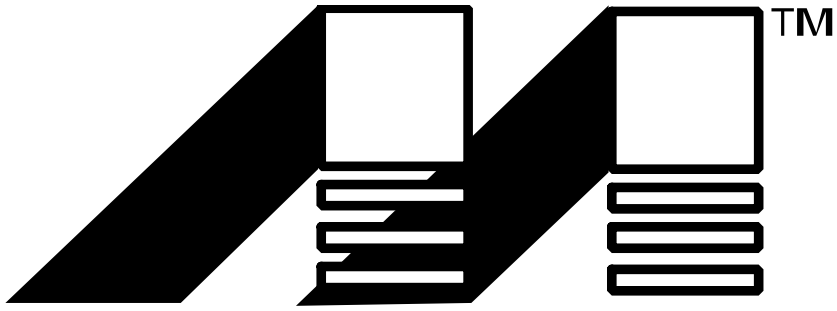
FTE - SDK TEST REPORT



MARVELL™

WhistlerPlus

TSB BiCS4 SDK v2.1.0.10000

2020/2/18

1. SDK v2.0 Release Components

FW Version	**2.1.0.10000**
Release Note	√
README	√
Burner Image	√
TinyLoader Image	√
FW Image	√
Exceciser	√
Building tools	√
Source codes	√

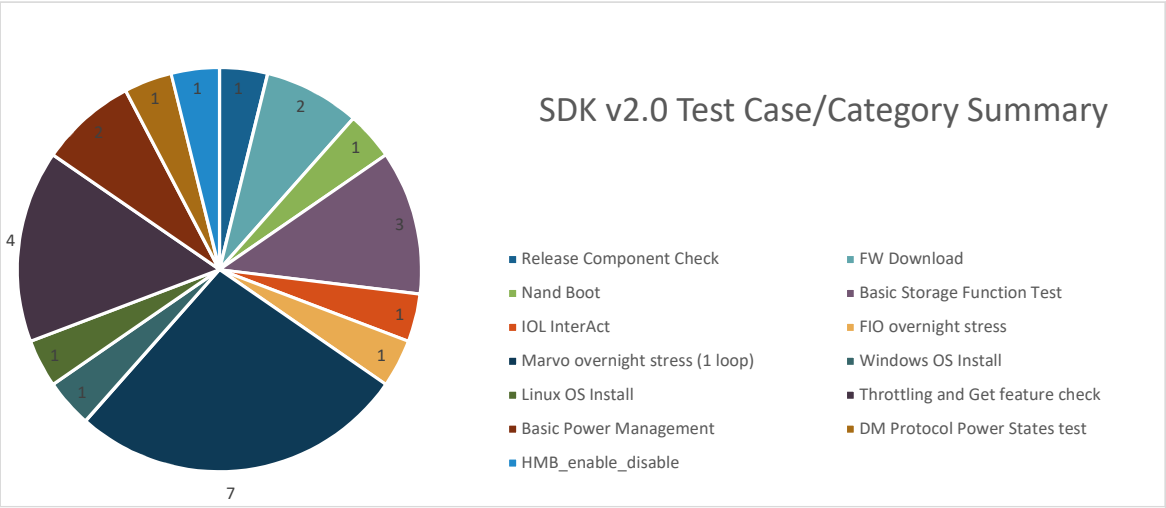
2. SUT Test Resouce Arrangement

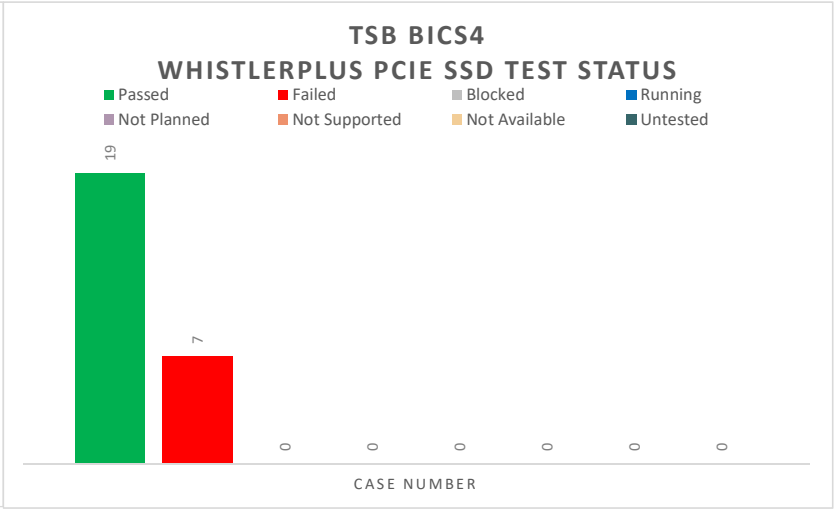
FTE Test Platform Configuration			
TSB_BiCS4_M.2(2T)			
FW	**MB**	**SSD**	**Test Config**
TSB_BiCS4_800M	GIGA_Z370/ ASUS_Z370/ASRock x570	WhistlerPlus M.2 BICS4	Basic IO&function/FE protocol/Perf

3. Test Status Summary

FTE SDK v2.0 Test Cycle Summary	
Schedule	2019/12/09 -2019/12/10
Pass/Running Rate	76.00%
Fail Rate	**28.00%**
Process Rate	**100.00%**

4. Test Case Summary





[WhistlerPlus PCIe SSD] FTE Test Result Summary											
Category	**Test Cases**	**Test Cases**	**Passed**	**Failed**	**Blocked**	**Running**	**Not Planned**	**Not Supporte**	**Not Available**	**Untested**	**Comments**
Basic Function	Release Component Check	1	1	0	0	0	0	0	0	0	
	FW Download	2	0	2	0	0	0	0	0	0	
	Nand Boot	1	1	0	0	0	0	0	0	0	
	Basic Storage Function Test	3	3	0	0	0	0	0	0	0	
FE Protocol	IOL InterAct	1	1	0	0	0	0	0	0	0	
Basic IO	FIO overnight stress	1	1	1	0	0	0	0	0	0	
	Marvo overnight stress (1 loop)	7	6	1	0	0	0	0	0	0	
OS Install	Windows OS Install	1	0	1	0	0	0	0	0	0	
	Linux OS Install	1	1	0	0	0	0	0	0	0	
Thermal Throttling	Throttling and Get feature check	4	4	0	0	0	0	0	0	0	
Power Management	Basic Power Management	2	1	1	0	0	0	0	0	0	
DM	DM Protocol Power States test	1	0	1	0	0	0	0	0	0	
HMB	HMB_enable_disable	1	0	1	0	0	0	0	0	0	
Total		**25**	**19**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	

5. Open Issue Summary

JIRA ID	Summary	Description
DRAMLESS-4150	[FTE][WP][bics4]iol test fail, Set Feature command was not successful, failing test.	Related to HMB feature.
DRAMLESS-4151	[FTE][WP][bics4]iol test fail, Failed to start device-self-test Extended operation	Related to Device Self Test feature.
DRAMLESS-4155	[FTE][WP][bics4] fio test fail,nvme_admin_abort_cmd, cmd_id=109, sq_id=3 [nvme_abort.c, 39]	over 15 hours, fio met fail, fw met "nvme_admin_abort_cmd"
DRAMLESS-4088	[FTE][WP][bics4]marvo test fail, nvme_admin_abort_cmd, cmd_id=dc, sq_id=1, The system is slowly processing commands. [nvme_abort.c, 39]	over 24 hours, marvo met fail, fw met fw met "nvme_admin_abort_cmd"
DRAMLESS-4148	[FTE][WP][bics4]flash_erase_user test fail, Assertion failed @ nand_vendor2_slc_row_decompose:348 (row == 0)	Erase only user data, may met this Assert.
DRAMLESS-4167	[FTE][WP][bics4]NVMe online update fail, Assertion failed @ CodeBankManager_Entry:155 (error == cCodeBankNoError). [dbg.c, 435]	new issue, Online update met this Assert.
DRAMLESS-3612	[FTE][WP][BiCS4][PMU] Ps3/Ps4 with fio running, fio performance drop when enable pmu.	old issue, not fix this pmu issue.

6. SDK Test Result Matrix

Test Configuration	
FW Version	2.1.0.10000

WhistlerPlus PCIe SSD Test Result Matrix					
ID	**Test Cases**	**SDK V2.1.0.10000 BiCS4_800MT/s**	**Esmitated Run Time(hr)**	**JIRA ID**	**Comments (JIRA#)**
1	**Basic Function**				
1.1	Release Component Check	Pass	0.5		
1.2	FW Download(UART)	Fail	0.2	DRAMLESS-4148	flash_erase_user test meet assertion
1.3	Online Download	Fail	0.2	DRAMLESS-4167	NVMe online update meet Assertion
1.4	Nand Boot	Pass	0.1		
1.5	Basic Storage Function Test				
1.5.1	OS/BIOS detection	Pass	1		
1.5.2	Identify info check	Pass			
1.5.3	Basic filesystem tests, copy/delete/compare small files	Pass			
2	**FE Protocol**				
2.1	IOL InterAct	Fail	1	DRAMLESS-4150 DRAMLESS-4151 DRAMLESS-1214	running over 30 minutes. DRAMLESS-4150:Set Feature command was not successful DRAMLESS-4151: Failed to start device-self-test Extended operatio DRAMLESS-1214:Known issue
3	**Basic IO**				
3.1	FIO overnight stress	Fail	8	DRAMLESS-4155	Running at two test platforms, one pass 8 hours, another failed after running fio 15 hours. DRAMLESS-4155:FE abort
3.2	Marvo overnight stress (1 loop)				
3.2.1	BAT	Pass	4		Running about 29 hours.
3.2.2	Pre_testUnAligned	Pass	2		Running about 13 hours.
3.2.3	Pre_testAligned	Pass	2		Running about 6 hours.
3.2.4	MixedWriteReadTrim_MixedPattern_Short_Unaligned	Pass	2		Running about 35 minutes.
3.2.5	MixedWriteReadTrim_MixedPattern_Short_Aligned	Pass	2		Running about 25 minutes.
3.2.6	MixedWriteRead_MixedPattern_Short_Aligned	Pass	2		Running about 25 minutes.
3.2.7	MixedWriteRead_MixedPattern_Short_Unaligned	Pass	2		Running about 35 minutes.
4	**Performace**				
4.1	Marvo Basic Perf Test	Pass	0.2		
5	**OS Install**				
5.1	Windows OS Install	Fail	1	DRAMLESS-4174	DRAMLESS-4174:enable hmb and met issue

5.2	Ubuntu OS Install	NA	1		
6	**Thermal Throttling**				
6.1	Identify info check - HCTM	Pass	1		
6.2	Set/Get feature value and check - HCTM	Pass	1		
6.3	Light throttling	Pass	1		
6.4	Heavy throttling	Pass	1		
7	**Power Management**				
7.1	Basic Power test	Pass	1		
7.2	PMU running with fio	Fail	1	DRAMLESS-3612	Runnint over 10 minutes. DRAMLESS-3612: fio performance drop when enable pmu at
7	**DM Test**				
7.1	Protocol Power States test	NA	1		

7. Performance Test Report

Test Configuration	
MB	ASRock x570
FW Version	2.1.0.10000
Performance Logs	Marvell Internal Link

Highlight: Write Perf is very low.

Marvo - marvo_0.7.0 _1G range, 2 min	Test Results Micron_BiCS4_M.2
128k SeqWrite	332.68 MB/s
128k SeqRead	2.49 GB/s
4k RandWrite	68,685 IOPS
4K RandRead	124,318 IOPS(lowest) 334,603 IOPS(highest)

8. NVMe IOL Test Report

Test Configuration	
Board ID	WhistlerPlus BiCS4(2T)
FW Version	2.1.0.10000
IOL PC Edition	12.0b
Trace/Log	Marvell Internal Link

Test Group	Test name	Case name	
	Test 1.1 – Identify Command (Mandatory)	Case 1: Identify Namespace Data Structure (Mandatory)	PASS
		Case 2: Identify Controller Data Structure (Mandatory)	PASS
		Case 3: Namespace List (Mandatory)	PASS
		Case 4: Identify to invalid Controller ID (Mandatory)	SKIP
		Case 5: Identify to reserved CNS Value (Mandatory)	PASS
		Case 6 : Namespace Identification Descriptors (FYI, OF-FYI)	PASS
	Test 1.2 – Set/Get Features Commands (Mandatory)	Case 1: SEL = 000b (Mandatory)	PASS
		Case 2: SEL = 001b (Mandatory)	PASS
		Case 3: SEL = 010b (Mandatory)	PASS
		Case 4: SEL = 011b (Mandatory)	PASS
		Case 5: SEL = Reserved Value (Mandatory)	PASS
	Test 1.3 – Get Log Page Command (Mandatory)	Case 1: Supported LIDs (Mandatory)	PASS
		Case 2: Unsupported Vendor Specific LIDs (Mandatory)	PASS
		Case 3: Reserved LIDs (Mandatory)	PASS
		Case 4: NUMD/MDTS Conflict (Mandatory)	PASS
		Case 5: Get Error Information after Error (Mandatory)	PASS
		Case 6: SMART Temperature Threshold (Mandatory)	PASS
		Case 7: Data Units Read (Mandatory)	PASS
		Case 8: Data Units Written (Mandatory)	PASS
		Case 9: Power Cycle Count (In Progress)	Not Support
		Case 10: NUMD Greater than Log Page Conflict (FYI)	Not Support
		Case 11: Telemetry Host Initiated Valid Offset Create=1 (FYI)	SKIP
		Case 12: Telemetry Host Initiated Valid Offset Create=0 (FYI)	SKIP
		Case 13: Telemetry Host Initiated Invalid Offset (FYI)	SKIP
		Case 14:Telemetry Controller Initiated Valid Offset (FYI)	SKIP

Group 1: Admin Command Set		Case 15:Telemetry Controller Initiated Invalid Offset (FYI)	SKIP
	Test 1.4 – Create/Delete IO Submission and Completion Queues (Mandatory)	Case 1: Basic Operation (Mandatory)	PASS
		Case 2: Create I/O Completion Queue with QID=0h, exceeds Number of Queues reported, Identifier Already in Use (Mandatory)	PASS
		Case 3: Delete I/O Completion Queue before deleting Corresponding Submission Queue (Mandatory)	PASS
		Case 4: Create I/O Completion Queue with Invalid Queue Size (Mandatory)	PASS
		Case 5: Create I/O Submission Queue with Invalid Queue Size (Mandatory)	PASS
		Case 6: Create I/O Submission Queue Physically Contiguous (Mandatory)	SKIP
		Case 7: Create I/O Submission Queue Invalid CQID (Mandatory)	PASS
		Case 8: Create I/O Completion Queue Invalid Interrupt Vector (Mandatory)	PASS
		Case 9: Create I/O Completion Queue Invalid Queue Address Offset (FYI)	PASS
		Case 10: Create I/O Submission Queue Invalid Queue Address Offset (M)	PASS
	Test 1.5 – Abort Command (Mandatory)		PASS
	Test 1.6 – Format NVM Command (Mandatory if Supported)	Case 1: Valid LBAF, SES=000b (Mandatory if Supported)	PASS
		Case 2: Valid LBAF, SES=001b (Mandatory if Supported)	PASS
		Case 3: Valid LBAF, SES=010b (Mandatory if Supported)	SKIP
		Case 4: Valid LBAF, SES=111b (reserved value) (Mandatory if Supported)	PASS
		Case 5: Invalid LBAF, SES=000b (Mandatory if Supported)	PASS
		Case 6: Invalid LBAF, SES=111b (reserved value) (Mandatory if Supported)	PASS
		Case 7: Valid LBAF, SES=000b, PI is non-zero (Mandatory if Supported)	PASS
	Test 1.7 – Asynchronous Events (Mandatory)	Case 1: Asynchronous Event Request Command (In Progress)	PASS
		Case 2: Outstanding Commands Aborted after Reset (Mandatory)	PASS
		Case 3: Clearing Events (In Progress)	Not Support
		Case 4: Masking Events (Mandatory)	PASS
	Test 1.8 – Get Feature Select (Mandatory)		PASS
	Test 1.9 – Feature Saved Across Reset (Mandatory)		PASS
	Test 1.10 – Device Self-test Short Operation (FYI, OF-FYI)	Case 1: Namespace Test Action = 00000000h, STC=1h (FYI, OF-FYI)	SKIP
		Case 2: Namespace Test Action = 00000001h-FFFFFFFEh, STC=1h (FYI, OF-FYI)	SKIP
		Case 3: Namespace Test Action = FFFFFFFFh, STC=1h (FYI, OF-FYI)	SKIP
		Case 4: Namespace Test Action = Invalid Namespace, STC=1h (FYI, OF-FYI)	SKIP
	Test 1.11 – Device Self-test Extended Operation (FYI, OF-FYI)	Case 1: Namespace Test Action = 00000000h, STC=2h (FYI, OF-FYI)	FAIL
	Test 2.1 – Compare Command	Case 1: Valid SLBA (Mandatory if Supported)	SKIP
		Case 2: SLBA Out of Range (Mandatory if Supported)	SKIP
		Case 3: SLBA In Range, NLB Goes out of range (Mandatory if Supported)	SKIP

Group 2: NVM Command Set	(Mandatory if Supported)	Case 4: SLBA Out of Range, NLB > MDTS (Mandatory if Supported)	SKIP
		Case 5: SLBA Out of Range, but Lower Dword = 00000000 (Mandatory if Supported)	SKIP
		Case 6: Invalid Namespace ID (Mandatory if Supported)	SKIP
	Test 2.2 – Dataset Management Command (Mandatory if Supported)	Case 1: Basic Operation (Mandatory if Supported)	SKIP
		Case 2: Deallocate (Mandatory if Supported)	SKIP
		Case 3: Deallocate Out of Range (In Progress)	SKIP
		Case 4: NR Value is Maximum (In Progress)	SKIP
		Case 5: Correct Range Deallocated (In Progress)	SKIP
	Test 2.3 – Read Command (Mandatory)	Case 1: Valid Read, LR=0, FUA=0 (Mandatory)	PASS
		Case 2: SLBA Out of Range (Mandatory)	PASS
		Case 3: SLBA In Range, NLB Goes out of range (Mandatory)	PASS
		Case 4: SLBA Out of Range, NLB > MDTS (Mandatory)	PASS
		Case 5: SLBA Out of Range, but Lower Dword = 00000000 (Mandatory)	PASS
		Case 6: Invalid Namespace ID (Mandatory)	PASS
		Case 7: Invalid Namespace ID and SLBA Out of Range (Mandatory)	PASS
		Case 8: Valid Read, LR=0, FUA=1 (Mandatory)	PASS
		Case 9: Valid Read, LR=1, FUA=0 (Mandatory)	PASS
		Case 10: Valid Read, LR=1, FUA=1 (Mandatory)	PASS
		Case 11: Valid READ, Invalid PRP Address Offset (FYI)	PASS
	Test 2.4 – Write Command (Mandatory)	Case 1: Valid Write, LR=0, FUA=0 (Mandatory)	PASS
		Case 2: SLBA Out of Range (Mandatory)	PASS
		Case 3: SLBA In Range, NLB Goes out of range (Mandatory)	PASS
		Case 4: SLBA Out of Range, NLB > MDTS (Mandatory)	PASS
		Case 5: SLBA Out of Range, but Lower Dword = 00000000 (Mandatory)	PASS
		Case 6: Invalid Namespace ID (Mandatory)	PASS
		Case 7: Invalid Namespace ID and SLBA Out of Range (Mandatory)	PASS
		Case 8: Valid Write, LR=0, FUA=1 (Mandatory)	PASS
		Case 9: Valid Write, LR=1, FUA=0 (Mandatory)	PASS
		Case 10: Valid Write, LR=1, FUA=1 (Mandatory)	PASS
		Case 11: Write with Invalid PRP Address Offset (FYI)	PASS
	Test 2.5 – Write Uncorrectable Command (Mandatory if Supported)	Case 1: SLBA In Range, NLB Valid (Mandatory if Supported)	SKIP
		Case 2: SLBA Out of Range, NLB Valid (Mandatory if Supported)	SKIP
		Case 3: SLBA Out of Range, NSID Invalid (Mandatory if Supported)	SKIP
		Case 4: SLBA Out of Range, but Lower Dword = 00000000 (Mandatory if Supported)	SKIP

		Case 5: NLB greater than MDTS (FYI)	SKIP
	Test 2.6 – Flush Command (Mandatory)	Case 1: Valid Namespace ID (Mandatory)	PASS
		Case 2: Invalid Namespace ID (Mandatory)	PASS
	Test 2.7 – Write Zeroes Command (Mandatory if Supported)	Case 1: SLBA In Range, NLB Valid, LR=0, FUA=0 (Mandatory if Supported)	SKIP
		Case 2: SLBA Out of Range, NLB Valid (Mandatory if Supported)	SKIP
		Case 3: SLBA Out of Range, NSID Invalid (Mandatory if Supported)	SKIP
		Case 4: SLBA Out of Range, but Lower Dword = 00000000 (Mandatory if Supported)	SKIP
		Case 5: NLB greater than MDTS (FYI)	SKIP
		Case 6: SLBA In Range, NLB Valid, LR=0, FUA=1 (Mandatory if Supported)	SKIP
		Case 7: SLBA In Range, NLB Valid, LR=1, FUA=0 (Mandatory if Supported)	SKIP
		Case 8: SLBA In Range, NLB Valid, LR=1, FUA=1 (Mandatory if Supported)	SKIP
		Case 9: PRCHK is Non Zero (Mandatory if Supported)	SKIP
	Test 2.8 – Atomicity Parameters (Mandatory)		SKIP
	Test 2.9 – AWUN/NAWUN (Mandatory)	Case 1: Atomic Boundaries Not Supported (NABSN/NABSPF = 0) (Mandatory)	PASS
		Case 2: Atomic Boundaries Supported (NABSN/NABSPF ≠ 0) (In Progress)	SKIP
	Test 2.10 – AWUPF/NAWUPF (In Progress)		Not Support
Group 3: NVM Features	Test 3.1 – Metadata Handling	Case 1: Extended LBA (Mandatory if Supported)	PASS
		Case 2: Separate Buffer (Mandatory if Supported)	PASS
	Test 3.2 – End to End Data Protection	Case 1: Write Command Processing (Mandatory if Supported)	SKIP
		Case 2: Read Command Processing (Mandatory if Supported)	SKIP
	Test 3.3 – Power Management	Case 1: Relative Write Latency (Mandatory)	PASS
		Case 2: Relative Write Throughput (Mandatory)	PASS
		Case 3: Relative Read Latency (Mandatory)	PASS
		Case 4: Relative Read Throughput (Mandatory)	PASS
		Case 5: Power Management Feature (Mandatory)	PASS
	Test 3.4 – Host Memory Buffer (FYI)		FAIL
	Test 3.5 – Replay Protected Memory Block (In Progress)		Not Support
	Test 3.6	Case 1	SKIP
		Case 2	PASS
	Test 3.7 - Enable and Disable Write Protection		PASS
	Test 4.1 – Offset 00h: CAP – Memory Page Size Maximum (MPSMAX) (Mandatory)		PASS
	Test 4.2 – Offset 00h: CAP – Memory Page Size Minimum (MPSMIN) (Mandatory)		PASS
	Test 4.3 – Offset 00h: CAP – Command Sets Supported (CSS) (Mandatory)		PASS
	Test 4.4 – Offset 00h: CAP – Doorbell Stride (DSTRD) (Mandatory)		Informative

Group 4: Controller Registers	Test 4.5 – Offset 00h: CAP – Timeout (TO) (Mandatory)		PASS
	Test 4.6 – Offset 00h: CAP – Arbitration Mechanism Supported (AMS)(Mandatory if Supported)		PASS
	Test 4.7 – Offset 00h: CAP – Contiguous Queues Required (CQR) (Mandatory)		Informative
	Test 4.8 – Offset 00h: CAP – Maximum Queue Entries Supported (MQES) (Mandatory)		PASS
	Test 4.9 – Offset 0Ch–10h: INTMS –Interrupt Mask Set and INTMC –Interrupt Mask Clear (Mandatory)		PASS
	Test 4.10 – Offset 14h: CC – I/O Completions Queue Entry Size (IOCQES) (Mandatory)		PASS
	Test 4.11 – Offset 14h: CC – I/O Submission Queue Entry Size (IOSQES) (Mandatory)		PASS
	Test 4.12 – Offset 14h: CC – Shutdown Notification (SHN) (Mandatory)		PASS
	Test 4.13 – Offset 14h: CC – Arbitration Mechanism Selected (AMS) (Mandatory)		PASS
	Test 4.14 – Offset 14h: CC – I/O Command Set Selected (CSS) (Mandatory)		PASS
	Test 4.15 – Offset 14h: CC – Enable (EN) (Mandatory)		PASS
	Test 4.16 – Offset 1Ch: CSTS – Shutdown Status (SHST) (Mandatory)		PASS
	Test 4.17 – Offset 1Ch: CSTS – Controller Fatal Status (CFS) (Mandatory)		Informative
	Test 4.18 – Offset -08h: CAP – Version (VS) (Mandatory)		PASS
Group 5: System Memory Structure	Test 5.1 – Page Base Address and Offset (PBAO) (Mandatory)		PASS
	Test 5.2 – Completion Queue Entry (Mandatory)		PASS
	Test 5.3 – Status Field Definition (Mandatory)		PASS
	Test 5.4 – Generic Command Status Definition (Mandatory)		PASS
	Test 5.5 – Command Specific Errors Definition (Mandatory)	Case 1: Abort Command Limit Exceeded (M)	PASS
		Case 2: Asynchronous Event Request Limit Exceeded (M)	PASS
		Case 3: Invalid Firmware Slot(MS)	PASS
		Case 4: Feature Identifier Not Saveable(M)	PASS
		Case 5: Feature Not Changeable (M)	PASS
		Case 6: Feature Not Namespace Specific IV=1 (M)	PASS
		Case 7: Overlapping Range (M)	SKIP
	Test 5.6 – Media and Data Integrity Errors Definition (Mandatory)		SKIP
Group 6: Controller Architecture	Test 6.1 – Controller Level Reset – Conventional Reset (In Progress)		PASS
	Test 6.2 – Controller Level Reset – Function Level Reset (Mandatory)		Not Support
	Test 6.3 – Controller Level Reset – Controller Reset (Mandatory)		PASS
	Test 6.4 – Controller Level Reset – NVM Subsystem Reset (Mandatory if Supported)		PASS
	Test 7.1 – Reservation Report Comma	Case 1: Host is a Registrant (Mandatory if Supported)	SKIP
	Test 7.2 – Reservation Registration (Mandatory if Supported)	Case 1: Basic Operation (Mandatory if Supported)	SKIP
		Case 2: Re-registration (Mandatory if Supported)	SKIP
		Case 3: Replace Registration Key (Mandatory if Supported)	SKIP

Group 7: Reserva	Test 7.3 – Unregistering (Mandatory if Supported)	Case 1: Unregistering with Reservation Register Command (FYI)	SKIP
		Case 2: Unregistering due to Preemption (Mandatory if Supported)Dual Port Devices	SKIP
	Test 7.4 – Acquiring a Reservation (Mandatory if Supported)	Case 1: Basic Operation (Mandatory if Supported)	Not Support
		Case 2: Error Conditions (Mandatory if Supported)	Not Support
		Case 3: Multiple Hosts (Mandatory if Supported) Dual Port Devices Only	Not Support
	Test 7.5 – Releasing a Reservation (Mandatory if Supported)	Case 1: Release with Reservation Release Command (FYI)	Not Support
		Case 2: Reservation Release Command Error Conditions (FYI)	Not Support
		Case 3: Multiple Hosts (Mandatory if Supported) Dual Port Devices Only	Not Support
		Case 4: Release Due to Unregister (FYI)	Not Support
	Test 7.6 – Preempting a Reservation (Mandatory if Supported)	Case 1: Write Exclusive - All Registrants or Exclusive Access - All Registrants (Mandatory if Supported)Dual Port Devices Only	Not Support
		Case 2: Other Registration Types (Mandatory if Supported) Dual Port Devices Only	Not Support
		Case 3: Self-preemption (Mandatory if Supported) Dual Port Devices Only	Not Support
		Case 4: Preempt and Abort (Mandatory if Supported) Dual Port Devices Only	Not Support
	Test 7.7 – Clearing a Reservation (Mandatory if Supported)	Case 1: Basic Operation with Reservation Release Command (Mandatory if Supporte	Not Support
		Case 2: Error Conditions (Mandatory if Supported)	Not Support
	Test 7.8 – Command Behavior with Different Reservation Types (Mandatory if Supported)	Case 1: Write Exclusive (Mandatory if Supported)Dual Port Devices Only	Not Support
		Case 2: Exclusive Access (Mandatory if Supported) Dual Port Devices Only	Not Support
		Case 3: Write Exclusive - Registrants Only or Write Exclusive - All Registrants (Mandatory if	Not Support
		Case 4: Exclusive Access - Registrants Only or Exclusive Access - All Registrants (Mandatory if Supported) Dual Port Devices Only	Not Support
Group 8: Autonomous Power State Transitions	Test 8.1 – Autonomous Power State Transitions Enabled (Mandatory)		SKIP
	Test 8.2 – Return from Non–Operational State (In Progress)		Not Support
	Test 8.3 – Autonomous Power State Transition (Mandatory)		SKIP
	Test 8.4 - Power State Entrance Latency (FYI)		SKIP
	Test 8.5 - Power State Exit Latency (FYI)		SKIP
	Test 8.6 - Relative Read Throughput (FYI)		SKIP
	Test 8.7 - Relative Write Throughput (FYI)		SKIP
	Test 8.8 – Host Controlled Thermal Management (FYI)	Case 1: Basic Operation (FYI)	Not Support
		Case 2: Invalid Field (FYI)	PASS
Group 9:	Test 9.1 – Namespace Management I	Case 1: CNS 10h & 11h – Namespace Lists (Mandatory if Supported)	SKIP
		Case 2: CNS 12h – Controller List – Controllers Attached to a Namespace (Mandator	SKIP
		Case 3: CNS 13h – Controller List – All Controllers (Mandatory if Supported)	SKIP
		Case 4: Common Namespace Data Structure (Mandatory if Supported)	SKIP

Namespace Management	Test 9.2 – Namespace Management C	Case 1: Namespace Creation – Exceed Number Supported (Mandatory if Supported)	SKIP
		Case 2: Namespace Deletion (Mandatory if Supported)	SKIP
		Case 3: Namespace Creation – Insufficient Capacity (Mandatory if Supported)	SKIP
	Test 9.3 – Namespace Attachment Co	Case 1: Namespace Attachment (Mandatory if Supported)	SKIP
		Case 2: Namespace Detachment (Mandatory if Supported)	SKIP
Group 10: Syster	Test 10.1 – PCI Express Capability Registers (Mandatory)		FAIL