/sama5/sam\_can.c arch/arm/src/sama5/sam\_emaca.c  
arch/arm/src/sama5/sam\_freerun.c arch/arm/src/sama5/sam\_gmac.c  
arch/arm/src/sama5/sam\_lcd.c arch/arm/src/sama5/sam\_nand.c  
arch/arm/src/sama5/sam\_oneshot.c arch/arm/src/sama5/sam\_pmecc.h  
arch/arm/src/sama5/sam\_tc.c arch/arm/src/sama5/sam\_tsd.c  
arch/arm/src/sama5/sam\_twi.c arch/arm/src/sama5/sam\_udphs.c

```
arch/arm/src/samd212/hardware/samd_fuses.h arch/arm/src/samd5e5/sam_gmac.c
arch/arm/src/samv7/sam_freerun.c arch/arm/src/samv7/sam_oneshot.c
arch/arm/src/samv7/sam_tc.c arch/arm/src/samv7/sam_twihs.c
=====
```

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arch/arm/src/samd212/sam\_i2c\_master.c arch/arm/src/samd5e5/sam\_i2c\_master.c  
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**arch/arm/src/samv7/sam\_usbdevhs.c**

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## **arch/x86\_64/include/multiboot2.h**

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## **arch/xtensa/include/esp32/core-isa.h**

Xtensa processor CORE configuration

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arch/xtensa/include/xtensa/xtensa\_specregs.h  
arch/xtensa/include/xtensa/xtensa\_corebits.h  
=====

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## **arch/xtensa/src/common/xtensa\_windows pill.S**

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```
arch/xtensa/include/esp32/tie-asm.h arch/xtensa/include/esp32/tie.h
=====
```

Compile-time assembler definitions dependent on CORE & TIE

This header file contains assembly-language definitions (assembly macros, etc.) for this specific Xtensa processor’s TIE extensions and options. It is customized to this Xtensa processor configuration.

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# arch/xtensa/include/xtensa/core.h

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arch/xtensa/include/xtensa/xtensa\_coproc.h arch/xtensa/src/common/xtensa\_abi.h  
arch/xtensa/src/common/xtensa\_context.S arch/xtensa/src/common/xtensa\_coproc.S  
arch/xtensa/src/common/xtensa\_cpuint.S  
arch/xtensa/src/common/xtensa\_int\_handlers.S  
arch/xtensa/src/common/xtensa\_panic.S arch/xtensa/src/common/xtensa\_timer.h  
arch/xtensa/src/common/xtensa\_user\_handler.S  
arch/xtensa/src/common/xtensa\_vectors.S  
arch/xtensa/src/common/xtensa\_window\_vector.S  
arch/xtensa/src/esp32/chip\_macros.h =====

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drivers/analog/ad5410.c drivers/analog/ads1255.c

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drivers/lcd/ra8875.c drivers/lcd/ra8875.h include/nuttx/lcd/ra8875.h  
=====

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References: RA8875, Rev 1.6, Apr 2013, RAiO Technologies Inc

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drivers/modem/u-blox.c include/nuttx/modem/u-blox.h =====

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## **drivers/net/tun.c**

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drivers/power/bq2429x.c include/nuttx/power/bq2429x.h

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drivers/sensors/as726x.c include/nuttx/sensors/as726x.h

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drivers/sensors/lis3dh.c include/nuttx/sensors/lis3dh.h

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drivers/sensors/lsm303agr.c drivers/sensors/lsm6dsl.c

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drivers/sensors/vl53l1x.c include/nuttX/sensors/vl53l1x.h

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boards/arm/stm32/photon/src/stm32\_wlan\_firmware.c  
drivers/wireless/ieee80211/bcm43xxx/bcmf\_ioctl.h  
=====

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```
drivers/wireless/ieee80211/bcm43xxx/bcmf_sdio_core.h
drivers/wireless/ieee80211/bcm43xxx/bcmf_sdio_regs.h
=====
```

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## **include/nuttx/wireless/ieee80211/ieee80211 \_crypto.h**

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# **include/nuttx/wireless/ieee80211/ieee80211.h**

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```
arch/arm/src/lc823450/lc823450_sdc.c arch/arm/src/lc823450/lc823450_sddrv_dep.c
arch/arm/src/lc823450/lc823450_sddrv_if.h
arch/arm/src/lc823450/lc823450_sddrv_type.h
arch/arm/src/lc823450/lc823450_symbols.ld
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```
arch/arm/src/lpc43xx/spifi/src/spifilib_fam_standard_cmd.c
arch/arm/src/lpc43xx/spifi/src/spifilib_dev_common.c
arch/arm/src/lpc43xx/spifi/inc/spifilib_dev.h arch/arm/src/lpc43xx/spifi/inc/spifilib_api.h
arch/arm/src/lpc43xx/spifi/inc/private/spifilib_chiphw.h
```

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## **boards/arm/imxrt/imxrt1050-evk/src/imxrt\_sdram\_ini\_dcd.c**

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boards/arm/s32k1xx/s32k118evb/src/s32k1xx\_clockconfig.c  
boards/arm/s32k1xx/s32k118evb/src/s32k1xx\_periphclocks.c  
boards/arm/s32k1xx/s32k144evb/src/s32k1xx\_clockconfig.c  
boards/arm/s32k1xx/s32k144evb/src/s32k1xx\_periphclocks.c  
boards/arm/s32k1xx/s32k146evb/src/s32k1xx\_clockconfig.c

boards/arm/s32k1xx/s32k146evb/src/s32k1xx\_periphclocks.c  
boards/arm/s32k1xx/s32k148evb/src/s32k1xx\_clockconfig.c  
boards/arm/s32k1xx/s32k148evb/src/s32k1xx\_periphclocks.c  
boards/arm/s32k1xx/ucans32k146/src/s32k1xx\_clockconfig.c  
boards/arm/s32k1xx/ucans32k146/src/s32k1xx\_periphclocks.c

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## **arch/xtensa/src/common/xtensa\_asm\_util s.h**

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boards/or1k/mor1kx/or1k/src/or1k\_boot.c boards/or1k/mor1kx/or1k/src/or1k\_bringup.c  
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```
boards/arm/lpc17xx_40xx/u-blox-c027/include/board.h
boards/arm/lpc17xx_40xx/u-blox-c027/src/lpc17_40_ubxmdm.c
boards/arm/lpc17xx_40xx/u-blox-c027/src/u-blox-c027.h
=====
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```

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boards/arm/lpc2378/olimex-lpc2378/include/board.h  
boards/arm/lpc2378/olimex-lpc2378/src/lpc2378\_leds.c  
boards/arm/lpc2378/olimex-lpc2378/scripts/ld.script

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boards/arm/rp2040/common/src/rp2040\_ina219.c  
boards/arm/stm32/common/src/stm32\_ina219.c  
boards/arm/stm32/olimex-stm32-e407/src/stm32\_dac.c

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boards/arm/stm32/nucleo-f303re/src/stm32\_uid.c  
boards/arm/stm32/omnibusf4/src/stm32\_uid.c  
boards/arm/stm32/stm32f4discovery/src/stm32\_uid.c  
boards/arm/stm32h7/nucleo-h743zi/src/stm32\_uid.c  
boards/arm/stm32h7/stm32h747i-disco/src/stm32\_uid.c

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boards/arm/stm32/nucleo-f412zg/src/stm32\_usb.c

boards/arm/stm32/stm32f411e-disco/src/stm32\_usb.c

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boards/arm/stm32/omnibusf4/src/stm32\_romfs.h  
boards/arm/stm32/omnibusf4/src/stm32\_romfs\_initialize.c  
boards/arm/stm32/stm32f4discovery/src/stm32\_romfs.h  
boards/arm/stm32/stm32f4discovery/src/stm32\_romfs\_initialize.c  
boards/arm/stm32f7/common/include/stm32\_romfs.h  
boards/arm/stm32f7/common/src/stm32\_romfs\_initialize.c

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boards/arm/stm32f0l0g0/nucleo-g070rb/src/stm32\_gpio.c

boards/arm/stm32f0l0g0/nucleo-g070rb/src/stm32\_pwm.c

boards/arm/stm32f0l0g0/nucleo-g070rb/src/stm32\_timer.c

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boards/arm/stm32f7/nucleo-f722ze/src/stm32\_dma\_alloc.c

boards/arm/stm32f7/nucleo-f746zg/src/stm32\_dma\_alloc.c

boards/arm/stm32f7/nucleo-f767zi/src/stm32\_dma\_alloc.c  
boards/arm/stm32f7/stm32f746-ws/src/stm32\_dma\_alloc.c  
boards/arm/stm32l4/nucleo-l496zg/src/stm32\_dma\_alloc.c  
boards/arm/tms570/tms570ls31x-usb-kit/include/nsh\_romfsimg.h

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**boards/arm/stm32f7/stm32f746g-disco/src/  
stm32\_extmem.c**

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## **boards/arm/stm32l4/nucleo-l476rg/src/stm32\_as726x.c**

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boards/arm/stm32l4/stm32l476-mdk/include/board.h

boards/arm/stm32l4/stm32l476-mdk/include/stm32l476-mdk-clocking.h

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boards/arm/stm32l4/stm32l476vg-disco/include/boardctl.h

boards/arm/stm32l4/stm32l4r9ai-disco/include/boardctl.h

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arch/arm/src/imxrt/imxrt\_lcd.c arch/arm/src/imxrt/hardware/imxrt\_lcd.h

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arch/arm/src/imxrt/imxrt\_edma.c arch/arm/src/imxrt/imxrt\_edma.h  
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## **arch/arm/src/kinetis/kinetis\_cfmconfig.c**

<https://github.com/jodersky/nuttx/tree/teensy31-7.6>

Barely based on "bare metal" sample from Freedom board: Copyright (c) 2012-2013 Andrew Payne

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arch/arm/src/kinetis/kinetis\_edma.c arch/arm/src/kinetis/kinetis\_edma.h

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## **arch/arm/src/kl/kl\_cfmconfig.c**

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## **arch/arm/src/phy62xx/phyplus\_timer\_lowerrhalf.c**

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arch/arm/src/rp2040/hardware/rp2040\_clocks.h  
arch/arm/src/rp2040/hardware/rp2040\_dma.h  
arch/arm/src/rp2040/hardware/rp2040\_i2c.h  
arch/arm/src/rp2040/hardware/rp2040\_io\_bank0.h  
arch/arm/src/rp2040/hardware/rp2040\_memorymap.h  
arch/arm/src/rp2040/hardware/rp2040\_pads\_bank0.h  
arch/arm/src/rp2040/hardware/rp2040\_pio.h arch/arm/src/rp2040/hardware/rp2040\_pll.h  
arch/arm/src/rp2040/hardware/rp2040\_psm.h  
arch/arm/src/rp2040/hardware/rp2040\_resets.h  
arch/arm/src/rp2040/hardware/rp2040\_rosc.h  
arch/arm/src/rp2040/hardware/rp2040\_sio.h  
arch/arm/src/rp2040/hardware/rp2040\_spi.h  
arch/arm/src/rp2040/hardware/rp2040\_uart01.h  
arch/arm/src/rp2040/hardware/rp2040\_usbctrl\_regs.h  
arch/arm/src/rp2040/hardware/rp2040\_watchdog.h  
arch/arm/src/rp2040/hardware/rp2040\_xosc.h arch/arm/src/rp2040/rp2040\_clock.c  
arch/arm/src/rp2040/rp2040\_pio.c arch/arm/src/rp2040/rp2040\_pio.h  
arch/arm/src/rp2040/rp2040\_pio\_instructions.h arch/arm/src/rp2040/rp2040\_pll.c  
arch/arm/src/rp2040/rp2040\_xosc.c boards/arm/rp2040/common/src/rp2040\_uniqueid.c

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arch/arm/src/s32k1xx/hardware/s32k1xx\_wdog.h  
arch/arm/src/s32k1xx/s32k11x/s32k11x\_clocknames.h  
arch/arm/src/s32k1xx/s32k14x/s32k14x\_clocknames.h  
arch/arm/src/s32k1xx/s32k1xx\_clockconfig.c  
arch/arm/src/s32k1xx/s32k1xx\_clockconfig.h  
arch/arm/src/s32k1xx/s32k1xx\_periphclocks.c  
arch/arm/src/s32k1xx/s32k1xx\_periphclocks.h

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arch/arm/src/s32k1xx/s32k1xx\_edma.c arch/arm/src/s32k1xx/s32k1xx\_edma.h  
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# **arch/arm/src/stm32/hardware/stm32f100\_p inmap.h**

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# **arch/arm/src/stm32/hardware/stm32f37xxx \_sdadc.h**

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## **arch/arm/src/stm32/stm32\_i2c\_alt.c**

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## **arch/arm/src/stm32/stm32\_i2c\_v2.c**

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arch/arm/src/stm32/stm32\_sdadc.c arch/arm/src/stm32/stm32\_sdadc.h

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## **arch/arm/src/stm32/stm32\_tickless.c**

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## **arch/arm/src/stm32/stm32\_tim\_lowerhalf.c**

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arch/arm/src/stm32/stm32\_uid.c arch/arm/src/stm32/stm32\_uid.h  
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## **arch/arm/src/stm32f0l0g0/hardware/stm32g0\_pinmap.h**

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## **arch/arm/src/stm32f0l0g0/stm32\_i2c.c**

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arch/arm/src/stm32f0l0g0/stm32_pwm.h arch/arm/src/stm32f0l0g0/stm32_tim.c
arch/arm/src/stm32f0l0g0/stm32_tim.h
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arch/arm/src/stm32f7/stm32\_i2c.c arch/arm/src/stm32h7/stm32\_i2c.c  
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## **arch/arm/src/stm32f7/stm32\_tickless.c**

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## **arch/arm/src/stm32f7/stm32\_tim\_lowerhalf.c**

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arch/arm/src/stm32f7/stm32\_uid.c arch/arm/src/stm32f7/stm32\_uid.h

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**arch/arm/src/stm32h7/stm32\_adc.c**

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## **arch/arm/src/stm32h7/stm32\_flash.c**

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arch/arm/src/stm32h7/stm32\_uid.c arch/arm/src/stm32h7/stm32\_uid.h  
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## **arch/arm/src/stm32l4/hardware/stm32l4\_lp tim.h**

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## **arch/arm/src/stm32l4/stm32l4\_comp.c**

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## **arch/arm/src/stm32l4/stm32l4\_comp.h**

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arch/arm/src/stm32l4/stm32l4\_pmlpr.c arch/arm/src/stm32l4/stm32l4\_exti\_comp.c  
arch/arm/src/stm32l4/stm32l4\_pmstandby.c arch/arm/src/stm32l4/stm32l4\_pmstop.c  
arch/arm/src/stm32l4/stm32l4\_sai.c arch/arm/src/stm32l4/stm32l4\_sai.h

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## **arch/arm/src/stm32l4/stm32l4\_i2c.c**

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arch/arm/src/stm32l4/stm32l4\_lptim.c arch/arm/src/stm32l4/stm32l4\_lptim.h

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## **arch/arm/src/stm32l4/stm32l4\_tim\_lowerh alf.c**

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arch/arm/src/stm32l4/stm32l4\_uid.c arch/arm/src/stm32l4/stm32l4\_uid.h  
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arch/arm/src/xmc4/hardware/xmc4\_ethernet.h  
arch/arm/src/xmc4/hardware/xmc4\_flash.h  
arch/arm/src/xmc4/hardware/xmc4\_memorymap.h  
arch/arm/src/xmc4/hardware/xmc4\_ports.h arch/arm/src/xmc4/hardware/xmc4\_scu.h  
arch/arm/src/xmc4/hardware/xmc4\_usic.h arch/arm/src/xmc4/xmc4\_clockconfig.c  
arch/arm/src/xmc4/xmc4\_clockutils.c arch/arm/src/xmc4/xmc4\_usic.c  
=====

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crypto/aes.c include/nuttx/crypto/aes.h =====

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arch/arm/src/tms570/tms570\_selftest.c arch/arm/src/tms570/tms570\_lowputc.c  
arch/arm/src/tms570/tms570\_esm.c arch/arm/src/tms570/tms570\_clockconfig.c  
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arch/arm/src/tiva/tiva_chipinfo.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_vims.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_uart.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_timer.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_smph.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_prcm.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_memorymap.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_ioc.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_i2c.h
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arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_ddi0_osc.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_ddi.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_ccfg.h
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arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_aux_sysif.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_aux_smph.h
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arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_aon_batmon.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_adi4_aux.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_adi3_refsys.h
arch/arm/src/tiva/hardware/cc13x2_cc26x2/cc13x2_cc26x2_adi2_refsys.h
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arch/arm/src/tiva/hardware/cc13x0/cc13x0_uart.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_timer.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_smph.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_prcm.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_memorymap.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_ioc.h
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arch/arm/src/tiva/hardware/cc13x0/cc13x0_ddi0_osc.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_ddi.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_ccfg.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_aux_wuc.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_aux_smph.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_aon_wuc.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_aon_sysctl.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_aon_rtc.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_aon_ioc.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_aon_batmon.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_adi4_aux.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_adi3_refsys.h
arch/arm/src/tiva/hardware/cc13x0/cc13x0_adi2_refsys.h
arch/arm/src/tiva/cc13xx/cc13xx_chipinfo.c
arch/arm/src/tiva/cc13xx/cc13x2_cc26x2_v2_rom.h
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arch/arm/src/tiva/hardware/tiva\_adc.h arch/arm/src/tiva/tiva\_adc.h  
=====

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```
arch/arm/src/tiva/common/tiva_pwm.c arch/arm/src/tiva/hardware/tiva_pwm.h
arch/arm/src/tiva/tiva_pwm.h arch/arm/src/tiva/common/tiva_qencoder.c
arch/arm/src/tiva/hardware/tiva_qencoder.h arch/arm/src/tiva/tiva_qencoder.h
=====
```

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arch/arm/src/tiva/hardware/tm4c/tm4c\_flash.h =====

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```
arch/arm/src/tiva/hardware/lm/lm3s_timer.h arch/arm/src/tiva/hardware/lm/lm4f_timer.h
arch/arm/src/tiva/hardware/tm4c/tm4c129_timer.h
arch/arm/src/tiva/hardware/tm4c/tm4c123_timer.h
=====
```

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arch/arm/src/tiva/cc13xx/cc13xx\_prcm.c arch/arm/src/tiva/cc13xx/cc13xx\_prcm.h  
=====

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arch/arm/src/tiva/cc13xx/cc13x2\_v1\_trim.c arch/arm/src/tiva/cc13xx/cc13x2\_v2\_trim.c  
arch/arm/src/tiva/cc13xx/cc13x0\_trim.c  
=====

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**arch/arm/src/tiva/cc13xx/cc13x2\_cc26x2\_v  
1\_rom.h**

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arch/arm/src/tiva/cc13xx/cc13x2\_cc26x2\_v1\_rom.c  
arch/arm/src/tiva/cc13xx/cc13x0\_rom.c

=====

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```
drivers/mtd/hamming.c drivers/mtd/mtd_modeltab.c drivers/mtd/mtd_nand.c
drivers/mtd/mtd_nandeccl.c drivers/mtd/mtd_nandmodel.c
drivers/mtd/mtd_nandscheme.c drivers/mtd/mtd_onfi.c include/nuttX/mtd/hamming.h
include/nuttX/mtd/nand.h include/nuttX/mtd/nand_config.h include/nuttX/mtd/nand_ecc.h
include/nuttX/mtd/nand_model.h include/nuttX/mtd/nand_raw.h
include/nuttX/mtd/nand_scheme.h include/nuttX/mtd/onfi.h
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```

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libs/libc/machine/arm/armv8-m libs/libc/machine/arm64/gnu/arch\_setjmp.S

=====

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libs/libc/net/lib\_inetntop.c libs/libc/net/lib\_inetpton.c  
=====

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libs/libc/pthread/pthread\_get\_stackaddr\_np.c

libs/libc/pthread/pthread\_get\_stacksize\_np.c

=====

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libs/libc/stdio/lib\_dtoa\_data.c libs/libc/stdio/lib\_dtoa\_engine.c  
libs/libc/stdio/lib\_dtoa\_engine.h libs/libc/stdio/lib\_ultoa\_invert.c  
=====

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## **libs/libc/stdio/lib\_libvsprintf.c**

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# **libs/libc/stdio/lib\_ultoa\_invert.h**

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libs/libc/stdlib/lib\_bsearch.c libs/libc/stdlib/lib\_qsort.c  
=====

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## **libs/libc/stdlib/lib\_itoa.c**

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libs/libc/stdlib/lib\_div.c libs/libc/stdlib/lib\_ldiv.c libs/libc/stdlib/lib\_lldiv.c  
=====

A direct leverage of the div() implemented by:

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libs/libc/stdlib/lib\_mbtowc.c libs/libc/string/lib\_strcoll.c libs/libc/string/lib\_strxfrm.c  
=====

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libs/libc/string/lib\_memmem.c libs/libc/string/lib\_strstr.c  
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## **libs/libc/time/lib\_localtime.c**

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Leap second handling from Bradley White. POSIX-style TZ environment variable handling from Guy Harris.

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```
libs/libc/unistd/lib_gethostname.c libs/libc/unistd/lib_sethostname.c include/sys/uio.h
include/sys/utsname.h =====
```

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libs/libc/wchar/lib\_mbrlen.c libs/libc/wchar/lib\_mbsrtowcs.c

=====

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## **libs/libc/wchar/lib\_wcsncpy.c**

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libs/libc/locale/big5.h libs/libc/locale/codepages.h libs/libc/locale/gb18030.h  
libs/libc/locale/hkscs.h libs/libc/locale/jis0208.h libs/libc/locale/ksc.h  
libs/libc/locale/legacychars.h libs/libc/locale/revjis.h libs/libc/locale/lib\_iconv.c  
=====

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```
drivers/wireless/bluetooth/bt_uart.c drivers/wireless/bluetooth/bt_uart.h
wireless/bluetooth include/nuttx/wireless/bluetooth tools/size_report
=====
```

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## **drivers/wireless/spirit/**

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## **arch/risc-v/src/mpfs/mpfs\_opensbi\_utils.S**

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arch/x86/src/qemu/qemu\_keypad.c arch/x86/src/qemu/qemu\_vga.c  
=====

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arch/arm/src/lpc17xx\_40xx/lpc17\_40\_adc.c arch/arm/src/lpc17xx\_40xx/lpc17\_40\_can.c  
arch/arm/src/lpc17xx\_40xx/lpc17\_40\_dac.c arch/arm/src/lpc43xx/lpc43\_adc.c  
arch/arm/src/lpc43xx/lpc43\_dac.c arch/arm/src/lpc2378/lpc23xx\_i2c.h

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arch/arm/src/lpc17xx\_40xx/lpc17\_40\_i2c.c arch/arm/src/lpc2378/lpc23xx\_i2c.c  
arch/arm/src/lpc43xx/lpc43\_i2c.c =====

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arch/arm/src/lpc2378/lpc23xx\_spi.c arch/arm/src/lpc2378/lpc23xx\_spi.h  
=====

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```
arch/arm/src/lpc43xx/spifi/inc/private/spifilib_chiphw.h
arch/arm/src/lpc43xx/spifi/inc/spifilib_api.h arch/arm/src/lpc43xx/spifi/inc/spifilib_dev.h
arch/arm/src/lpc43xx/spifi/src/spifilib_dev_common.c
arch/arm/src/lpc43xx/spifi/src/spifilib_fam_standard_cmd.c
=====
```

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```
arch/arm/src/lpc54xx/lpc54_clockconfig.c arch/arm/src/lpc54xx/lpc54_clockconfig.h
arch/arm/src/lpc54xx/lpc54_emc.c arch/arm/src/lpc54xx/lpc54_emc.h
arch/arm/src/lpc54xx/lpc54_ethernet.c arch/arm/src/lpc54xx/lpc54_i2c_master.c
arch/arm/src/lpc54xx/lpc54_lowputc.c =====
```

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```
arch/arm/src/lpc2378/chip.h arch/arm/src/lpc2378/lpc2378.h
arch/arm/src/lpc2378/lpc23xx_decodeirq.c arch/arm/src/lpc2378/lpc23xx_gpio.h
arch/arm/src/lpc2378/lpc23xx_head.S arch/arm/src/lpc2378/lpc23xx_i2c.c
arch/arm/src/lpc2378/lpc23xx_io.c arch/arm/src/lpc2378/lpc23xx_irq.c
arch/arm/src/lpc2378/lpc23xx_lowputc.S arch/arm/src/lpc2378/lpc23xx_pinsel.h
arch/arm/src/lpc2378/lpc23xx_pllsetup.c arch/arm/src/lpc2378/lpc23xx_scb.h
arch/arm/src/lpc2378/lpc23xx_serial.c arch/arm/src/lpc2378/lpc23xx_timer.h
arch/arm/src/lpc2378/lpc23xx_timerisr.c arch/arm/src/lpc2378/lpc23xx_uart.h
arch/arm/src/lpc2378/lpc23xx_vic.h =====
```

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arch/or1k/include/mor1kx/irq.h arch/or1k/include/spr.h  
arch/or1k/src/common/up\_cpuinfo.c arch/or1k/src/common/up\_initialstate.c  
arch/or1k/src/common/up\_timer.c arch/or1k/src/mor1kx/up\_vectortab.S  
=====

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arch/arm/src/am335x/am335x\_edid.c arch/arm/src/am335x/am335x\_lcdc.c  
arch/arm/src/am335x/am335x\_lcdc.h  
=====

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The LCD driver derives from the LPC54xx LCD driver but also includes information from the FreeBSD AM335x LCD driver which was released under a two-clause BSD license:

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```
net/sixlowpan/sixlowpan_framelist.c net/sixlowpan/sixlowpan_hc06.c
net/sixlowpan/sixlowpan_hc1.c net/sixlowpan/sixlowpan_input.c
net/sixlowpan/sixlowpan_internal.h net/sixlowpan/sixlowpan_utils.c
include/nuttx/net/sixlowpan.h =====
```

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net/igmp/igmp\_group.c net/igmp/igmp\_initialize.c net/igmp/igmp\_input.c  
net/igmp/igmp\_join.c net/igmp/igmp\_leave.c net/igmp/igmp\_mcastmac.c  
net/igmp/igmp\_msg.c net/igmp/igmp\_poll.c net/igmp/igmp\_timer.c  
=====

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The NuttX implementation of IGMP was inspired by the IGMP add-on for the lwIP  
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## **include/nuttx/list.h**

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## **include/sys/queue.h**

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## **include/crypto/cryptodev.h**

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## **include/crypto/blf.h**

\$OpenBSD: blf.h,v 1.7 2021/11/29 01:04:45 djm Exp \$

Blowfish - a fast block cipher designed by Bruce Schneier

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## **include/crypto/cast.h**

\$OpenBSD: cast.h,v 1.2 2002/03/14 01:26:51 millert Exp \$

CAST-128 in C Written by Steve Reid sreid@sea-to-sky.net 100% Public Domain - no warranty Released 1997.10.11

## **include/crypto/chachapoly.h**

\$OpenBSD: chachapoly.h,v 1.4 2020/07/22 13:54:30 tobhe Exp \$ Copyright (c) 2015 Mike Belopuhov

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## **include/crypto/cryptosoft.h**

\$OpenBSD: cryptosoft.h,v 1.14 2012/12/07 17:03:22 mikeb Exp \$

The author of this code is Angelos D. Keromytis (angelos@cis.upenn.edu)

This code was written by Angelos D. Keromytis in Athens, Greece, in February 2000. Network Security Technologies Inc. (NSTI) kindly supported the development of this code.

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## **include/crypto/gmac.h**

\$OpenBSD: gmac.h,v 1.6 2017/05/02 11:44:32 mikeb Exp \$

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## **include/crypto/md5.h**

\$OpenBSD: md5.h,v 1.3 2014/11/16 17:39:09 tedu Exp \$

This code implements the MD5 message-digest algorithm. The algorithm is due to Ron Rivest. This code was written by Colin Plumb in 1993, no copyright is claimed. This code is in the public domain; do with it what you wish.

Equivalent code is available from RSA Data Security, Inc. This code has been tested against that, and is equivalent, except that you don't need to include two pages of legalese with every copy.

# **include/crypto/poly1305.h**

\$OpenBSD: poly1305.h,v 1.2 2020/07/22 13:54:30 tobhe Exp \$

Public Domain poly1305 from Andrew Moon

poly1305 implementation using 32 bit 32 bit = 64 bit multiplication and 64 bit addition  
from <https://github.com/floodyberry/poly1305-donna>

# **include/crypto/rijndael.h**

\$OpenBSD: rijndael.h,v 1.13 2008/06/09 07:49:45 djm Exp \$

rijndael-alg-fst.h

@version 3.0 (December 2000)

Optimised ANSI C code for the Rijndael cipher (now AES)

@author Vincent Rijmen [vincent.rijmen@esat.kuleuven.ac.be](mailto:vincent.rijmen@esat.kuleuven.ac.be) @author Antoon  
Bosselaers [antoon.bosselaers@esat.kuleuven.ac.be](mailto:antoon.bosselaers@esat.kuleuven.ac.be) @author Paulo Barreto  
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# **include/crypto/rmd160.h**

\$OpenBSD: rmd160.h,v 1.5 2009/07/05 19:33:46 millert Exp \$

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## include/crypto/sha1.h

None

\$OpenBSD: sha1.h,v 1.6 2014/11/16 17:39:09 tedu Exp \$

SHA-1 in C By Steve Reid [steve@edmweb.com](mailto:steve@edmweb.com) 100% Public Domain

## include/crypto/sha2.h

\$OpenBSD: sha2.h,v 1.5 2014/11/16 17:39:09 tedu Exp \$

FILE: sha2.h AUTHOR: Aaron D. Gifford [me@aarongifford.com](mailto:me@aarongifford.com)

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\$From: sha2.h,v 1.1 2001/11/08 00:02:01 adg Exp adg \$

## **include/crypto/xform.h**

\$OpenBSD: xform.h,v 1.32 2021/10/22 12:30:53 bluhm Exp \$

The author of this code is Angelos D. Keromytis (angelos@cis.upenn.edu)

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## **crypto/blf.c**

\$OpenBSD: blf.c,v 1.8 2021/11/29 01:04:45 djm Exp \$ \*

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Implementation advice by David Mazieres dm@lcs.mit.edu.

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## **crypto/cast.c**

\$OpenBSD: cast.c,v 1.4 2012/04/25 04:12:27 matthew Exp \$

CAST-128 in C Written by Steve Reid sreid@sea-to-sky.net 100% Public Domain - no warranty Released 1997.10.11

## **crypto/castsb.h**

\$OpenBSD: castsb.h,v 1.1 2000/02/28 23:13:04 deraadt Exp \$

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## **crypto/chacha\_private.h**

\$OpenBSD: chacha\_private.h,v 1.4 2020/07/22 13:54:30 tobhe Exp \$

chacha-merged.c version 20080118 D. J. Bernstein Public domain.

## **crypto/chachapoly.c**

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## **crypto/cryptodev.c**

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## **crypto/cryptosoft.c**

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## **crypto/ecb3\_enc.c**

\$OpenBSD: ecb3\_enc.c,v 1.3 2013/11/18 18:49:53 brad Exp \$ lib/des/ecb3\_enc.c  
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## **crypto/gmac.c**

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This code implements the Message Authentication part of the Galois/Counter Mode (as being described in the RFC 4543) using the AES cipher. FIPS SP 800-38D describes the algorithm details.

## **crypto/md5.c**

\$OpenBSD: md5.c,v 1.4 2014/12/28 10:04:35 tedu Exp \$

This code implements the MD5 message-digest algorithm. The algorithm is due to Ron Rivest. This code was written by Colin Plumb in 1993, no copyright is claimed. This code is in the public domain; do with it what you wish.

Equivalent code is available from RSA Data Security, Inc. This code has been tested against that, and is equivalent, except that you don't need to include two pages of legalese with every copy.

To compute the message digest of a chunk of bytes, declare an MD5Context structure, pass it to MD5Init, call MD5Update as needed on buffers full of bytes, and then call MD5Final, which will fill a supplied 16-byte array with the digest.

## **crypto/podd.h**

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## **crypto/poly1305.c**

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Public Domain poly1305 from Andrew Moon Based on poly1305-donna.c,  
poly1305-donna-32.h and poly1305-donna.h from:  
<https://github.com/floodyberry/poly1305-donna>

## **crypto/random\_pool.c**

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## **crypto/rijndael.c**

\$OpenBSD: rijndael.c,v 1.20 2014/11/17 12:27:47 mikeb Exp \$

rijndael-alg-fst.c

@version 3.0 (December 2000)

Optimised ANSI C code for the Rijndael cipher (now AES)

@author Vincent Rijmen [vincent.rijmen@esat.kuleuven.ac.be](mailto:vincent.rijmen@esat.kuleuven.ac.be) @author Antoon Bosselaers [antoon.bosselaers@esat.kuleuven.ac.be](mailto:antoon.bosselaers@esat.kuleuven.ac.be) @author Paulo Barreto [paulo.barreto@terra.com.br](mailto:paulo.barreto@terra.com.br)

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## **crypto/rmd160.c**

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Preneel, Bosselaers, Dobbertin, "The Cryptographic Hash Function RIPEMD-160", RSA Laboratories, CryptoBytes, Volume 3, Number 2, Autumn 1997,  
<ftp://ftp.rsasecurity.com/pub/cryptobytes/crypto3n2.pdf>

## **crypto/set\_key.c**

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set\_key.c v 1.4 eay 24/9/91 1.4 Speed up by 400% :- ) 1.3 added register declarations. 1.2 unrolled make\_key\_sched a bit more 1.1 added norm\_expand\_bits 1.0 First working version

## crypto/sha1.c

\$OpenBSD: sha1.c,v 1.11 2014/12/28 10:04:35 tedu Exp \$

SHA-1 in C By Steve Reid [steve@edmweb.com](mailto:steve@edmweb.com) 100% Public Domain

## crypto/sha2.c

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Aaron D. Gifford [me@aarongifford.com](mailto:me@aarongifford.com)

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\$From: sha2.c,v 1.1 2001/11/08 00:01:51 adg Exp adg \$

## crypto/sk.h

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## **crypto/xform.c**

\$OpenBSD: xform.c,v 1.61 2021/10/22 12:30:53 bluhm Exp \$

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This code was written by John Ioannidis for BSD/OS in Athens, Greece, in November 1995.

Ported to OpenBSD and NetBSD, with additional transforms, in December 1996, by Angelos D. Keromytis.

Additional transforms and features in 1997 and 1998 by Angelos D. Keromytis and Niels Provos.

Additional features in 1999 by Angelos D. Keromytis.

AES XTS implementation in 2008 by Damien Miller

AES-GCM-16 and Chacha20-Poly1305 AEAD modes by Mike Belopuhov.

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crypto/key\_wrap.c include/crypto/key\_wrap.h =====  
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1.3 2017/05/02 17:07:06 mikeb Exp \$ \$OpenBSD: cmac.h,v 1.3 2017/05/02 17:07:06  
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crypto/siphash.c include/crypto/siphash.h ===== \$OpenBSD:  
siphash.c,v 1.5 2018/01/05 19:05:09 mikeb Exp \$ \$OpenBSD: siphash.h,v 1.5  
2018/01/05 19:05:09 mikeb Exp \$

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```
crypto/hmac.c include/crypto/hmac.h ===== $OpenBSD:
hmac.c,v 1.4 2016/09/19 18:09:40 tedu Exp $ $OpenBSD: hmac.h,v 1.4 2016/09/19
18:09:40 tedu Exp $
```

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crypto/idgen.c include/crypto/idgen.h ===== \$OpenBSD:  
idgen.c,v 1.8 2020/07/22 13:54:30 tobhe Exp \$ \$OpenBSD: idgen.h,v 1.8 2020/07/22  
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## **include/crypto/curve25519.h**

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This contains two implementation: a machine-generated formally verified implementation of Curve25519 ECDH from: <https://github.com/mit-plv/fiat-crypto>. Though originally machine generated, it has been tweaked to be suitable for use in the kernel. It is optimized for 32-bit machines and machines that cannot work efficiently with 128-bit integer types.

libs/libc/regcomp.c libs/libc/regerror.c libs/libc/regexec.c libs/libc/tre.h libs/libc/tre-mem.c  
include/regex.h ===== musl as a whole is licensed under the following standard MIT license:

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## **drivers/misc/optee\_msg.h**

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## **include/nuttx/tee.h**

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arch/arm/src/rp2040/rp2040\_clock.c arch/arm/src/rp2040/rp2040\_pll.c  
arch/arm/src/rp2040/rp2040\_xosc.c arch/arm/src/rp2040/rp2040\_pio.c  
arch/arm/src/rp2040/rp2040\_pio.h arch/arm/src/rp2040/rp2040\_instructions.h

arch/arm/src/rp2040/hardware/\*.h

=====

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## **.github/actions/free-disk-space/action.yam**

I

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src/include/search.h,v 1.4 2002/03/23 17:24:53 imp Exp \$

Written by J.T. Conklin jtc@netbsd.org Public domain.

libs/libc/search/hcreate.c libs/libc/search/hcreate\_r.c =====  
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## **libs/libc/search/hash\_func.c**

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```
libs/libc/machine/x86_64/gnu/arch_memcmp.S
libs/libc/machine/x86_64/gnu/arch_memset_avx2.S
libs/libc/machine/x86_64/gnu/arch_memset_sse2.S
libs/libc/machine/x86_64/gnu/arch_stpcpy.S
libs/libc/machine/x86_64/gnu/arch_stpncpy.S
libs/libc/machine/x86_64/gnu/arch_strcat.S libs/libc/machine/x86_64/gnu/arch_strcpy.S
libs/libc/machine/x86_64/gnu/arch_strlen.S
libs/libc/machine/x86_64/gnu/arch_strncmp.S
```

libs/libc/machine/x86\_64/gnu/arch\_strncpy.S libs/libc/machine/x86\_64/gnu/cache.h  
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drivers/i3c/device.c drivers/i3c/i3c\_driver.c drivers/i3c/master.c drivers/i3c/internals.h  
=====

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boris.brezillon@bootlin.com

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```
libs/libc/string/lib_bsdmemccpy.c libs/libc/string/lib_bsdmemchr.c
libs/libc/string/lib_bsdmemcmp.c libs/libc/string/lib_bsdmemcpy.c
libs/libc/string/lib_bsdmemrchr.c libs/libc/string/lib_bsdstpncpy.c
libs/libc/string/lib_bsdstpncpy.c libs/libc/string/lib_bsdstrcat.c
libs/libc/string/lib_bsdstrchr.c libs/libc/string/lib_bsdstrchrnul.c
libs/libc/string/lib_bsdstrcmp.c libs/libc/string/lib_bsdstrncpy.c
libs/libc/string/lib_bsdstrlen.c libs/libc/string/lib_bsdstrncmp.c
libs/libc/string/lib_bsdstrncpy.c libs/libc/string/lib_bsdstrrchr.c
=====
```

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