FlashFX® Hardware Support

The FlashFX® product line supports a wide variety of target hardware. This support can be divided into the following categories:

CPUs FlashFX is CPU independent in that it is written in 100% ANSI C, and requires no assembly language code. It will work with any CPU for which an ANSI C89 compiler is available which supports 32-bit operations. Some features may require 64-bit math. Therefore, due to this CPU independence, the topic of supported CPU types is not addressed any further in this document.

Reference Platforms FlashFX includes preconfigured projects for a number of reference platforms. This allows a developer to get FlashFX up and running very quickly, without having to bother with figuring out every configuration detail for the platform. These reference platforms are listed later in this document.

NAND Controllers FlashFX supports a number of NAND controllers, which are often used to provide enhanced NAND functionality or performance. In some cases these NAND controllers are discrete chips, however in most cases they are closely integrated with the CPU in a System-On-Chip or reference platform design. The NAND controllers supported by FlashFX are discussed in the context of the Reference Platforms listed in this document.

Flash Parts FlashFX works with a wide variety of NAND and NOR flash parts from virtually every flash silicon vendor. These flash parts are listed in this document.

Reference Platforms

Each FlashFX SDK comes with a number of preconfigured projects for specific reference platforms, which have been tested with that SDK. These preconfigured projects allow a developer to very quickly get up and running on a particular hardware platform.

If you are using a specific reference platform listed here, but a different operating system than that on which Datalight tested, you can rest assured that due to the highly abstracted, generic nature of the FlashFX code base, it will run in your environment as well. Datalight can provide sample code for the platform in question. Please feel free to contact Datalight Support for assistance.

If you are using a platform which is not listed here, it is highly likely that it will work with FlashFX with a minimal amount of effort. Typically you would want to examine the flash type, as well as the NAND controller, if any, to see if they are something that Datalight already supports. If so, and if you are using an operating system for which Datalight supplies an SDK, it is likely that you can be up and running with FlashFX in a short amount of time.

Supported Reference Platforms (in alphabetical order by Vendor)

Vendor	Reference Platform	Flash Type / Controller	FIM or NTM	Linux	Nucleus	ThreadX	VxWorks	Windows CE	Other	Notes
AMCC	Ocotea - PPC440	NOR	asux8.c				✓			
AMD	Alchemy DBau1100	NOR	amb2x16.c					✓		
	Alchemy DBau1500	NOR	amb2x16.c					✓		
ARM	Integrator 926	NOR	iff2x16.c				✓			
BSQUARE	Monahans – PXA320	NAND	ntpxa320.c					✓		
Freescale	Lite5200	NOR	asux8.c				✓			
	iMX21	NAND	ntmx31.c						✓	C
	iMX31	NAND	ntmx31.c	✓			✓		✓	
Intel	IXDP425	NOR	isfx16.c				✓			
	PXA255 (Lubbock)	NOR	isf2x16.c		✓	✓	✓	✓		
	PXA270 (Mainstone II)	NOR	isf2x16.c				✓			
	PXA270 (Mainstone II)	NOR (Sibley)	iswfx16.c				✓			
Marvell	PXA320 (Monahans)	NAND	ntpxa320.c					✓		B
MIPS Tech. Inc.	Malta 4c - MIPS	NOR	iff2x16.c				✓			
	Malta 5kc - MIPS	NOR	iff2x16.c				✓			
Mistral	OMAP35x	NAND	nt1nand.c					✓		
Motorola	MVME5500 - PPC	NOR	isf2x16.c				✓			
NEC	DDB-VR5500 - MIPS	NOR	isfx16.c				✓			
Qualcomm	MSM6500	NAND	ntpageio.c						✓	
Renesas	MS7751rse	NOR	asb2x16.c				✓			
Sophia Systems	Monahans – PXA320	NAND	ntpxa320.c					✓		
Spectrum Digital	OMAP5912	NOR	isfx16.c		✓			✓		
	OMAP5912	NAND	ntcad.c	✓	✓			✓		A
	OMAP5912	OneNAND	nt1nand.c		✓			✓		
	OMAP5912	NOR(Sibley)	iswfx16.c		✓			✓		
Toshiba	RBTX4938 - MIPS	NAND	ntcad.c / ntmicron.c				✓			
	RBTX4939 - MIPS	NAND	ntcad.c / ntmicron.c				✓			
Wind River	WRPPMC750CX	NOR	isfx16.c				✓			
	WRSBC8260	NOR	asu4x8.c				✓			
	WRSBC8540	NOR	isf4x8.c				✓			
	WRSBC8560	NOR	isf4x8.c				✓			
	WRSBCPowerQuiccII	NOR	isf4x8.c				✓			

Platform Notes:

A. NAND support on the Spectrum Digital OMAP5912 is wired such that it only supports software ECC generation.
B. The NAND memory controller on the PXA320 processor allows for DMA access. The PXA320 NTM supplied in FlashFX does not utilize the DMA functionality of the controller.
C. Datalight no longer explicitly supports the MX21, but it is substantially similar to the MX31 platform.

General Reference Platform Note:

As specific flash parts and configurations vary between Reference Platforms for each ChipSet, NTM modifications may be required when using platforms other than the specific vendors listed above (please see the next section of this document on "Writing a New FIM or NTM"). For assistance with this, please contact Datalight Technical Support at support@datalight.com.

Flash Parts

FlashFX supports a wide variety of flash parts, including NOR and NAND devices manufactured by AMD, Fujitsu, Intel, Hynix, Micron, NEC, Samsung, Spansion, ST Micro, Toshiba, and others.

Flash Interface Modules (FIMs)

FlashFX uses an abstracted interface to the flash called a Flash Interface Module (or FIM). The FIM contains the low level algorithms used to program the flash. A single FIM may be used to support a variety of flash parts which have similar characteristics. A single FIM is used to support all NAND parts.

NAND Technology Modules (NTMs)

For NAND flash, a single FIM is used, however a lower level abstraction, called a NAND Technology Module (or NTM) is used to abstract the interface to the flash. An NTM may contain special logic to allow it to interface with specific NAND controllers, which are discussed later in this document.

Flash Configuration

Flash devices may be organized in a number of different ways. Most flash devices are available in either an x8 or x16 configuration. Additionally, NOR flash often consists of 2 or 4 devices which are interleaved. Therefore, the notation used in this document is in the form "x8" or "x16" for non-interleaved parts, and "2x16" or "4x8", for example, for interleaved parts. The programming algorithms used in the FIMs and NTMs must take into careful consideration the flash organization, as well as the byte-ordering on the target platform.

NAND Factory Bad Blocks

NAND typically ships with factory bad blocks, which are specially marked at manufacturing time. The methods for marking these blocks vary by flash manufacturer and geometry, and are subject to being accidentally wiped out.

The "Supported NAND Flash Parts" table below indicates the Factory Bad Block (FBB) marking style for each chip, which will be one of the following:
A. "**SSFDC**" style – one or more zero bits in byte 5 of the spare area of one of the first two pages in a block. This style is only used for x8, 512-byte page flash.
B. "**AnyBitZero**" style – a zero bit exists anywhere in the block. Typically used only on very old Toshiba flash, which will always be x8, 512-byte per page. Note that FlashFX Tera does not support AnyBitZero devices out of the box; if support for such a device is required, please contact Datalight Customer Support.
C. "**OffsetZero"** style – one or more zero bits in the byte or word at offset 0 of the spare area of one of the first two pages in a block. A byte is used for x8 flash, and a word is used for x16 flash. This is typically always used for flash which has a page size larger than 512 bytes or an interface width wider than 8 bits.
D. "**OffsetZero/ONFI**" style- identical to "OffsetZero" except that instead of the mark appearing in one of the first two pages, the mark may appear in either the first or last page of a factory-bad block. FlashFX Pro NTMs typically do not support the entire ONFI specification with regards to factory bad-block marking; NTMs in FlashFX Tera typically do.

Writing a New FIM or NTM

Datalight FlashFX customers will often be able to use one of these FIMs and/or NTMs as they currently exist. If a new module needs to be written, or modifications to an existing module are required, the combination of the FlashFX manuals and the source code for the current modules will provide the

necessary information. For assistance, please contact Datalight Technical Support at
support@datalight.com.

Valuable information regarding Supported Flash Parts tables

The tables given below list NAND and NOR devices that have either been tested by Datalight or belong to a family of devices a sampling of which have been tested by Datalight on at least one test platform. There are several other factors that may feed into customer decisions on which flash devices to select and how to support them with Datalight products. The tables should be interpreted with the following in mind.

1. The tables are by no means comprehensive. Flash vendors offer exhaustive product lines, and listing every device for every family that they offer would result in large tables that are very difficult to generate and maintain, and prone to erroneous entries. Datalight endeavors to keep these tables current so far as families of flash devices go, but if the device you are interested in does not appear in these tables there is still a good chance that it falls within a family of devices that is represented in the tables and will work with Datalight products with minimal effort.

    In particular, flash vendors often offer stacked- or multi-die packaging in which the part number is different from the single-die configuration, but the dies from which the device is built are in fact represented in the tables as a single-die device. Although the part numbers of some of these multi-die configurations are present in these tables, most are not.

2. While large flash devices or arrays of devices can be split among more than one FlashFX device driver, for FlashFX Pro, an individual instance of the driver has an upper limit of 2GB.

3. Although FlashFX Pro is not fully ONFI-compliant, if the NAND device you select supports the physical interface and basic command set as specified in ONFI 1.0 Specification, there is a high probability that the device's basic functionality will work with FlashFX Pro without difficulty, provided that FlashFX Pro's NAND identification tables are updated to recognize it. Direction for how to do that is available in FlashFX Pro documentation, or through support@datalight.com. NAND vendors often include specialty commands in their command sets for performance purposes, and additional work may be needed to support those commands.

4. The FIM to use to support for NOR devices is listed in tables below. However, almost all modern NOR devices are CFI-compliant. All CFI-compliant devices are supported by a single FIM, called the NORFIM, and their part numbers are not listed in the table. For such devices Datalight highly recommends the use of the CFI NORFIM, as older FIMs may not be under active maintenance.

5. The NOR flash table does not give a breakdown of which version of FlashFX supports which parts, because all versions of FlashFX are substantially the same in this regard.

6. Some flash manufacturers have been acquired by others. This document still refers to devices using old company names (with acquiring companies in parentheses), as their part numbers are often distinct from acquiring company offerings.

Supported NAND Flash Parts (in alphabetical order by Vendor)

Vendor	Part Number	Chip Size[1]	Erase Block Size[1]	Width	Page Size	FBB Style	FFX Pro v3.x	FFX Pro v4.x	FFX Tera v1.x	Notes
AMD	AM30LV0064D	8M	16K	x8	512	None	✓	✓	✓	
Hynix	HY27SS08561M	32M	16K	x8	512	A	✓	✓	✓	
	HY27SS08121M	64M	16K	x8	512	A	✓	✓	✓	
	HY27SS16561M	32M	16K	x16	512	C	✓	✓	✓	
	HY27SS16121M	64M	16K	x16	512	C	✓	✓	✓	
	HY27US16561M	32M	16K	x16	512	C	✓	✓	✓	
	HY27US16121M	64M	16K	x16	512	C	✓	✓	✓	
	HY27US08561M	32M	16K	x8	512	A	✓	✓	✓	
	HY27US08121M	64M	16K	x8	512	A	✓	✓	✓	
	HY27UG162G2M	128M	128K	x16	2048	C	✓	✓	✓	
	HY27SG162G2M	128M	128K	x16	2048	C	✓	✓	✓	
	HY27SG082G2M	128M	128K	x8	2048	C	✓	✓	✓	
	HY27UG082G2M	128M	128K	x8	2048	C	✓	✓	✓	
	HY27UH088G(5 / D)M Series	1G	128K	x8	2048	C	✓		✓	
	HY27UH08AG(5 / D)M Series	1G	128K	x8	2048	C	✓	✓	✓	3
Micron	MT29F1G08/16ABA	128M	128K	x8 / x16	2048	C	✓	✓	✓	
	MT29F2G08/16AAB / D	256M	128K	x8 / x16	2048	C	✓	✓	✓	
	MT29F2G08/16ABD	256M	128K	x8 / x16	2048	C	✓	✓	✓	
	MT29F4G08/16ABC	512M	128K	x8 / x16	2048	C	✓	✓	✓	
	MT29F4G08/16BAB	512M	128K	x8 / x16	2048	C	✓	✓	✓	
	MT29F4G08AAA / C	512M	128K	x8	2048	C	✓	✓	✓	6
	MT29F8G08FAB	1G	128K	x8	2048	C	✓	✓	✓	3
	MT29F16G08FAA	2G	128K	x8	2048	C	✓	✓	✓	3
	MT29F4G08AAA/C	512M	128K	x8	2048	C		✓	✓	6
	MT29F8G08DAA	1G	128K	x8	2048	C		✓	✓	6
	MT29F8G08BAA	1G	128K	x8	2048	C		✓	✓	6
	MT29F16G08FAA	2G	128K	x8	2048	C		✓	✓	6
	MT29F8G08AAA	1G	256K	x8	4096	C		✓	✓	6
	MT29F16G08DAA	2G	256K	x8	4096	C		✓	✓	6
	MT29F32G08FAA	4G	256K	x8	4096	C		✓	✓	6
	MT29F8G08MAA	1G	256K	x8	2048	C			✓	7
	MT29F16G08QAA	2G	256K	x8	2048	C			✓	7
	MT29F32G08TAA	4G	256K	x8	2048	C			✓	7
	MT29F8G08MAD	1G	256K	x8	2048	C			✓	7
	MT29F16G08MAA	2G	512K	x8	4096	C			✓	7
	MT29F32G08QAA	4G	512K	x8	4096	C			✓	7
	MT29F64G08TAA	8G	512K	x8	4096	C			✓	7
	MT29F32G08MAA	4G	512K	x8	4096	C			✓	7
	MT29F64G08QAA	8G	512K	x8	4096	C			✓	7
	MT29F128G08TAA	16G	512K	x8	4096	C			✓	7
	MT29F4G08xxxD / 16xxxD	512M	128K	X8/x16	2048	D		✓	✓	10
	MT29F8G08xxxD / 16xxxD	1G	128K	X8/x16	2048	D		✓	✓	10

Vendor	Part Number	Chip Size[1]	Erase Block Size[1]	Width	Page Size	FBB Style	FFX Pro v3.x	FFX Pro v4.x	FFX Tera v1.x	Notes
Samsung	K9F6408U0B / C	8M	8K	x8	512	A	✓	✓	✓	2
	K9F6408Q0C	8M	8K	x8	512	A	✓	✓	✓	2
	K9F2808U0B / C	16M	16K	x8	512	A	✓	✓	✓	2
	K9F2808Q0B / C	16M	16K	x8	512	A	✓	✓	✓	2
	K9F2816U0C	16M	16K	x16	512	C	✓	✓	✓	
	K9F2816Q0C	16M	16K	x16	512	C	✓	✓	✓	
	K9F5608U0A / B / C	32M	16K	x8	512	A	✓	✓	✓	2
	K9F5608D0C	32M	16K	x8	512	A	✓	✓	✓	
	K9F5608Q0B / C	32M	16K	x8	512	A	✓	✓	✓	
	K9F5616D0BC	32M	16K	x16	512	C	✓	✓	✓	
	K9F5616Q0B / C	32M	16K	x16	512	C	✓	✓	✓	
	K9F5616U0B / C	32M	16K	x16	512	C	✓	✓	✓	
	K9F1208D0A / B	64M	16K	x8	512	A	✓	✓	✓	
	K9F1208U0A / B / M	64M	16K	x8	512	A	✓	✓	✓	
	K9F1208Q0A / B	64M	16K	x8	512	A	✓	✓	✓	
	K9K1208D0C	64M	16K	x8	512	A	✓	✓	✓	
	K9K1208U0C	64M	16K	x8	512	A	✓	✓	✓	
	K9K1208Q0B / C	64M	16K	x8	512	A	✓	✓	✓	
	K9F1216D0A / B	64M	16K	x16	512	C	✓	✓	✓	
	K9F1216Q0A / B	64M	16K	x16	512	C	✓	✓	✓	
	K9F1216U0A / B	64M	16K	x16	512	C	✓	✓	✓	
	K9T1G08UOM / K9K1G08U0A / M	128M	16K	x8	512	A	✓	✓	✓	
	K9F1G08Q0M	128M	128K	x8	2048	C	✓	✓	✓	
	K9F1G16Q0M	128M	128K	x16	2048	C	✓	✓	✓	
	K9F1G16D0M / U0M	128M	128K	x16	2048	C	✓	✓	✓	
	K9F1G08D0M / U0A / M	128M	128K	x8	2048	C	✓	✓	✓	
	K9F5616D0C / U0B / C	32M	16K	x16	512	C	✓	✓	✓	
	K9K1216D0C	64M	16K	x16	512	C	✓	✓	✓	
	K9K1216Q0A / C	64M	16K	x16	512	C	✓	✓	✓	
	K9K1216U0A / C	64M	16K	x16	512	C	✓	✓	✓	
	K9F1G08Q0M	128M	128K	x8	2048	C	✓	✓	✓	
	K9F1G08D0M	128M	128K	x8	2048	C	✓	✓	✓	
	K9F1G08U0A / M	128M	128K	x8	2048	C	✓	✓	✓	
	K9K1G08U0A / M	128M	128K	x8	512	A	✓	✓	✓	
	K9K1G08Q0A	128M	128K	x8	512	A	✓	✓	✓	
	K9T1G08U0M	128M	128K	x8	512	A	✓	✓	✓	
	K9K1G16Q0A / U0A	128M	16K	x16	512	C	✓	✓	✓	
	K9F1G16Q0M / D0M / U0M	128M	128K	x16	2048	C	✓	✓	✓	
	K9F2G08Q0M / U0M	256M	128K	x8	2048	C	✓	✓	✓	
	K9K2G08U0A / M	256M	128K	x8	2048	C	✓	✓	✓	
	K9K2G08Q0M	256M	128K	x8	2048	C	✓	✓	✓	
	K9F2G16Q0M / U0M	256M	128K	x16	2048	C	✓	✓	✓	
	K9K2G16Q0M / U0M	256M	128K	x16	2048	C	✓	✓	✓	
	K9K4G08U0M / U0M	512M	128K	x8	2048	C	✓	✓	✓	
	K9K4G16Q0M / U0M	512M	128K	x16	2048	C	✓	✓	✓	
	K9W4G08U1M	512M	128K	x8	512	A	✓	✓	✓	3
	K9W8G08U1M	1G	128K	x8	512	A	✓	✓	✓	3
	K9K8G08U0A	1G	128K	x8	2048	C			✓	
	K9KAG08U0M	2G	256K	x8	4096	C			✓	

Vendor	Part Number	Chip Size[1]	Erase Block Size[1]	Width	Page Size	FBB Style	FFX Pro v3.x	FFX Pro v4.x	FFX Tera v1.x	Notes
	K9G4G08U0A/B	512M	256K	x8	2048	C			✓	7
	K9G8G08U0A/B	1G	256K	x8	2048	C			✓	7
	K9GAG08U0D	2G	512K	x8	4096	C			✓	7
	K9LBG08U0M	4G	512K	x8	4096	C			✓	7
	K9LBG08U0D	4G	512K	x8	4096	C			✓	7
	KFG2816Q1M	16M	64K	x16	1024	C	✓	✓	✓	4
	KFG2816D / U / 1M	16M	64K	x16	1024	C	✓	✓	✓	4
	KFG5616Q1A	32M	64K	x16	1024	C	✓	✓	✓	4
	KFG5616D / U / 1A	32M	64K	x16	1024	C	✓	✓	✓	4
	KFG / H1216Q2M / A	64M	128K	x16	2048	C	✓	✓	✓	4
	KFG / H1216D / U2M / A	64M	128K	x16	2048	C	✓	✓	✓	4
	KFG1G16Q2M / A	128M	128K	x16	2048	C	✓	✓	✓	4
	KFG1G16D / U2M	128M	128K	x16	2048	C	✓	✓	✓	4
	KFM1G16Q2M-DEB5 / G2B-DEB / D6/8	128M	128K	x16	2048	C		✓	✓	4
	KFN2G16Q2M-DEB5	256M	128K	x16	2048	C		✓	✓	4
	KFM2G16Q2M / A	256M	128K	x16	2048	C		✓	✓	4
	KFG2G16Q2M / A	256M	128K	x16	2048	C		✓	✓	4
	KFH2 / W4G16Q2M / A	256M	128K	x16	2048	C		✓	✓	4
	KFH4G16Q2M / A	512M	128K	x16	2048	C		✓	✓	4
	KFN4G16Q5M	512M		x16	4096	C		✓		4
	KFN8G16Q5M	1G		x16	4096	C		✓		4
	KFG4GH6x4M	512M	256K	x16	4096	C	✓		✓	8
	KFH8GH6x4M	1G	256K	x16	4096	C	✓		✓	8
	KFWAGH6x4M	2G	256K	x16	4096	C	✓		✓	8
	KFG2GH6x4M	256M	256K	x16	4096	C	✓		✓	8
	KFH4GH6x4M	512M	256K	x16	4096	C	✓		✓	8
	KFW8GH6x4M	1G	256K	x16	4096	C	✓		✓	8
Spansion	S30MS512xxxxxx50x	64M	128K	x8	2048	C	✓	✓	✓	5
	S30MS512xxxxxx51x	64M	128K	x16	2048	C	✓	✓	✓	5
	S30MS01Gxxxxxx50x	128M	128K	x8	2048	C	✓	✓	✓	5
	S30MS01Gxxxxxx51x	128M	128K	x16	2048	C	✓	✓	✓	5
	S30MS02Gxxxxxx50x	256M	512K	x8	2048	C	✓	✓	✓	5
	S30MS02Gxxxxxx51x	256M	512K	x16	2048	C	✓	✓	✓	5
	S30ML01Gxxxx00x	128M	512K	x8	2048	C	✓	✓	✓	5
	S30ML01Gxxxx01x	128M	512K	x16	2048	C	✓	✓	✓	5
	S30ML02Gxxxx00x	256M	512K	x8	2048	C	✓	✓	✓	5
	S30ML02Gxxxx01x	256M	512K	x16	2048	C	✓	✓	✓	5
	S30ML04Gxxxx00x	512M	512K	x8	2048	C	✓	✓	✓	5
	S30ML04Gxxxx01x	512M	512K	x16	2048	C	✓	✓	✓	5
	S30ML128xxxxxx50x	16M	512K	x8	512	A	✓	✓	✓	5
	S30ML128xxxxxx51x	16M	512K	x16	512	C	✓	✓	✓	5
	S30ML256xxxxxx50x	32M	512K	x8	512	A	✓	✓	✓	5
	S30ML256xxxxxx51x	32M	512K	x16	512	C	✓	✓	✓	5
	S30ML512xxxxxx50x	64M	512K	x8	512	A	✓	✓	✓	5
	S30ML512xxxxxx51x	64M	512K	x16	512	C	✓	✓	✓	5
ST Micro	NAND128R / W3A	16M	16K	x8	512	A	✓	✓	✓	
(Numonyx)	NAND256R / W3A	32M	16K	x8	512	A	✓	✓	✓	
(Micron)	NAND512R / W3A	64M	16K	x8	512	A	✓	✓	✓	

Vendor	Part Number	Chip Size[1]	Erase Block Size[1]	Width	Page Size	FBB Style	FFX Pro v3.x	FFX Pro v4.x	FFX Tera v1.x	Notes
	NAND01GR / W3A	128M	16K	x8	512	A	✓	✓	✓	
	NAND128R / W4A	16M	16K	x16	512	C	✓	✓	✓	
	NAND256R / W4A	32M	16K	x16	512	C	✓	✓	✓	
	NAND512R / W4A	64M	16K	x16	512	C	✓	✓	✓	
	NAND01GR / W4A	128M	16K	x16	512	C	✓	✓	✓	
	NAND512R / W3B	64M	128K	x8	2048	C	✓	✓	✓	
	NAND01GR / W3B	128M	128K	x8	2048	C	✓	✓	✓	
	NAND02GR / W3B	256M	128K	x8	2048	C	✓	✓	✓	
	NAND04GR / W3B	512M	128K	x8	2048	C	✓	✓	✓	
	NAND08GR / W3B	1G	128K	x8	2048	C	✓	✓	✓	
	NAND512R / W4B	64M	128K	x16	2048	C	✓	✓	✓	
	NAND01GR / W4B	128M	128K	x16	2048	C	✓	✓	✓	
	NAND02GR / W4B	256M	128K	x16	2048	C	✓	✓	✓	
	NAND04GR / W4B	512M	128K	x16	2048	C	✓	✓	✓	
	NAND08GR / W4B	1G	128K	x16	2048	C	✓	✓	✓	
	NAND04G-W3B2D	512M	128K	x8	2048	D		✓	✓	
	NAND04G-W3B2B	512M	128K	x8	2048	D		✓	✓	
	NAND08G-W3B2C	1G	128K	x8	2048	D		✓	✓	
	NAND08G-W3B2A	1G	128K	x8	2048	D		✓	✓	
	NAND04GW3C	512M	256K	x8	2048	D			✓	7
	NAND08GW3C	1G	256K	x8	2048	D			✓	7
	NAND08GW3D	1G	512K	x8	4096	D			✓	7
	NAND16GW3D	2G	512K	x8	4096	D			✓	7
Toshiba	TC58V32AFT / BFT	4M	8K	x8	512	B	✓	✓		9
	TC58V64AFT / BFT	8M	8K	x8	512	B	✓	✓		9
	TC58128AFT	16M	16K	x8	512	B	✓	✓		9
	TC581282AXB	16M	16K	x8	512	B	✓	✓		9
	TC58DV(A)M72A1FT00	16M	16K	x8	512	B	✓	✓		9
	TC582562AXB	32M	16K	x8	512	B	✓	✓		9
	TC58256AFT	32M	16K	x8	512	B	✓	✓		9
	TC58DV(A)M82A1FT00	32M	16K	x8	512	B	✓	✓		9
	TC58DVM82A1XBJ1	32M	16K	x8	512	B	✓	✓		9
	TC58512FT	64M	16K	x8	512	B	✓	✓		9
	TC58DVM92A1FT00	64M	16K	x8	512	B	✓	✓		9
	TH58100FT	128M	16K	x8	512	B	✓	✓		9
	TC58DVG02A1FT00	128M	16K	x8	512	B	✓	✓		9
	TC58NVG0S3AFT00 / 5	128M	128K	x8	2048	C		✓	✓	
	TH58NVG1S3AFT00 / 5	256M	128K	x8	2048	C		✓	✓	
	TC58NVG3D1DG00	1G	512K	x8	4096	C			✓	7
	TC58NVG4D1DG00	2G	512K	x8	4096	C			✓	7

NAND Notes:
1. Sizes are given in bytes.
2. Several Samsung devices have a GND pin to enable the spare area. This pin must be wired low.
3. These are stacked chips with separate chip selects.
4. These are Samsung OneNAND™ parts.
5. These are Spansion ORNAND™ parts.
   The first generation of ORNAND (90nm) is designated with "P" after the density, i.e.
   S30MS01GP or S30MS512P. The second generation (65nm) is designated with "R", i.e.

S30MS01GR or S30MS512R, but the device codes do not change between different generations (for a given family and density). In FlashFX Pro releases, only the first generation "P" version of the following parts were supported. FlashFX has been updated to recognize and support both the first generation "P" and the second generation "R" versions of all supported Spansion parts.

6. Dual plane operations are supported when used with the ntmicron NTM.
7. These parts use MLC technology.
8. These are FlexOneNAND devices. Geometry shown is for SLC partition. FlexOneNand is supported only in FlashFX Pro v3.x and FlashFX Tera, with specific limitations. Contact Datalight technical support for details as support@datalight.com.
9. Not supported by FlashFX out of the box. Contact Datalight Customer Support.
10. These are Micron M60 family devices with on-die EDC.

Supported NOR Flash Parts

FIM	Config	Vendor	Part Number	Total Size[1]	Erase Block Size[1]	Notes
ambx16.c	x16	AMD	AM29LV640MH / L	8M	64K	
			AM29LV640MU	8M		
			AM29LV641MH / L	8M		
			AM29LV128M	16M		
			AM29LV256M	32M		
		Spansion	29GL512N	64M	128K	
amb2x16.c	2x16	AMD	AM29LV640MH / L	16M	128K	
			AM29LV640MU	16M		
			AM29LV641MH / L	16M		
			AM29LV128M	32M		
			AM29LV256M	64M		
		Spansion	29GL512N	128M	256K	
asux8.c	x8	AMD	AM29F040	512K	64K	
			AM29F080	1M		4
			AM29F016	2M		
			AM29F032	4M		
			AM29LV081	1M		
			AM29LV017	2M		
			AM29LV033	4M		
			AM29LV065	8M		
			AMC0XXDFLKA	2M		
		Fujitsu	(All equivalent parts)			
asu4x8.c	4x8	AMD	AM29F080	4M	256K	4
asbx16.c	x16	AMD	AM29LV640/641D	8M	64K	
		Fujitsu	MBM29LV160	2M		
			MBM29LV650 / 651UE	8M		
		NEC	µPD29F032203AL-T / B	4M		
			µPD29F032116	4M		
			µPD29F064115	8M		
		Samsung	K8A5615EBA	32M	64K	3,4
			K8A5615ETA	32M	64K	4
			K8C5615EBM	32M	128K	3,4
			K8C5615ETM	32M	128K	4
			K8P2915UQB	16M	64K	
		ST Micro	M29W641D	8M		
		Spansion	S29PL129J	16M	64K	
asb2x16.c	2x16	AMD	AM29LV640/641D	16M	128K	
		Fujitsu	MBM29LV160	4M		
			MBM29LV650 / 651UE	16M		

FIM	Config	Vendor	Part Number	Total Size[1]	Erase Block Size[1]	Notes
		NEC	µPD29F032203AL-T / B	8M		
			µPD29F032116	8M		
			µPD29F064115	16M		
		Samsung	K8A5615EBA	64M	128K	3,4
			K8A5615ETA	64M	128K	4
			K8C5615EBM	64M	256K	3,4
			K8C5615ETM	64M	256K	4
		ST Micro	M29W641D	16M		
		Spansion	S29PL129J	32M	128K	
norfim.c	x8	CFI	CFI Compliant Devices			2
	2x8					
	4x8					
	x16					
iffx8.c	x8	Intel	28F004S5	512K	64K	
			28F008S5	1M		
			28F016S5	2M		3
			28F160S3	2M		
			28F320S3	4M		
			28F008SAL	1M		4
iffx16.c	x16	Intel	28F800C3T / B	1M	64K	
			28F160C3T / B	2M		
			28F320C3T / B	4M		
			28F640C3T / B	8M		
			28F160S3	1M		
			28F320S3	2M		
iff2x16.c	2x16	Intel	28F160S3	2M	128K	
			28F320S3	4M		
isfx16.c	x16	Intel	28F320J3 / J5	4M	128K	
			28F640J3 / J5	8M		
			28F128J3	16M		
			28F256J3	32M		
			28F640L18T / B	8M		
			28F128L18T / B	16M		
			28F256L18T / B	32M		
			28F640P30T / B	8M		
			28F128P30T / B	16M		
			28F256P30T / B	32M		
isf2x16.c	2x16	Intel	28F320J3 / J5	8M	256K	
			28F640J3 / J5	16M		
			28F128J3	32M		
			28F256J3	64M		
			28F640K3 / K18	16M		
			28F128K3 / K18	32M		
			28F256K3 / K18	64M		
			28F640L18T / B	16M		
			28F128L18T / B	32M		
			28F256L18T / B	64M		

FIM	Config	Vendor	Part Number	Total Size[1]	Erase Block Size[1]	Notes
			28F640P30T / B	16M		
			28F128P30T / B	32M		
			28F256P30T / B	64M		
		Micron	MT28F320	8M		
			MT28F640	16M		
			MT28F128	32M		
		MXIC	MX26F640J3	16M		
			MX26F128J3	32M		
		ST Micro	M58LW064D	16M		
isf4x8.c	4x8	Intel	28F320J3	16M	512K	
			28F640J3	32M		
			28F128J3	64M		
			28F256J3	128M		
iswfx16.c	x16	Intel	48F128M64	16M	256K	
			48F128M108	16M		
			48F256M64	32M		
			48F256M108	32M		
			48F512M64	64M		
			48F512M108	64M		
		ST Micro	58PR512J	64M	256K	

NOR Notes:

1. Sizes are given in bytes. For interleaved configurations, the sizes shown will be the total resulting size, rather than the size of the individual flash part.

2. The Universal NOR FIM supports NOR parts using the common flash interface (CFI). To use the NOR FIM, the device settings in ffxconf.h must specify FFXFIM_norfim on FIM list. Additionally, the NOR FIM itself must be configured for the bus width and interleave level. The FIM is currently limited to supporting a single configuration defined at compile time. The NOR FIM is configured by defining FFXCONF_NORCONFIG.

   If the Universal NOR FIM (FFXFIM_norfim) is used but FFXCONF_NORCONFIG is not defined, it will fail to mount with an error message indicating the FIM is not properly configured.

   This FIM will support any CFI-compliant NOR flash part, which is a large majority of newer NOR flash devices.

3. These parts have been validated by Datalight.

4. The CFI FIM will also support these parts, which are not fully CFI compliant. Other non-CFI parts that are also supported by the CFI FIM, not included in the list above:

Manufacturer	Part Number		Manufacturer	Part Number
Samsung K8A	K8A3215EBA		**Samsung K8F**	K8F5615EBM
	K8A3215ETA			K8F5615ETM
	K8A6415EBA			K8F5715EBM
	K8A6415ETA			K8F5715ETM
	K8A2815EBA			K8F1215EBM

Manufacturer	Part Number		Manufacturer	Part Number
	K8A2815ETA			K8F1215ETM
				K8F1315EBM
Samsung K8C	K8C5715EBM			K8F1315ETM
	K8C5715ETM			
	K8C1215EBM		**Samsung K8P**	K8P2x15UQB*
	K8C1215ETM			K8P2915UQB
	K8C1315EBM			K8P5615UQB
	K8C1315ETM			
			Samsung K8S	K8S3215EBE
Samsung K8D	K8D1716UBC			K8S3215ETE
	K8D1716UTC			K8S6415EBE
	K8D3216UBC			K8S6415ETE
	K8D3216UTC			K8S2815EBE
	K8D6316UBM			K8S2815ETE
	K8D6316UTM			K8S5615EBE
				K8S5615ETE

* Indicates parts that have been specifically tested by Datalight.

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