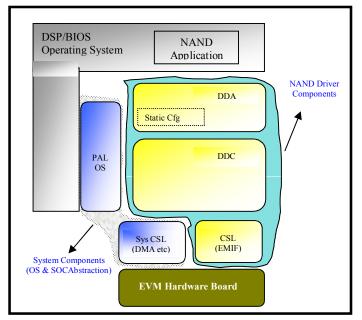


- Provides Synch mode of operation
- Operates in Polled Mode and DMA mode.
- Support for Big Block and Small Block NAND.
- Support for 1 bit ECC for error correction.
- Supports Wear-Leveling and Bad Block management.
- Support for protected region functionality.
- Modeled after TI Device Driver Architecture for Stream Class Devices that allows for easy porting and customization



Description

Details about the tools and the BIOS version that the driver is compatible with can be found in the system Release Notes.



Capabilities

The NAND DSP/BIOS device driver adopts a scalable architecture that eases customization/extension

- Isolates H/W and OS Accesses, Easy to maintain & re-target to new platforms
- Can stack custom-functions along control/data-path to realize "driver filters"
- Supports polled as well as DMA mode.
- Supports 1 bit ECC.

For easy and quick reconfiguration of driver, all its statically configurable parameters have been isolated into a single file nand/dda/dda nandCfg.c

The driver is constituted of following sub components:

- NAND DDA Application facing, OS Specific Adaptation of NAND Device Driver
- NAND DDC OS Independent part of NAND Driver Core
- NAND LLC The low-level NAND h/w abstraction module
- System components PALOS: DSP/BIOS Abstraction

The following table gives a quick overview of the supported API services.

PSP_nandInit()	Create (and initialize) a given NAND driver (instance)			
PSP_nandTerminate()	Delete a given NAND driver (instance)			
PSP_nandOpen()	Open Instance of the NAND device			
PSP_nandClose()	Close Instance of the NAND device			
PSP_nandReadSync()	Read data from NAND Instance			
PSP_nandWriteSync()	Write data to NAND Instance			
PSP_nandloctl()	loctl interface.			
PSP_nandErase()	Erases the NAND device			
PSP_nandAddDevice ()	Set NAND configuration parameters for a new device ID.			



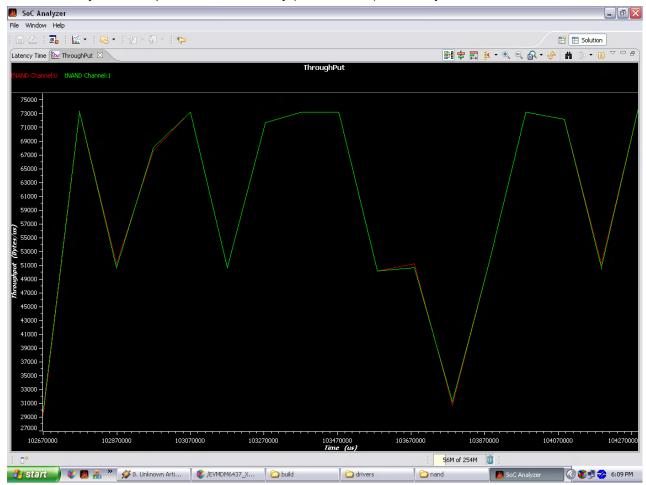
RELEASE VERSION GA 1.00.03.01



Driver Performance Characteristics

NAND DEVICE DRIVER SUB-COMPONENT	PROGRAM MEMORY (IN BYTES)	DATA MEMORY (IN BYTES)		
		MEMORY TYPE		TOTAL
		INITIALIZED	UN INITIALIZED	
<nand dda=""></nand>	5848	775	16896	23519
<nand ddc=""></nand>	26496	60	0	26556
<nand llc=""></nand>	2284	407	8	2699
Total	34628	1242	16904	52774

System Components Total Memory (Code & Data): 52774 Bytes



Throughput of NAND driver in DMA mode

Note: The Driver Performance Characteristics can be included once testing is done on DM6437/C6424 SoC. For generating performance figures of NAND driver in other modes please refer the top-level user guide for usage of SoC Analyzer.



References

[1] NAND Module Hardware Specifications

[2] NAND Device Driver Documentation

Glossary

LLC TI Terminology, Low Level Controller

DDA TI Terminology, Device Driver Adapter to OS

DDC TI Terminology, Device Driver Core that is OS independent



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