

Product Test Report

Test Date	Product Type	Manufacturer	Purpose of Testing	Tester
27-Nov-14	M/B(SOC)	HM-B	Performance Comparison	Matthew Park

System Summary

Model	HBM-J1900SL	HBM-C1037U
CPU	BayTrail J1900(4Core) - 2.0GHz	IvyBridge Mobile C1037U(2Core) - 1.8GHz
GPU	Intel HD Graphics(BayTrail)	Intel HD Graphics(IvyBridge)
RAM	Samsung 4GB PC12800-SO	Samsung 4GB PC12800-SO
Storage	MiSD 64GB mSATA	MiSD 64GB mSATA
PSU	LiteON 12V 5A Adapter	LiteON 12V 5A Adapter
Case	HBF-40	HBF-40
OS	Windows 7 Embedded POSready 32bit	Windows 7 Embedded POSready 32bit
Etc	Heatsink(without FAN)	Heatsink(without FAN)

1. System Temperature Monitoring

Product	Idle	CPU Normal Load (Above 50%)	CPU Full Load (100%)	Other details
HBM-J1900SL	32°	40°	45°	
MBM-C1037U	34°	57°	65°	


2. Performance Test

Testing Tool

CPU-M Benchmark

Benchmark

3533



Benchmark Settings

Threads: 4x Thread Total thread.

Core: Entire CPU (Default) Selected Core.

➔ Start Benchmark Test

Microsoft Windows Embedded Standard

Processor: Intel(R) Celeron(R) CPU J1900 @ 1.99GHz

CPU Usage: 5 %

Memory Usage: 4096Mb / 1774Mb

CPU-M Score: 3533

Benchmark

2439



Benchmark Settings

Threads: 2x Thread Total thread.

Core: Entire CPU (Default) Selected Core.

➔ Start Benchmark Test

Microsoft Windows Embedded Standard

Memory Usage: 4096Mb / 950Mb

CPU-M Score: 2439

Passmark Performance Test 8.0

PassMark Rating	Result	0	Composite average of other results	5000
#1 - DP35DP	1061 (75.0%)			
#2 - GA-MA770-US3	1592 (163%)			
#3 - P6T DELUXE	2169 (258%)			
This Computer - Emerald Lake 2	672			
This Computer - OEM H81	1883			
SMC - X10SLV - X10SLV	1950			
ML-J1900 - BayTrail	606			
CPU Mark	Result	0	Composite average of other results	15000
#1 - Intel Core2 Duo E8400 @ 3.00GHz	2017 (48.8%)			
#2 - AMD Phenom II X4 955	3976 (193%)			
#3 - Intel Core i7 920 @ 2.67GHz	5431 (301%)			
This Computer - Intel Celeron 1037U @ 1.80GHz	1243			
This Computer - Intel Core i5-4590 @ 3.30GHz H81	6256			
SMC - X10SLV - Intel Core i5-4590 @ 3.30GHz	6462			
ML-J1900 - Intel Celeron J1900 @ 1.99GHz	1355			
2D Graphics Mark	Result	0	Composite average of other results	1000
#1 - NVIDIA GeForce GT 630	625 (291%)			
This Computer - Intel(R) HD Graphics 1037U	134.6			
This Computer - Intel(R) HD Graphics 4600 H81	871			
#4 - Intel(R) HD Graphics 4000	740 (363%)			
#5 - AMD Radeon HD 6450	436.6 (173%)			
SMC - X10SLV - Intel(R) HD Graphics 4600	873			
ML-J1900 - Intel(R) Atom(TM) Processor E3800 Series..	159.8			
3D Graphics Mark	Result	0	Composite average of other results	15000
#1 - NVIDIA GeForce GT 630	433.3 (216%)			
This Computer - Intel(R) HD Graphics 1037U	222.1			
This Computer - Intel(R) HD Graphics 4600 H81	590			
#4 - Intel(R) HD Graphics 4000	462.0 (237%)			
#5 - AMD Radeon HD 6450	321.2 (134%)			
SMC - X10SLV - Intel(R) HD Graphics 4600	588			
ML-J1900 - Intel(R) Atom(TM) Processor E3800 Series..	137.0			
Memory Mark	Result	0	Composite average of other results	2500
#1 - 2GB DDR2 SDRAM PC2-6400 Transcend Inform..	777 (58.3%)			
This Computer - 4GB Samsung PC3-12800 1037U	618			
This Computer - 4GB Samsung PC3-12800 H81	1428			
SMC - X10SLV - 4GB Samsung PC3-12800	1511			
#5 - 4GB DDR3 SDRAM PC3-12800, ECC Team Gro..	912 (86.0%)			
#6 - 8GB DDR4 SDRAM PC4-17000 Crucial Technol..	2277 (364%)			
ML-J1900 - 4GB Samsung PC3-12800	490.5			
Disk Mark	Result	0	Composite average of other results	4000
#1 - Seagate ST3300622AS (300GB)	456.4 (-71.7%)			
This Computer - MISM64GS3PTMS-CA (64GB) 1037U	1606			
This Computer - MISM32GS2SI27-CA (31GB) H81	730			
SMC - X10SLV - MISM32GS2SI27-CA (31GB)	785			
#5 - KINGSTON SH100S3120G SATA Disk Device (..	3822 (137%)			
#6 - Crucial_CT256MX100SSD1 (256GB)	3635 (125%)			
ML-J1900 - MISM64GS3PTMS-CA (64GB)	1615			

PCMark 7

PCMARK 7



SCORE

2257 with Intel HD Graphics (Bay Trail Mobile)(1x)

PCMARK 7



SCORE

2286 with Intel HD Graphics (Ivy Bridge Mobile)(1x)

PCMark 8 All Systems - Test Fail (due to Lack of Performance)

Catzilla HBM-C1037U - Test Fail (Freezing)



3. General Review

1. C1037U에 비해 J1900이 매우 발열이 적음(베이트레일의 저전력 특징으로 판단됨)
 2. 실 성능은 1037U가 더 낫다는 포럼의 언급도 있으나 비교 결과론 큰 차이는 없음
- <http://cpuboss.com/cpus/Intel-Celeron-J1900-vs-Intel-Celeron-1037U>