SLC-B Test Report
Summary Report Page – All Tests

SNIA Solid State Storage Performance Test Specification (PTS)				Rev.	**PTS 1.0**
				Page	**1 of 31**
Device Under Test (DUT)	SLC-B	**SNIA SSS PTS Summary Report**	**Calypso Systems, Inc.**	Calypso Systems	

DEVICE INFORMATION		**TEST HARDWARE PLATFORM**		**TEST SOFTWARE**		**REPORT DATE**	
SERIAL NO.	1111-1111-FFFF	**SYSTEM**	Calypso RTP 2.0	**SYS OS**	CENT OS 5.6	**Report**	06DEC11
FIRMWARE REV.	B901	**Motherboard/cpu**	Intel 5520HC / W5580	**SW TOOL**	Calypso CTS 6.5	**Test Run**	01NOV – 04DEC11
USER CAPACITY	SLC 100 GB	**RAM**	12GB ECC DDR3	**SW Rev**	1.19.10	**Test Sponsor**	Calypso
DEVICE INTERFACE	6 Gb/s SATA	**Device Interface**	LSA 9212-e 6Gb/s HBA	**Release**	Nov. 2011	**Auditor**	N/A

Testing Summary: Tests Run

PTS-C	TEST	Purge	DP	OIO	WIPC		WDPC		STEADY STATE	
					PC AR	TEST AR	PC AR	TEST AR	WORKLOAD	TIME/GB
7.0	WSAT - REQUIRED	Security Erase	RND	TC 2 QD 16	100%	100%	100%	100%	RND 4KiB W	6 Hrs 1.9 TB

PTS-C	TEST	Purge	DP	OIO	WIPC		WDPC		STEADY STATE	
					PC AR	TEST AR	PC AR	TEST AR	WORKLOAD	ROUNDS
8.0	IOPS - REQUIRED	Security Erase	RND	TC 2 QD 16	100%	100%	100%	100%	IOPS LOOP	2 - 6

PTS-C	TEST	Purge	DP	OIO	WIPC		WDPC		STEADY STATE	
					PC AR	TEST AR	PC AR	TEST AR	WORKLOAD	ROUNDS
9.0	THROUGHPUT - REQUIRED	Security Erase	RND	TC 2 QD 16	100%	100%	100%	100%	SEQ 128KiB/ SEQ 1024KiB	4 - 8

PTS-C	TEST	Purge	DP	OIO	WIPC		WDPC		STEADY STATE	
					PC AR	TEST AR	PC AR	TEST AR	WORKLOAD	ROUNDS
10.0	LATENCY - REQUIRED	Security Erase	RND	TC 1 QD 1	100%	100%	100%	100%	LAT LOOP	2 – 6

Test Sponsor – Special Notes

ITEM	NOTATION	COMMENTS

SLC-B Test Report
Summary Report Page - WSAT

SNIA Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS 1.0**
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Device Under Test (DUT)	SLC-B	**SNIA SSS PTS Summary Report**	**Calypso Systems, Inc.**	CALYPSO Systems

DEVICE INFORMATION		TEST HARDWARE PLATFORM		TEST SOFTWARE		REPORT DATE	
SERIAL NO.	1111-1111-FFFF	**SYSTEM**	Calypso RTP 2.0	**SYS OS**	CENT OS 5.6	**Report**	06DEC11
FIRMWARE REV.	B901	**Motherboard/cpu**	Intel 5520HC / W5580	**SW TOOL**	Calypso CTS 6.5	**Test Run**	01NOV – 04DEC11
USER CAPACITY	SLC 100 GB	**RAM**	12GB ECC DDR3	**SW Rev**	1.19.10	**Test Sponsor**	Calypso
DEVICE INTERFACE	6 Gb/s SATA	**Device Interface**	LSA 9212-e 6Gb/s HBA	**Release**	Nov. 2011	**Auditor**	N/A

Test Description

Purpose	To observe the drive's performance evolution from a PURGED state to that of SETTLED state
Test Outline	Uses total outstanding IO settings that maximizes RND 4KiB Writes, first PURGE the drive, followed by immediate continuous RND 4KiB (4K-aligned) writes for lesser of 4 x User Capacity or 24 Hours
Preconditioning	FOB - No Pre Conditioning - PURGE followed by Test (note: tests may be run longer for plotting clarity)

Test Set Up

PTS-C	TEST	Purge	DP	OIO	WIPC		WDPC		STEADY STATE	
					PC AR	TEST AR	PC AR	TEST AR	WORKLOAD	TIME/GB
7.0	**WSAT - REQUIRED**	Security Erase	RND	TC 2 QD 16	100%	100%	100%	100%	RND 4KiB W	6 Hrs 1.9 TB

Select Performance Data

FOB IOPS	Steady State IOPS	Time	Total GB Written
55,677	19,415	6 Hours	1.9 TB

Test Sponsor – Special Notes

ITEM	NOTATION	COMMENTS

Test Run Date:	11/02/2011 11:54 AM	**Report Run Date:**	11/14/2011 01:15 AM

Enterprise WSAT (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)		Rev.	**PTS-E 1.0**
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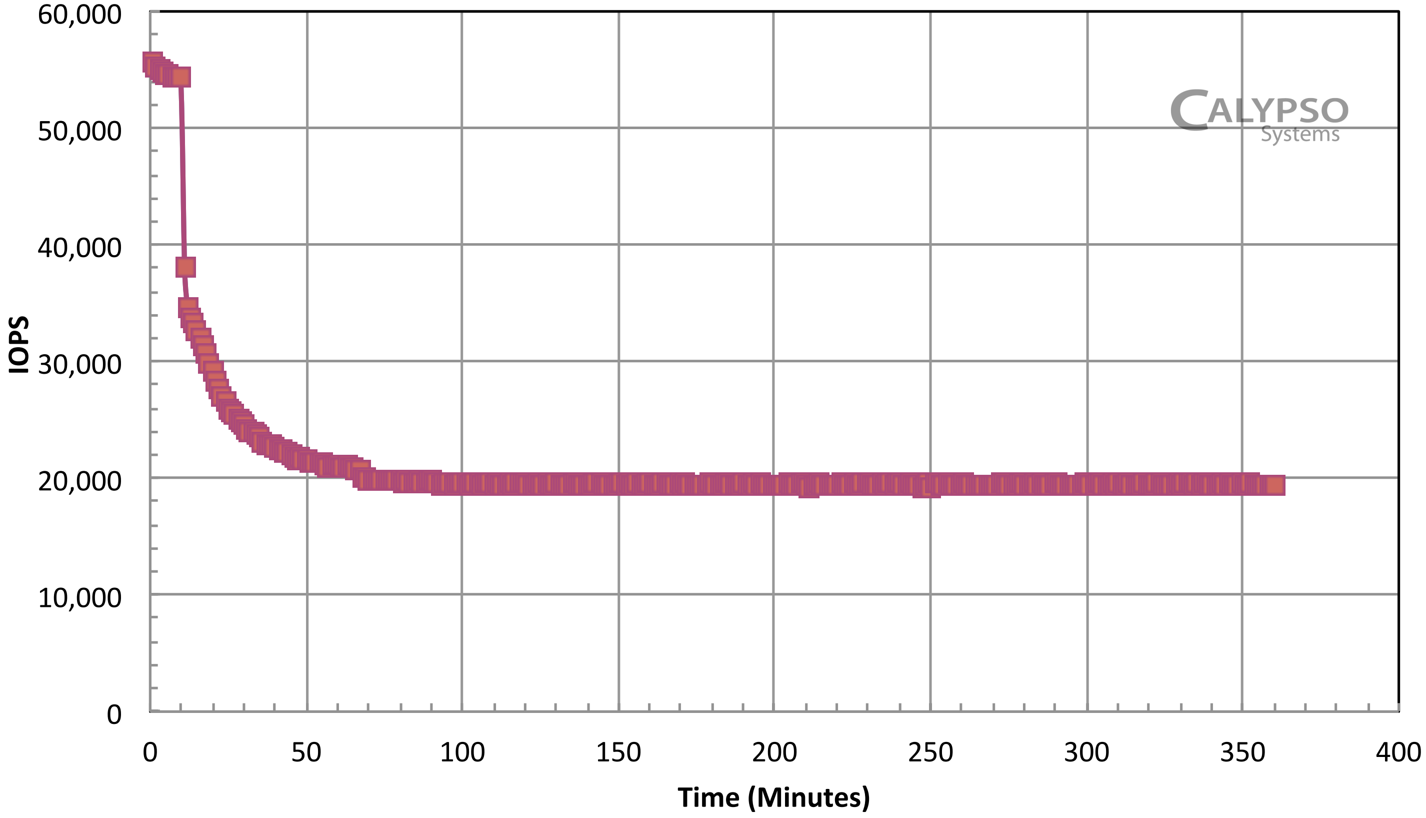
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Convergence**	N/A
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Rounds**	N/A
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**PC AR**	100%
NAND Type	SLC	**Workload Independent**	None	**Tester's Choice:**		**AR AMOUNT**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR Segments**	N/A
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	RND 4KiB	**Thread Count (TC)**	2	**OPT:**	N/A

Enterprise IOPS (Linear) vs Time (Linear)



Test Run Date:	11/02/2011 11:54 AM	**Report Run Date:**	11/14/2011 01:15 AM

Enterprise WSAT (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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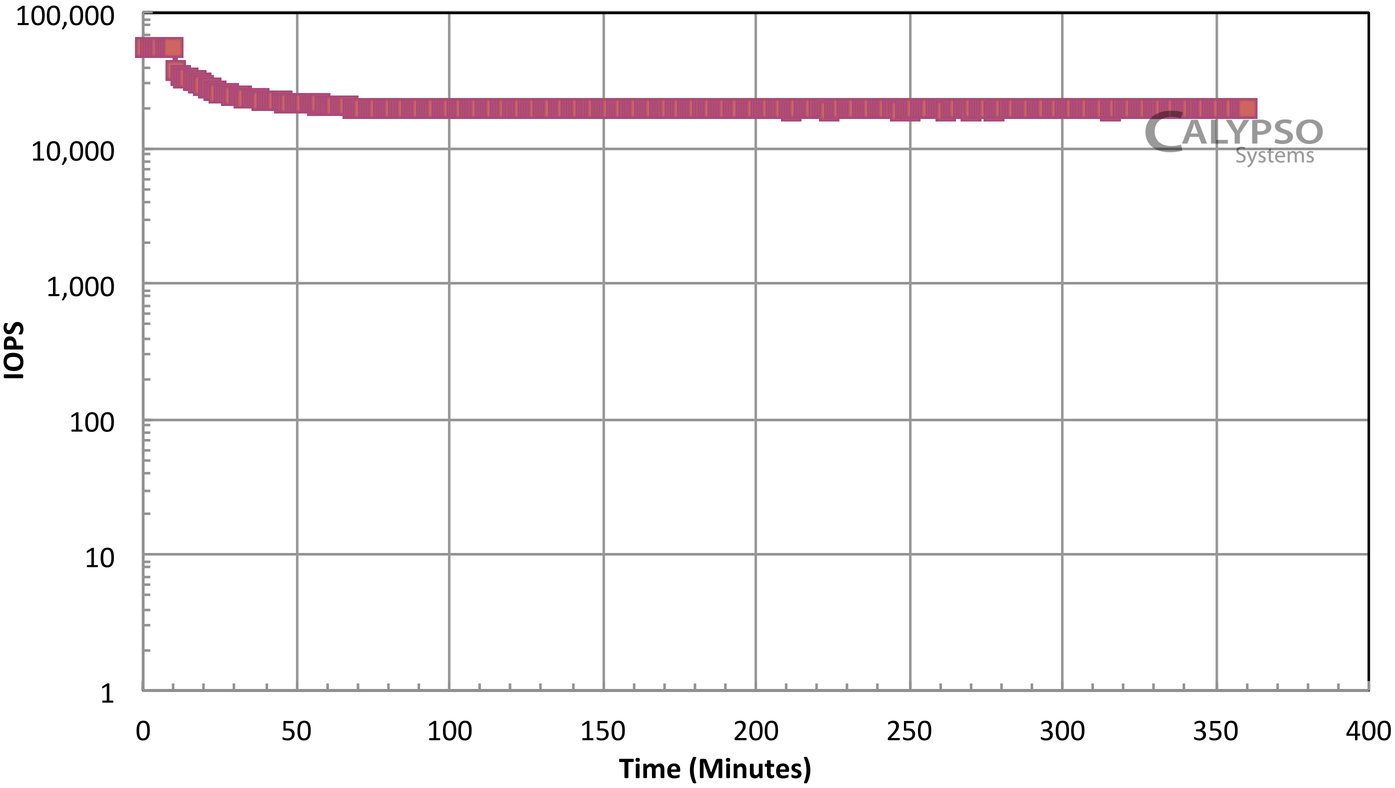
Device Under Test (DUT)	**VENDOR: ABC CO.**	**SSD MODEL NO: SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Convergence**	N/A
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Rounds**	N/A
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**PC AR**	100%
NAND Type	SLC	**Workload Independent**	None	**Tester's Choice:**		**AR AMOUNT**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR Segments**	N/A
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	RND 4KiB	**Thread Count (TC)**	2	**OPT:**	N/A

Enterprise IOPS (Log) vs Time (Linear)



Test Run Date:	11/02/2011 11:54 AM	**Report Run Date:**	11/14/2011 01:15 AM

Enterprise WSAT (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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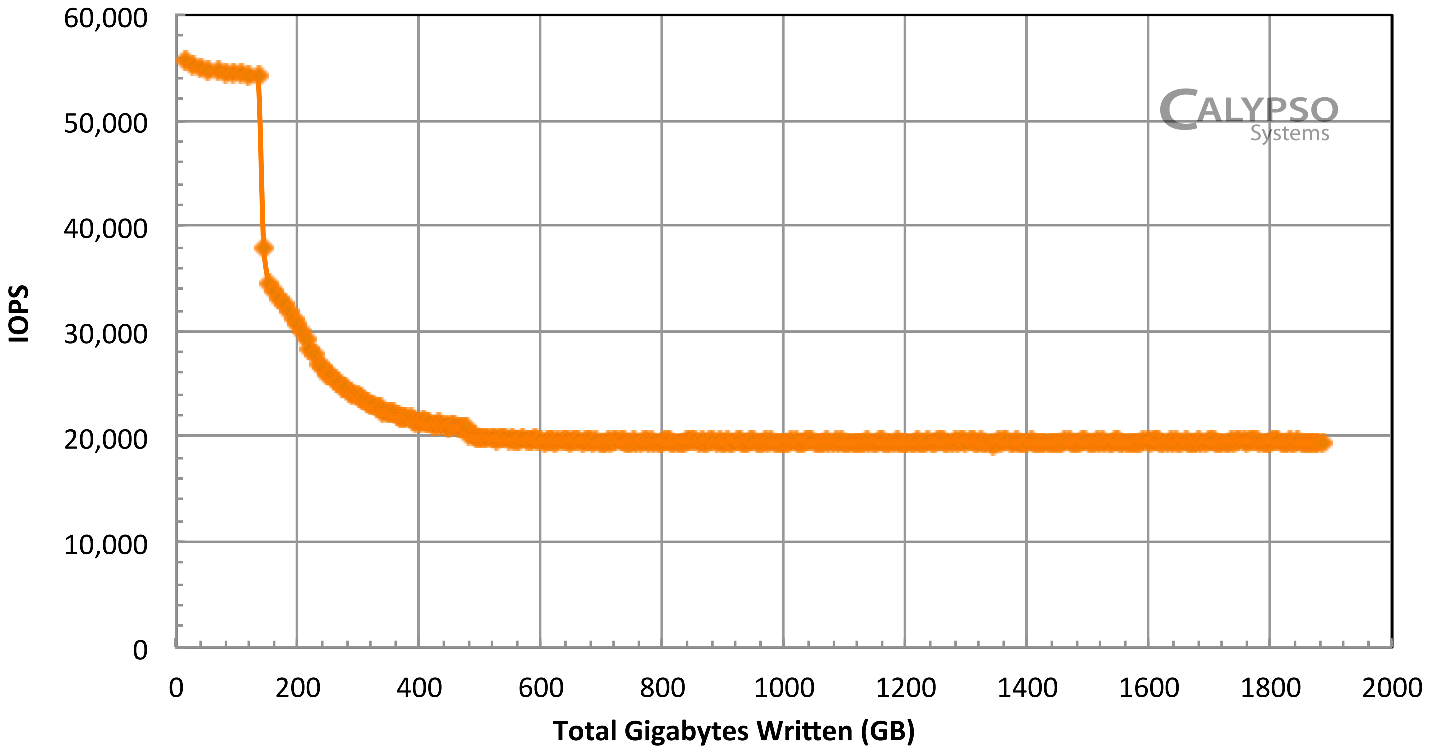
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Convergence**	N/A
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Rounds**	N/A
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**PC AR**	100%
NAND Type	SLC	**Workload Independent**	None	**Tester's Choice:**		**AR AMOUNT**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR Segments**	N/A
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	RND 4KiB	**Thread Count (TC)**	2	**OPT:**	N/A

Enterprise IOPS (Linear) vs Total Gigabytes Written (Linear)



Test Run Date:	11/02/2011 11:54 AM	Report Run Date:	11/14/2011 01:15 AM

Enterprise WSAT (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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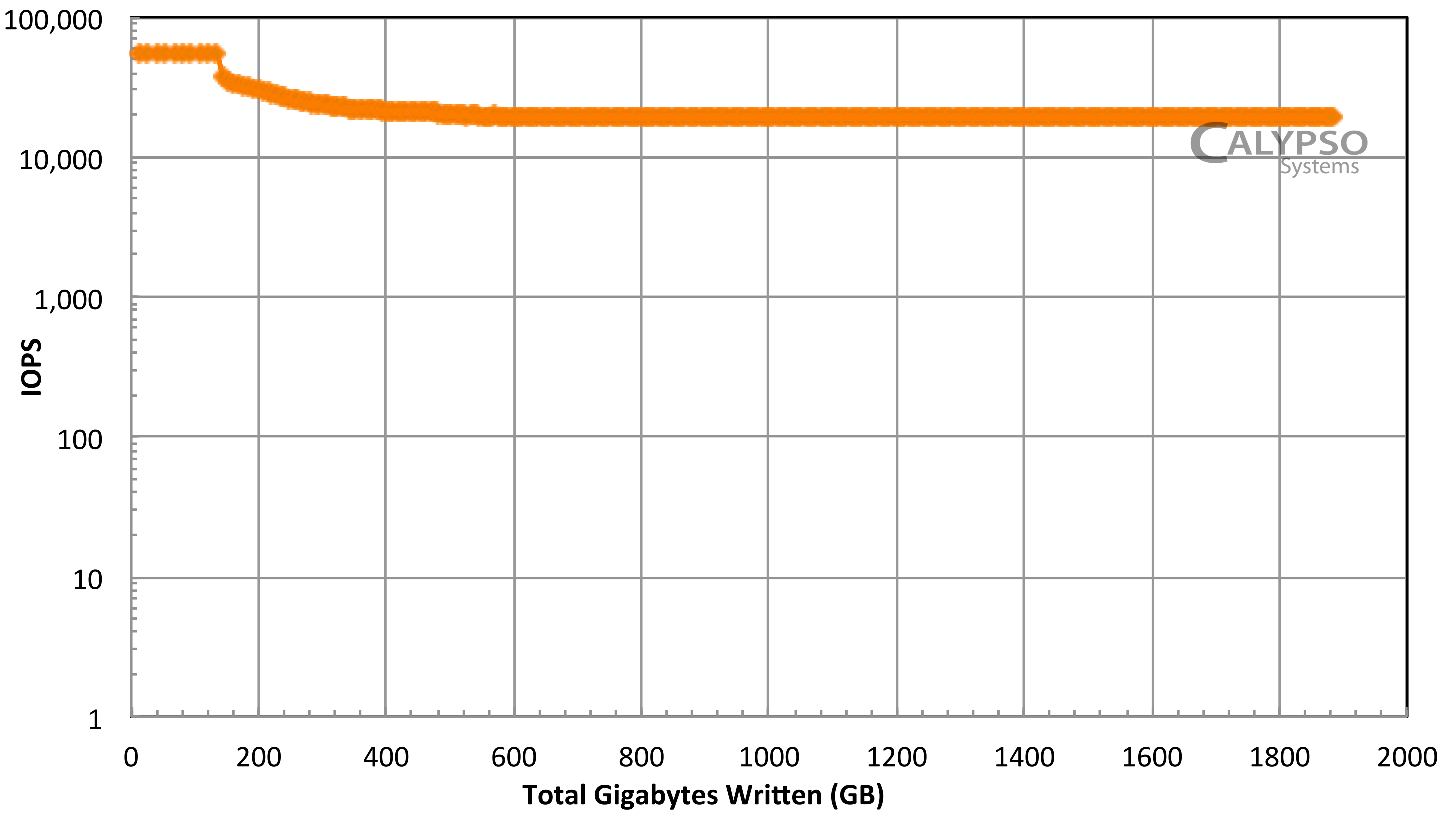
Device Under Test (DUT)	**VENDOR: ABC CO.**	**SSD MODEL NO: SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Convergence**	N/A
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Rounds**	N/A
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**PC AR**	100%
NAND Type	SLC	**Workload Independent**	None	**Tester's Choice:**		**AR AMOUNT**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR Segments**	N/A
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	RND 4KiB	**Thread Count (TC)**	2	**OPT:**	N/A

Client IOPS (Log10) vs Total Gigabytes Written (Linear)



SLC-B Test Report
Summary Report Page - IOPS

SNIA Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS 1.0**
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Device Under Test (DUT)	SLC-B	**SNIA SSS PTS Summary Report**	**Calypso Systems, Inc.**	CALYPSO Systems

DEVICE INFORMATION		**TEST HARDWARE PLATFORM**		**TEST SOFTWARE**		**REPORT DATE**	
SERIAL NO.	1111-1111-FFFF	**SYSTEM**	Calypso RTP 2.0	**SYS OS**	CENT OS 5.6	**Report**	06DEC11
FIRMWARE REV.	B901	**Motherboard/cpu**	Intel 5520HC / W5580	**SW TOOL**	Calypso CTS 6.5	**Test Run**	01NOV – 04DEC11
USER CAPACITY	SLC 100 GB	**RAM**	12GB ECC DDR3	**SW Rev**	1.19.10	**Test Sponsor**	Calypso
DEVICE INTERFACE	6 Gb/s SATA	**Device Interface**	LSA 9212-e 6Gb/s HBA	**Release**	Nov. 2011	**Auditor**	N/A

Test Description

Purpose	**To measure RND IOPS matrix using different BS and R/W Mixes**
Test Outline	**PURGE, then apply preconditioning until Steady State is achieved according to the SNIA PTS**
Preconditioning	**PURGE followed by SNIA PTS prescribed WIPC & WDPC**

Test Set Up

PTS-C	**TEST**	**Purge**	**DP**	**OIO**	**WIPC**		**WDPC**		**STEADY STATE**	
					PC AR	**TEST AR**	**PC AR**	**TEST AR**	**WORKLOAD**	**ROUNDS**
8.0	**IOPS - REQUIRED**	**Security Erase**	**RND**	**TC 2 QD 16**	**100%**	**100%**	**100%**	**100%**	**IOPS LOOP**	**2 - 6**

Select Performance Data

RND 4KiB W	**RND 4KiB R**	**RND 8KiB W**	**RND 8KiB R**
19,561	**48,365**	**10,630**	**32,259**

Test Sponsor – Special Notes

ITEM	**NOTATION**	**COMMENTS**

Test Run Date:	11/09/2011 11:35 AM	**Report Run Date:**	11/14/2011 04:17 PM

Enterprise IOPS (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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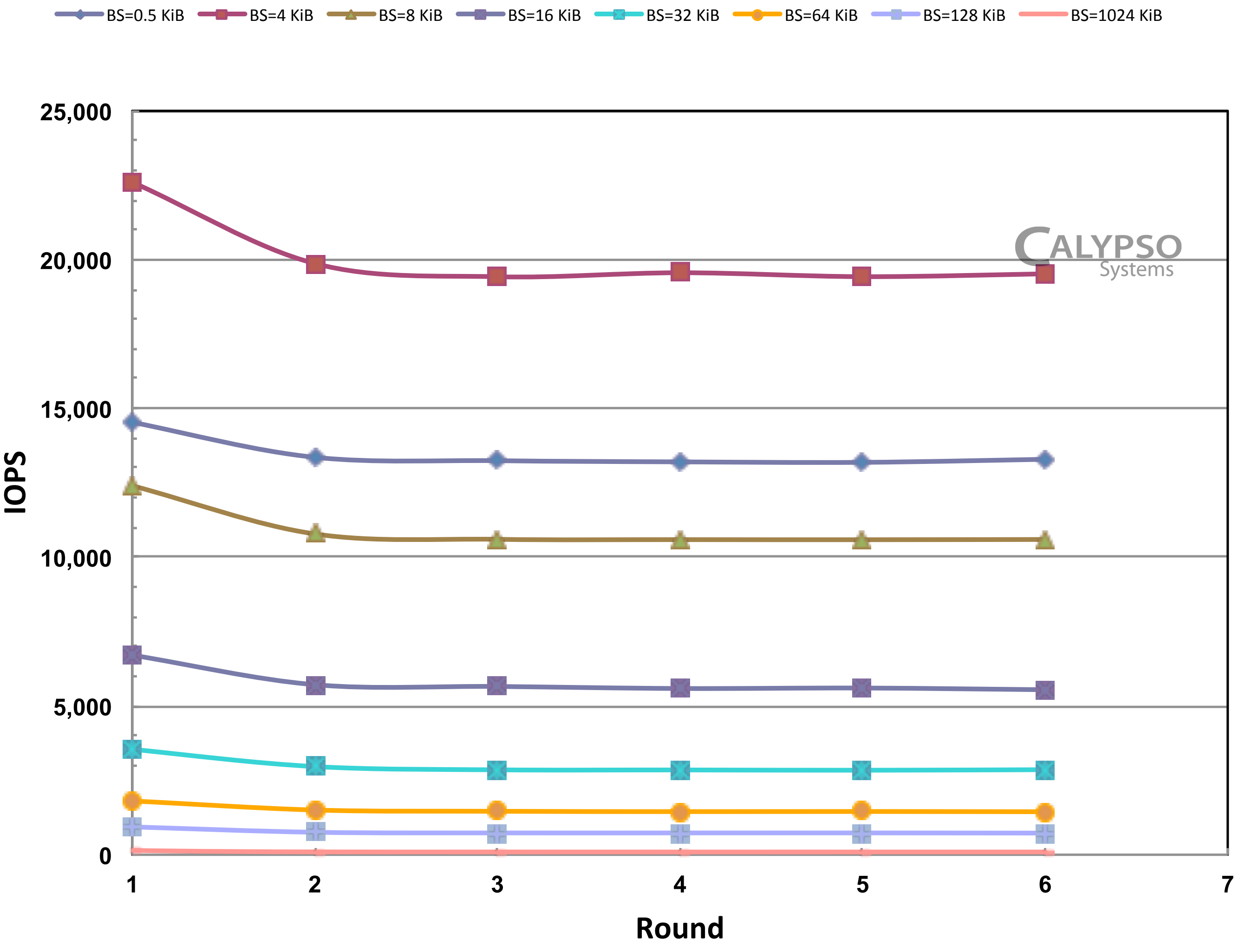
Device Under Test (DUT)		**VENDOR: ABC CO.**	**SSD MODEL NO: SLC-B 100 GB**		**TEST SPONSOR**		
Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	2-6
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full IOPS Loop	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise Steady State Convergence Plot – All Block Sizes



Test Run Date:	11/09/2011 11:35 AM	**Report Run Date:**	11/14/2011 04:17 PM

Enterprise IOPS (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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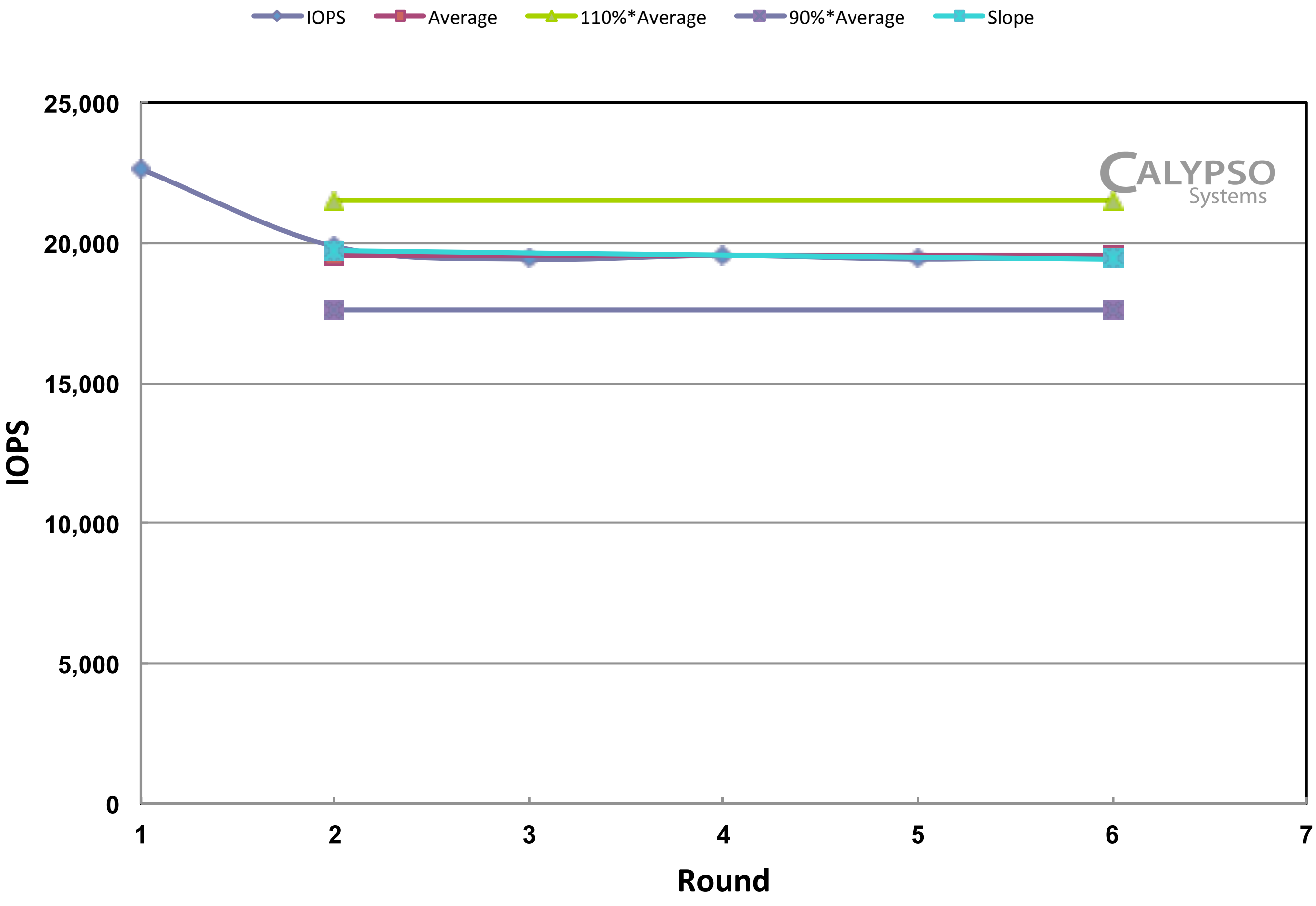
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	2-6
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full IOPS Loop	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise Steady State Measurement Window



Test Run Date:	11/09/2011 11:35 AM	**Report Run Date:**	11/14/2011 04:17 PM

Enterprise IOPS (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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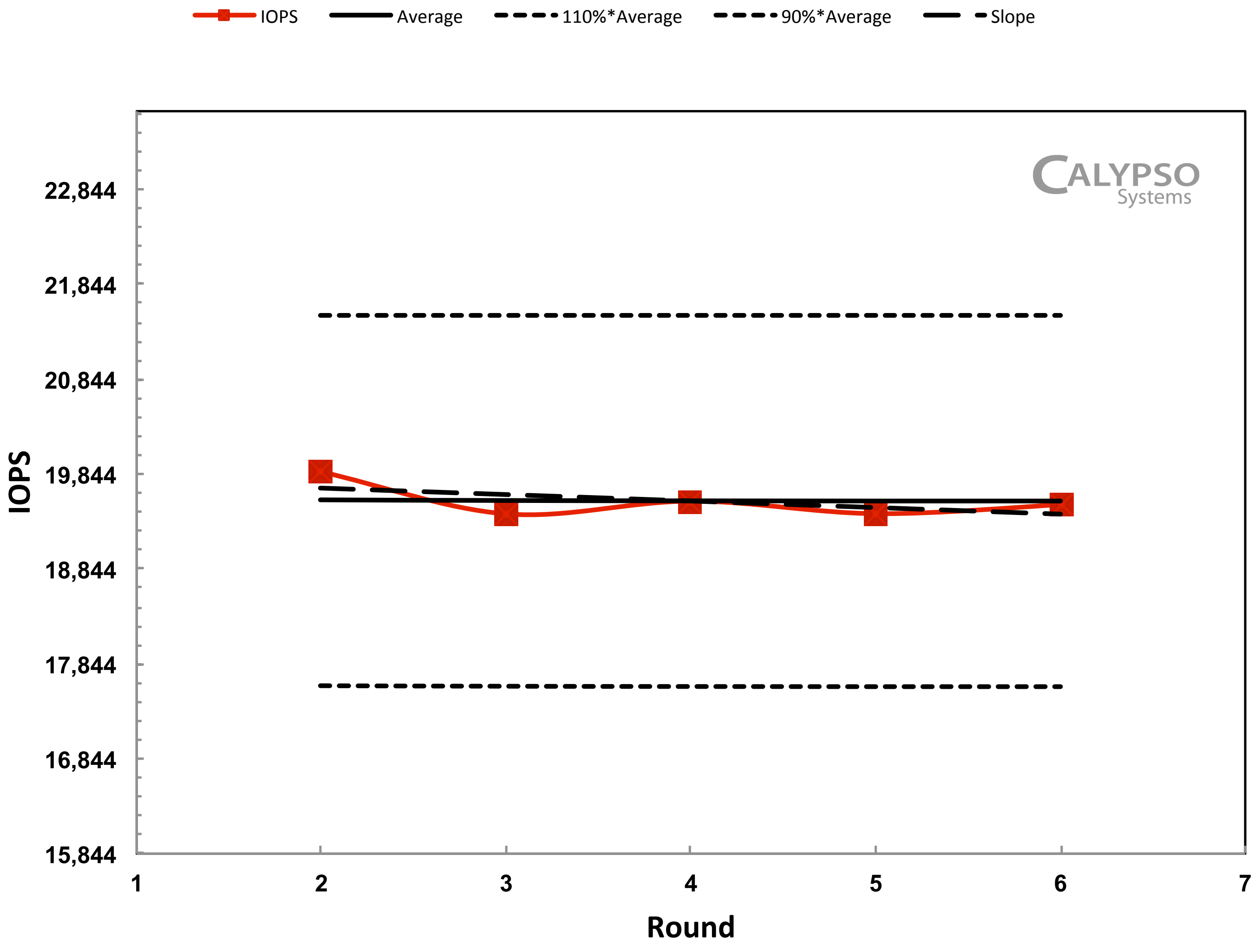
Device Under Test (DUT)		**VENDOR:** **ABC CO.**		**SSD MODEL NO:** **SLC-B 100 GB**		**TEST SPONSOR**	
Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	2-6
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full IOPS Loop	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise Steady State Measurement Window – RND/4KiB



Steady State Determination Data

Average IOPS:			19560.6
Allowed Maximum Data Excursion:	3912.1	Measured Maximum Data Excursion:	308.8
Allowed Maximum Slope Excursion:	1956.1	Measured Maximum Slope Excursion:	138.3
Least Squares Linear Fit Formula:			-69.133 * R + 19768.006

Test Run Date:	11/09/2011 11:35 AM	**Report Run Date:**	11/14/2011 04:17 PM

Enterprise IOPS (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	2-6
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full IOPS Loop	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise IOPS - ALL RW Mix & BS – Tabular Data

Block Size (KiB)	**Read / Write Mix %**						
	0/100	**5/95**	**35/65**	**50/50**	**65/35**	**95/5**	**100/0**
0.5	13,255.7	13,581.2	15,581.3	18,393.7	21,115.5	40,004.8	43,368.3
4	19,560.6	20,238.4	23,886.3	26,641.2	29,827.0	41,460.1	46,365.3
8	10,630.3	11,033.1	13,806.4	15,780.9	18,244.6	27,803.9	32,259.3
16	5,620.5	5,824.9	7,451.9	8,651.6	10,174.7	15,772.3	18,309.1
32	2,872.2	3,002.7	3,862.5	4,513.2	5,377.6	8,337.0	9,472.3
64	1,461.8	1,515.4	1,962.1	2,293.9	2,751.4	4,304.9	4,829.3
128	735.7	763.7	987.4	1,148.8	1,389.0	2,187.9	2,439.4
1024	92.5	95.9	124.1	144.6	173.1	277.2	307.6

Test Run Date:	11/09/2011 11:35 AM	**Report Run Date:**	11/14/2011 04:17 PM

Enterprise IOPS (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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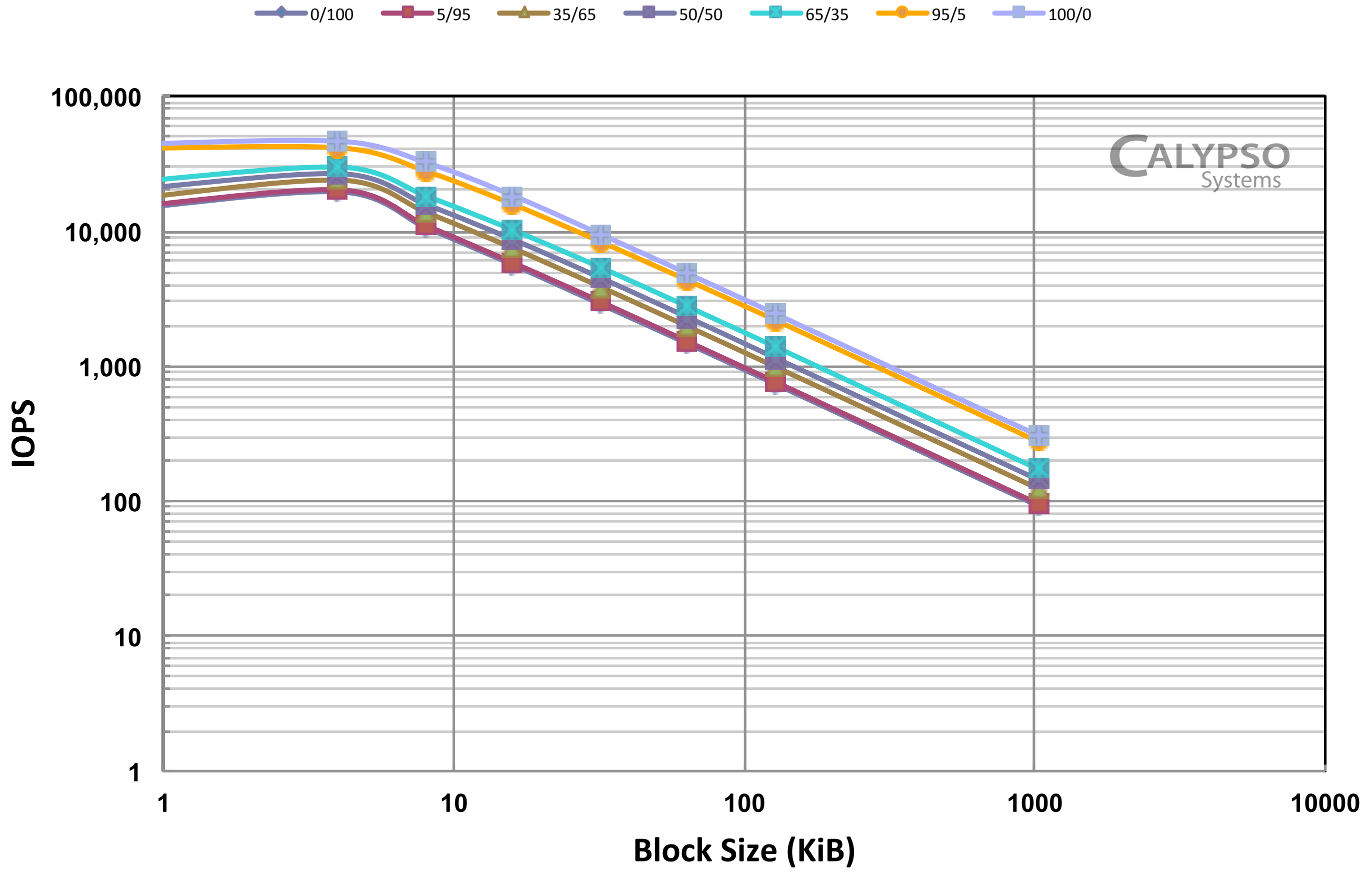
Device Under Test (DUT)	**VENDOR: ABC CO.**	**SSD MODEL NO: SLC-B 100 GB**	**TEST SPONSOR**

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	2-6
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full IOPS Loop	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise IOPS - ALL RW Mix & BS - 2D Plot



Test Run Date:	11/09/2011 11:35 AM	**Report Run Date:**	11/14/2011 04:17 PM

Enterprise IOPS (REQUIRED)

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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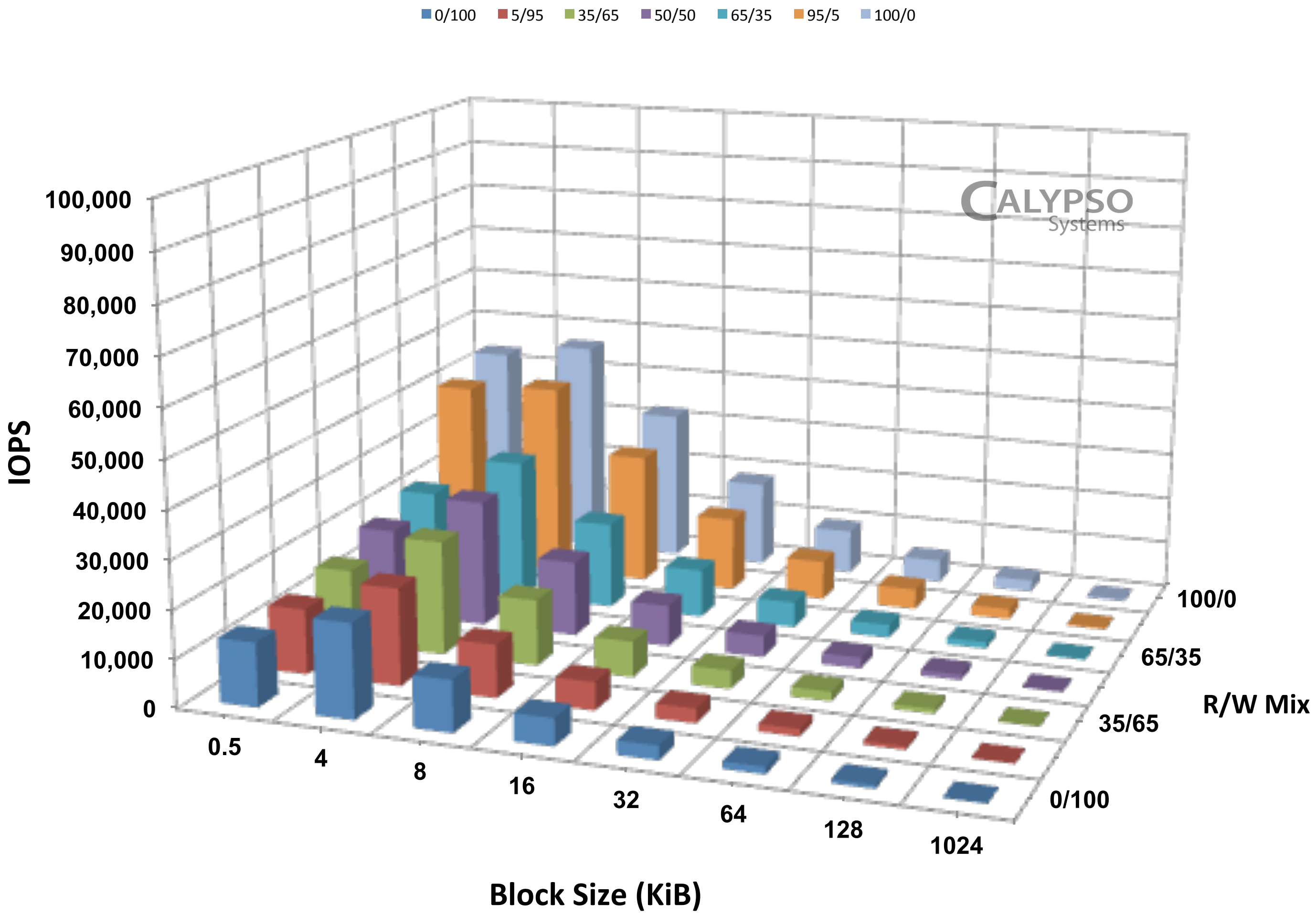
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	2-6
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full IOPS Loop	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise IOPS - ALL RW Mix & BS – 3D Columns



SLC-B Test Report
Summary Report Page - THROUGHPUT

SNIA Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS 1.0**
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Device Under Test (DUT)	SLC-B	**SNIA SSS PTS Summary Report**	**Calypso Systems, Inc.**

DEVICE INFORMATION		**TEST HARDWARE PLATFORM**		**TEST SOFTWARE**		**REPORT DATE**	
SERIAL NO.	1111-1111-FFFF	**SYSTEM**	Calypso RTP 2.0	**SYS OS**	CENT OS 5.6	**Report**	06DEC11
FIRMWARE REV.	B901	**Motherboard/cpu**	Intel 5520HC / W5580	**SW TOOL**	Calypso CTS 6.5	**Test Run**	01NOV – 04DEC11
USER CAPACITY	SLC 100 GB	**RAM**	12GB ECC DDR3	**SW Rev**	1.19.10	**Test Sponsor**	Calypso
DEVICE INTERFACE	6 Gb/s SATA	**Device Interface**	LSA 9212-e 6Gb/s HBA	**Release**	Nov. 2011	**Auditor**	N/A

Test Description

Purpose	**To measure Large Block SEQ TP using different BS and R/W Mixes**
Test Outline	**PURGE, then apply preconditioning until Steady State is achieved according to the SNIA PTS**
Preconditioning	**PURGE followed by SNIA PTS prescribed WIPC & WDPC**

Test Set Up

PTS-C	**TEST**	**Purge**	**DP**	**OIO**	**WIPC**		**WDPC**		**STEADY STATE**	
					PC AR	**TEST AR**	**PC AR**	**TEST AR**	**WORKLOAD**	**ROUNDS**
9.0	**THROUGHPUT - REQUIRED**	**Security Erase**	**RND**	**TC 2 QD 16**	**100%**	**100%**	**100%**	**100%**	**SEQ 128KiB/ SEQ1024KiB**	**4 - 8**

Select Performance Data

SEQ 128KiB R	**SEQ 128KiB W**	**SEQ 1024KiB R**	**SEQ 1024KiB W**
419 MB/S	**248 MB/S**	**437 MB/S**	**205 MB/S**

Test Sponsor – Special Notes

ITEM	**NOTATION**	**COMMENTS**

Test Run Date:	12/04/2011 10:02 AM	**Report Run Date:**	12/04/2011 11:49 AM

Enterprise Throughput Test (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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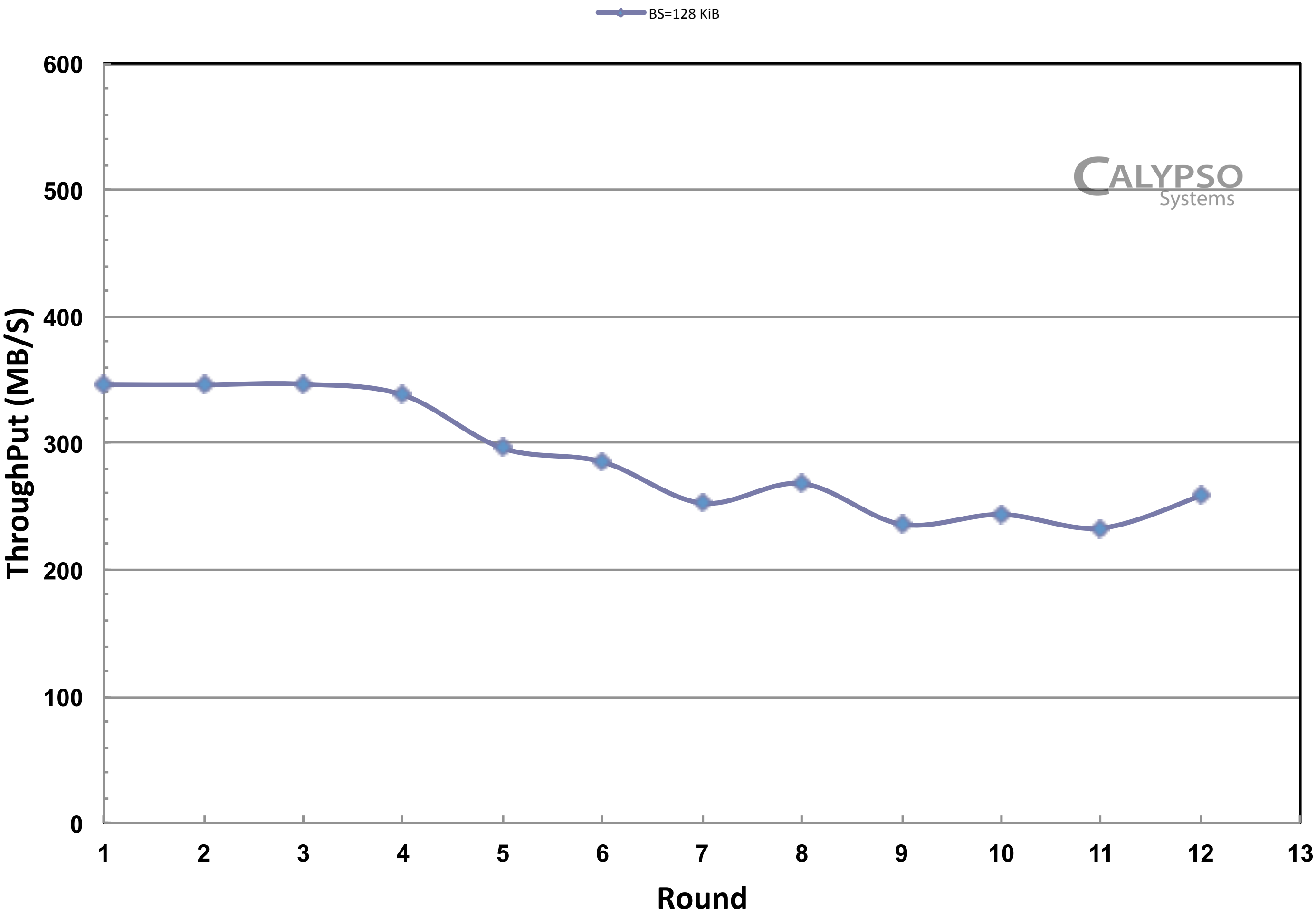
Device Under Test (DUT)	**VENDOR: ABC CO.**	**SSD MODEL NO: SLC-B 100 GB**	**TEST SPONSOR**

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	8-12
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	SEQ 128KiB	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise 128KiB Throughput Test - SS Convergence - Write



Test Run Date:	12/04/2011 10:02 AM	**Report Run Date:**	12/04/2011 11:49 AM

Enterprise Throughput Test (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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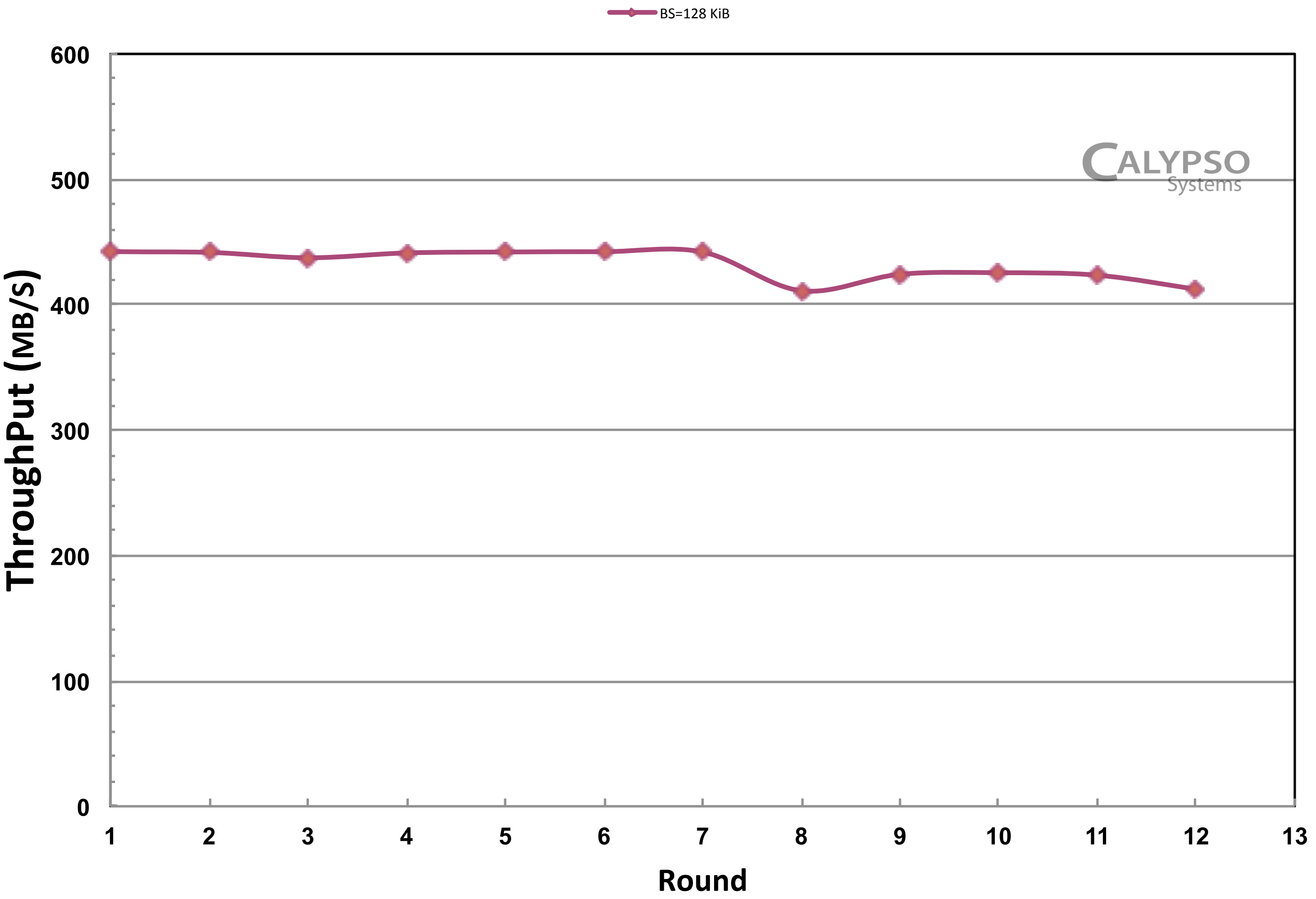
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	8-12
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	SEQ 128KiB	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise 128KiB Throughput Test - SS Convergence - Read



Test Run Date:	12/04/2011 10:02 AM	**Report Run Date:**	12/04/2011 11:49 AM

Enterprise Throughput Test (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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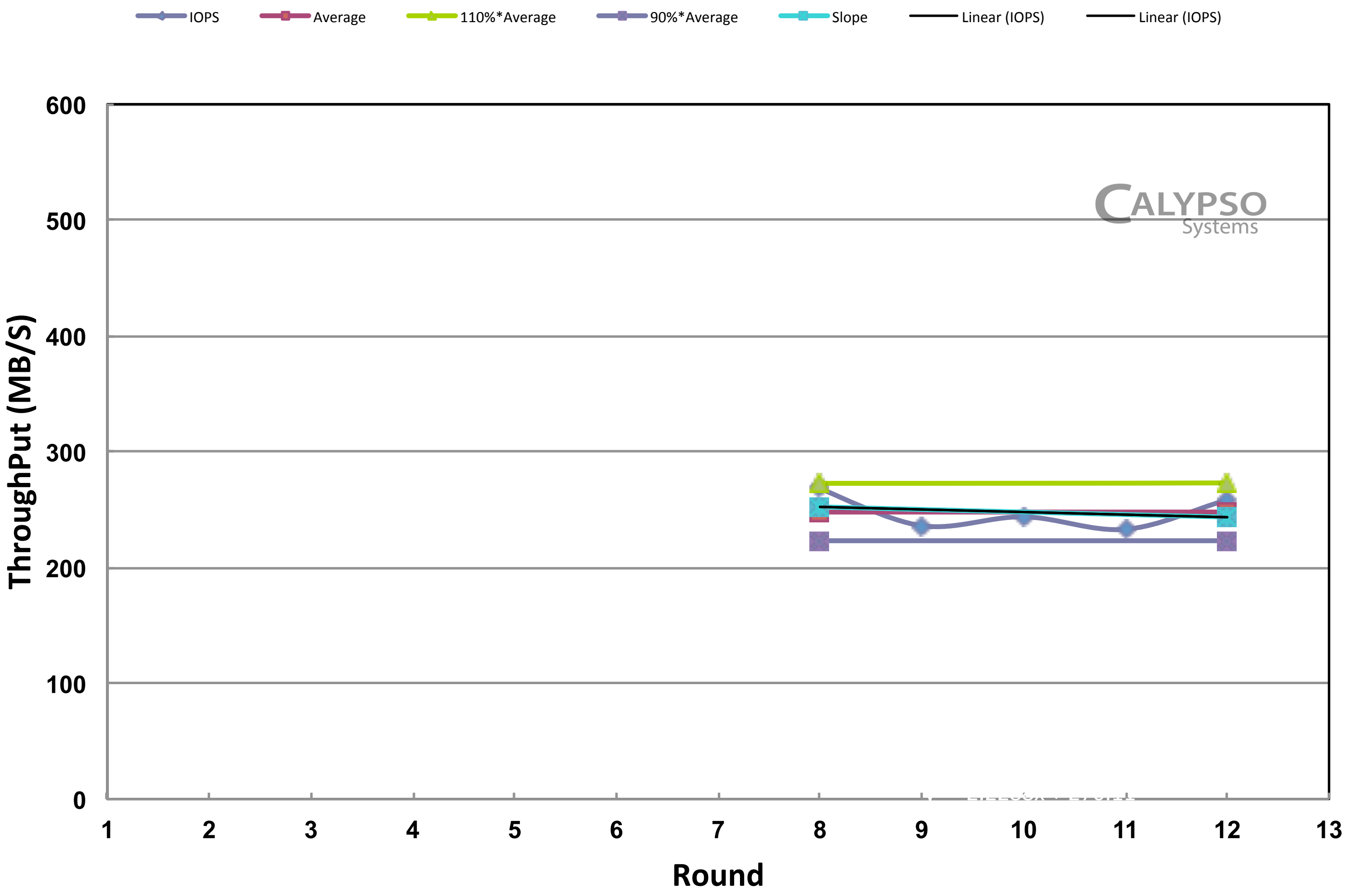
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	8-12
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	SEQ 128KiB	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise Steady State Measurement Window – SEQ/128 KiB



Steady State Determination Data

Average ThroughPut:			247.8
Allowed Maximum Data Excursion:	49.6	Measured Maximum Data Excursion:	35.1
Allowed Maximum Slope Excursion:	24.8	Measured Maximum Slope Excursion:	8.9
Least Squares Linear Fit Formula:			-2.229 * R + 270.111

Test Run Date:	12/04/2011 10:02 AM	**Report Run Date:**	12/04/2011 11:49 AM

Enterprise Throughput Test (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	8-12
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	SEQ 128KiB	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise 128KiB Throughput - ALL RW Mix & BS – Tabular Data

Block Size (KiB)	**Read / Write Mix %**	
	0/100	**100/0**
128	247.8	419.3

Test Run Date:	12/04/2011 10:02 AM	**Report Run Date:**	12/04/2011 11:49 AM

Enterprise Throughput Test (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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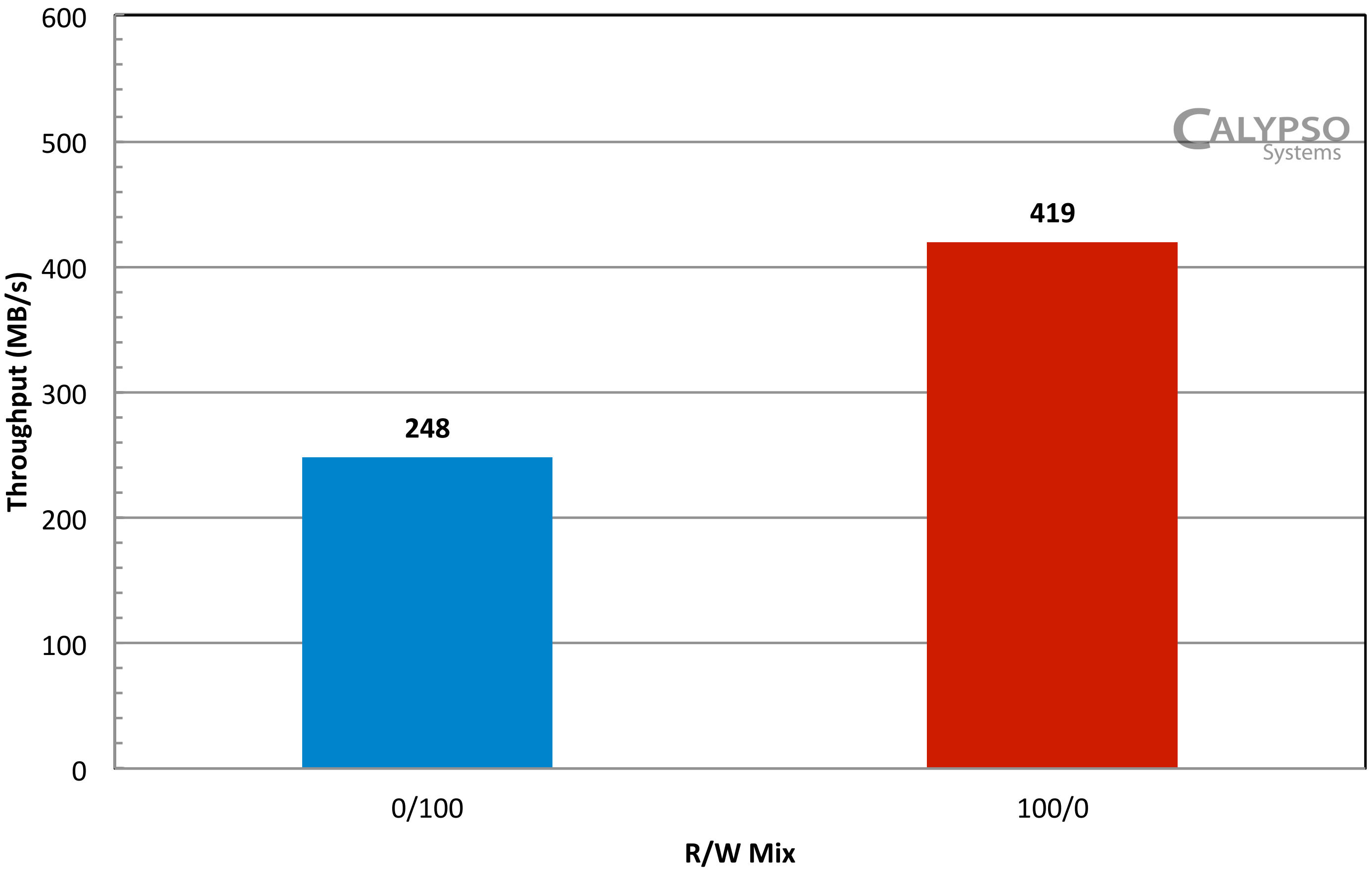
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	8-12
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	SEQ 128KiB	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise 128KiB Throughput - ALL RW Mix & BS - 2D Plot



Test Run Date:	12/04/2011 10:43 AM	**Report Run Date:**	12/04/2011 11:48 AM

Enterprise Throughput Test (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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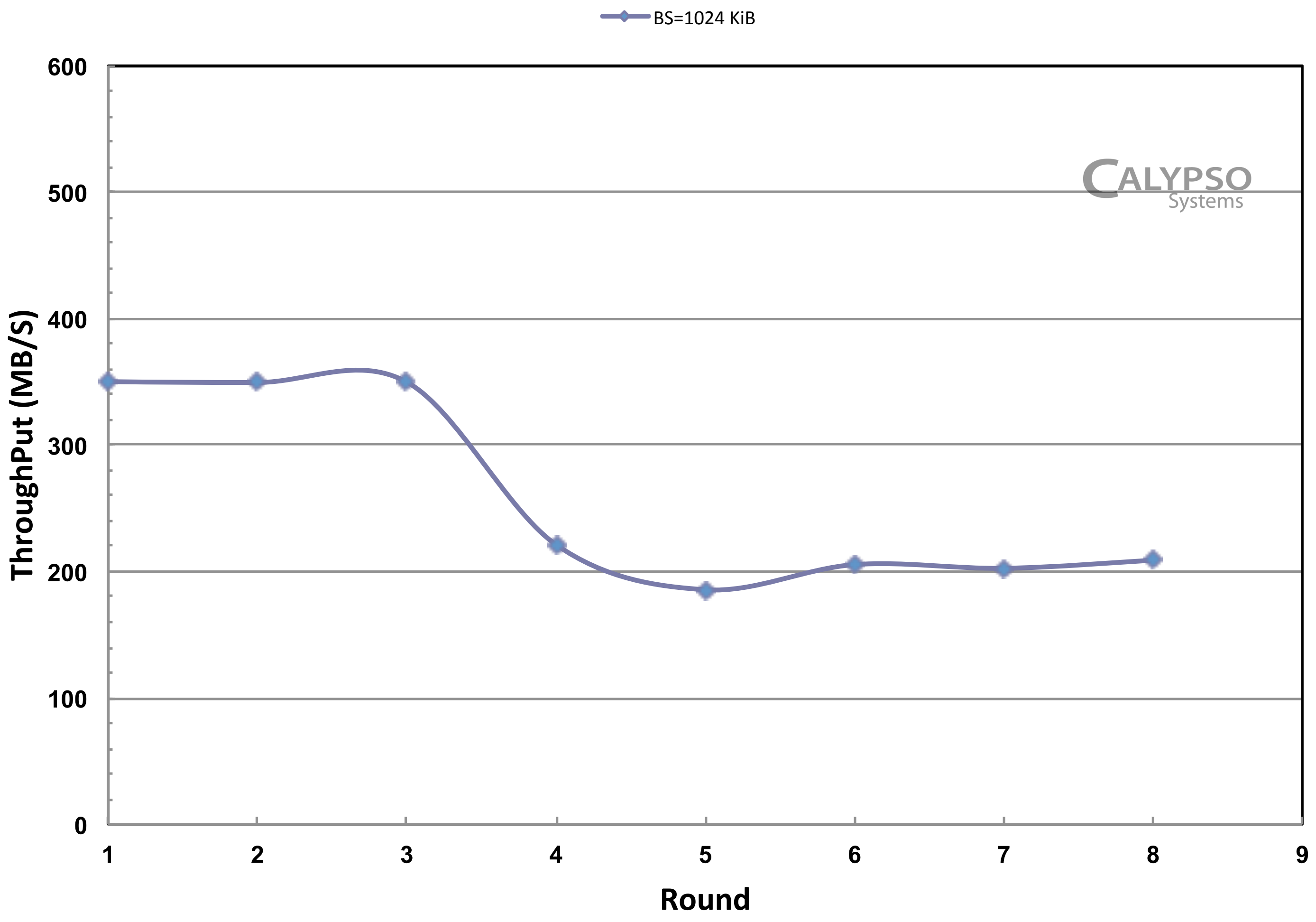
Device Under Test (DUT)		**VENDOR: ABC CO.**	**SSD MODEL NO: SLC-B 100 GB**		**TEST SPONSOR**		
Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	4-8
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	SEQ 1024KiB	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise 1024KiB Throughput Test - SS Convergence - Write



Test Run Date:	12/04/2011 10:43 AM	**Report Run Date:**	12/04/2011 11:48 AM

Enterprise Throughput Test (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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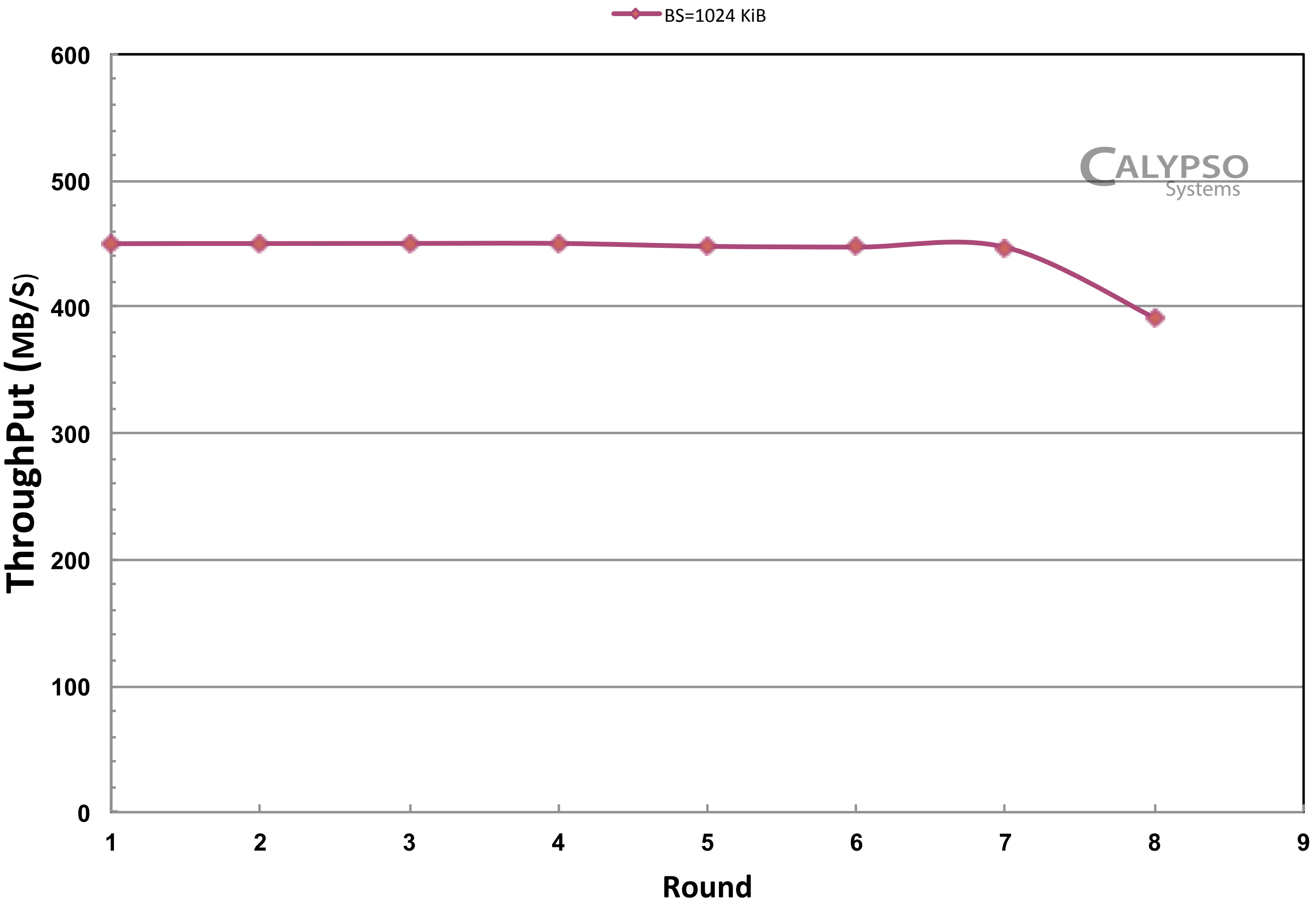
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	4-8
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	SEQ 1024KiB	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise 1024KiB Throughput Test - SS Convergence - Read



Test Run Date:	12/04/2011 10:43 AM	**Report Run Date:**	12/04/2011 11:48 AM

Enterprise Throughput Test (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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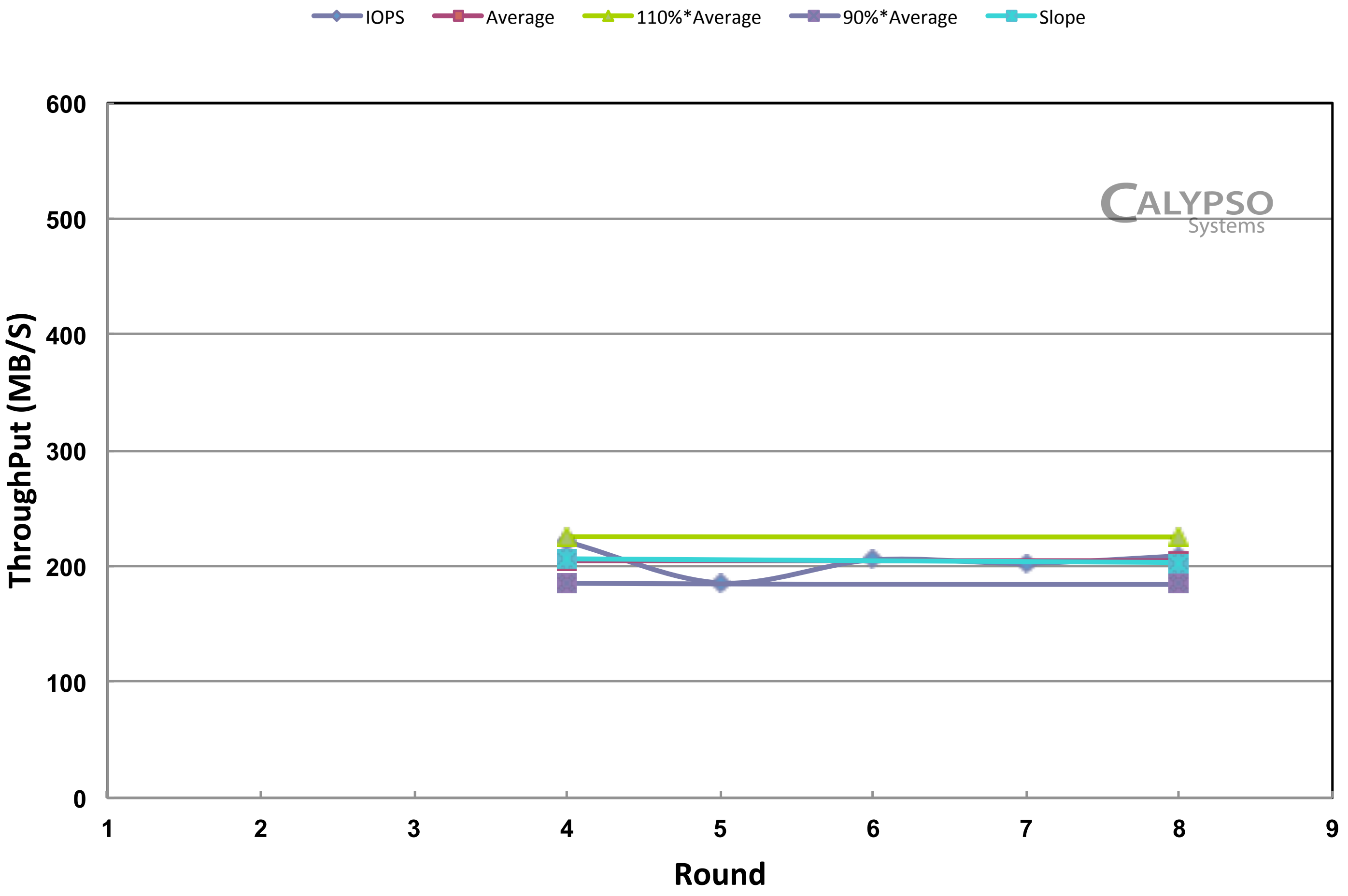
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	4-8
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	SEQ 1024KiB	**Thread Count (TC)**	2	**AR Segments**	N/A

Steady State Measurement Window – SEQ/1024 KiB



Steady State Determination Data

Average ThroughPut:			204.7
Allowed Maximum Data Excursion:	40.9	Measured Maximum Data Excursion:	35.7
Allowed Maximum Slope Excursion:	20.5	Measured Maximum Slope Excursion:	3.1
Least Squares Linear Fit Formula:			-0.766 * R + 209.333

Test Run Date:	12/04/2011 10:43 AM	**Report Run Date:**	12/04/2011 11:48 AM

Enterprise Throughput Test (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	4-8
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	SEQ 1024KiB	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise 1024KiB Throughput - ALL RW Mix & BS – Tabular Data

Block Size (KiB)	**Read / Write Mix %**	
	0/100	**100/0**
1024	204.7	436.8

Test Run Date:	12/04/2011 10:43 AM	**Report Run Date:**	12/04/2011 11:48 AM

Enterprise Throughput Test (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E 1.0**
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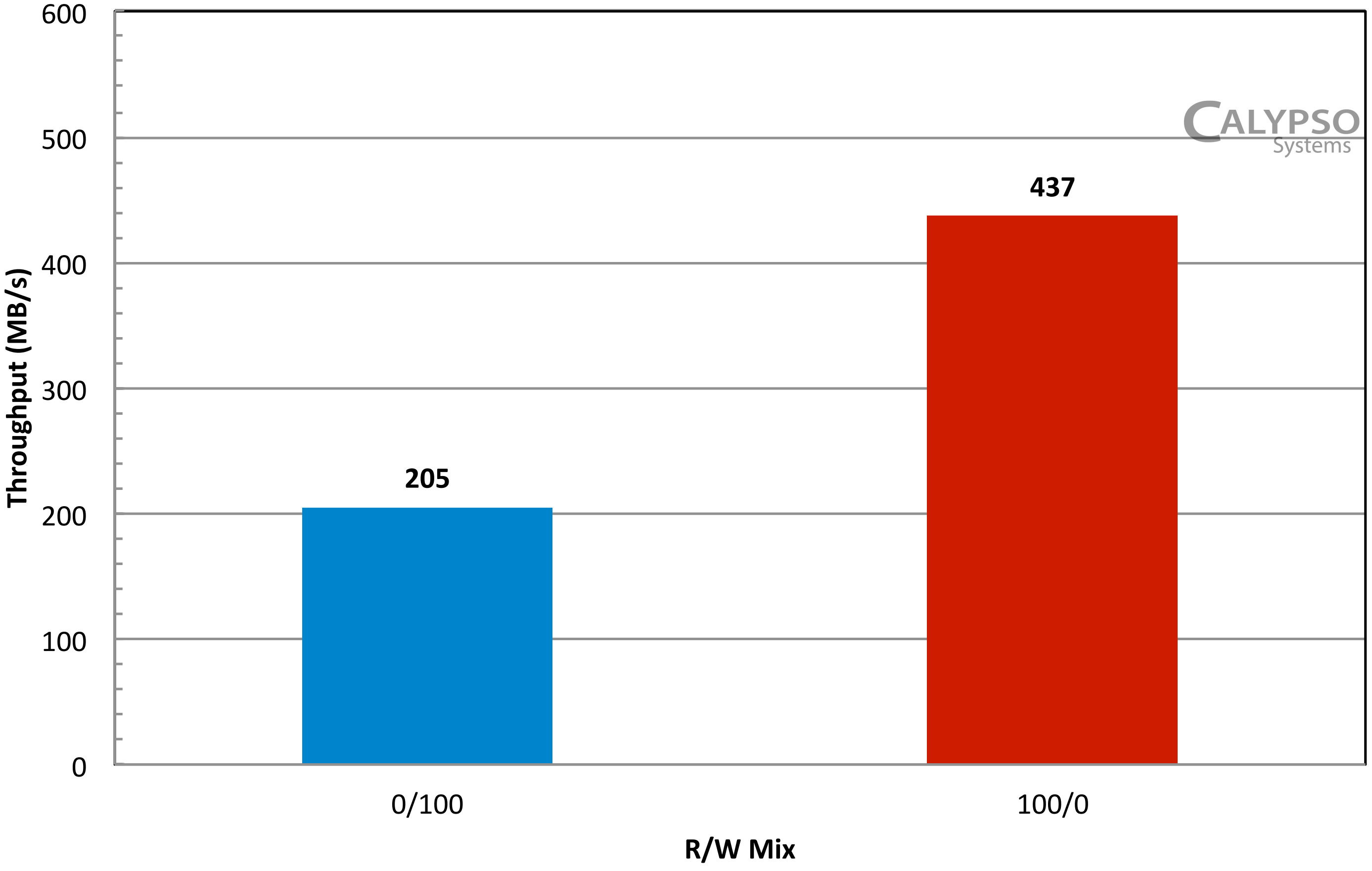
Device Under Test (DUT)	**VENDOR: ABC CO.**	**SSD MODEL NO: SLC-B 100 GB**	**TEST SPONSOR**

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	4-8
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	16	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	SEQ 1024KiB	**Thread Count (TC)**	2	**AR Segments**	N/A

Enterprise 1024KiB Throughput - ALL RW Mix & BS - 2D Plot



SLC-B Test Report
Summary Report Page - LATENCY

SNIA Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS 1.0**
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Device Under Test (DUT)	SLC-B	**SNIA SSS PTS Summary Report**	**Calypso Systems, Inc.**	CALYPSO Systems

DEVICE INFORMATION		**TEST HARDWARE PLATFORM**		**TEST SOFTWARE**		**REPORT DATE**	
SERIAL NO.	1111-1111-FFFF	**SYSTEM**	Calypso RTP 2.0	**SYS OS**	CENT OS 5.6	**Report**	06DEC11
FIRMWARE REV.	B901	**Motherboard/cpu**	Intel 5520HC / W5580	**SW TOOL**	Calypso CTS 6.5	**Test Run**	01NOV – 04DEC11
USER CAPACITY	SLC 100 GB	**RAM**	12GB ECC DDR3	**SW Rev**	1.19.10	**Test Sponsor**	Calypso
DEVICE INTERFACE	6 Gb/s SATA	**Device Interface**	LSA 9212-e 6Gb/s HBA	**Release**	Nov. 2011	**Auditor**	N/A

Test Description

Purpose	**To measure AVE & MAX Response times at selected BS & RW Mixes measured in mSec**
Test Outline	**PURGE, then apply preconditioning until Steady State is achieved according to the SNIA PTS**
Preconditioning	**PURGE followed by SNIA PTS prescribed WIPC & WDPC**

Test Set Up

PTS-C	**TEST**	**Purge**	**DP**	**OIO**	**WIPC**		**WDPC**		**STEADY STATE**	
					PC AR	**TEST AR**	**PC AR**	**TEST AR**	**WORKLOAD**	**ROUNDS**
10.0	**LATENCY - REQUIRED**	**Security Erase**	**RND**	**TC 1 QD 1**	**100%**	**100%**	**100%**	**100%**	**LAT LOOP**	**2 – 6**

Select Performance Data

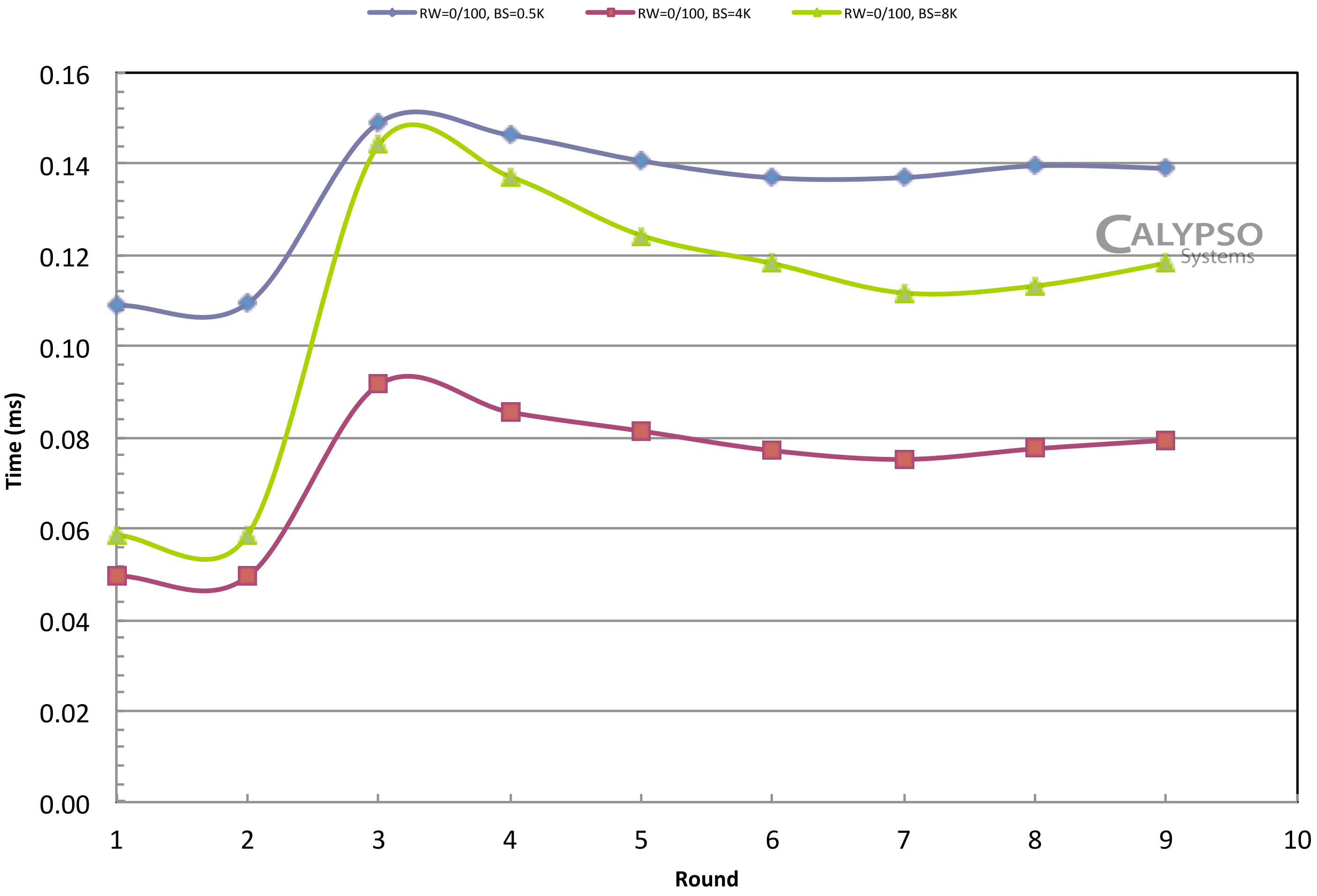
RND 4KiB R AVE	**RND 4KiB W AVE**	**RND 4KiB R MAX**	**RND 4KiB W MAX**
0.180 mSec	**0.080 mSec**	**0.39 mSec**	**444.63 mSec**

Test Sponsor – Special Notes

ITEM	**NOTATION**	**COMMENTS**

Test Run Date:	12/04/2011 12:14 PM			**Report Run Date:**	12/04/2011 03:22 PM		
Enterprise Latency (REQUIRED) - Report Page							
SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)						Rev.	**PTS-E**
						Page	**1 of 6**
Device Under Test (DUT)		**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**		**TEST SPONSOR**	CALYPSO Systems	
Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	5-9
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	1	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full LAT Loop	**Thread Count (TC)**	1	**AR Segments**	N/A

Enterprise Steady State Convergence Plot – AVE Latency - 100% Writes



Test Run Date:	12/04/2011 12:14 PM	**Report Run Date:**	12/04/2011 03:22 PM

Enterprise Latency (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E**
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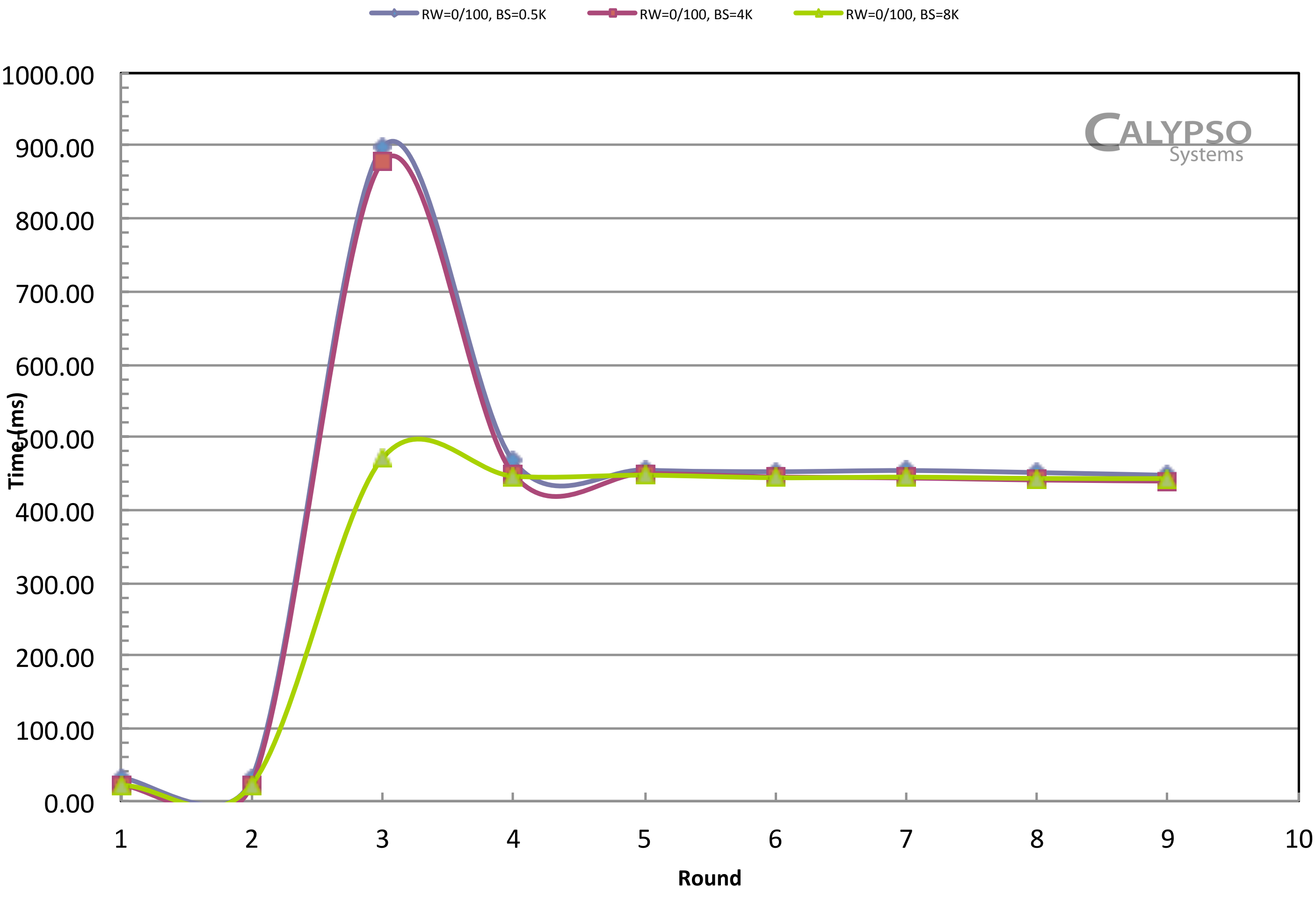
Device Under Test (DUT)	**VENDOR: ABC CO.**	**SSD MODEL NO: SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	5-9
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	1	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full LAT Loop	**Thread Count (TC)**	1	**AR Segments**	N/A

Enterprise Steady State Convergence Plot – MAX Latency - 100% Writes



Test Run Date:	12/04/2011 12:14 PM	**Report Run Date:**	12/04/2011 03:22 PM

Enterprise Latency (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E**
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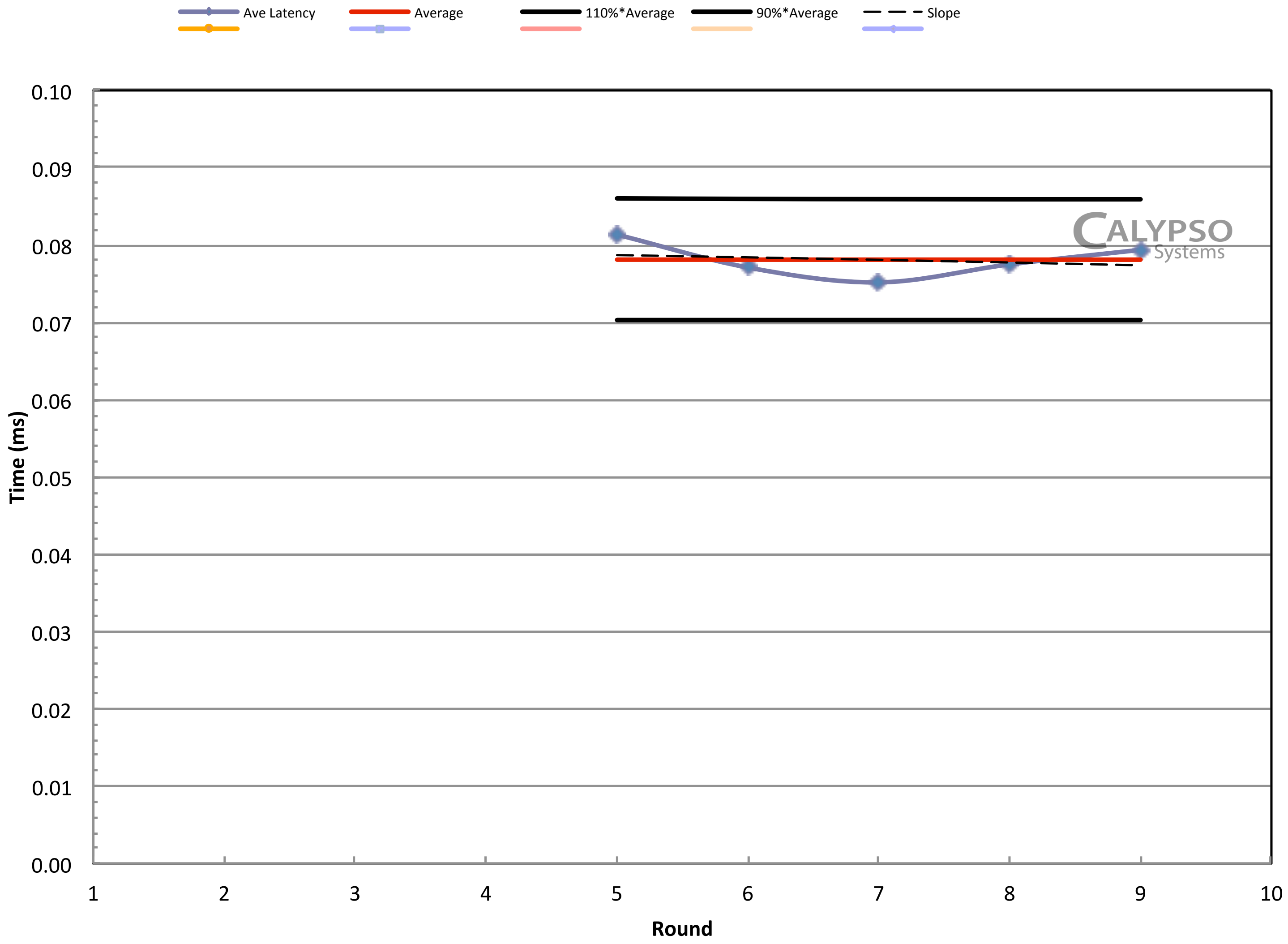
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	5-9
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	1	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full LAT Loop	**Thread Count (TC)**	1	**AR Segments**	N/A

Enterprise Steady State Measurement Window – RND/4KiB



Steady State Determination Data

Average Latency (ms):			0.078
Allowed Maximum Data Excursion:	0.016	Measured Maximum Data Excursion:	0.006
Allowed Maximum Slope Excursion:	0.008	Measured Maximum Slope Excursion:	0.001
Least Squares Linear Fit Formula:			-0.000 * R + 0.081

Test Run Date:	12/04/2011 12:14 PM	**Report Run Date:**	12/04/2011 03:22 PM

Enterprise Latency (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E**
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Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	5-9
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	1	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full LAT Loop	**Thread Count (TC)**	1	**AR Segments**	N/A

Enterprise AVE and MAX Response Time - ALL RW Mix & BS – Tabular Data

Average Response Time (ms)

	Read / Write Mix %		
Block Size (KiB)	**0/100**	**65/35**	**100/0**
0.5	0.14	0.17	0.16
4	0.08	0.16	0.18
8	0.12	0.21	0.25

Maximum Response Time (ms)

	Read / Write Mix %		
Block Size (KiB)	**0/100**	**65/35**	**100/0**
0.5	452.04	443.12	0.34
4	443.94	442.49	0.39
8	444.63	443.72	5.00

Test Run Date:	12/04/2011 12:14 PM	**Report Run Date:**	12/04/2011 03:22 PM

Enterprise Latency (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E**
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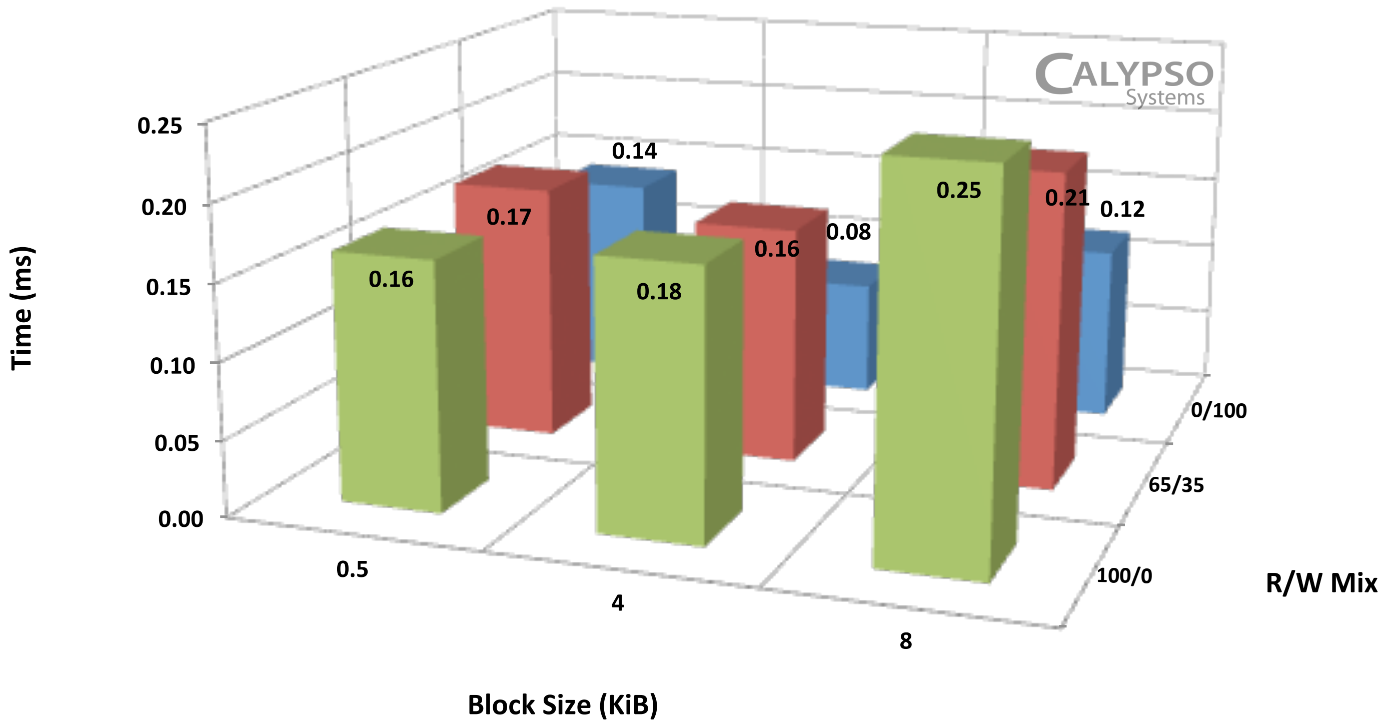
Device Under Test (DUT)	**VENDOR:** **ABC CO.**	**SSD MODEL NO:** **SLC-B 100 GB**	**TEST SPONSOR**

CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	5-9
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	1	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full LAT Loop	**Thread Count (TC)**	1	**AR Segments**	N/A

Enterprise AVE Latency vs BS and R/W Mix - 3D Plot



Test Run Date:	12/04/2011 12:14 PM	**Report Run Date:**	12/04/2011 03:22 PM

Enterprise Latency (REQUIRED) - Report Page

SNIA SSS TWG: Solid State Storage Performance Test Specification (PTS)	Rev.	**PTS-E**
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Device Under Test (DUT)	**VENDOR: ABC CO.**	**SSD MODEL NO: SLC-B 100 GB**	**TEST SPONSOR**	CALYPSO Systems

Serial No.	1111-1111-FFFF	**DUT Preparation**		**Test Loop Parameters**		**Steady State**	
Firmware Rev	B901	**Purge**	Security Erase	**REQUIRED:**		**Convergence**	YES
Capacity	100 GB	**Pre-Conditioning**		**Data Pattern**	RND	**Rounds**	5-9
NAND Type	SLC	**Workload Independent**	2X SEQ/128KiB	**Tester's Choice:**		**PC AR**	100%
Device I/F	6 Gb/s SATA			**OIO/Thread (QD)**	1	**AR AMOUNT**	100%
Test Platform	RTP 2.0 CTS 6.5	**Workload Dep.**	Full LAT Loop	**Thread Count (TC)**	1	**AR Segments**	N/A

Enterprise MAX Latency vs BS and R/W Mix - 3D Plot