

	<b>LABORATORY</b>	RP-01/07/09/2017
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 1 z 17

## UP BOARD WITH GOODRAM SSD

**mini mSATA 120GB BICS 3D NAND FLASH**  
**mSATA 128GB MLC NAND FLASH**  
**mSATA 256GB MLC NAND FLASH**

Revision	Description	Date
01	First release	07/09/2017

	Position	Name	Date	Signature
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	<b>LABORATORY</b>	<b>RP-01/07/09/2017</b>
		Date: 07/09/2017
	<b>VERIFICATION REPORT</b>	Release: 01
		Page: 2 z 17

**TABLE OF CONTENTS:**

<b>1. Test purpose</b> .....	<b>3</b>
<b>2. Test means</b> .....	<b>4</b>
<b>3. Test description</b> .....	<b>5</b>
<b>4. Test results</b> .....	<b>6</b>
<b>4.1. mini mSATA 120GB BICS 3D NAND FLASH</b> .....	<b>6</b>
<b>4.2. mSATA 128GB MLC NAND FLASH</b> .....	<b>10</b>
<b>4.3. mSATA 256GB MLC NAND FLASH</b> .....	<b>14</b>

	<b>LABORATORY</b>	RP-01/07/09/2017
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 3 z 17

## 1. Test purpose

Target of the test is to verify compatibility of AAEON UP board with GOODRAM:

- mini mSATA 120GB BICS 3D NAND FLASH (to compare with previous report)
- mSATA 128GB MLC NAND FLASH



- mSATA 256GB MLC NAND FLASH



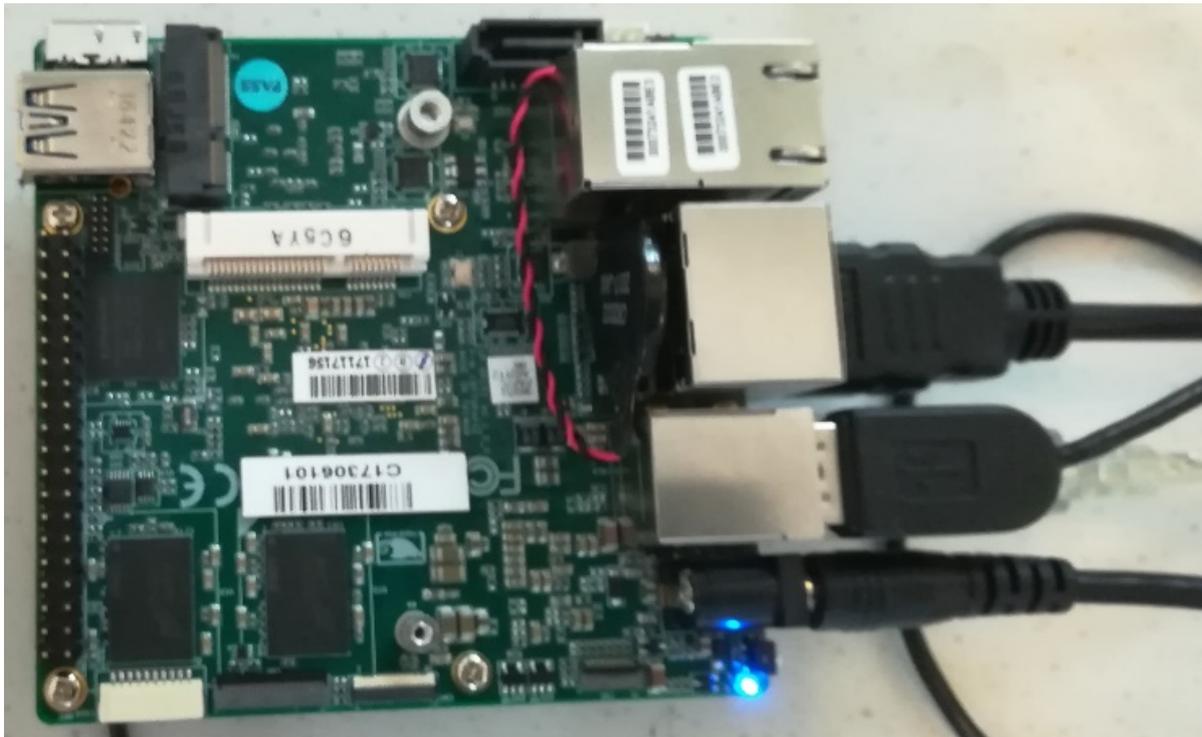
	<b>LABORATORY</b>	<b>RP-01/07/09/2017</b>
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
Release: 01		
		Page: 4 z 17

## 2. Test means

UP board with BIOS UP-APL01 R1.8 (UPA1AM18),

Intel Pentium CPU N4200 @ 1.10GHz

8GB LPDDR4 RAM, 32GB eMMC:



Power supply 5V, 400mA:



	<b>LABORATORY</b>	<b>RP-01/07/09/2017</b>
		Date: 07/09/2017
	<b>VERIFICATION REPORT</b>	Release: 01
		Page: 5 z 17

### 3. Test description

GOODRAM receive customer device with pre-installed ubilinux™ system. SSD detection and basic read/write functionality was verified. Due to account privileges limitations we were not able to install third party benchmark software.

On customer device operating system Ubuntu 16.04 64bit was installed. SSD detection and basic read/write functionality was verified. With use of system pre-installed benchmark software read/write transfer speed was verified.

After that, installation of Windows 10 operating system was performed. SSD detection and basic read/write functionality was verified. With use of benchmark softwares read/write transfer speed was verified.

SSD was installed directly to customer board without any converter board.

	<b>LABORATORY</b>	<b>RP-01/07/09/2017</b>
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Page: 6 z 17

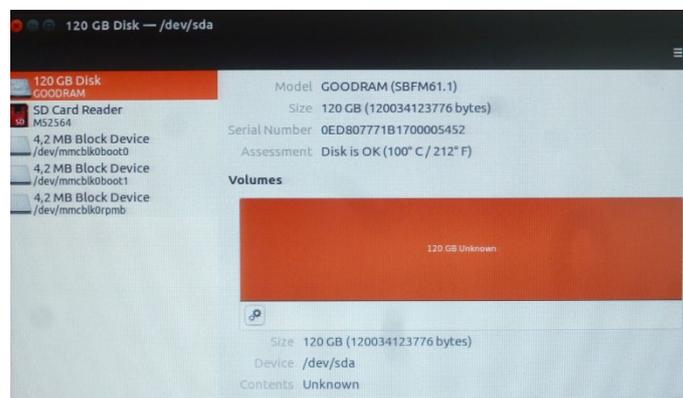
#### 4. Test results

##### 4.1. mini mSATA 120GB BICS 3D NAND FLASH



SSD was detected correctly by operating system ubilinux™ and works without problem.

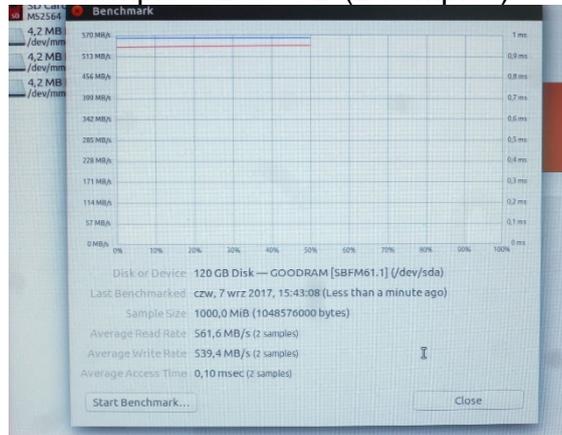
SSD was detected correctly by operating system Ubuntu 16.04 64bit and works without problem:



	<b>LABORATORY</b>	<b>RP-01/07/09/2017</b>
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 7 z 17

Maximum data transfer was verified with use of system benchmark software.

**Sample Size: 1GB (2 samples)**



**Average Read Rate: 562 MB/s**  
**Average Write Rate: 540 MB/s**

**Sample Size: 10MB (100 samples)**

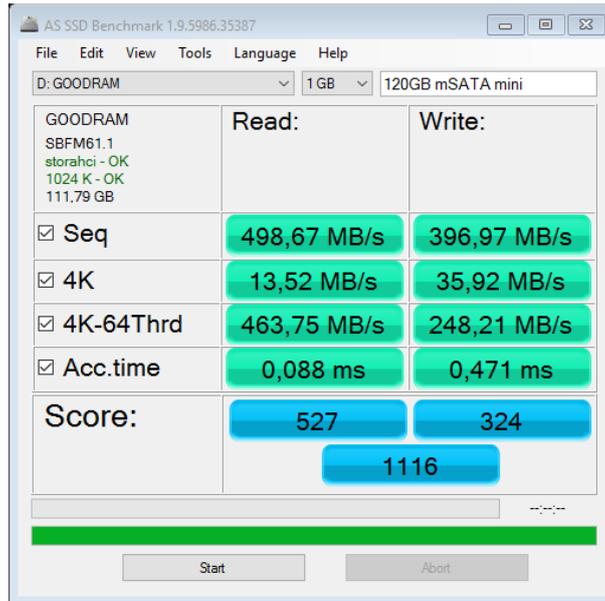


**Average Read Rate: 547 MB/s**  
**Average Write Rate: 522 MB/s**

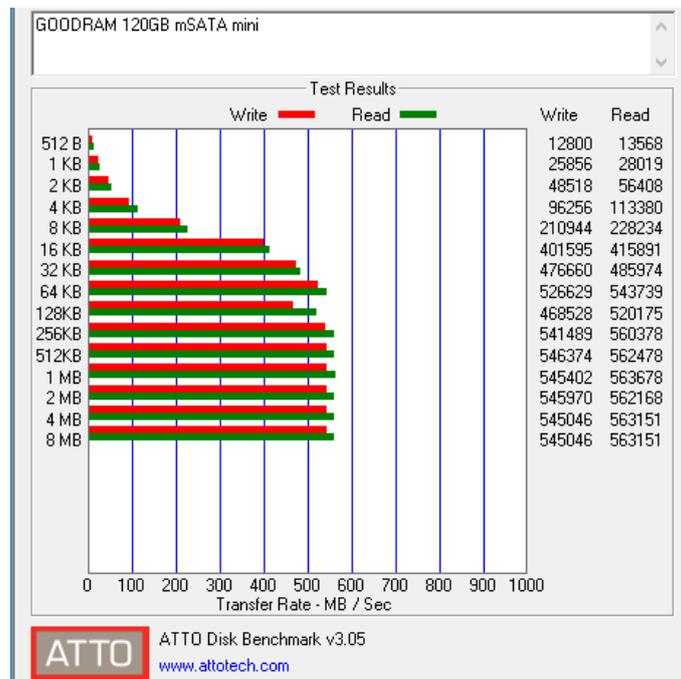
	<b>LABORATORY</b>	RP-01/07/09/2017
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 8 z 17

SSD was detected correctly by operating system Windows 10 and works without problem. Maximum data transfer was verified with use of benchmark softwares:

AS SSD Benchmark v1.9.5986.35387:

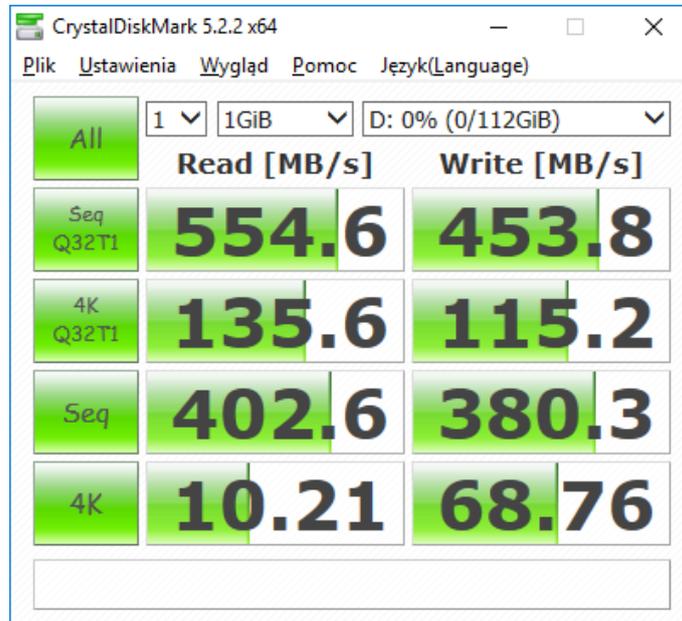


ATTO: Disk Benchmark v3.05:



	<b>LABORATORY</b>	RP-01/07/09/2017
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 9 z 17

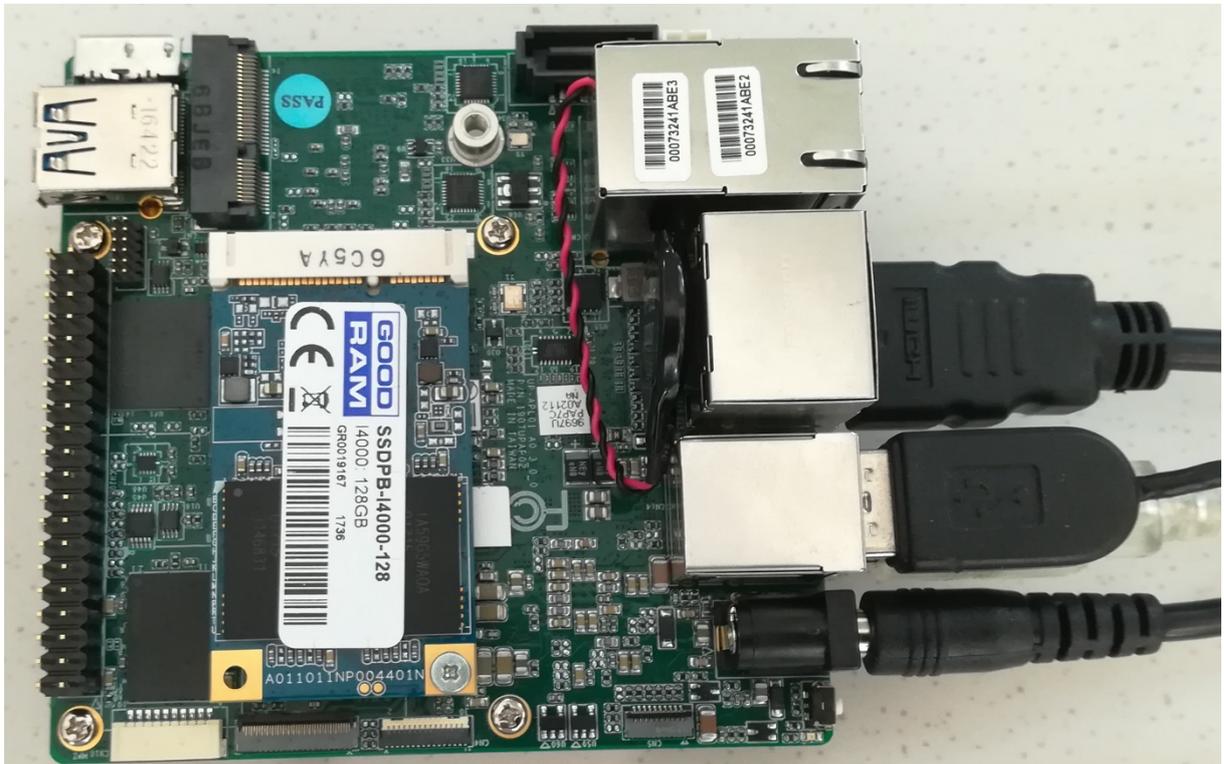
Crystal Disk Mark 5.2.2 x64:



**Note:** mini mSATA 120GB TLC 3D SSD was tested with previous customer application (test report RP\_0103082017\_verification\_report). Now test purpose was to check compatibility with new customer application.

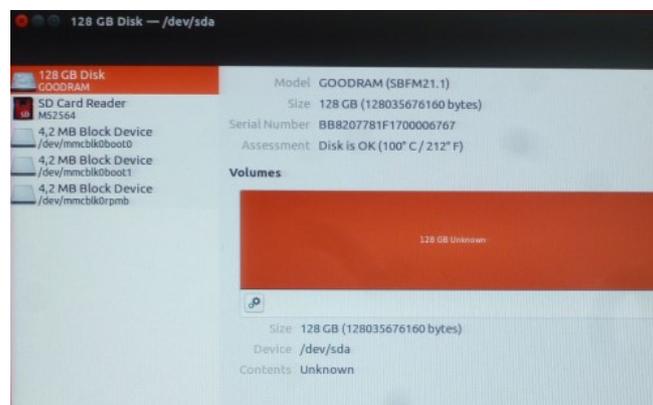
	<b>LABORATORY</b>	<b>RP-01/07/09/2017</b>
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017 Release: 01 Page: 10 z 17

#### 4.2. mSATA 128GB MLC NAND FLASH



SSD was detected correctly by operating system ubilinux™ and works without problem.

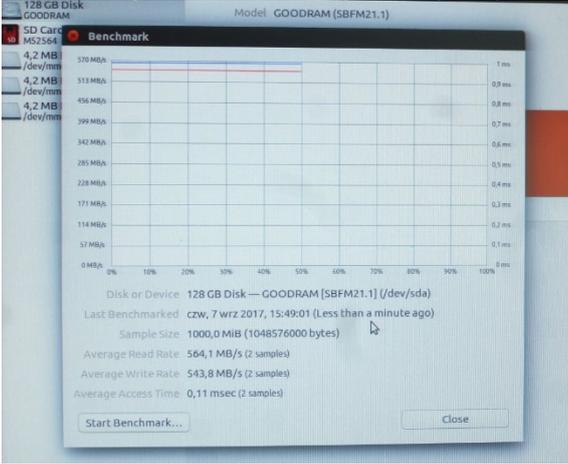
SSD was detected correctly by operating system Ubuntu 16.04 64bit and works without problem:



	<b>LABORATORY</b>	<b>RP-01/07/09/2017</b>
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 11 z 17

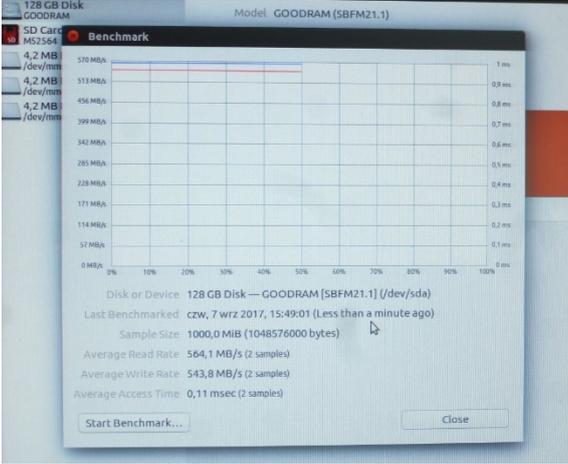
Maximum data transfer was verified with use of system benchmark software.

**Sample Size: 1GB (2 samples)**



**Average Read Rate: 565 MB/s**  
**Average Write Rate: 544 MB/s**

**Sample Size: 10MB (100 samples)**

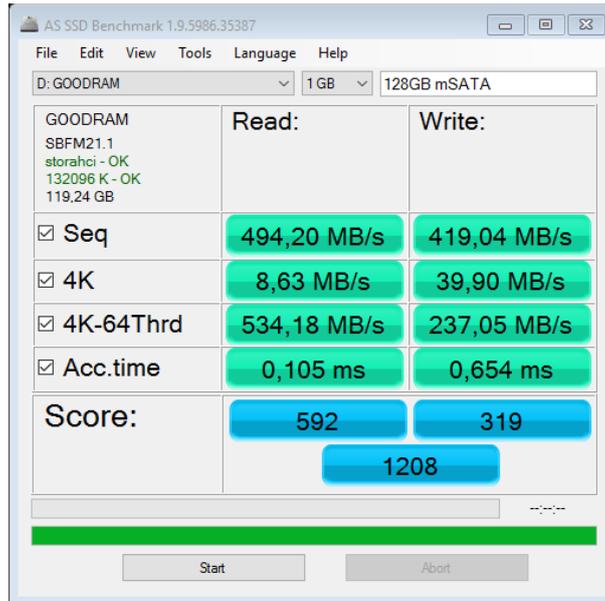


**Average Read Rate: 544 MB/s**  
**Average Write Rate: 514 MB/s**

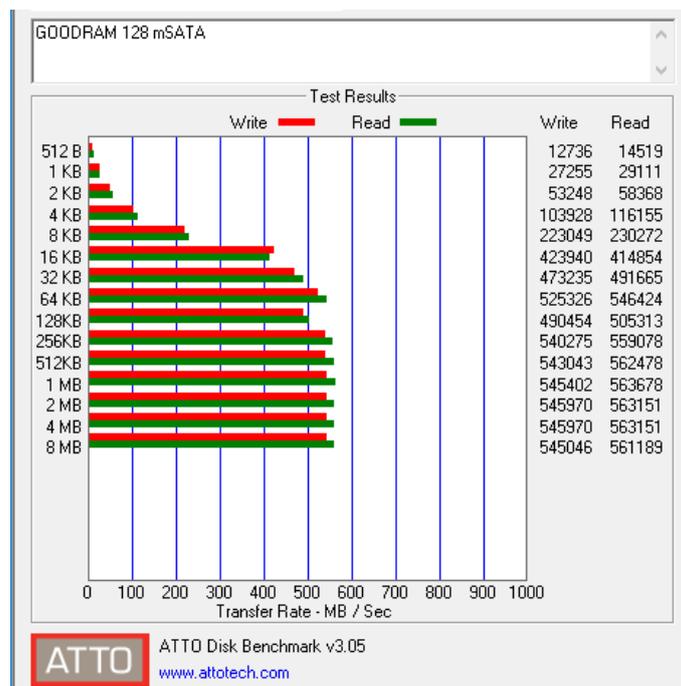
	<b>LABORATORY</b>	RP-01/07/09/2017
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 12 z 17

SSD was detected correctly by operating system Windows 10 and works without problem. Maximum data transfer was verified with use of benchmark software's:

AS SSD Benchmark v1.9.5986.35387:

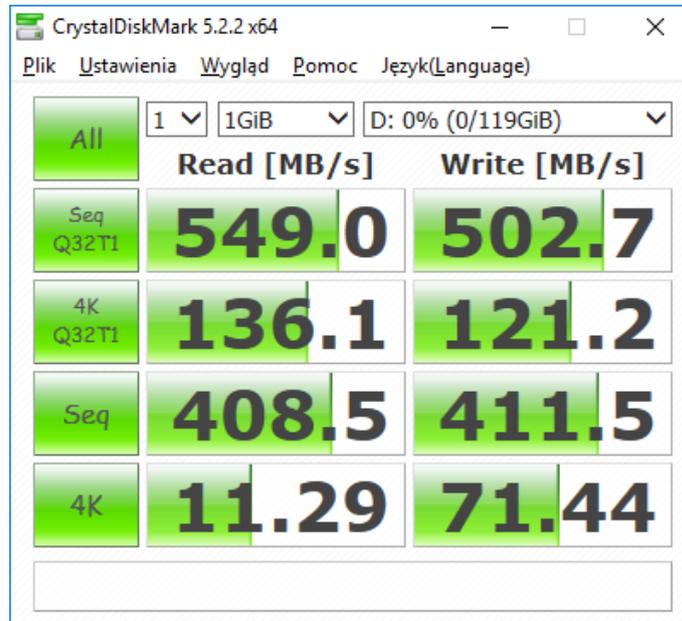


ATTO: Disk Benchmark v3.05:



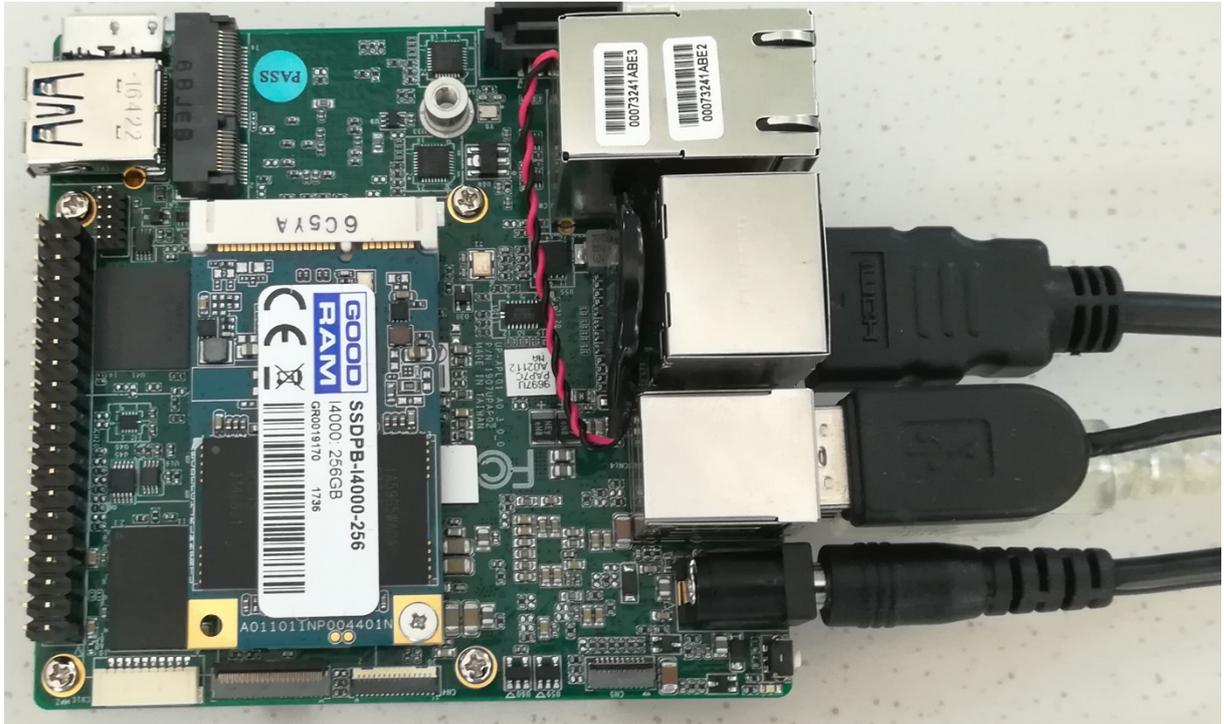
	<b>LABORATORY</b>	<b>RP-01/07/09/2017</b> Date: 07/09/2017
	<b>VERIFICATION REPORT</b>	Release: 01 Page: 13 z 17

Crystal Disk Mark 5.2.2 x64:



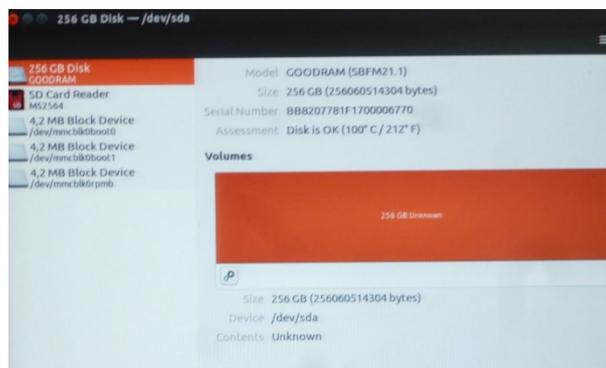
	<b>LABORATORY</b>	<b>RP-01/07/09/2017</b>
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 14 z 17

### 4.3. mSATA 256GB MLC NAND FLASH



SSD was detected correctly by operating system ubilinux™ and works without problem .

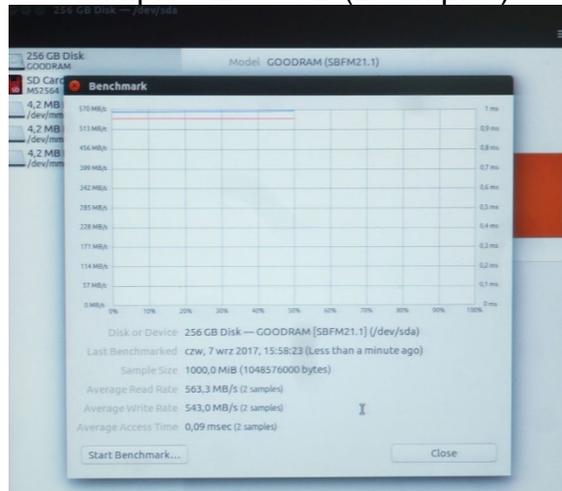
SSD was detected correctly by operating system Ubuntu 16.04 64bit and works without problem:



	<b>LABORATORY</b>	<b>RP-01/07/09/2017</b>
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 15 z 17

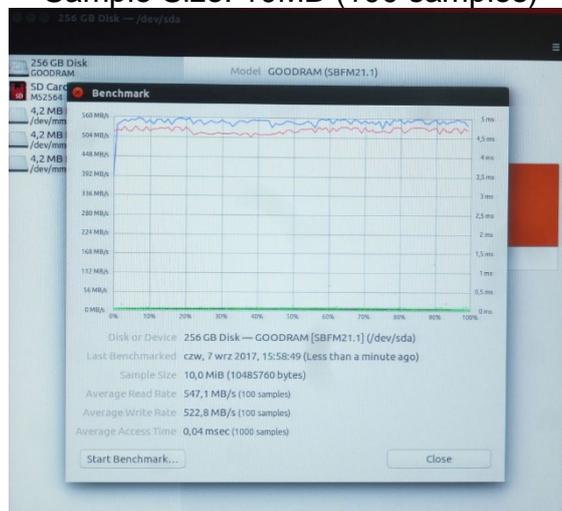
Maximum data transfer was verified with use of system benchmark software.

**Sample Size: 1GB (2 samples)**



**Average Read Rate: 5654MB/s**  
**Average Write Rate: 543 MB/s**

**Sample Size: 10MB (100 samples)**

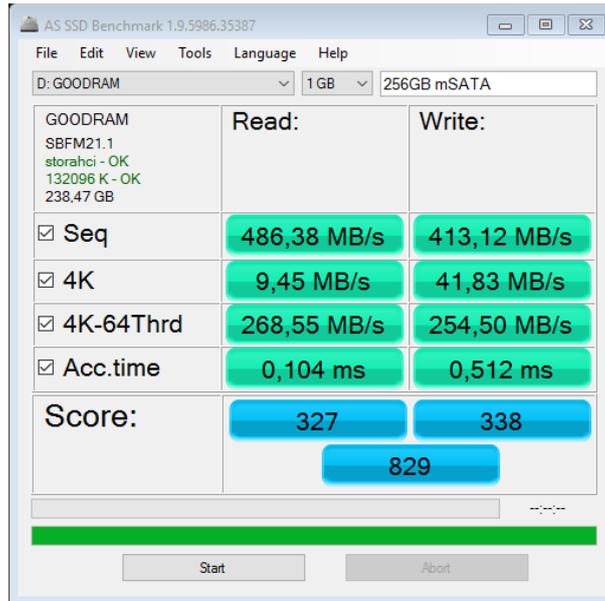


**Average Read Rate: 547 MB/s**  
**Average Write Rate: 523 MB/s**

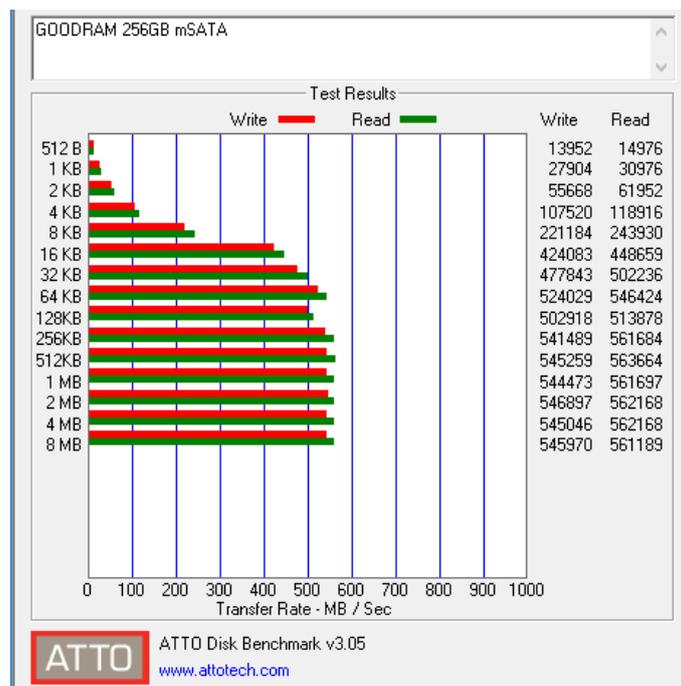
	<b>LABORATORY</b>	RP-01/07/09/2017
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 16 z 17

SSD was detected correctly by operating system Windows 10 and works without problem. Maximum data transfer was verified with use of benchmark software's:

AS SSD Benchmark v1.9.5986.35387:



ATTO: Disk Benchmark v3.05:



	<b>LABORATORY</b>	RP-01/07/09/2017
	<b>VERIFICATION REPORT</b>	Date: 07/09/2017
		Release: 01
		Page: 17 z 17

Crystal Disk Mark 5.2.2 x64:

