

VIM3 Performance & Benchmark

eMMC Performance:

SBC: VIM3 Pro 32GB eMMC

Read: 230.8MB/s

Write: 105.5MB/s

KB	Reclen	Write	Rewrite	Read	Reread	Random read	Random write
102400	4	28636	34079	29811	29983	29542	34452
102400	16	73976	83032	82664	82645	81892	80757
102400	512	106190	106070	222192	223234	198836	107070
102400	1024	107756	108040	224410	225141	206201	107942
102400	16384	107398	107898	230988	230996	230152	108006

SBC: VIM3 Basic 16GB eMMC

Read: 226.9MB/s

Write: 54.6MB/s

KB	Reclen	Write	Rewrite	Read	Reread	Random read	Random write
102400	4	28144	45103	30268	30192	29978	34613
102400	16	55748	56061	83530	80912	80327	55596
102400	512	55870	56088	217630	218586	193503	55831
102400	1024	55979	56002	223020	223637	200085	55747
102400	16384	55884	55939	232308	232383	232169	55958

Note: 16GB eMMC Read performance will be lower than 32GB one [2].

WiFi Performance:

Distance: 7 meters from the VIM3 SBC to the testing router

Upload: 312.9Mbps/s

Interval	Bandwidth(Mbps)	Interval	Bandwidth(Mbps)	Interval	Bandwidth(Mbps)
0-1	295	10-11	322	20-21	342
1-2	302	11-12	324	21-22	312
2-3	311	12-13	302	22-23	317
3-4	305	13-14	301	23-24	318
4-5	322	14-15	301	24-25	322
5-6	297	15-16	311	25-26	315
6-7	301	16-17	324	26-27	314
7-8	305	17-18	324	27-28	324
8-9	308	18-19	315	28-29	316
9-10	311	19-20	315	29-30	311

Download :303.7Mbps/s

Interval	Bandwidth(Mbps)	Interval	Bandwidth(Mbps)	Interval	Bandwidth(Mbps)
0-1	295	10-11	307	20-21	304
1-2	302	11-12	305	21-22	302
2-3	307	12-13	329	22-23	284
3-4	296	13-14	318	23-24	302
4-5	290	14-15	324	24-25	302
5-6	294	15-16	311	25-26	305
6-7	305	16-17	301	26-27	331
7-8	306	17-18	305	27-28	298
8-9	295	18-19	314	28-29	292
9-10	277	19-20	304	29-30	306

Ethernet Performance:

Download : 942Mbps/s

Interval	Bandwidth	Interval	Bandwidth	Interval	Bandwidth
0-1	955	10-11	941	20-21	938
1-2	944	11-12	944	21-22	941
2-3	946	12-13	942	22-23	942
3-4	935	13-14	944	23-24	945
4-5	943	14-15	940	24-25	935
5-6	942	15-16	942	25-26	946
6-7	944	16-17	941	26-27	940
7-8	941	17-18	944	27-28	943
8-9	938	18-19	943	28-29	936
9-10	941	19-20	941	29-30	946

Upload : 911Mbps/s

Interval	Bandwidth	Interval	Bandwidth	Interval	Bandwidth
0-1	916	10-11	903	20-21	910
1-2	918	11-12	911	21-22	913
2-3	908	12-13	905	22-23	910
3-4	907	13-14	913	23-24	902
4-5	911	14-15	914	24-25	920
5-6	908	15-16	910	25-26	908
6-7	909	16-17	922	26-27	912
7-8	910	17-18	905	27-28	916
8-9	910	18-19	919	28-29	904
9-10	910	19-20	907	29-30	920

SD Card Performance:

Test Device: SanDisk

Read: 21.76MB/s

Write: 13.687MB/s

KB	Reclen	Write	Rewrite	Read	Reread	Random Read	Random write
102400	4	4426	4279	8044	8044	6525	3433
102400	16	4955	5360	16071	16066	14967	8316
102400	512	10758	11045	22137	22063	22063	17758
102400	1024	12429	13025	22025	21972	21972	17040
102400	16384	14680	13351	22288	22285	22285	16694

USB 2.0 Performance:

Test Device: Samsung Portable SSD T5

Read: 40.6MB/s

Write: 40.3MB/s

KB	Reclen	Write	Rewrite	Read	Reread	Random read	Random write
102400	4	14785	16669	17123	17585	10662	16667
102400	16	29206	31549	31957	31957	25571	31313
102400	512	40915	41164	41040	41063	39083	41155
102400	1024	41273	41390	41227	41263	39597	41337
102400	16384	41490	41550	41209	41341	41229	41607

USB 3.0 Performance:

Test Device: Samsung Portable SSD T5

Read: 352.1MB/s

Write: 352.0MB/s

KB	Reclen	Write	Rewrite	Read	Reread	Random read	Random write
102400	4	19715	24622	24573	24592	19640	233936
102400	16	66193	82433	84399	85156	65466	82661
102400	512	320449	326542	310502	320096	319695	345155
102400	1024	344388	349621	326563	336909	336543	366191
102400	16384	356565	360457	331709	3410875	340875	360503

PCIe Performance:

Test Device: Samsung EVO 970

Write	448MB/S
Read	461MB/S

Benchmark

Antutu Version: V7.3.1:

Test Condition	New VIMs Heatsink + 3705 Cooling Fan	Without Heatsink & Fan
CPU	56048	41327
CPU Mathematics Score	9571	5280
CPU Commom Use Score	8183	4646
CPU Multi-Core Score	38294	31401
GPU	35311	33262
3D Marooned Score	6426	6219
3D Coastline Score	11753	11374
3D Refinery Score	17132	15669
UX	31865	22517
Data Security Score	4851	3358
Data Processing Score	7314	5249
Image Processing Score	7603	5033
User Experience Score	12097	8877
MEM	6020	5705
RAM Score	2809	2282
ROM Score	3211	3323
Scores	129244	105983

Geekbench Version: V4

SBC	VIM3 Basic(2GB)	VIM3 Basic(2GB)	Odroid-N2 (4GB)
Test Condition	Heatsink + Fan	Heatsink Only	Heatsink Only
Single-Core Score	1524	1514	1317
Multi-Core Score	4185	4151	4126
RenderScript Score	3387	3381	3450
Scores	9096	9047	8893

Remarks:

[1] All the testing results based on one of following ROM:

- 1) Android Firmware: VIM3_Pie_20190622
- 2) Ubuntu Firmware: VIM3_Ubuntu-server-bionic_Linux-4.9_arm64_EMMC_V20190621

[2] Samsung eMMC Document:

6.1.5 Performance

[Table 23] Performance

Density	Partition Type	Performance	
		Read(MB/s)	Write (MB/s)
16GB	General	285	40
32GB		310	70
64GB		310	140
128GB		310	140
16GB	Enhanced	295	80
32GB		320	150
64GB		320	245
128GB		320	245

* Test Condition : Bus width x8, HS400, 512KB data transfer, Packed Off, Cache On, w/o file system overhead, measured on Samsung's internal board