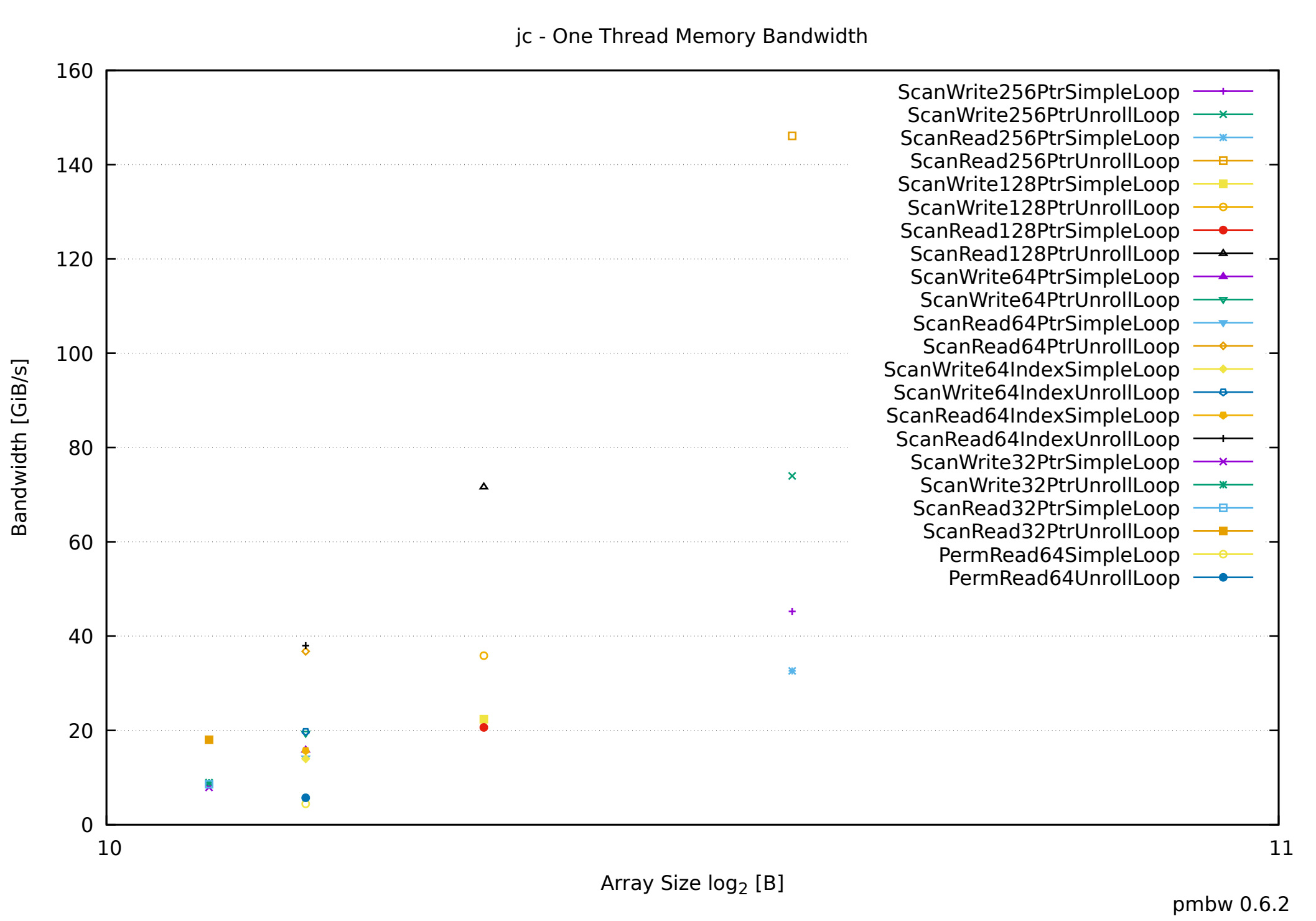
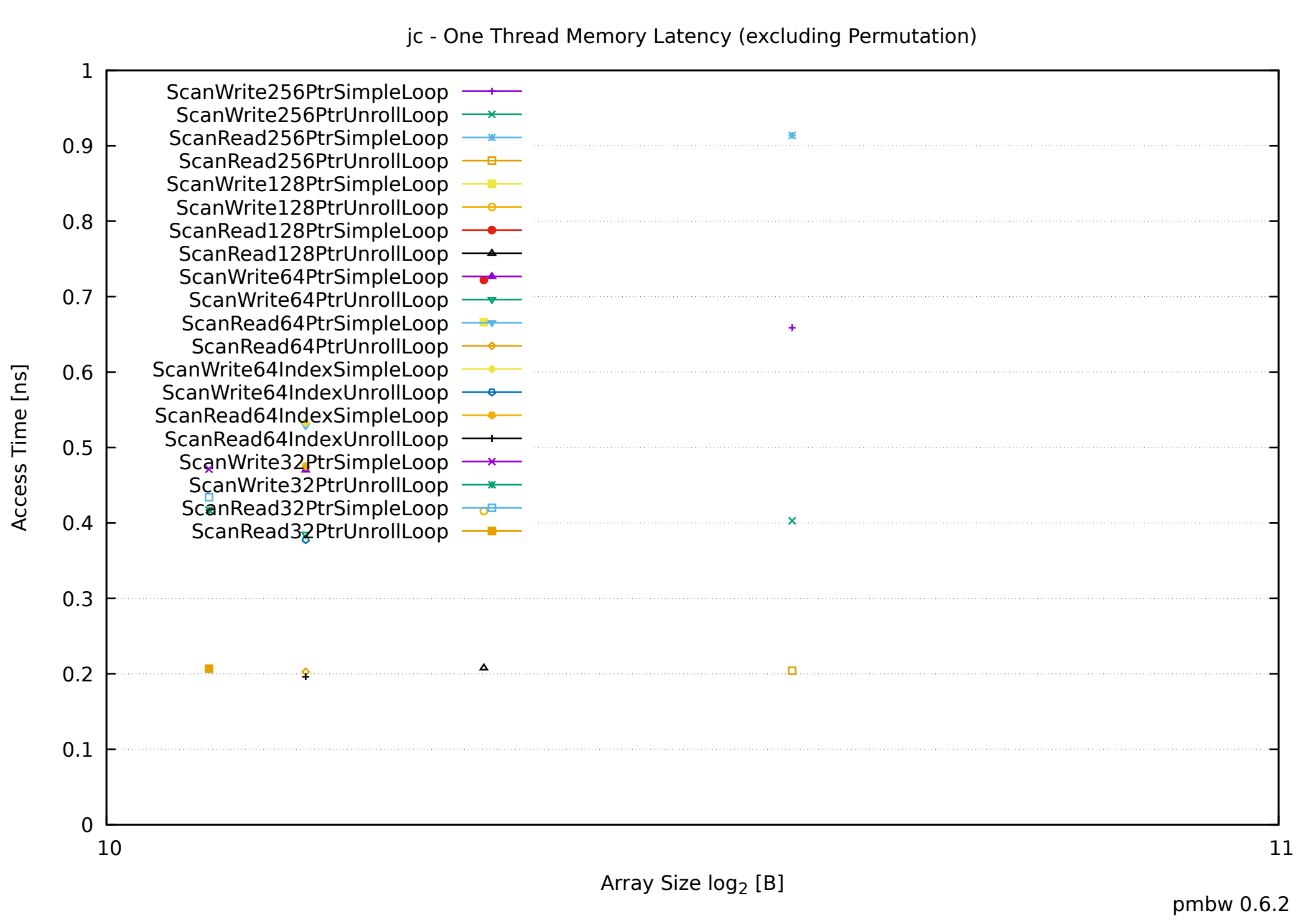
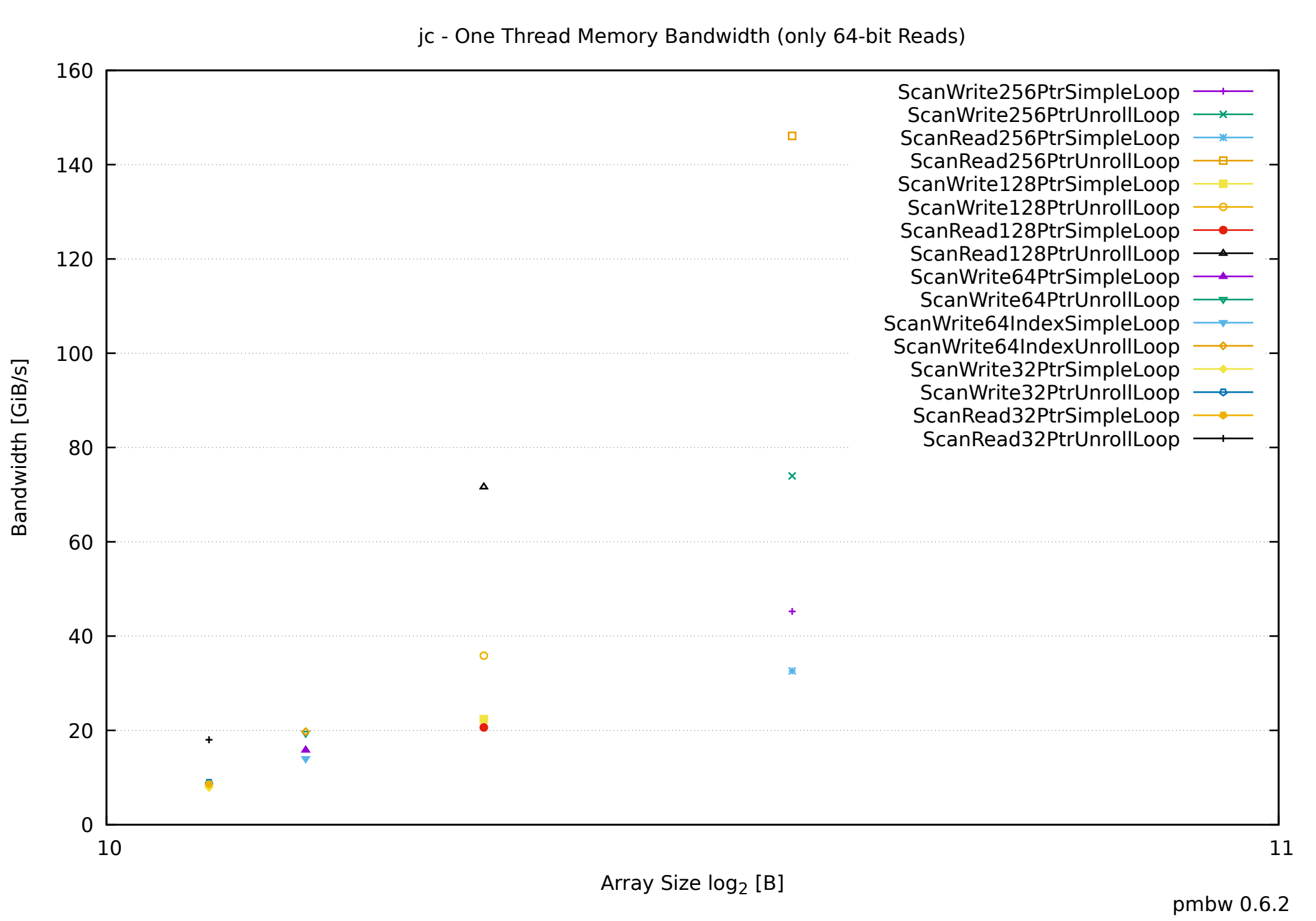
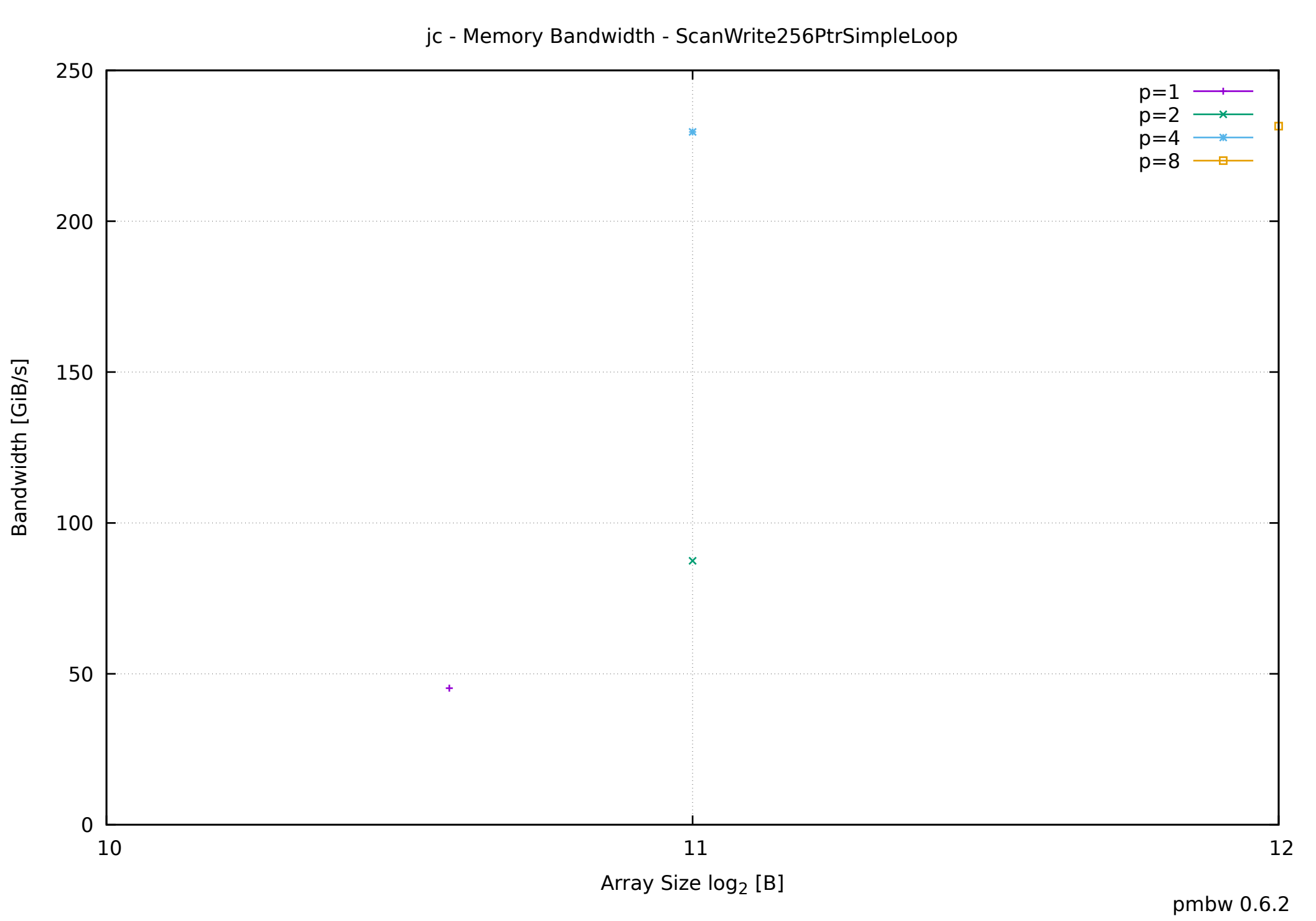
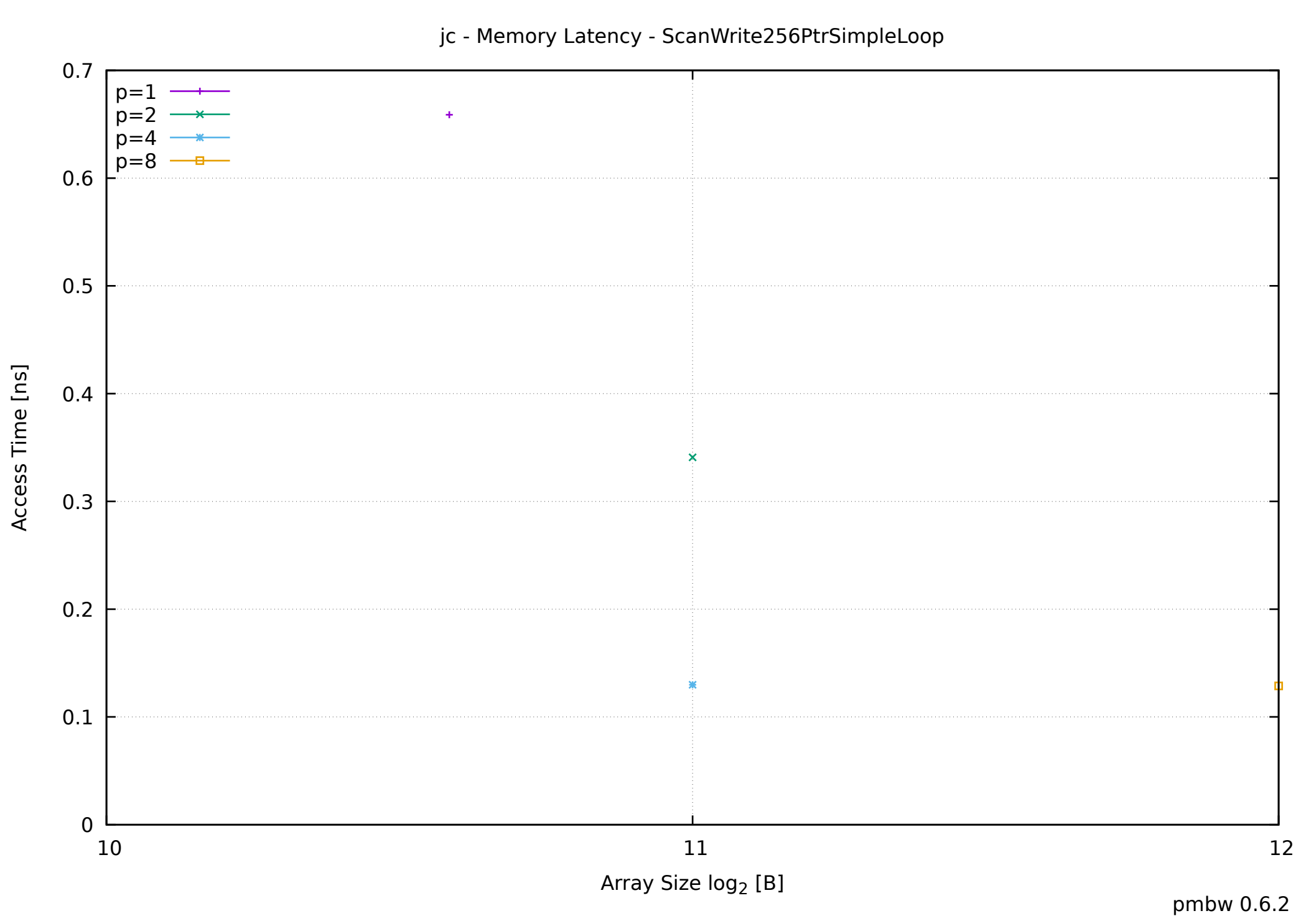

jc - One Thread Memory Bandwidth
Bandwidth [GiB/s]
Array Size log2 [B]
0
20
40
60
80
100
120
140
160
10
11
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanRead64IndexSimpleLoop
ScanRead64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
PermRead64SimpleLoop
PermRead64UnrollLoop
pmbw 0.6.2

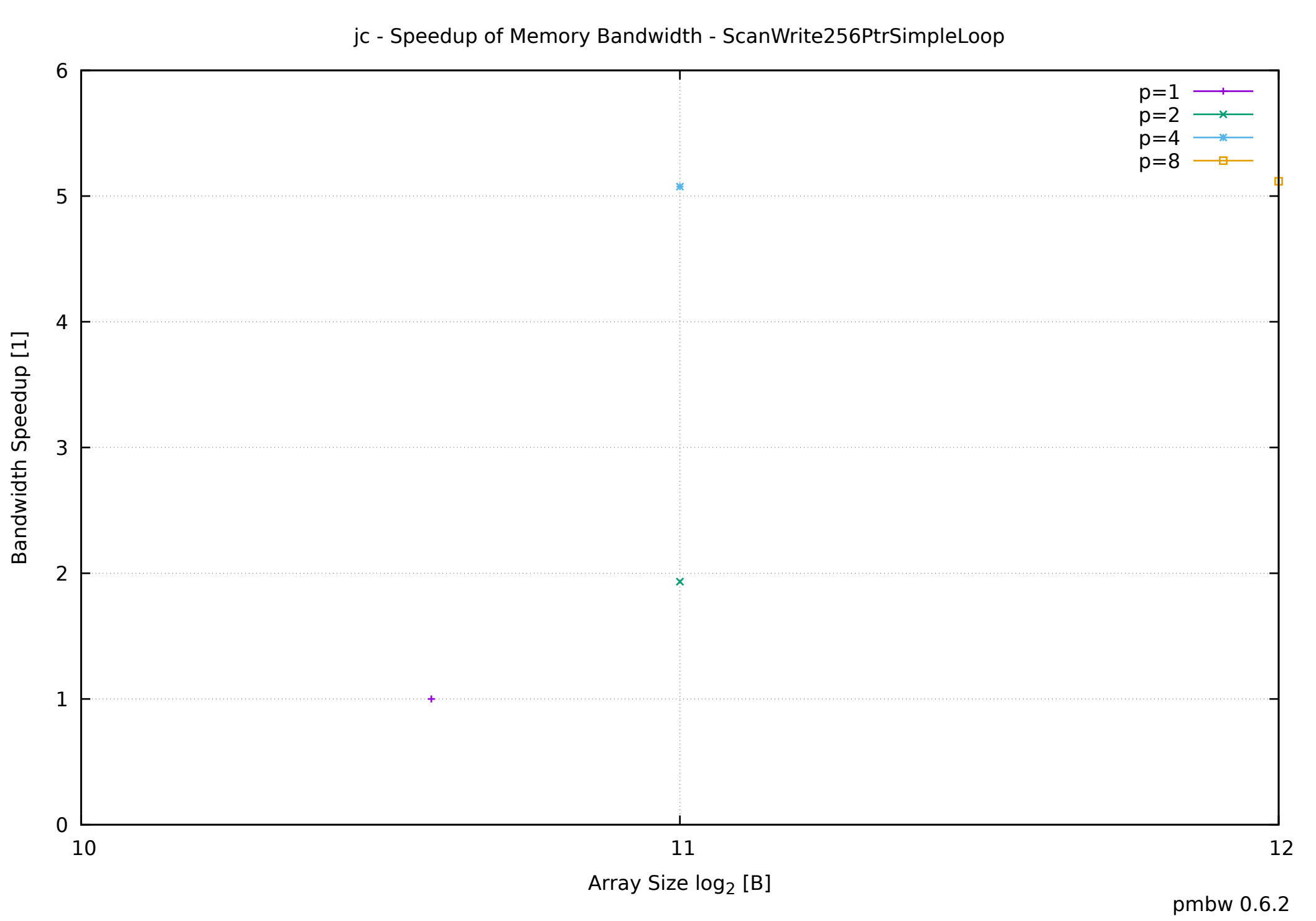
jc - One Thread Memory Latency
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanRead64IndexSimpleLoop
ScanRead64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
PermRead64SimpleLoop
PermRead64UnrollLoop
Access Time [ns]
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
10
11
Array Size log2 [B]
pmbw 0.6.2

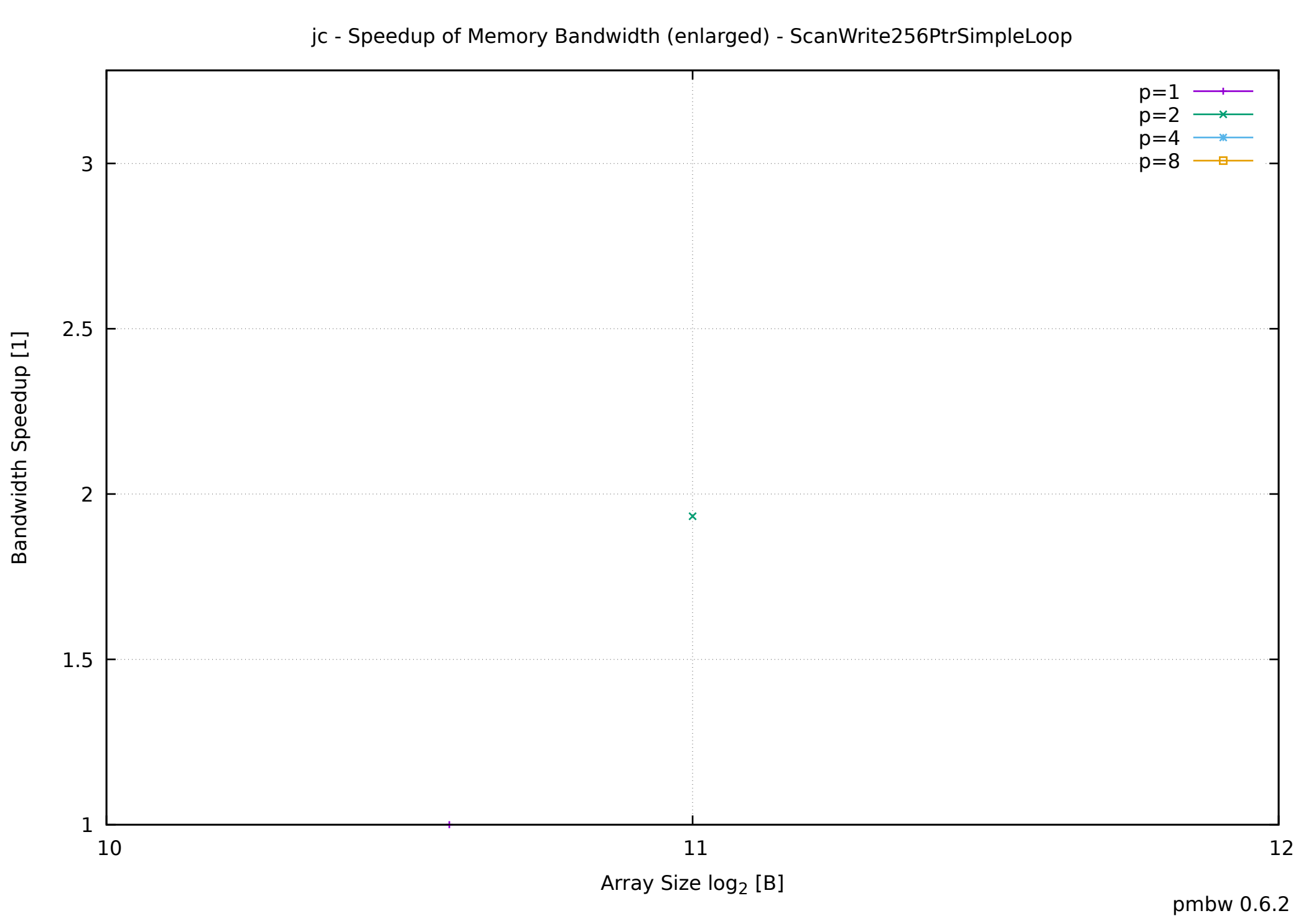

jc - One Thread Memory Latency (excluding Permutation)
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanRead64IndexSimpleLoop
ScanRead64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
Access Time [ns]
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
10
11
Array Size log2 [B]
pmbw 0.6.2

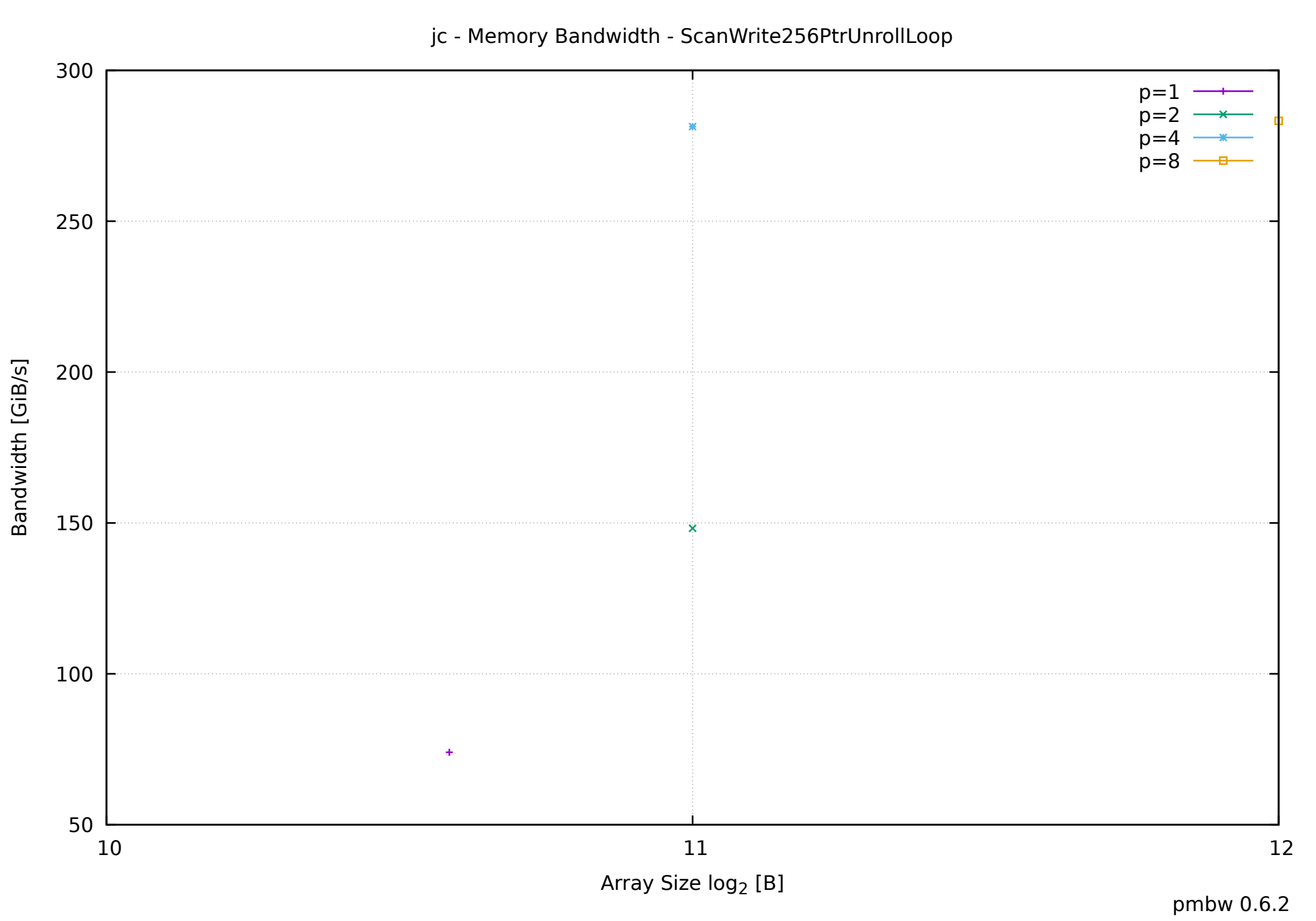

jc - One Thread Memory Bandwidth (only 64-bit Reads)
Bandwidth [GiB/s]
Array Size log2 [B]
0
20
40
60
80
100
120
140
160
10
11
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
pmbw 0.6.2

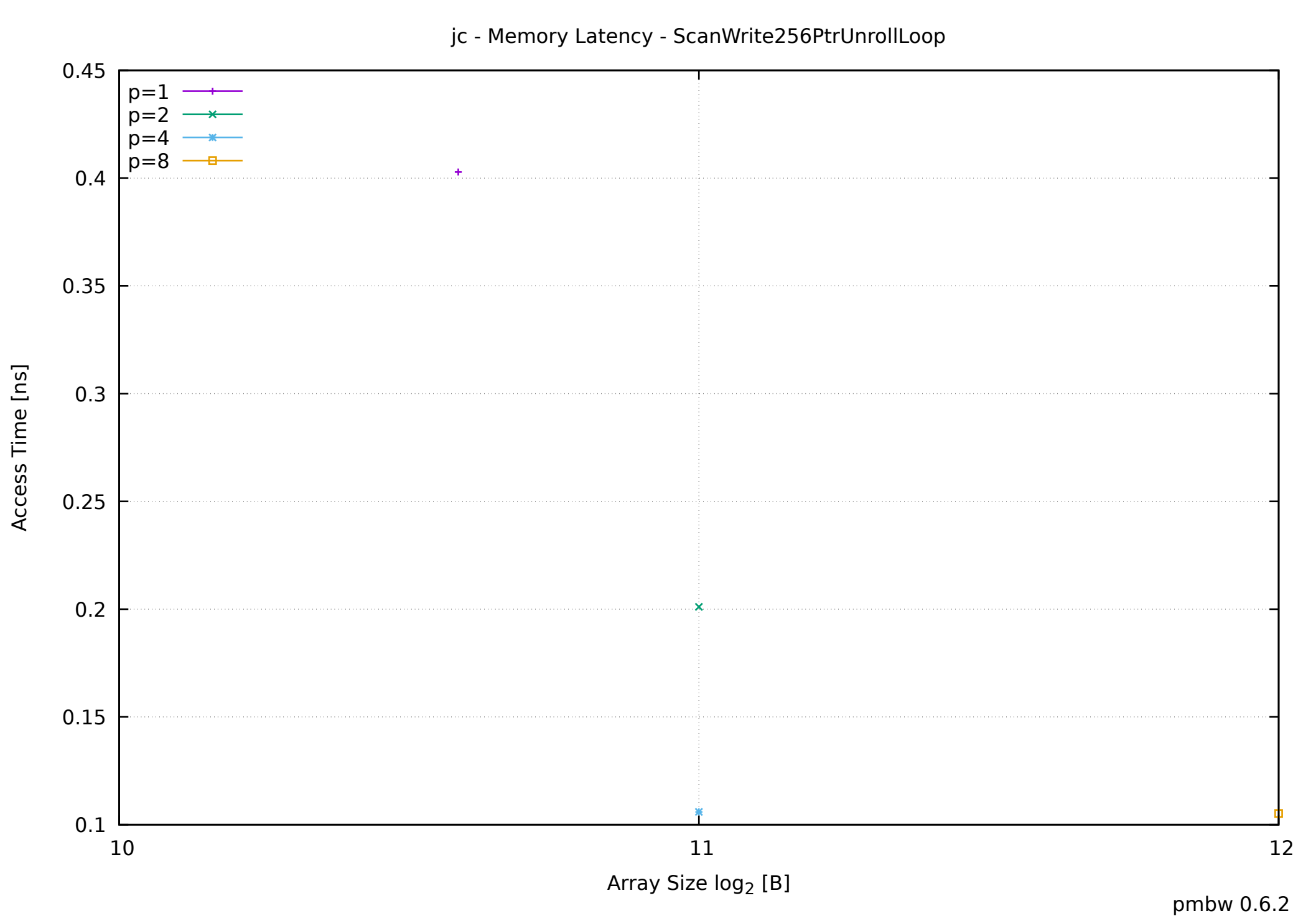

jc - Memory Bandwidth - ScanWrite256PtrSimpleLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=4
p=8
0
50
100
150
200
250
10
11
12
pmbw 0.6.2

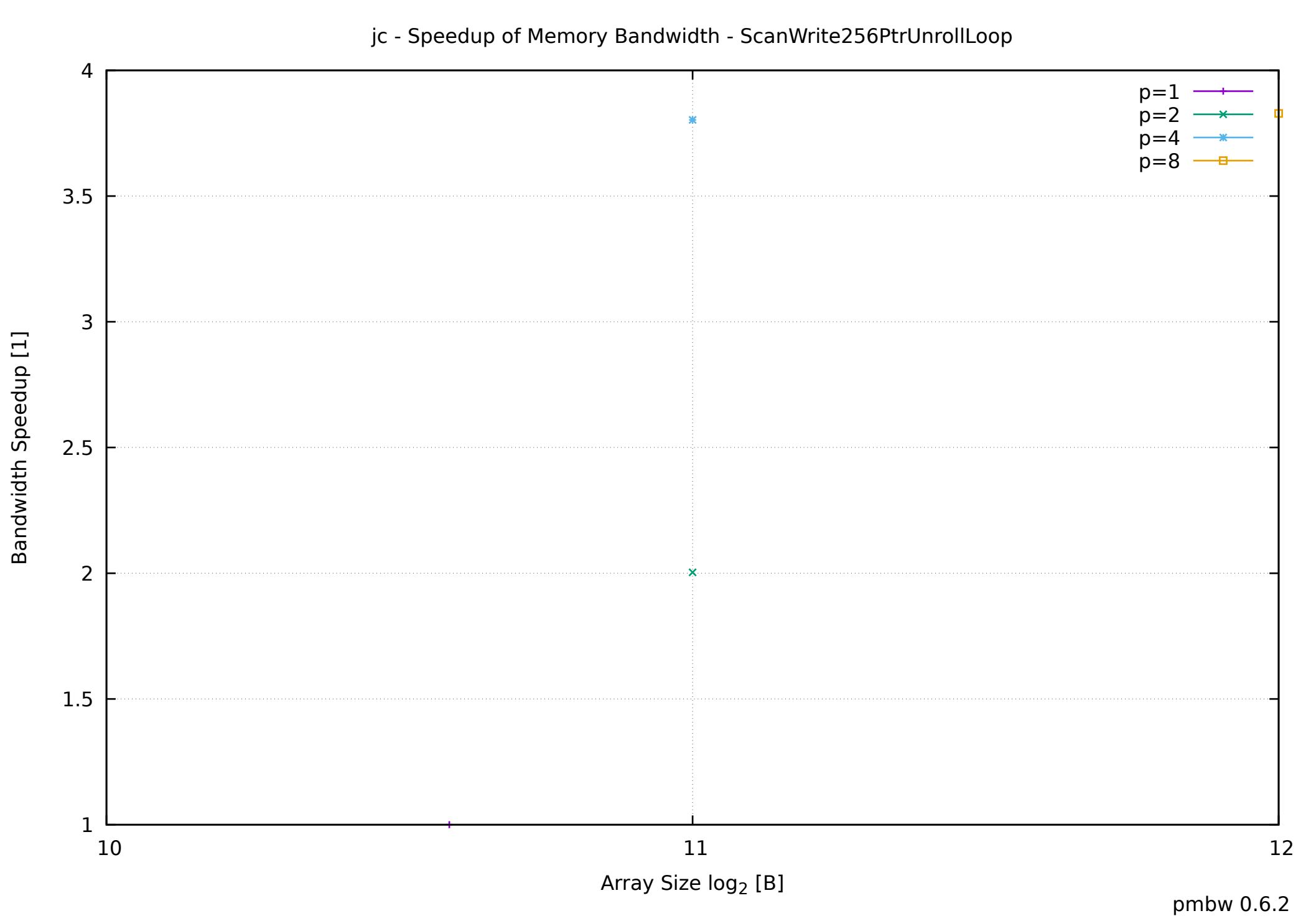

jc - Memory Latency - ScanWrite256PtrSimpleLoop
p=1
p=2
p=4
p=8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Access Time [ns]
10
11
12
Array Size log2 [B]
pmbw 0.6.2

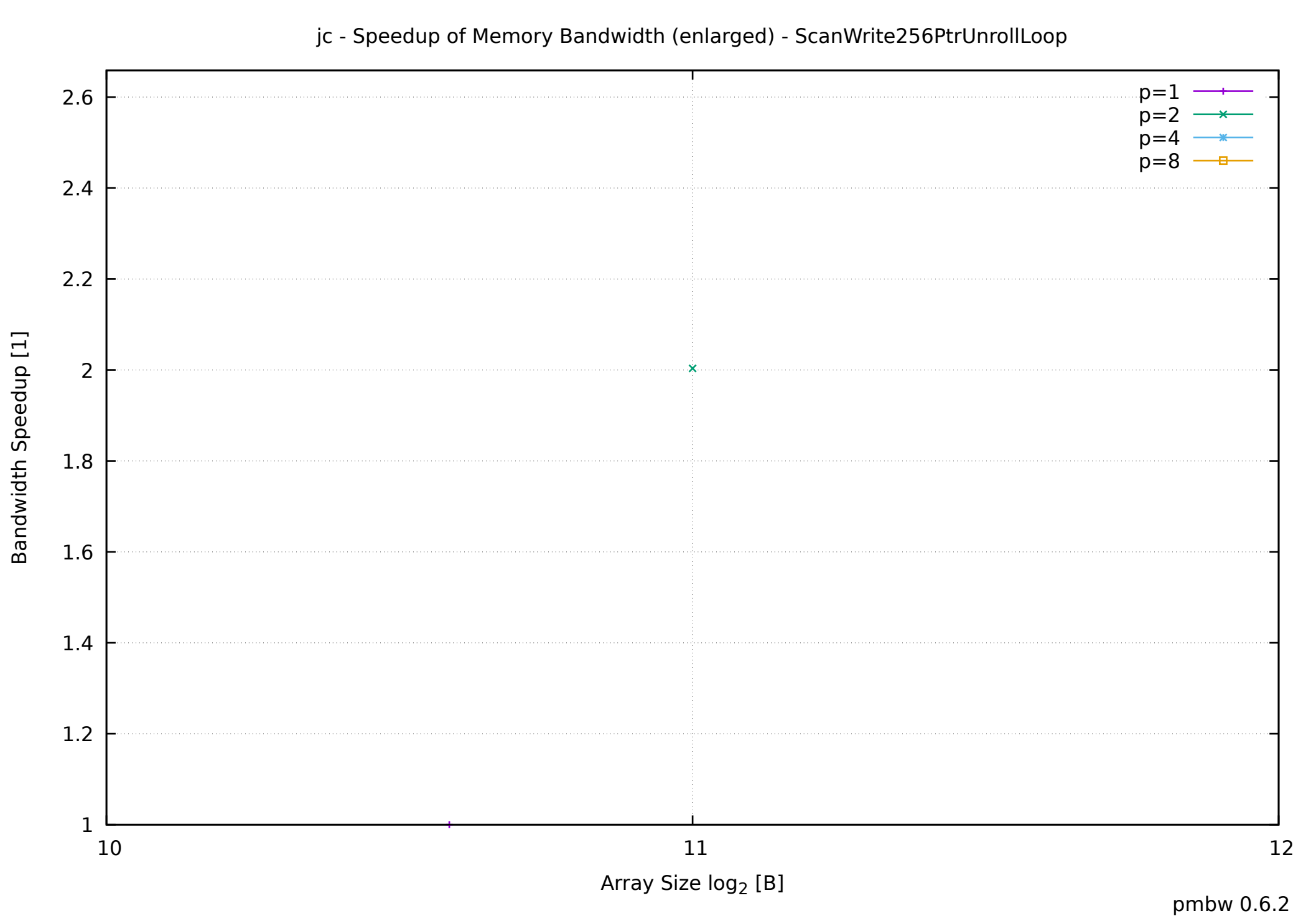

jc - Speedup of Memory Bandwidth - ScanWrite256PtrSimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
0
1
2
3
4
5
6
10
11
12
Array Size log2 [B]
pmbw 0.6.2

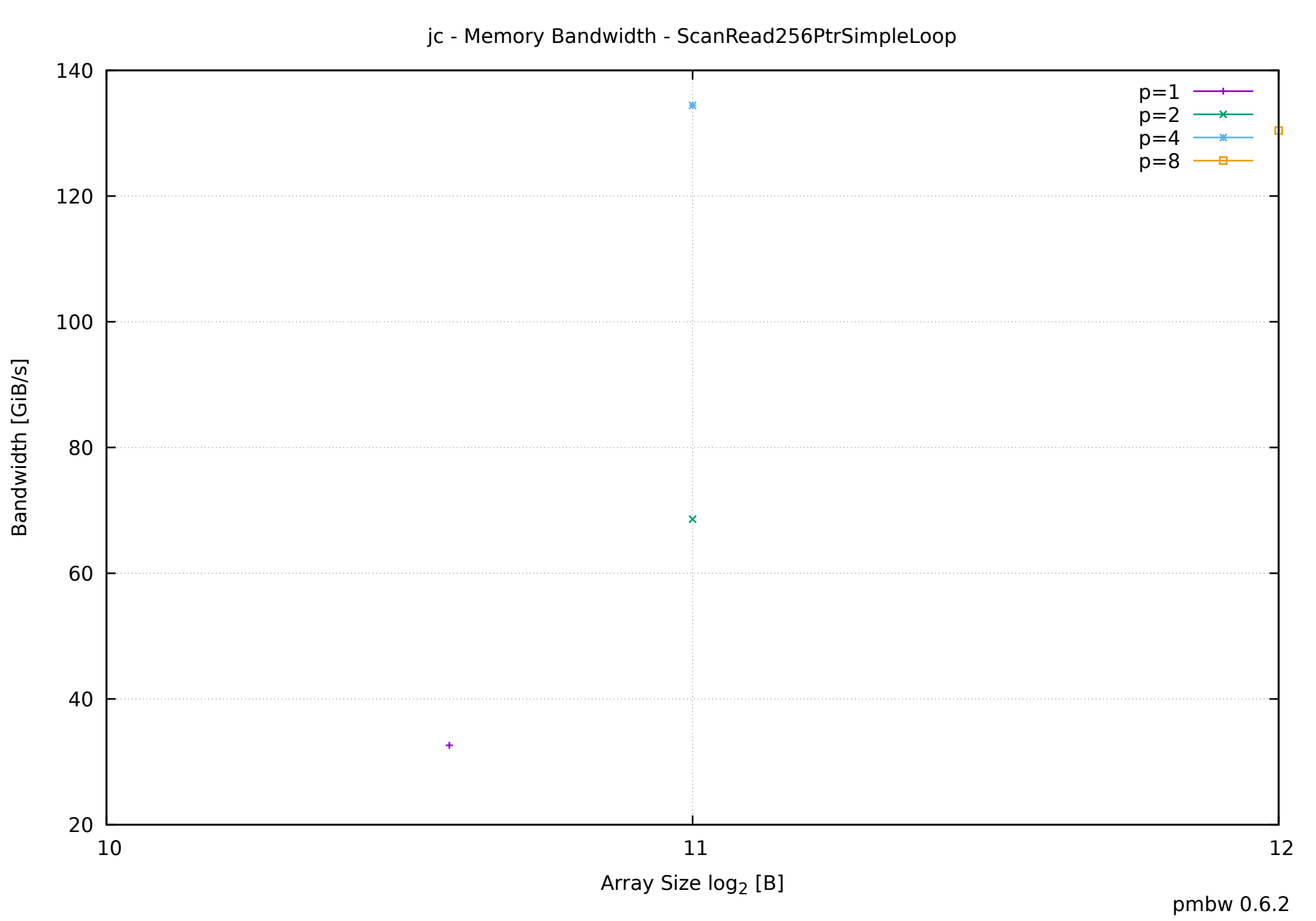

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite256PtrSimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
3
2.5
2
1.5
1
10
11
12
Array Size log2 [B]
pmbw 0.6.2

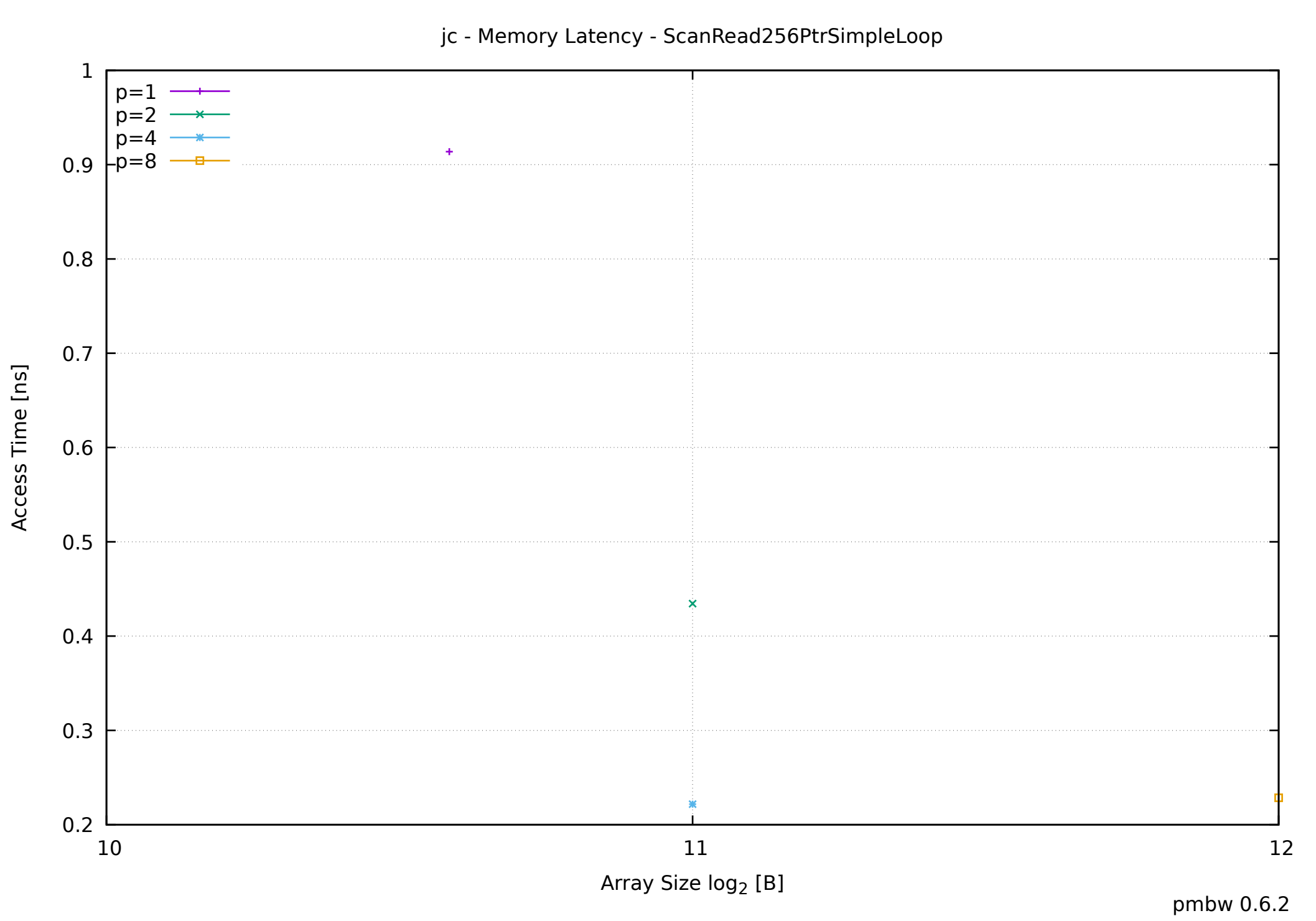

jc - Memory Bandwidth - ScanWrite256PtrUnrollLoop
300
250
200
150
100
50
Bandwidth [GiB/s]
10
11
12
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

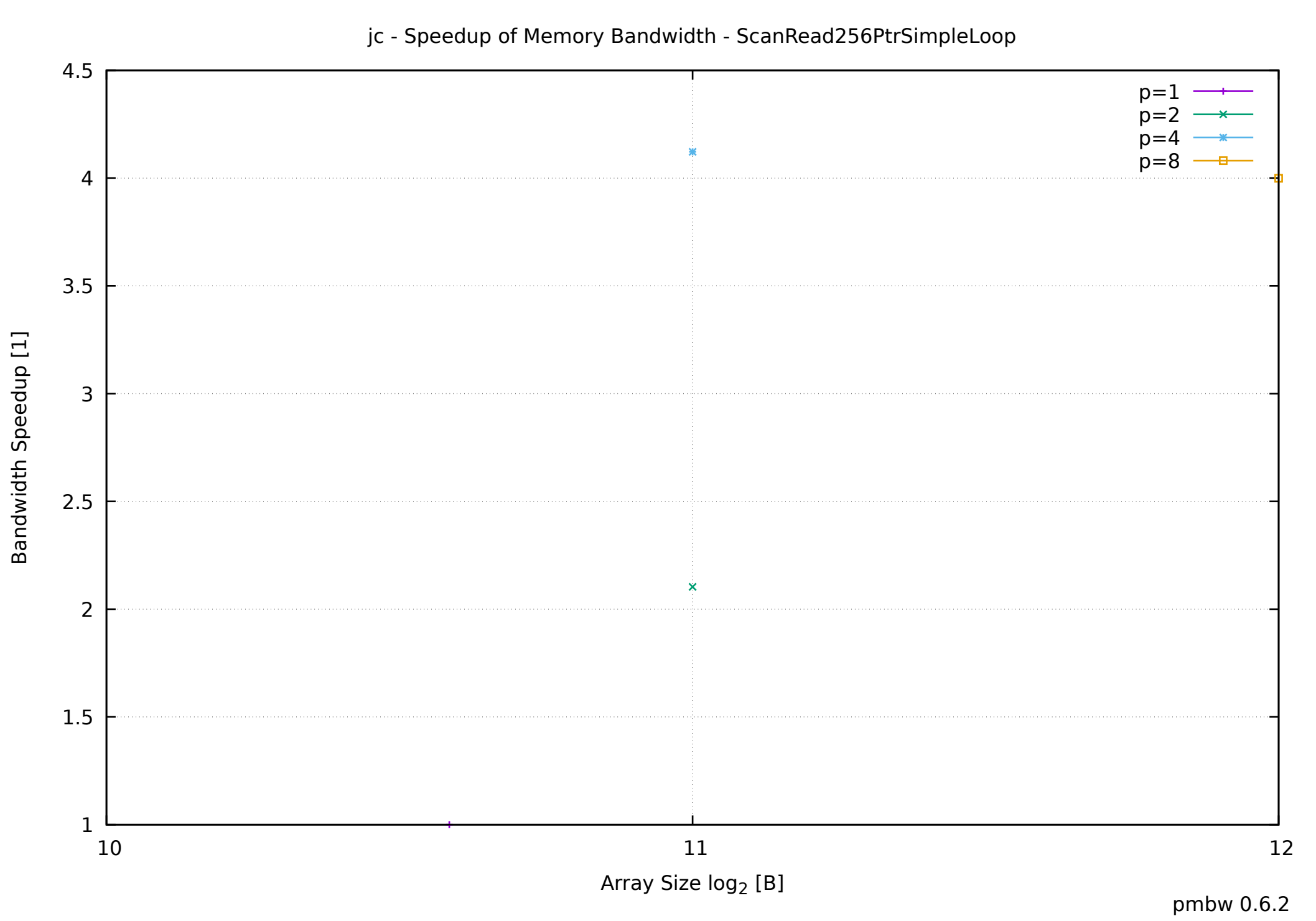

jc - Memory Latency - ScanWrite256PtrUnrollLoop
p=1
p=2
p=4
p=8
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
10
11
12
Array Size log2 [B]
pmbw 0.6.2

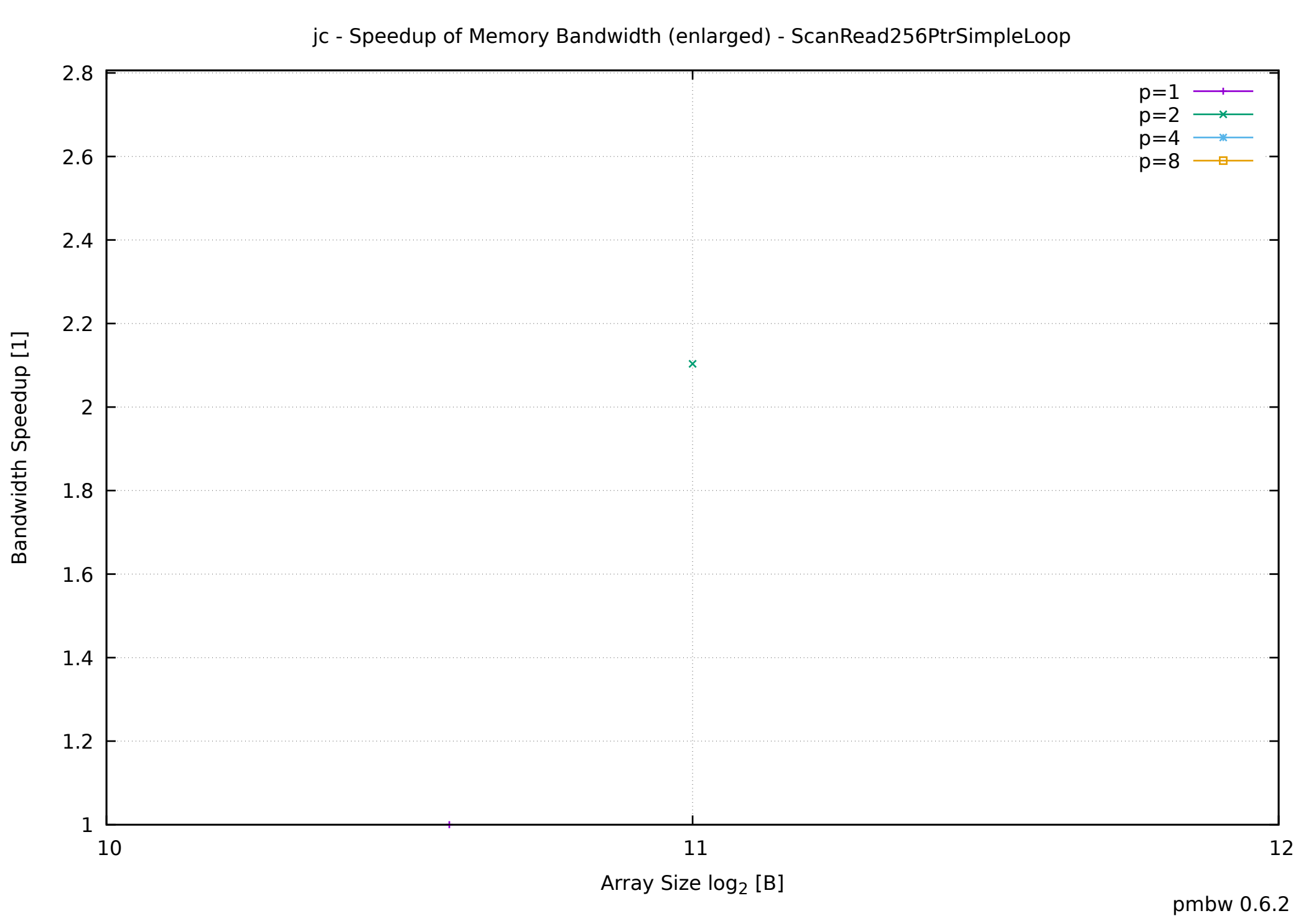

jc - Speedup of Memory Bandwidth - ScanWrite256PtrUnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=4
p=8
4
3.5
3
2.5
2
1.5
1
10
11
12
pmbw 0.6.2

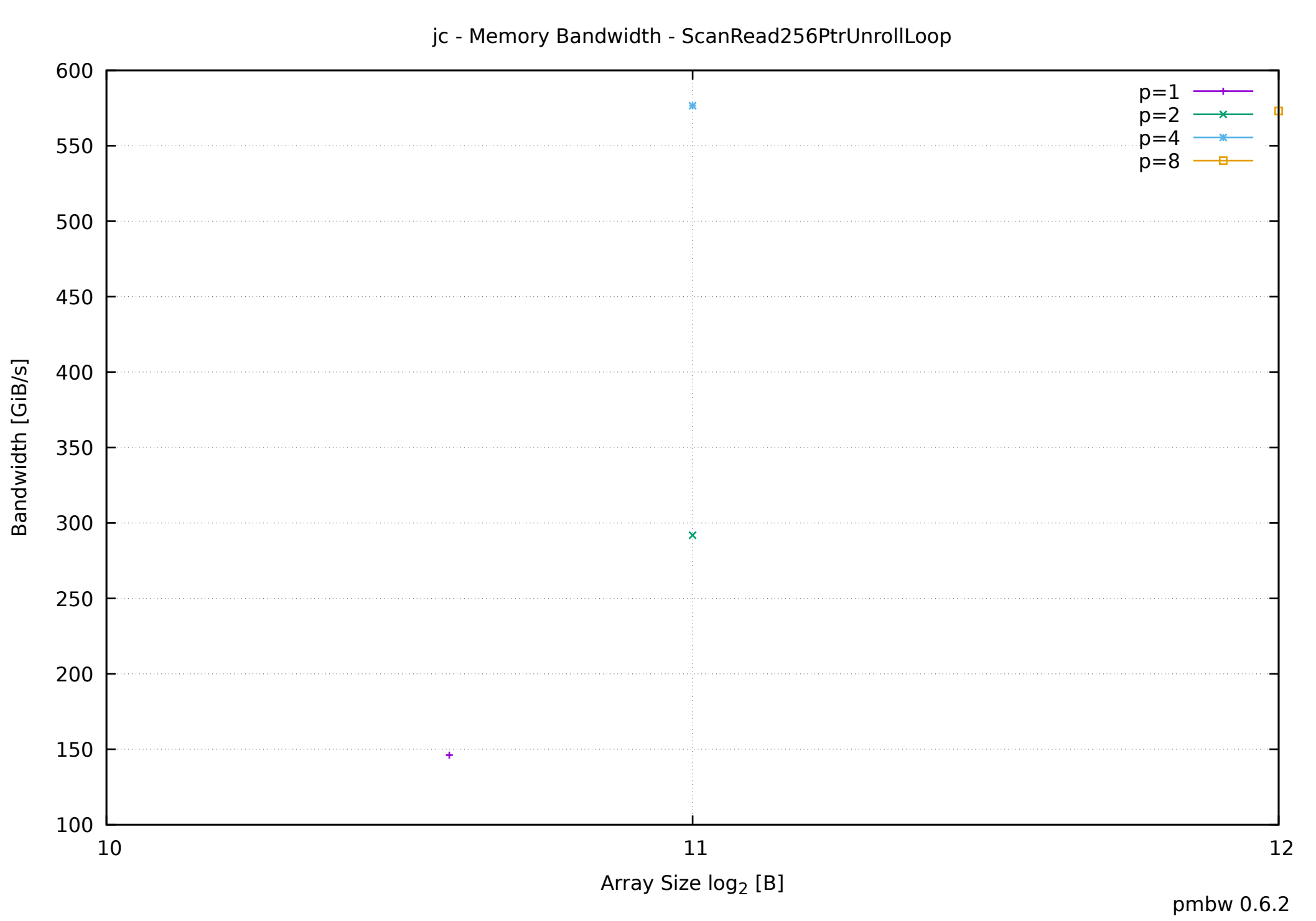

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite256PtrUnrollLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
10
11
12
Array Size log2 [B]
pmbw 0.6.2

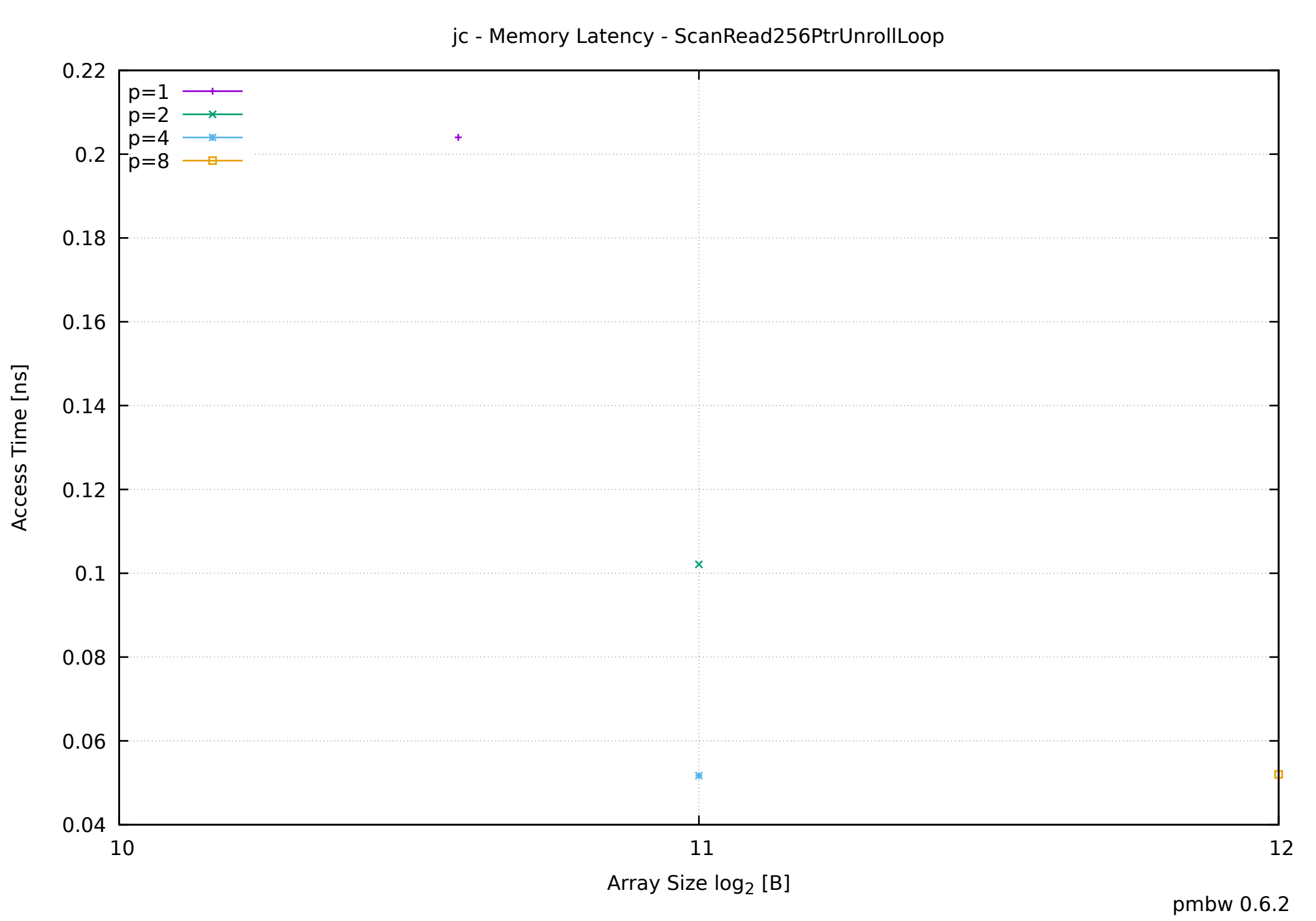

jc - Memory Bandwidth - ScanRead256PtrSimpleLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=4
p=8
140
120
100
80
60
40
20
10
11
12
pmbw 0.6.2

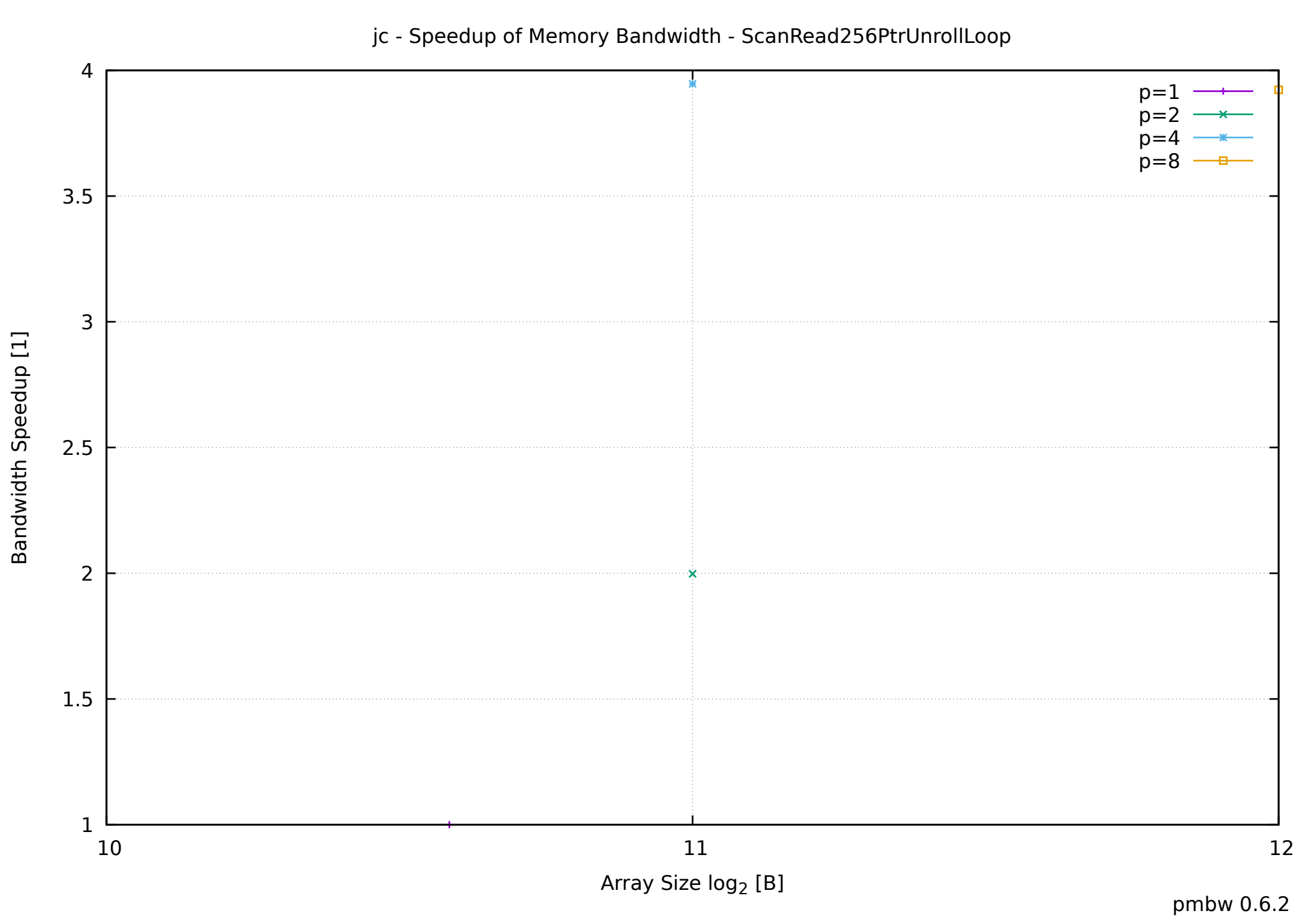

jc - Memory Latency - ScanRead256PtrSimpleLoop
p=1
p=2
p=4
p=8
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
Access Time [ns]
10
11
12
Array Size log2 [B]
pmbw 0.6.2

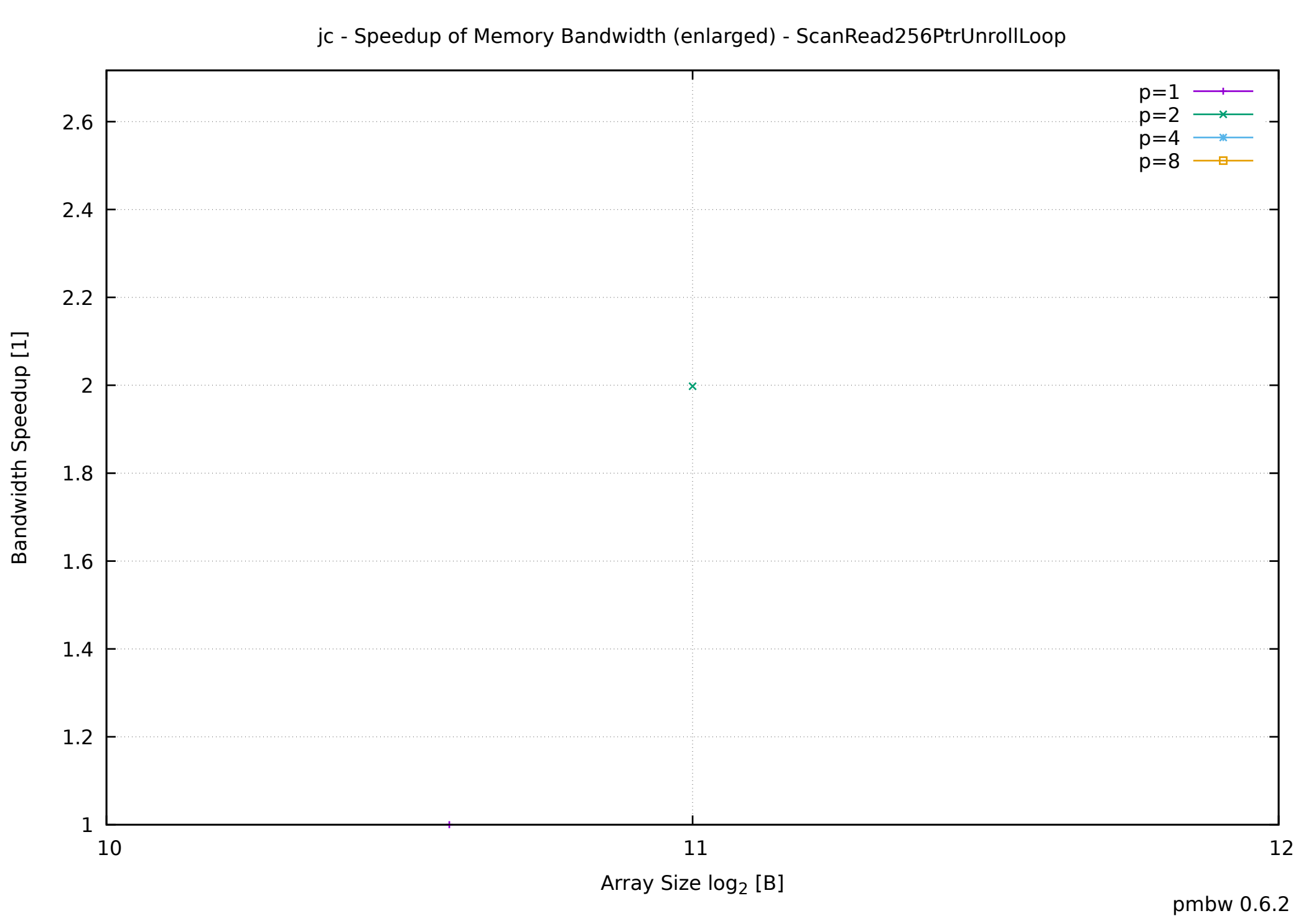

jc - Speedup of Memory Bandwidth - ScanRead256PtrSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=4
p=8
4.5
4
3.5
3
2.5
2
1.5
1
10
11
12
pmbw 0.6.2

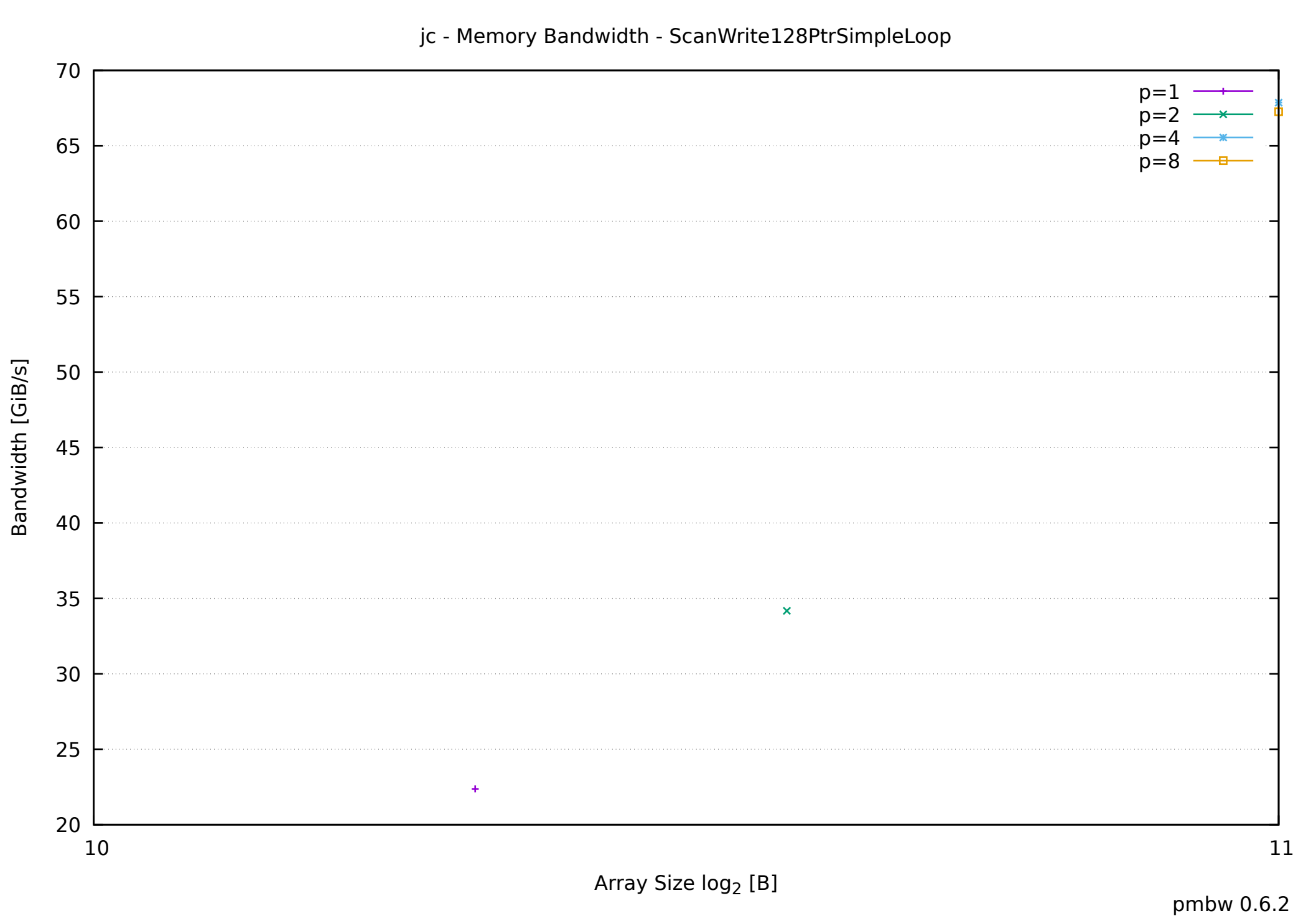

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead256PtrSimpleLoop
Bandwidth Speedup [1]
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
10
11
12
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

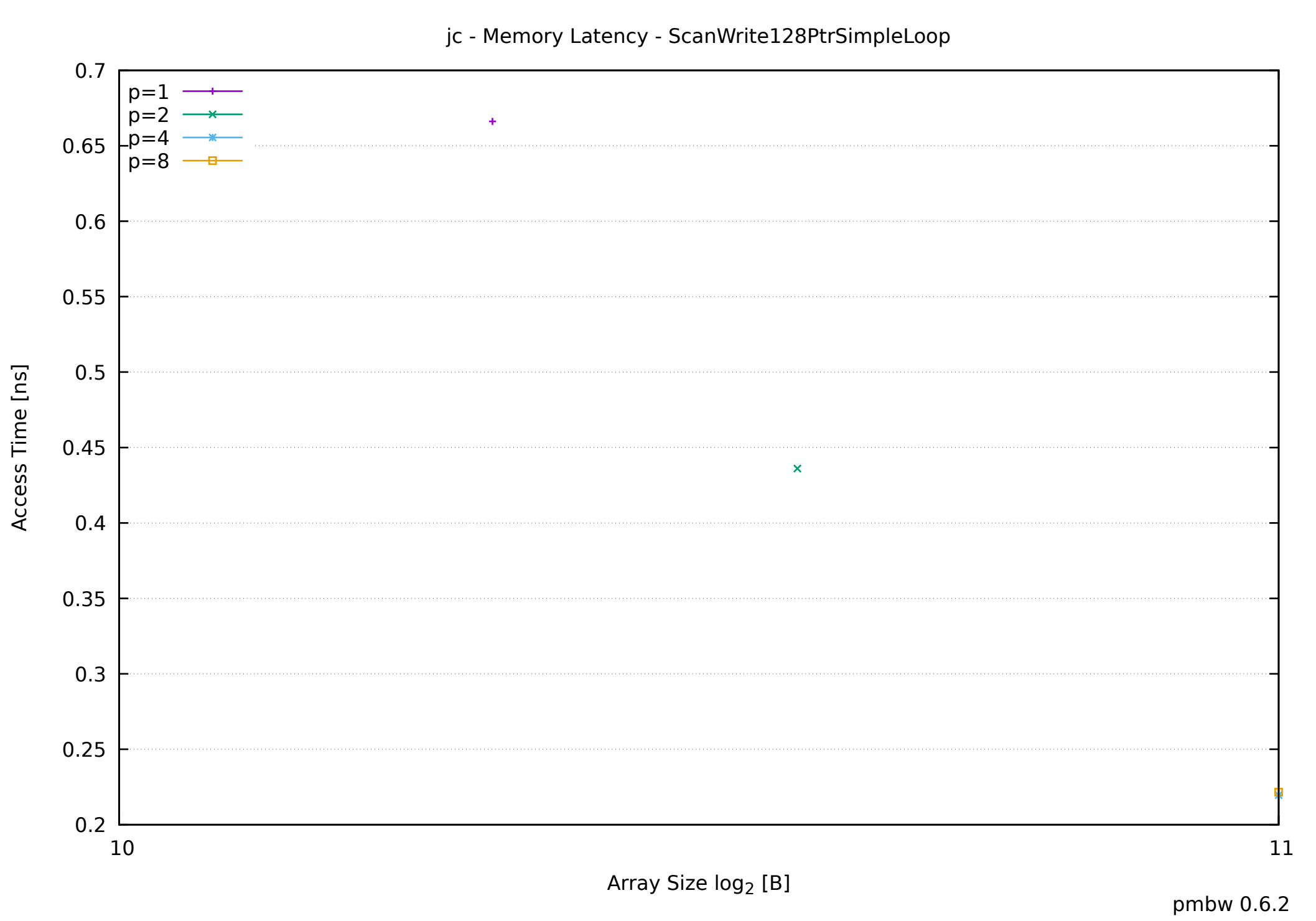

jc - Memory Bandwidth - ScanRead256PtrUnrollLoop
Bandwidth [GiB/s]
600
550
500
450
400
350
300
250
200
150
100
10
11
12
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

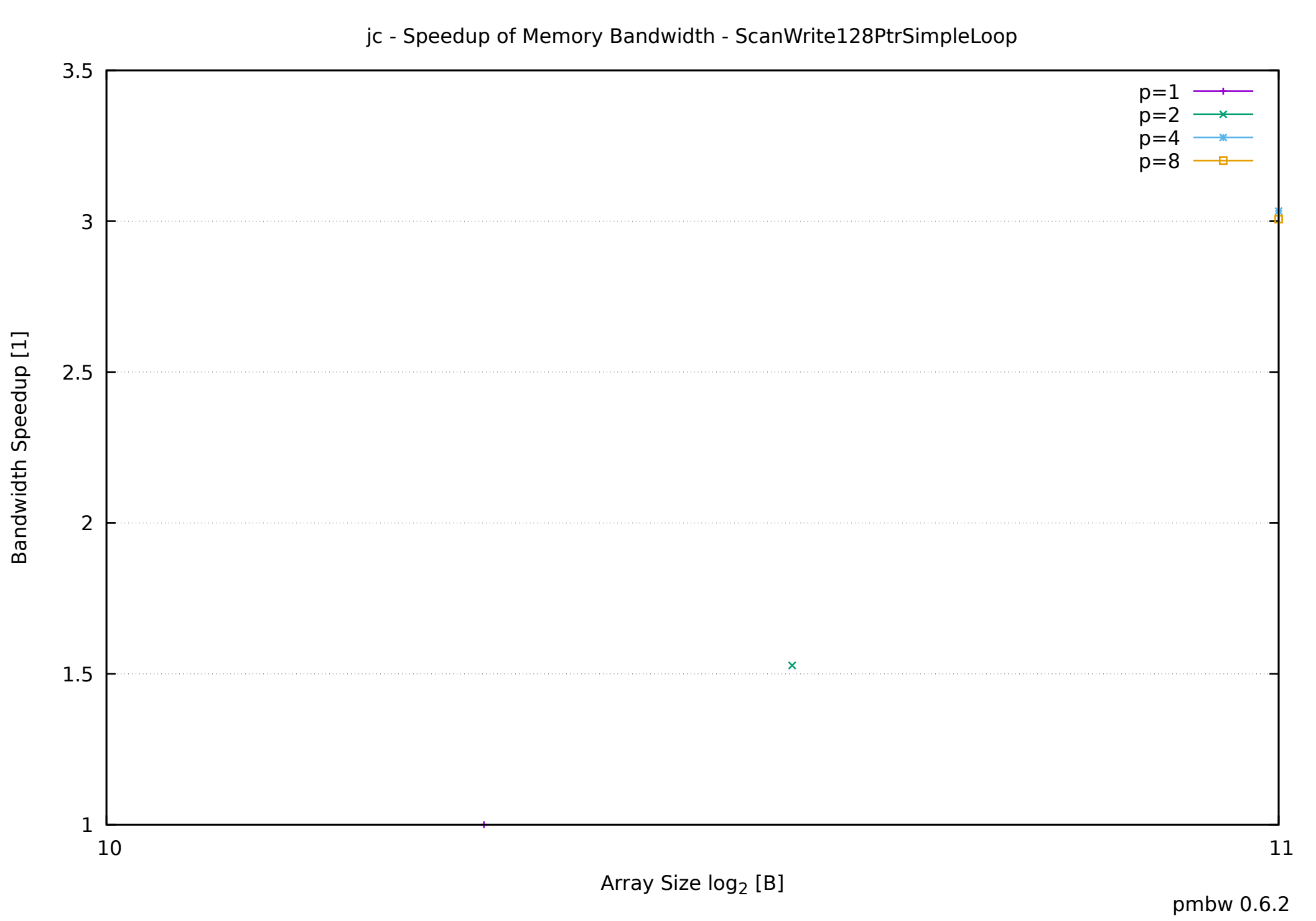

jc - Memory Latency - ScanRead256PtrUnrollLoop
p=1
p=2
p=4
p=8
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
Access Time [ns]
10
11
12
Array Size log2 [B]
pmbw 0.6.2

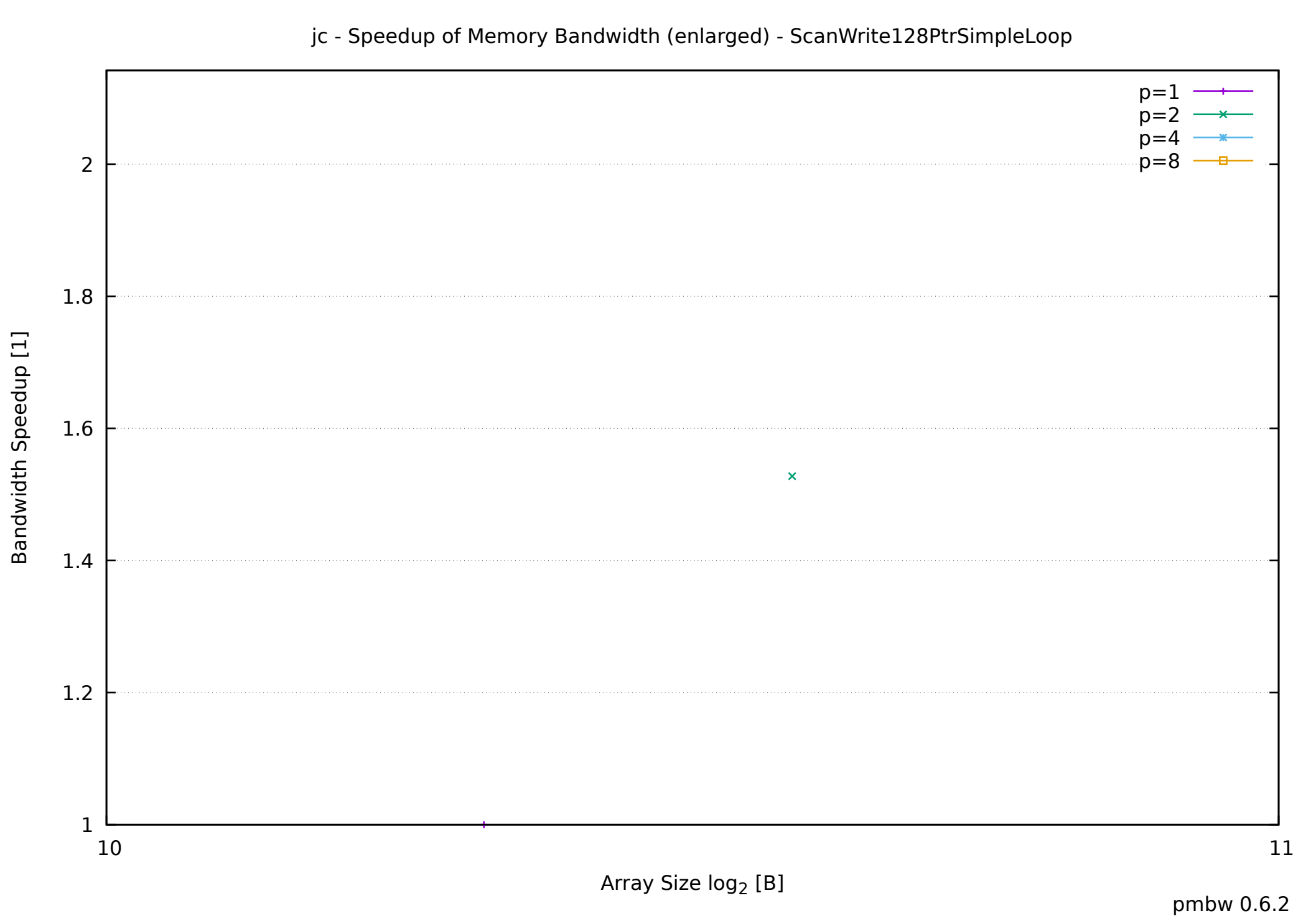

jc - Speedup of Memory Bandwidth - ScanRead256PtrUnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=4
p=8
4
3.5
3
2.5
2
1.5
1
10
11
12
pmbw 0.6.2

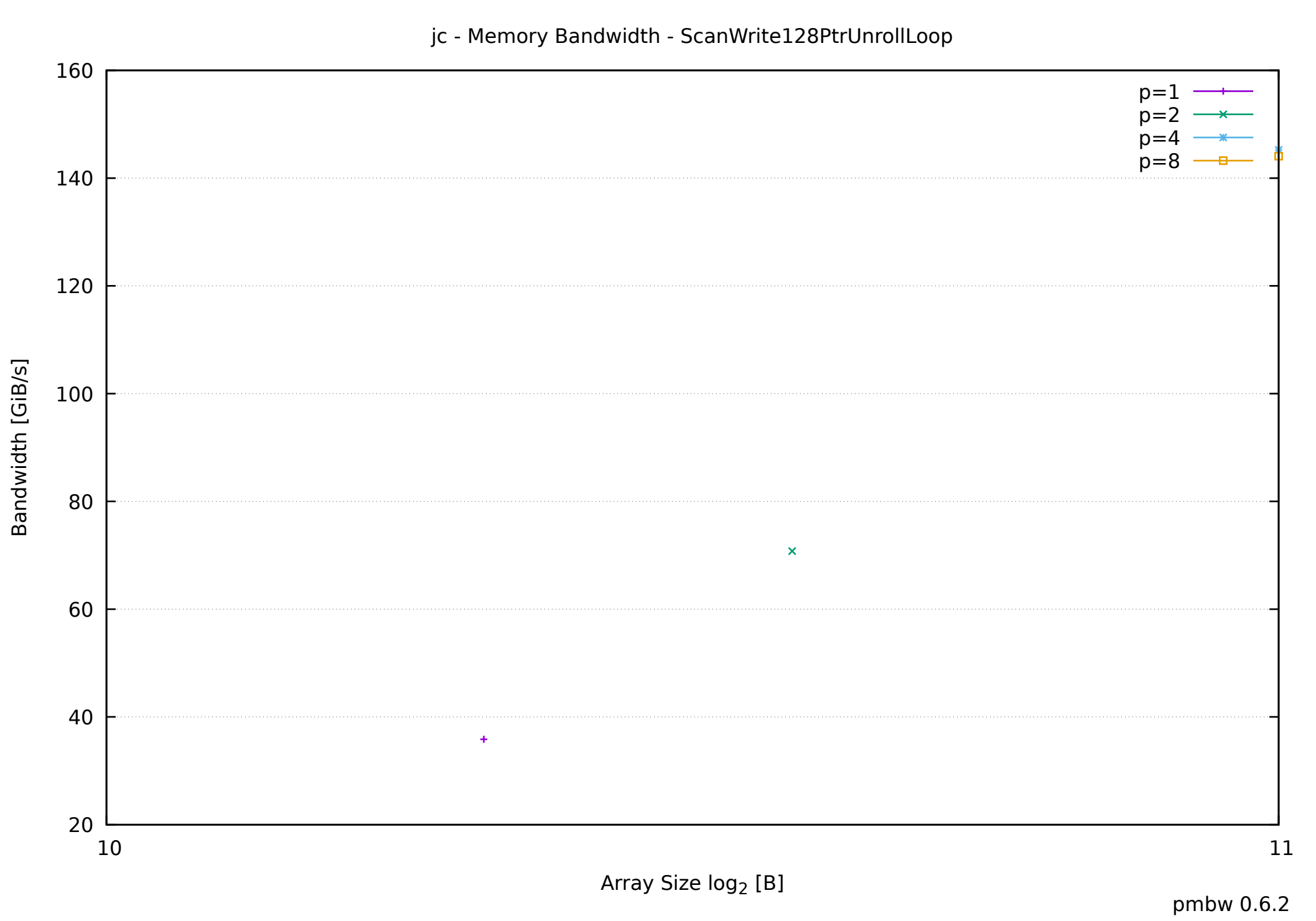

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead256PtrUnrollLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
10
11
12
Array Size log2 [B]
pmbw 0.6.2

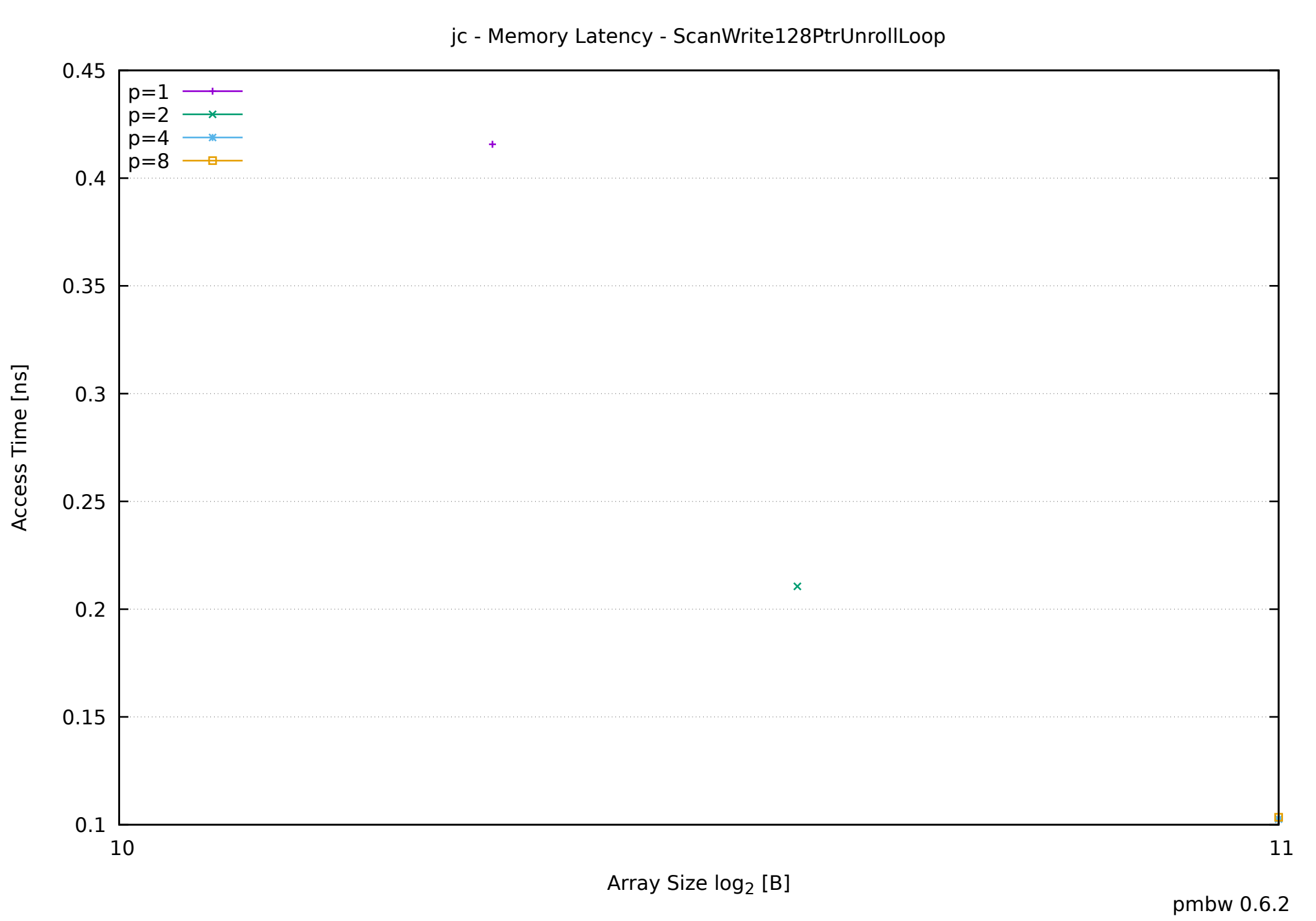

jc - Memory Bandwidth - ScanWrite128PtrSimpleLoop
Bandwidth [GiB/s]
70
65
60
55
50
45
40
35
30
25
20
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

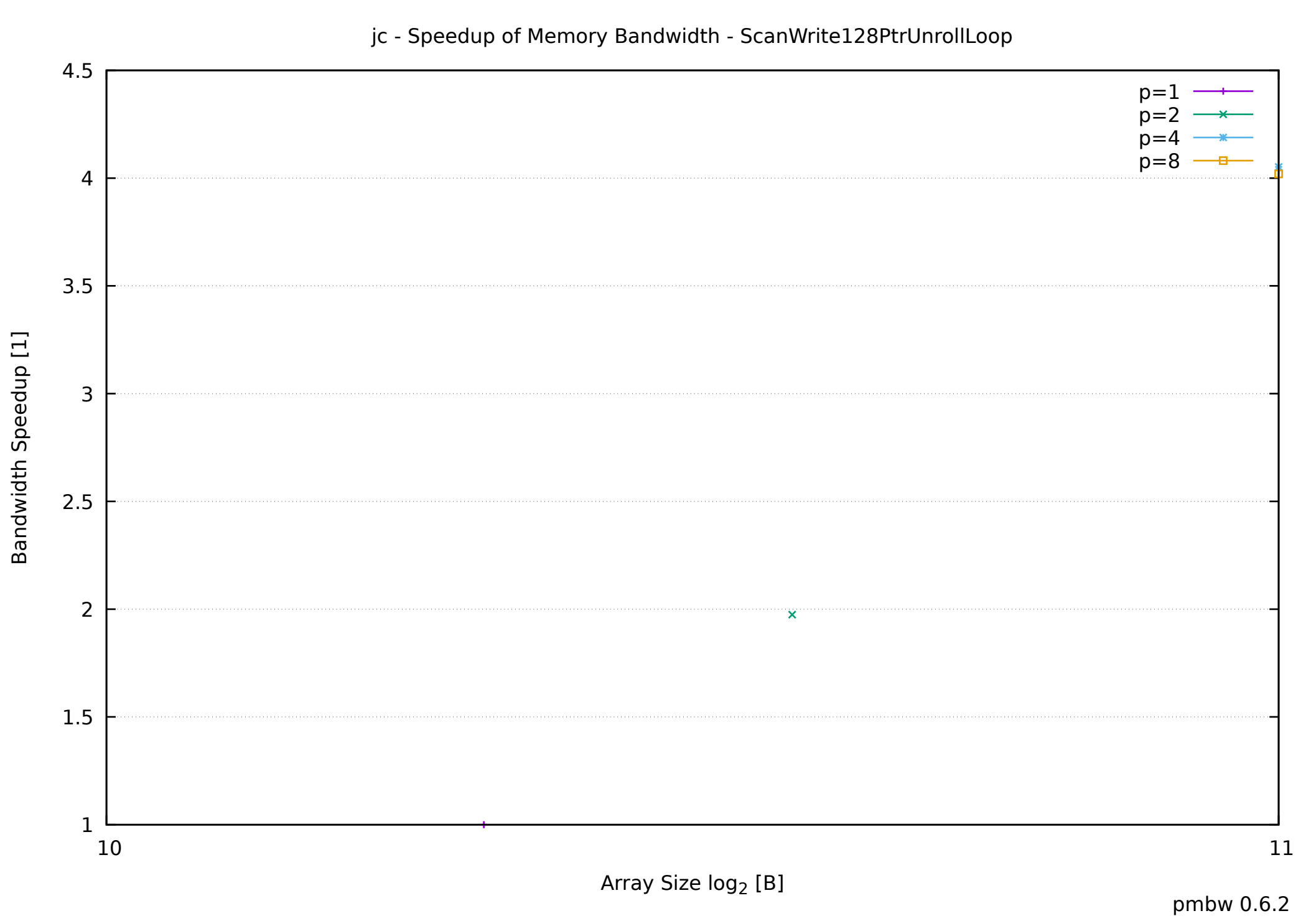

jc - Memory Latency - ScanWrite128PtrSimpleLoop
p=1
p=2
p=4
p=8
0.7
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

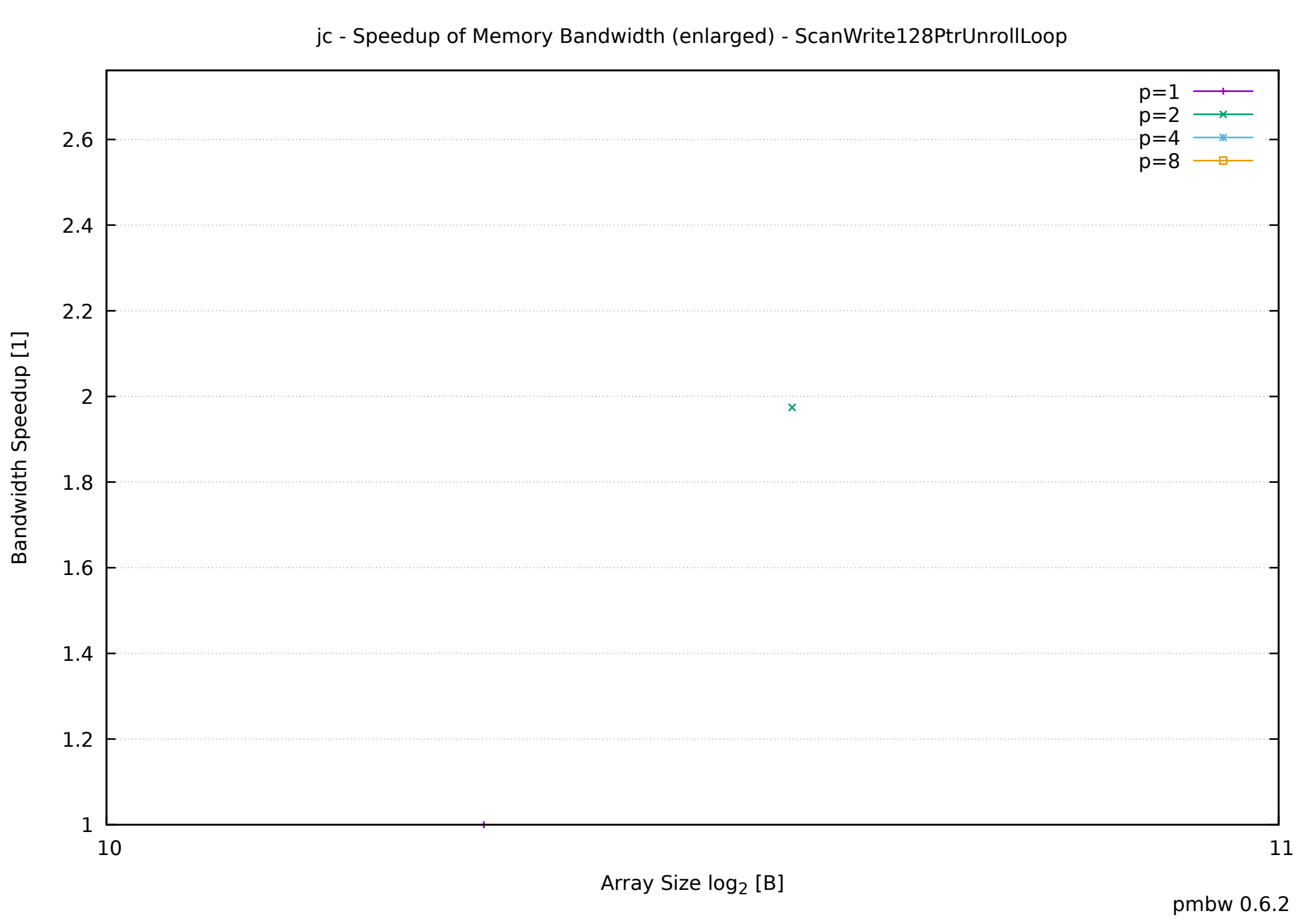

jc - Speedup of Memory Bandwidth - ScanWrite128PtrSimpleLoop
p=1
p=2
p=4
p=8
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

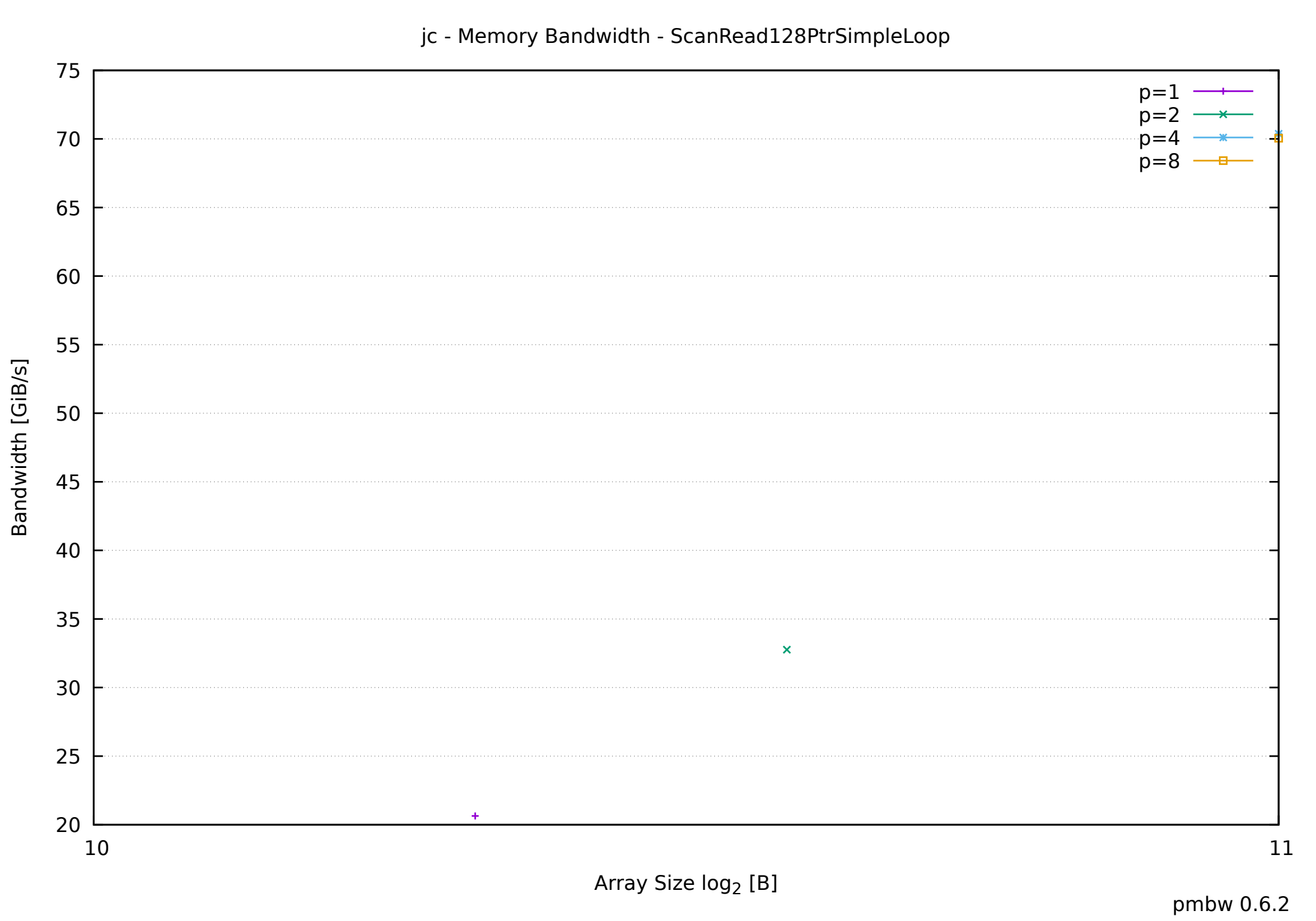

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite128PtrSimpleLoop
p=1
p=2
p=4
p=8
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

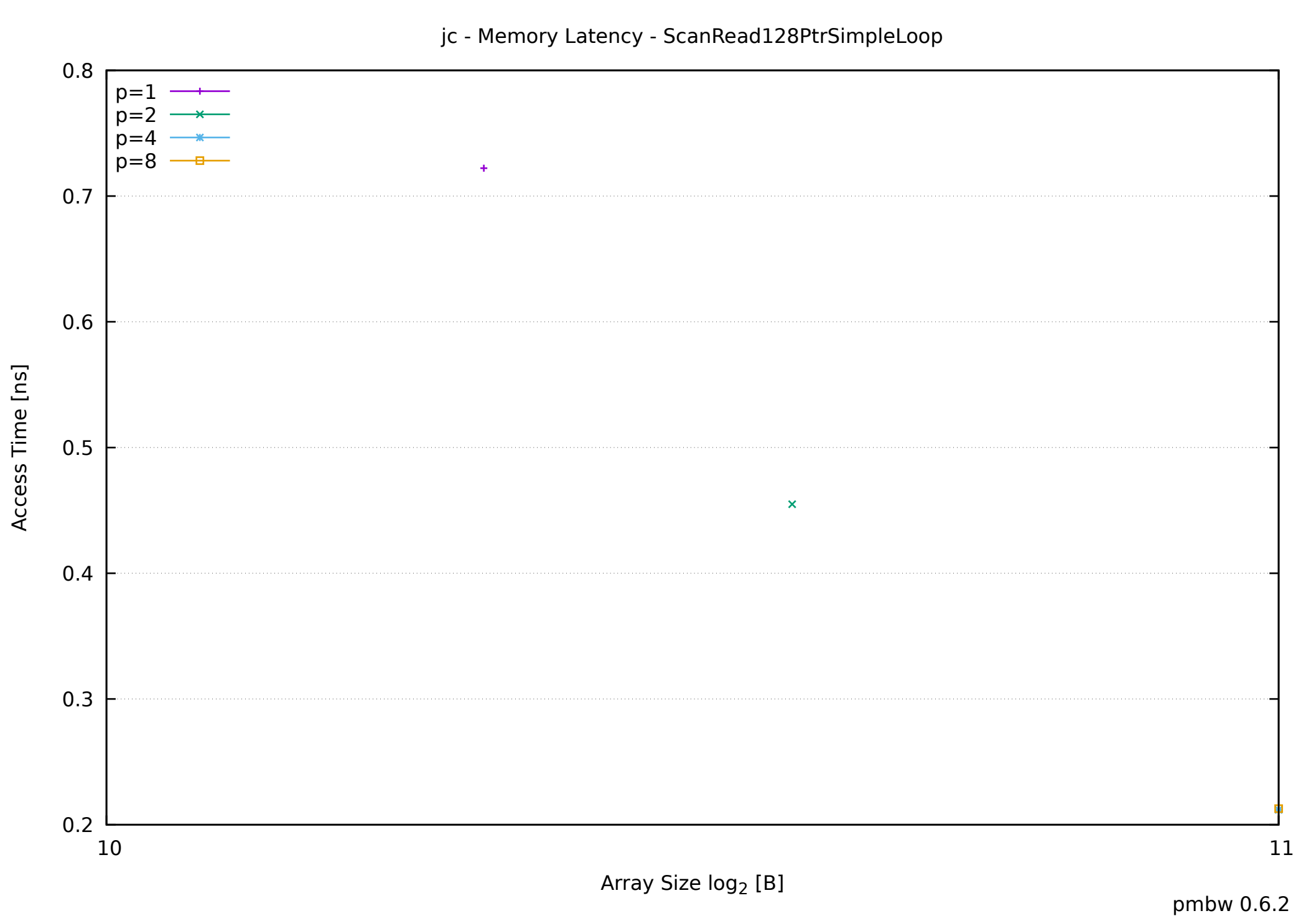

jc - Memory Bandwidth - ScanWrite128PtrUnrollLoop
160
140
120
100
80
60
40
20
Bandwidth [GiB/s]
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

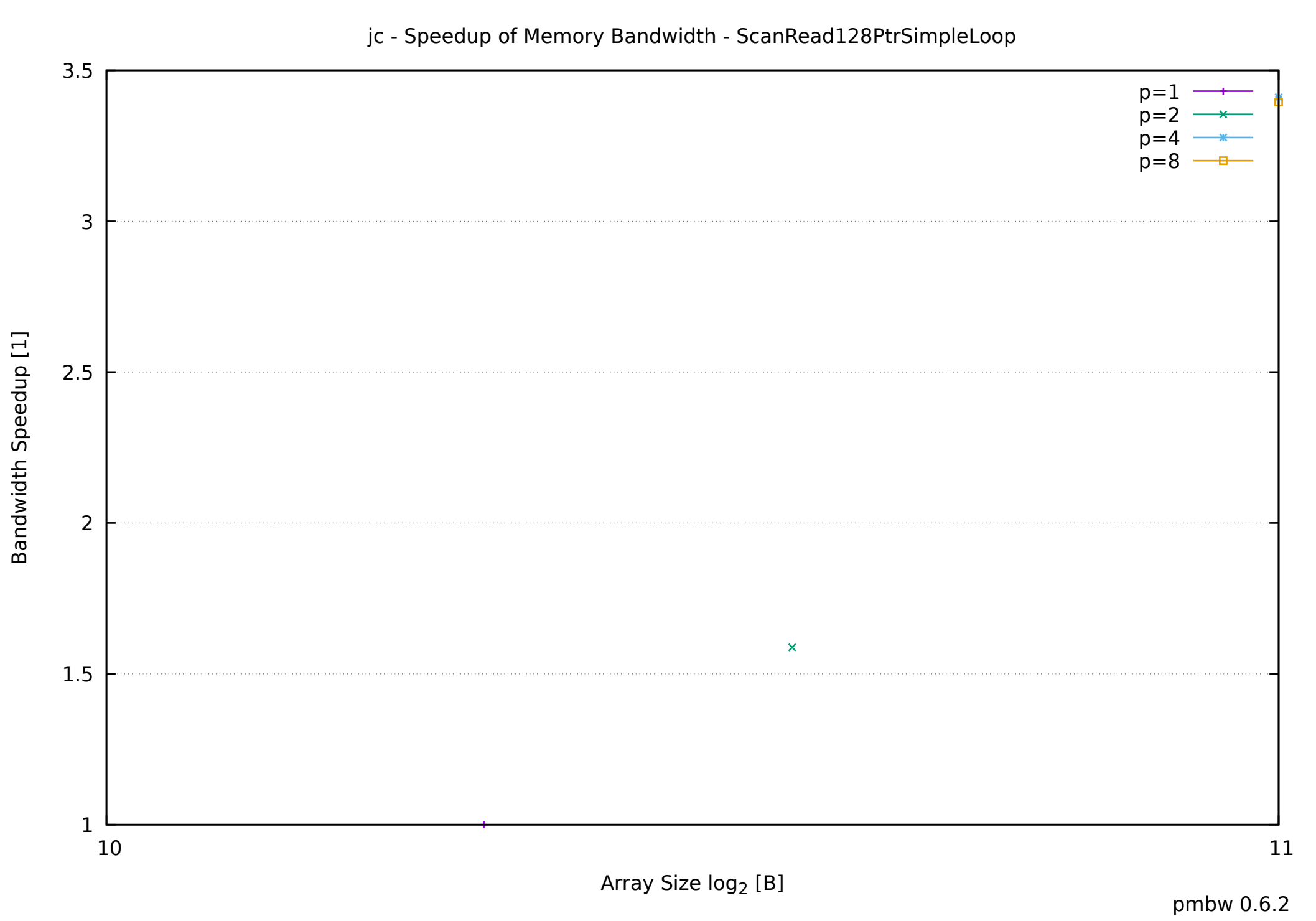

jc - Memory Latency - ScanWrite128PtrUnrollLoop
p=1
p=2
p=4
p=8
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

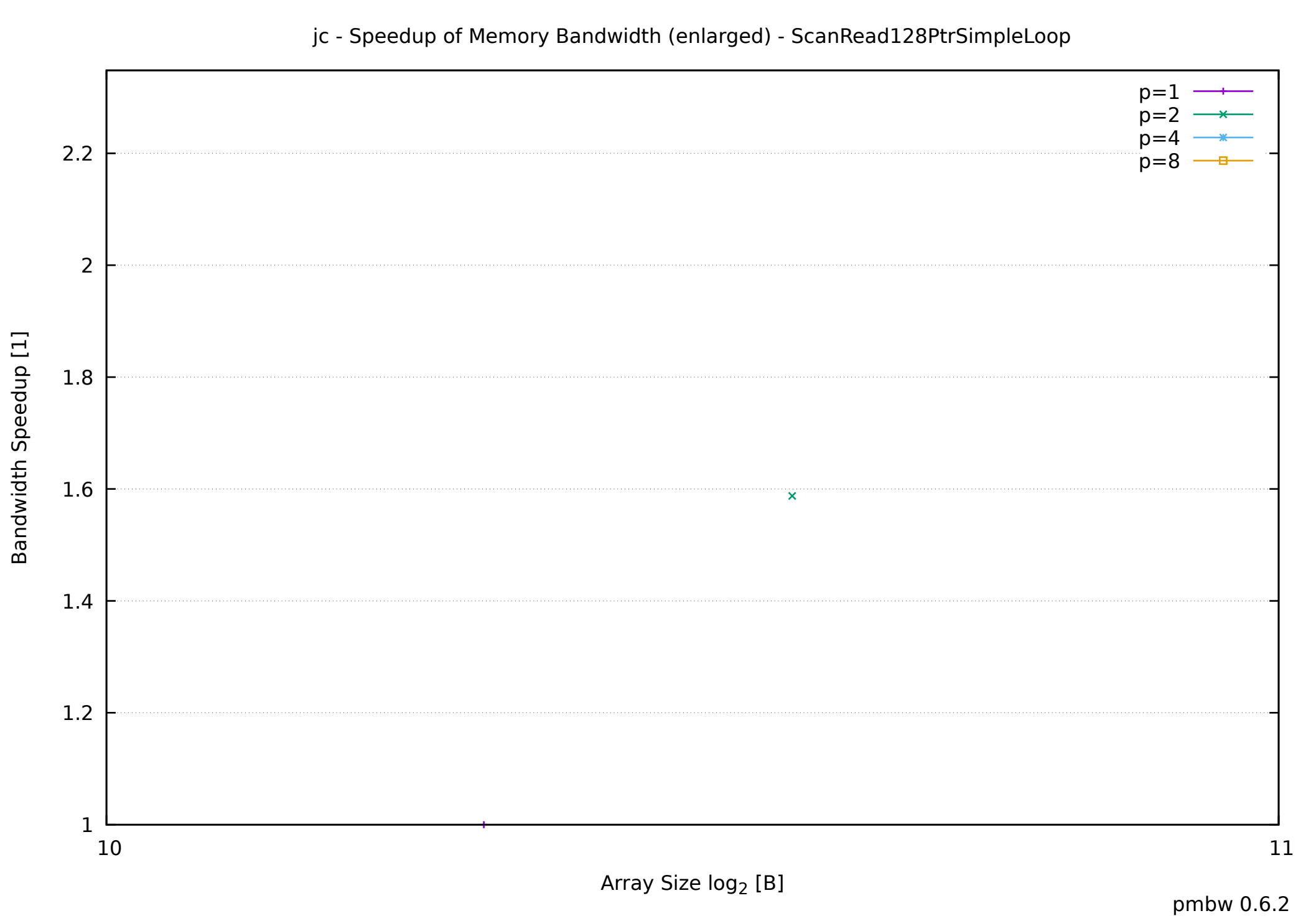

jc - Speedup of Memory Bandwidth - ScanWrite128PtrUnrollLoop
4.5
4
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
p=1
p=2
p=4
p=8
10
11
Array Size log2 [B]
pmbw 0.6.2

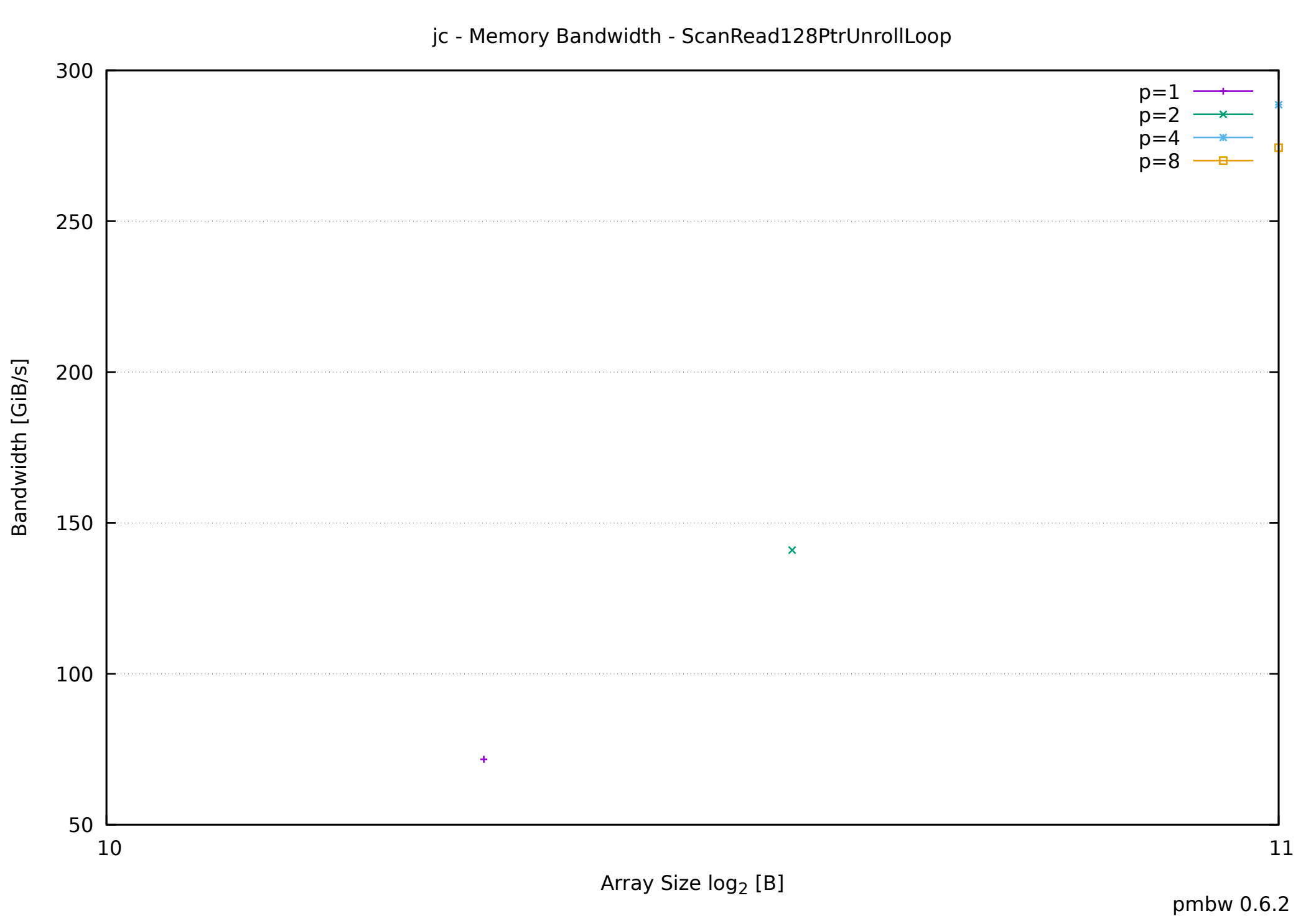

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite128PtrUnrollLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

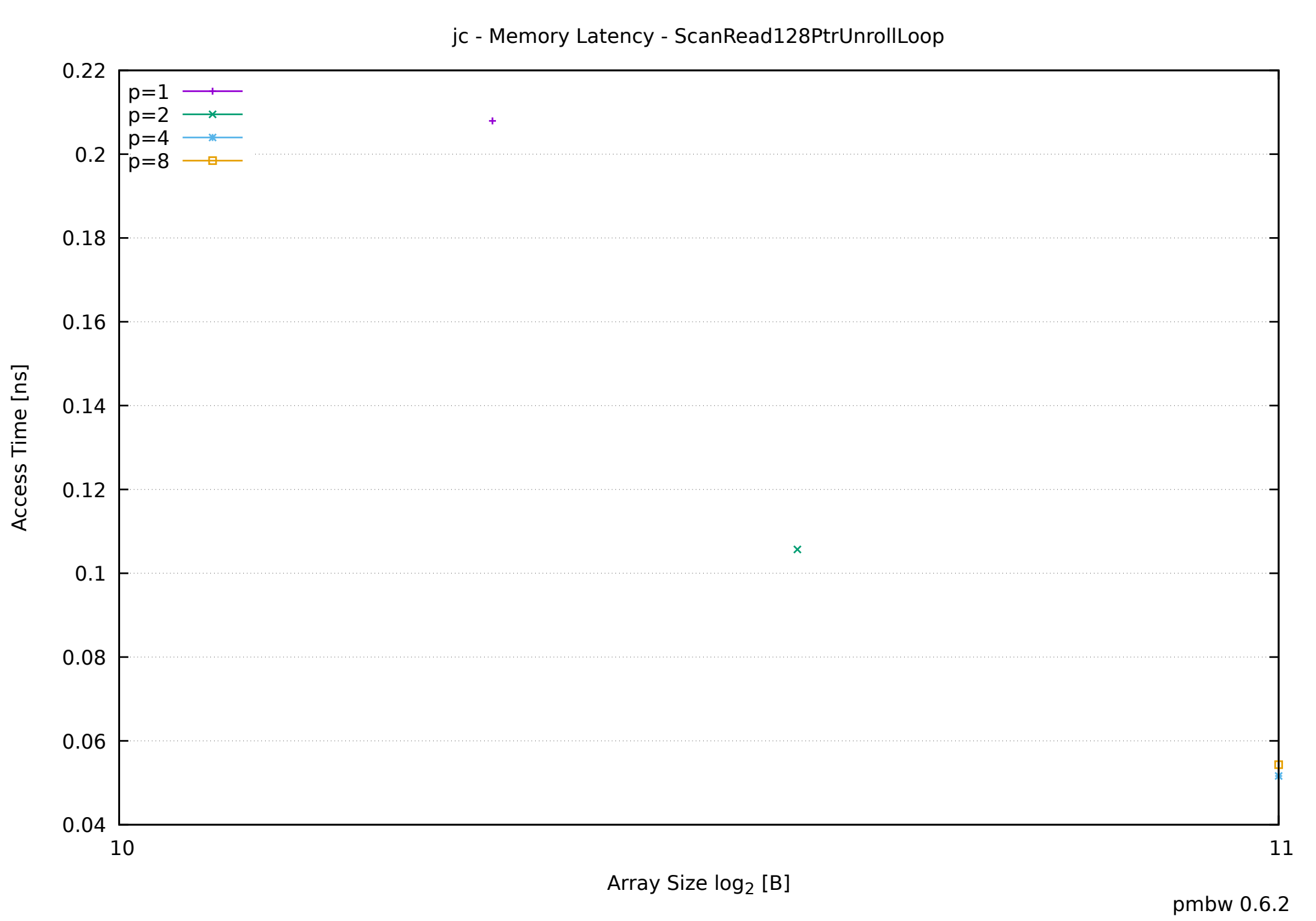

jc - Memory Bandwidth - ScanRead128PtrSimpleLoop
Bandwidth [GiB/s]
75
70
65
60
55
50
45
40
35
30
25
20
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

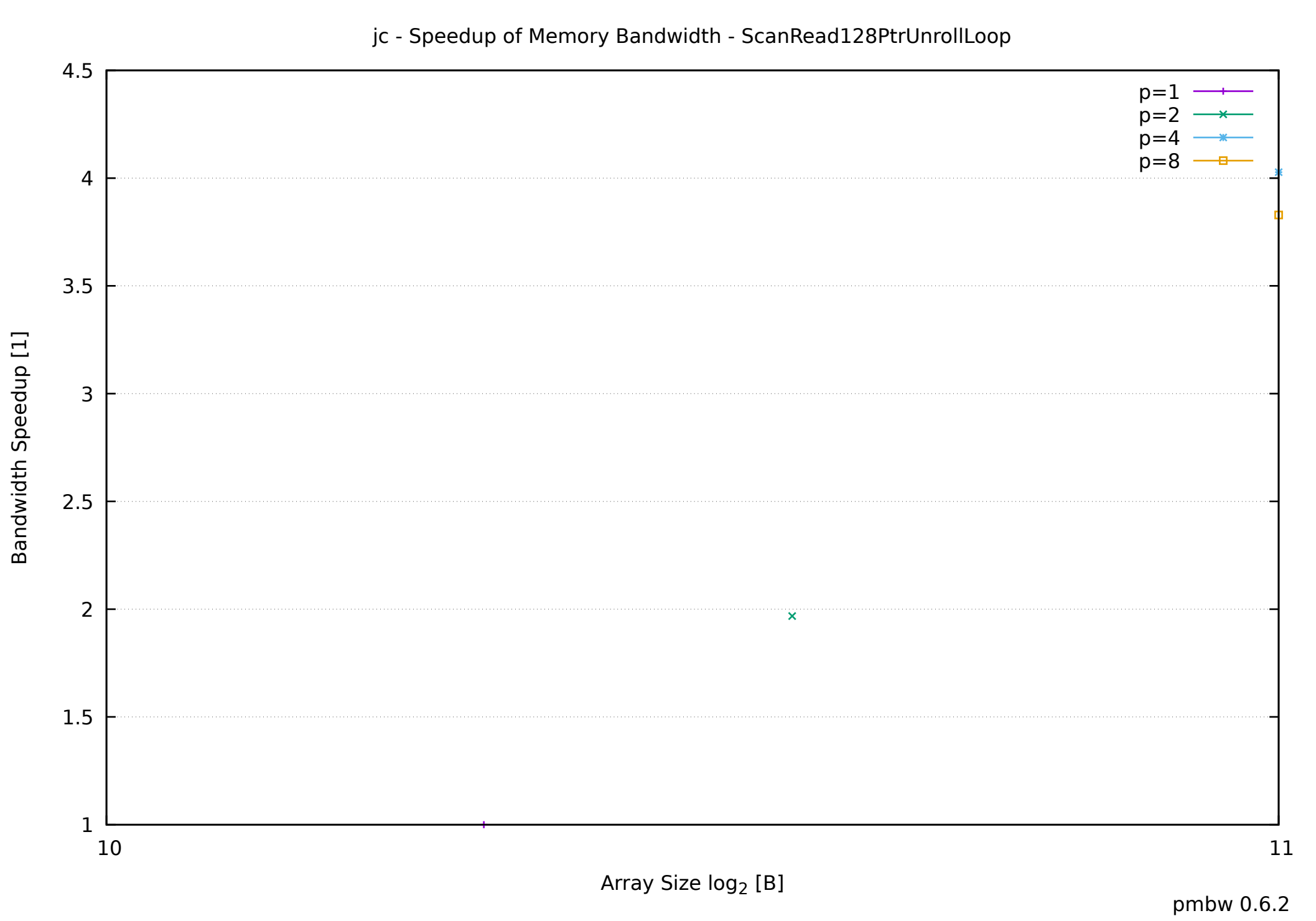

jc - Memory Latency - ScanRead128PtrSimpleLoop
p=1
p=2
p=4
p=8
0.8
0.7
0.6
0.5
0.4
0.3
0.2
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

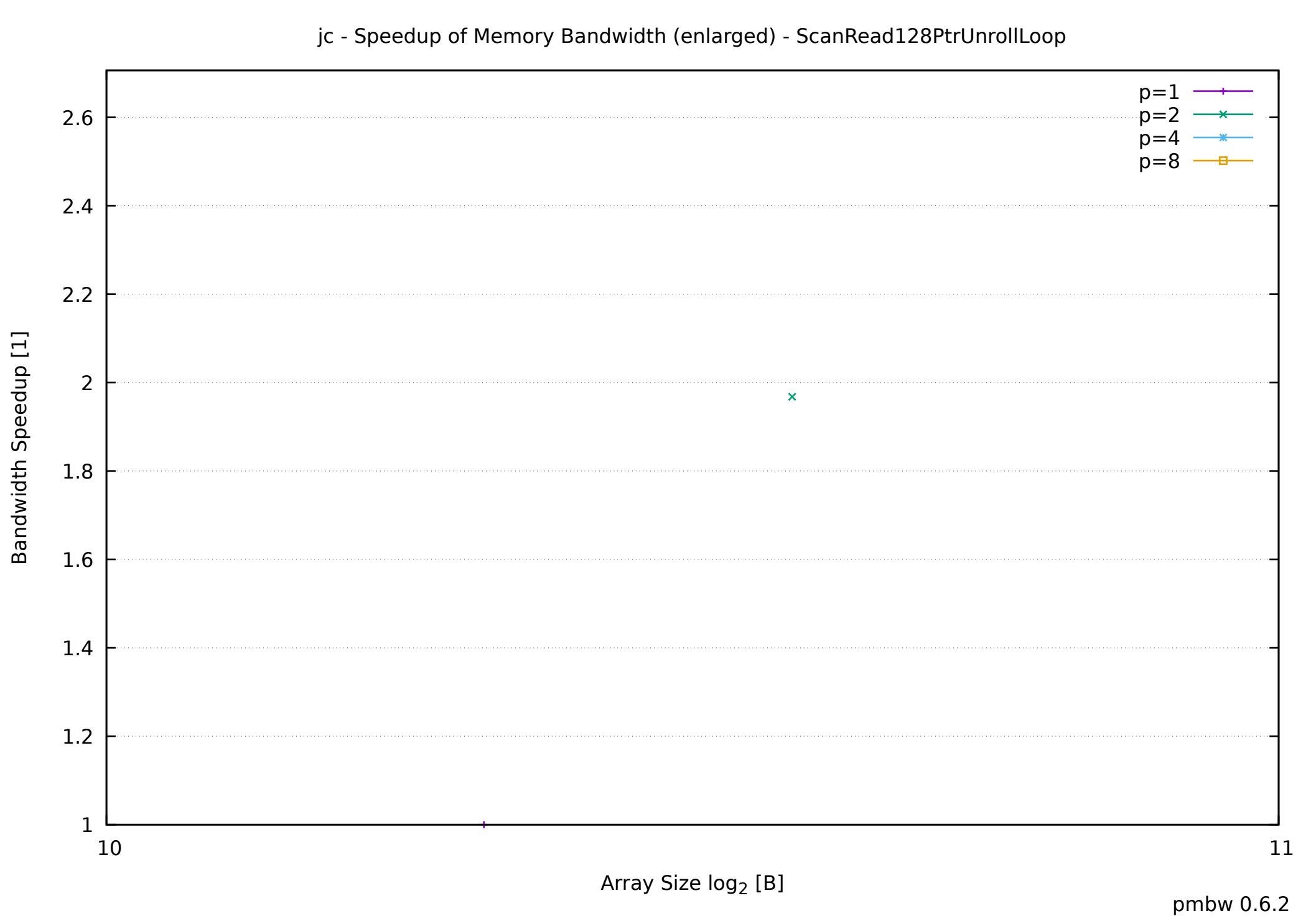

jc - Speedup of Memory Bandwidth - ScanRead128PtrSimpleLoop
p=1
p=2
p=4
p=8
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

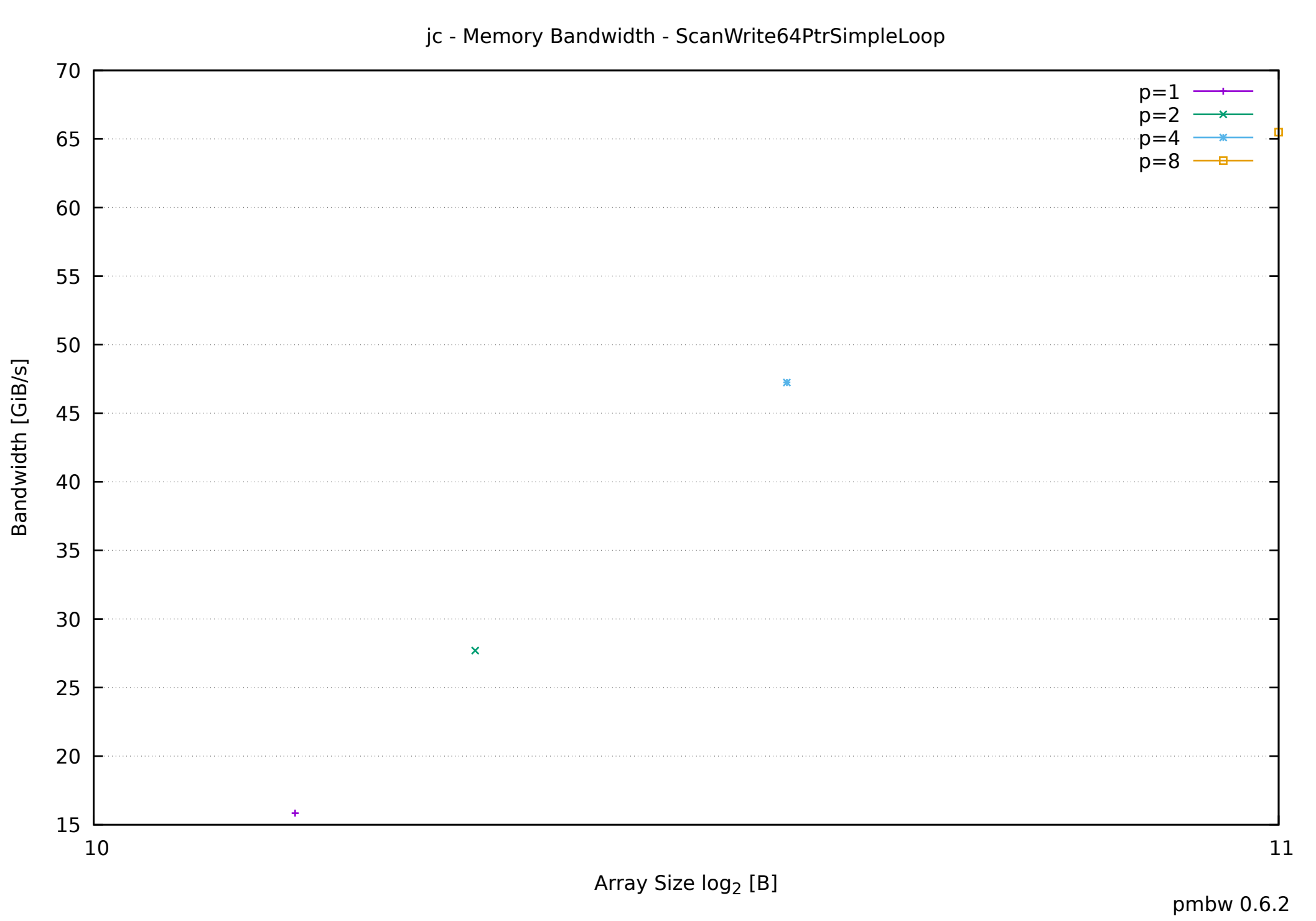

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead128PtrSimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
2.2
2
1.8
1.6
1.4
1.2
1
10
11
Array Size log2 [B]
pmbw 0.6.2

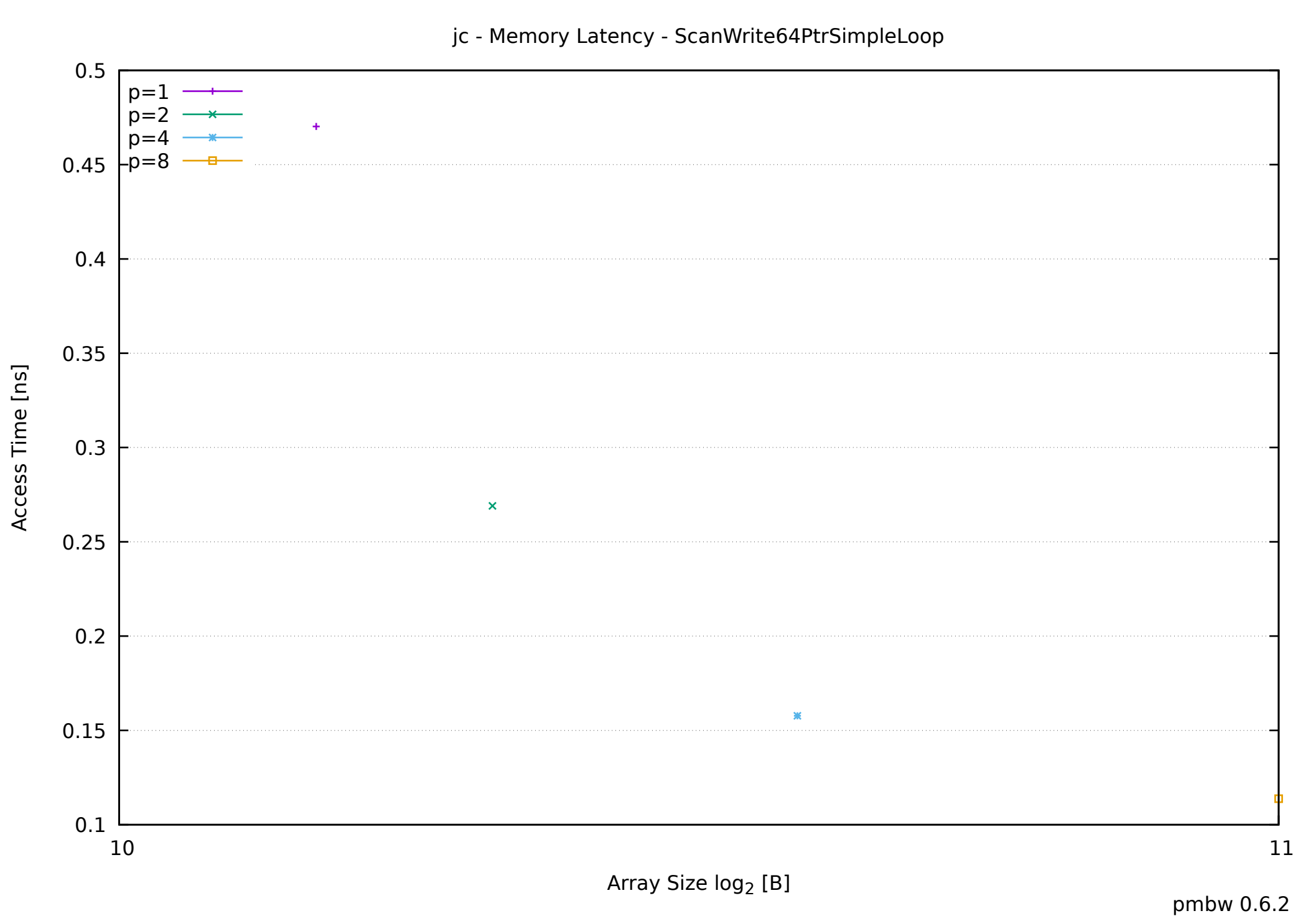

jc - Memory Bandwidth - ScanRead128PtrUnrollLoop
300
250
200
150
100
50
Bandwidth [GiB/s]
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

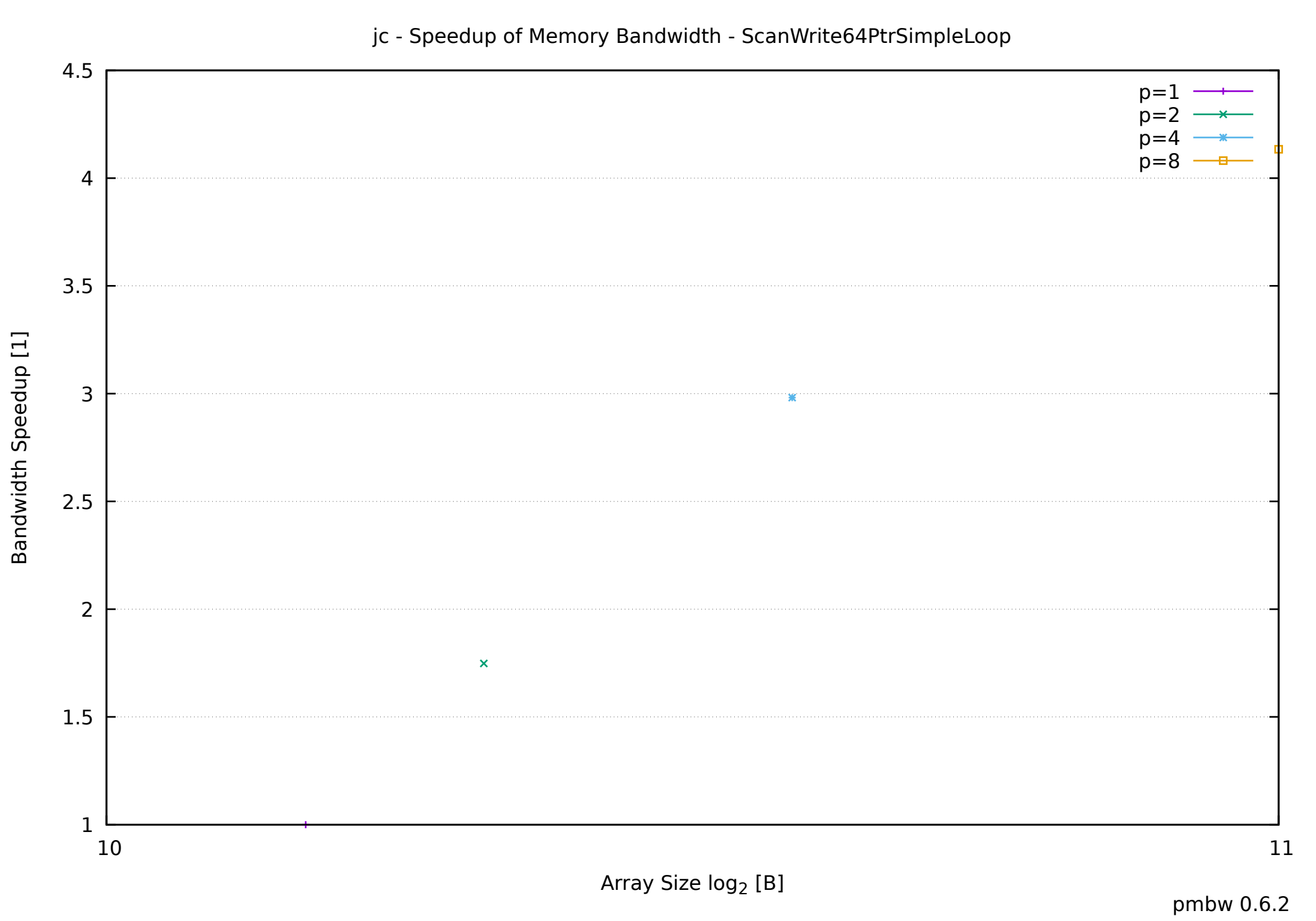

jc - Memory Latency - ScanRead128PtrUnrollLoop
p=1
p=2
p=4
p=8
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

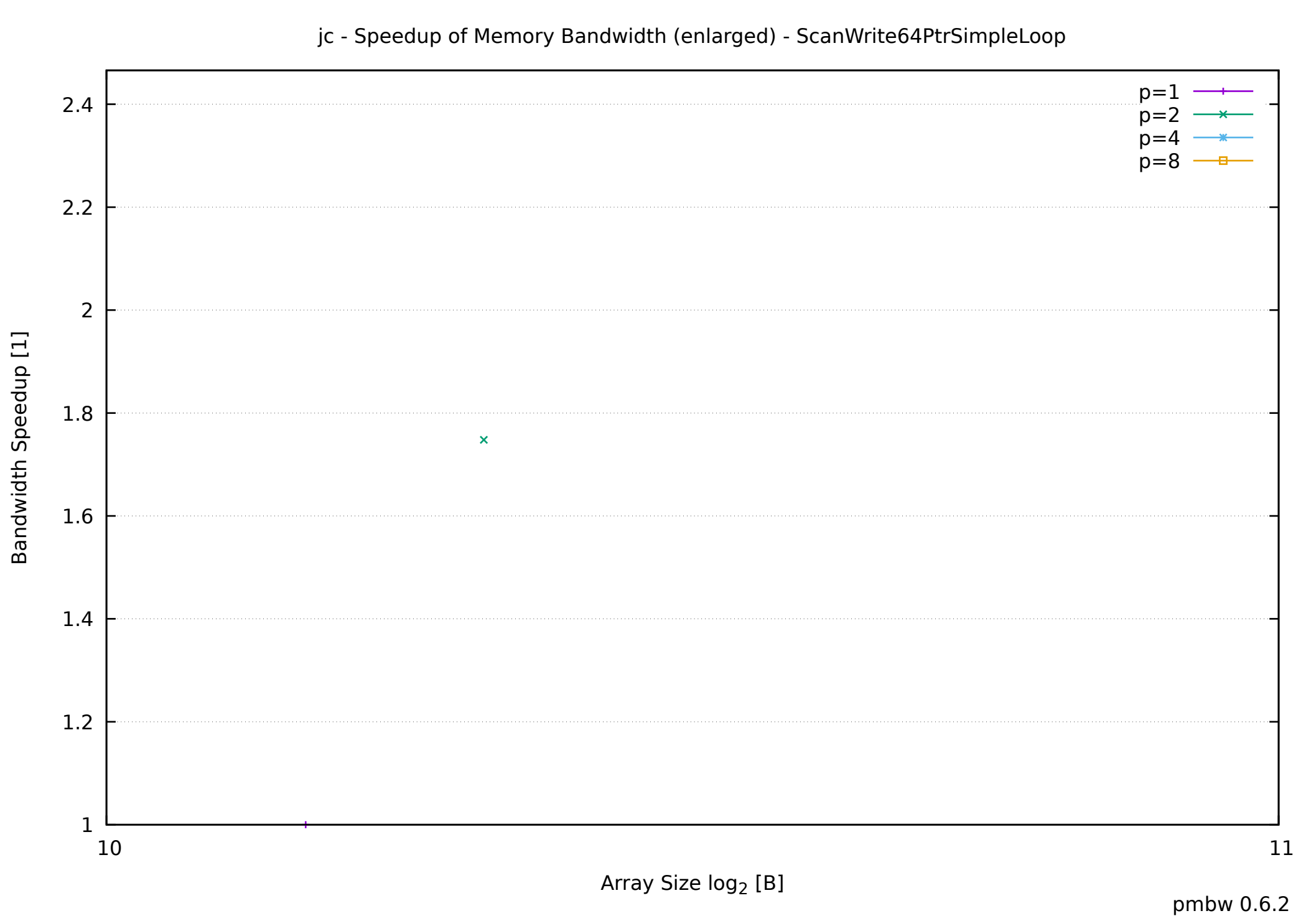

jc - Speedup of Memory Bandwidth - ScanRead128PtrUnrollLoop
Bandwidth Speedup [1]
4.5
4
3.5
3
2.5
2
1.5
1
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

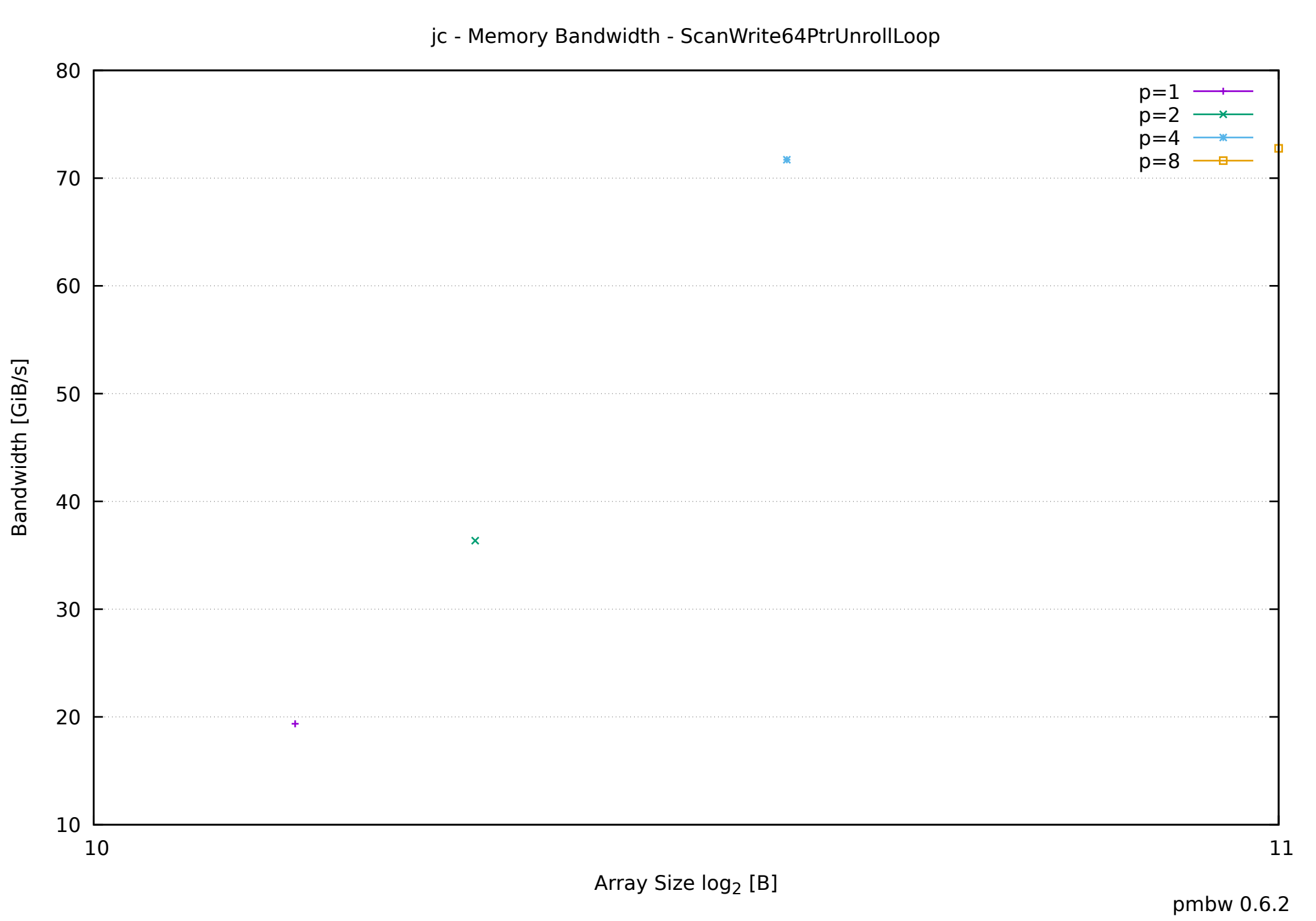

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead128PtrUnrollLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

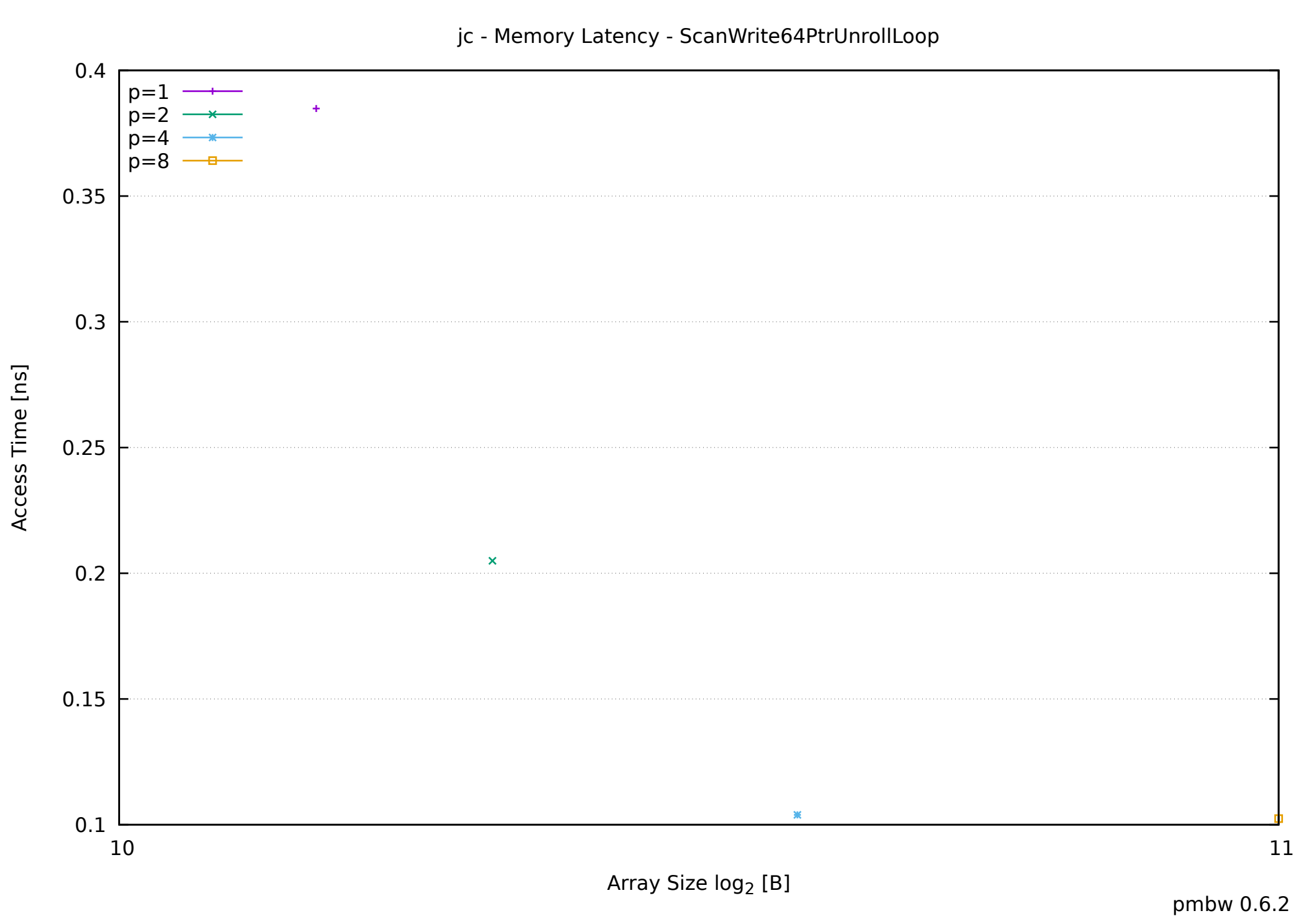

jc - Memory Bandwidth - ScanWrite64PtrSimpleLoop
Bandwidth [GiB/s]
70
65
60
55
50
45
40
35
30
25
20
15
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

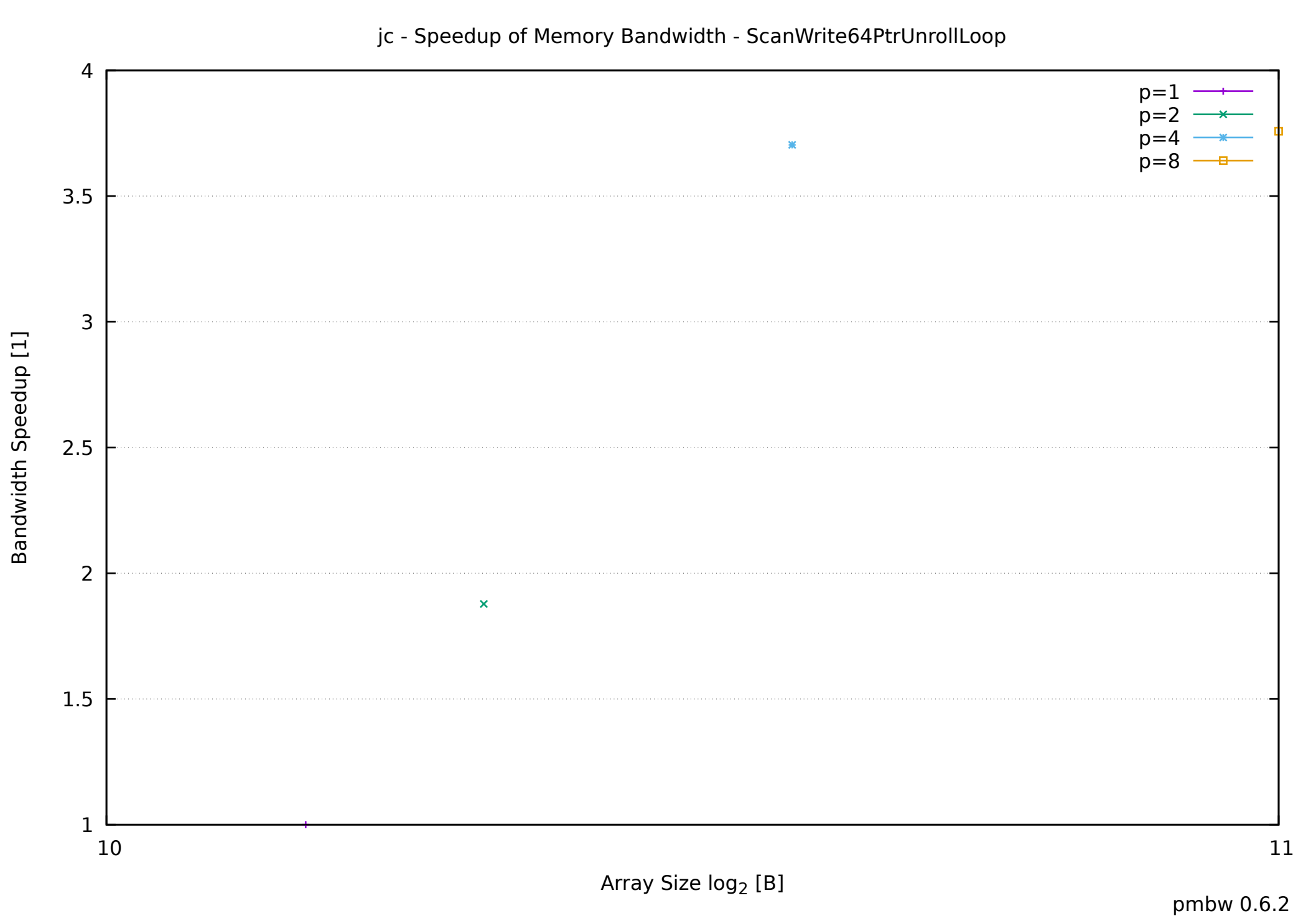

jc - Memory Latency - ScanWrite64PtrSimpleLoop
p=1
p=2
p=4
p=8
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

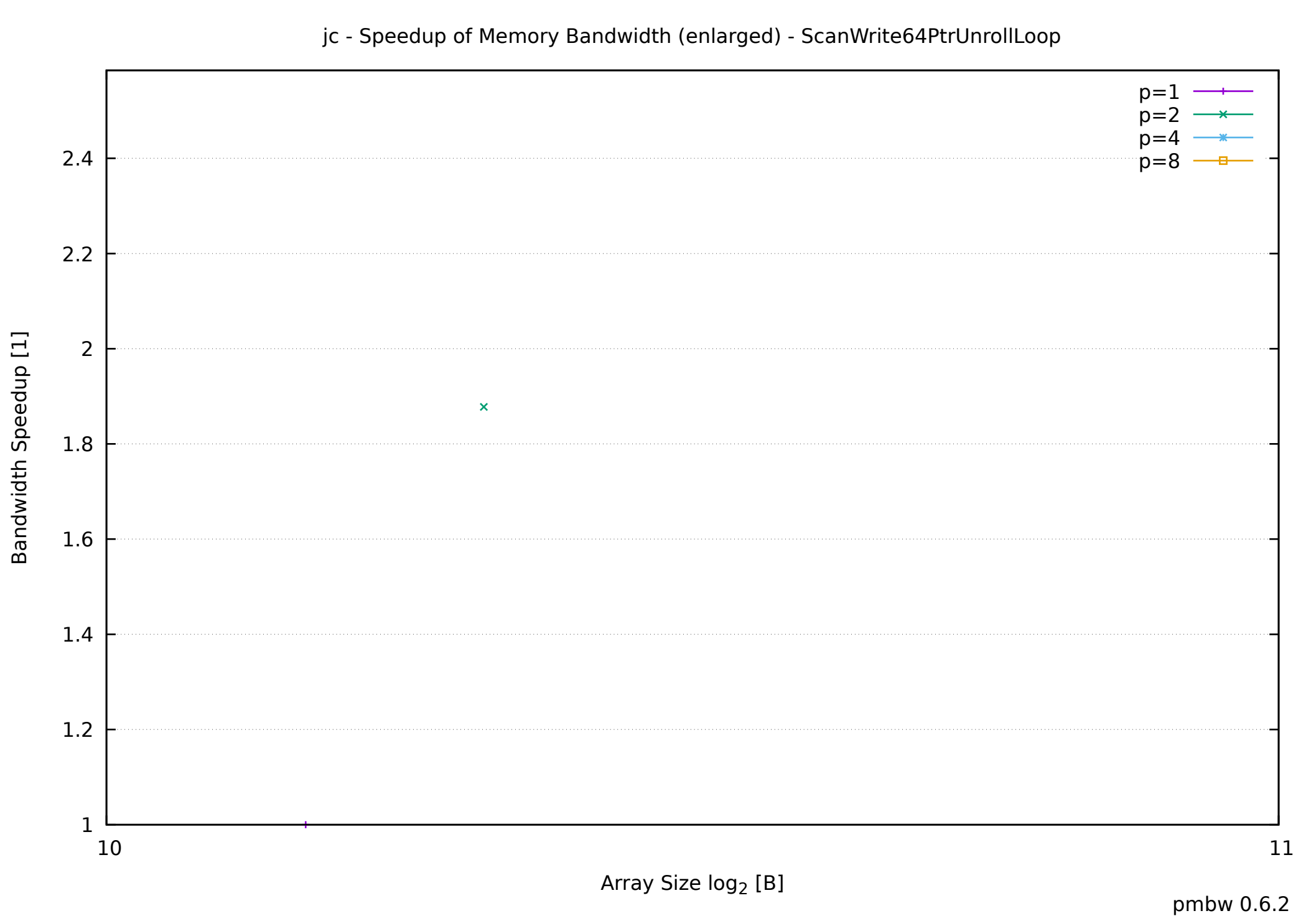

jc - Speedup of Memory Bandwidth - ScanWrite64PtrSimpleLoop
p=1
p=2
p=4
p=8
4.5
4
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

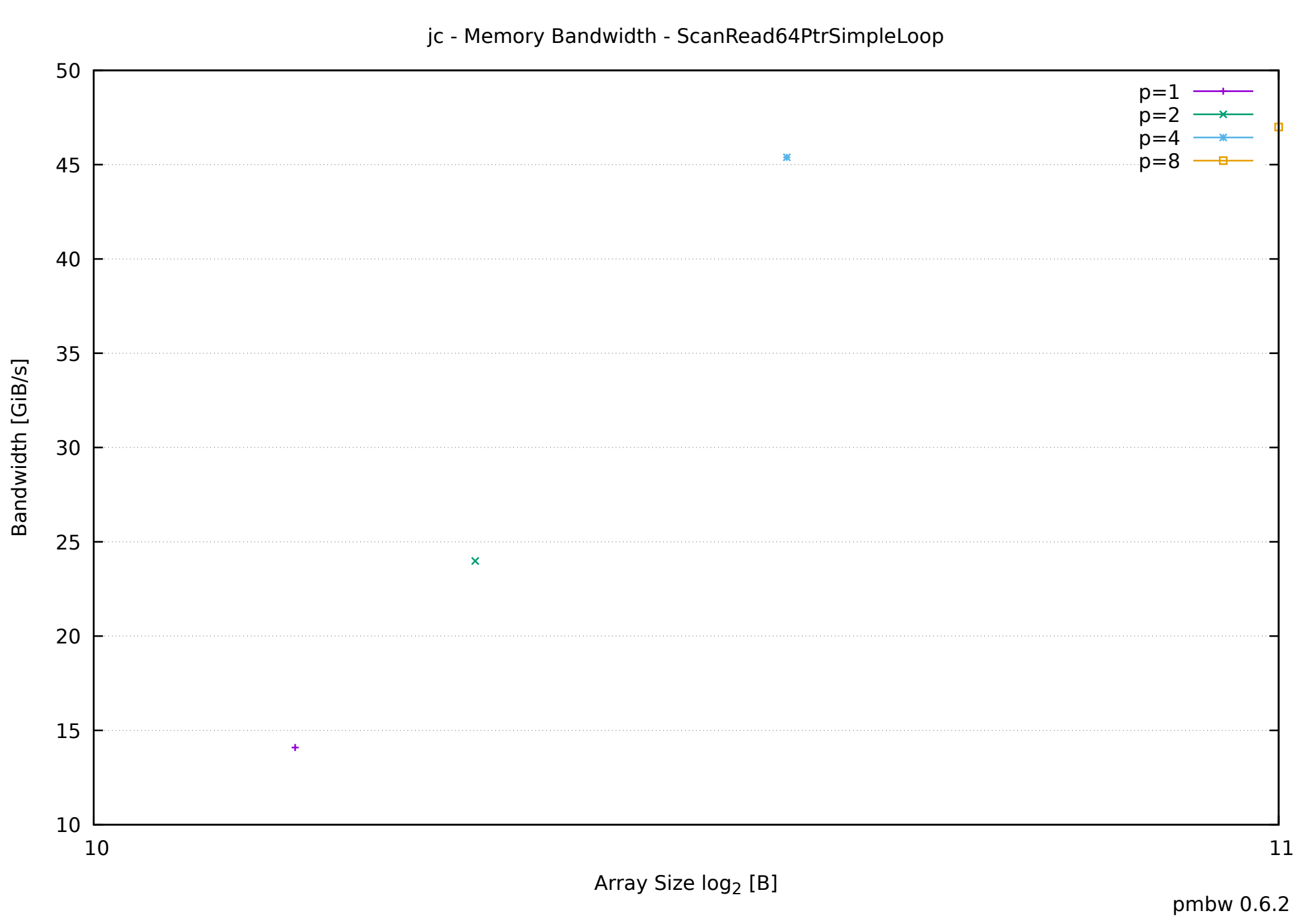

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite64PtrSimpleLoop
p=1
p=2
p=4
p=8
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

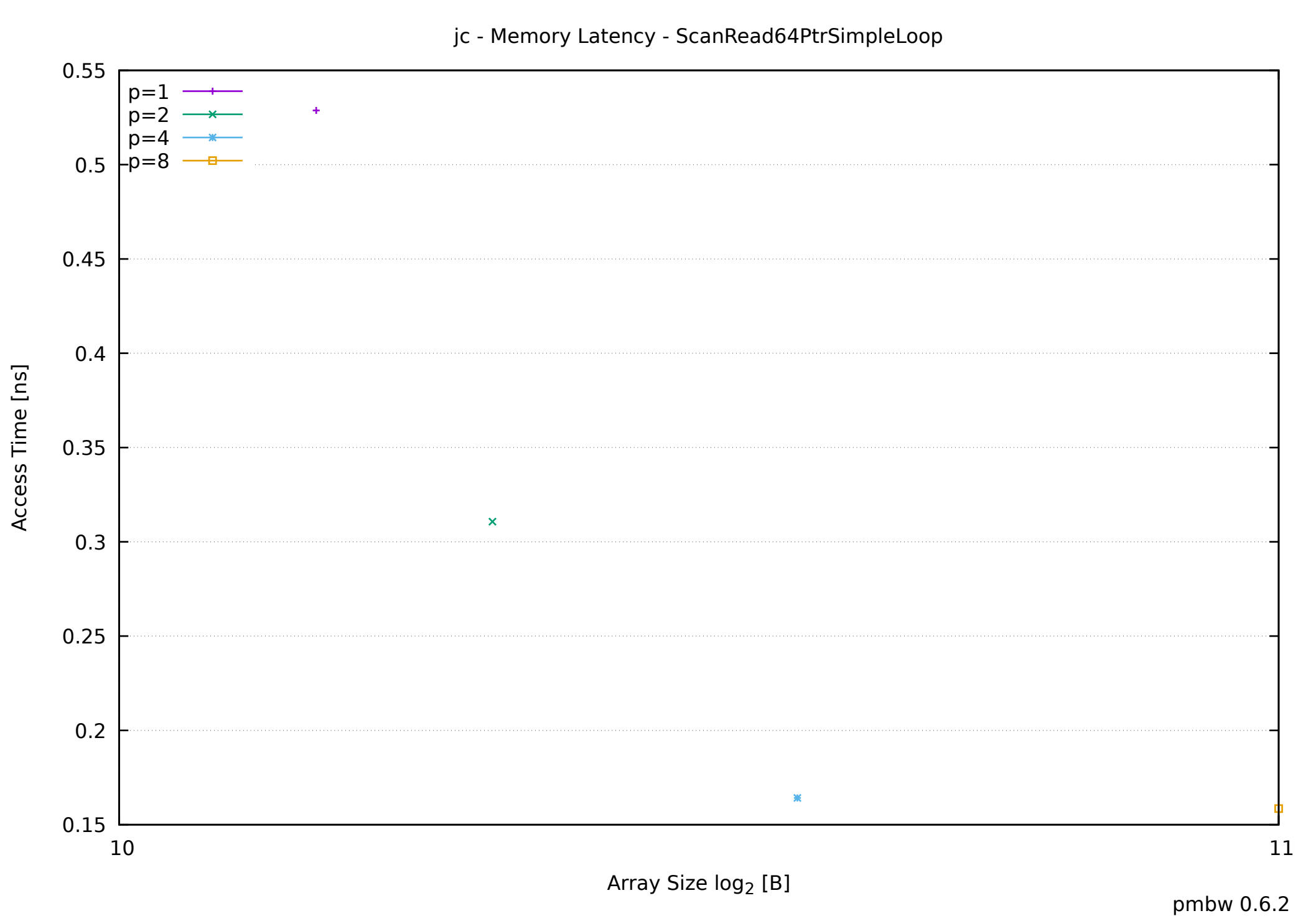

jc - Memory Bandwidth - ScanWrite64PtrUnrollLoop
Bandwidth [GiB/s]
80
70
60
50
40
30
20
10
p=1
p=2
p=4
p=8
10
11
Array Size log2 [B]
pmbw 0.6.2

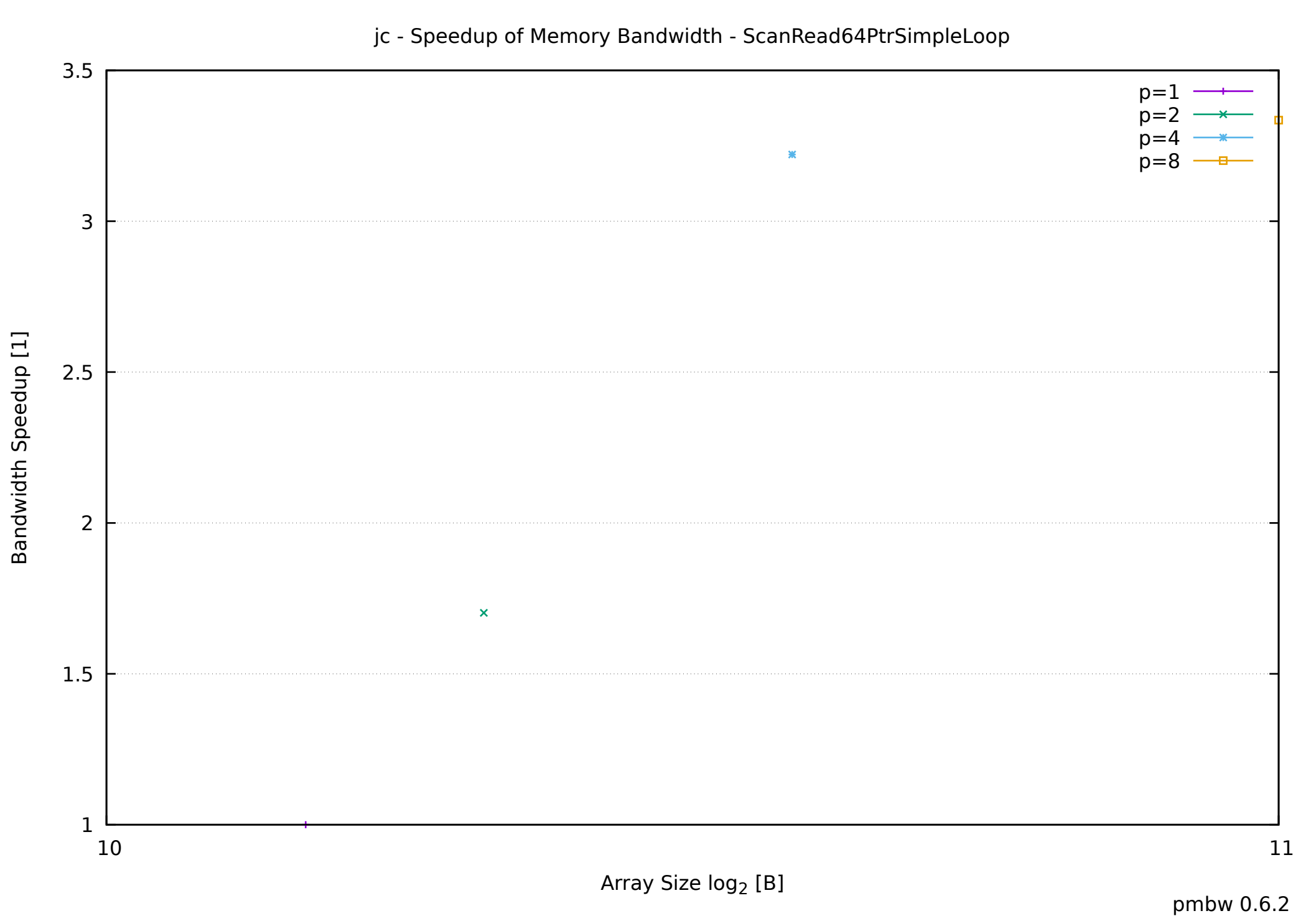

jc - Memory Latency - ScanWrite64PtrUnrollLoop
p=1
p=2
p=4
p=8
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

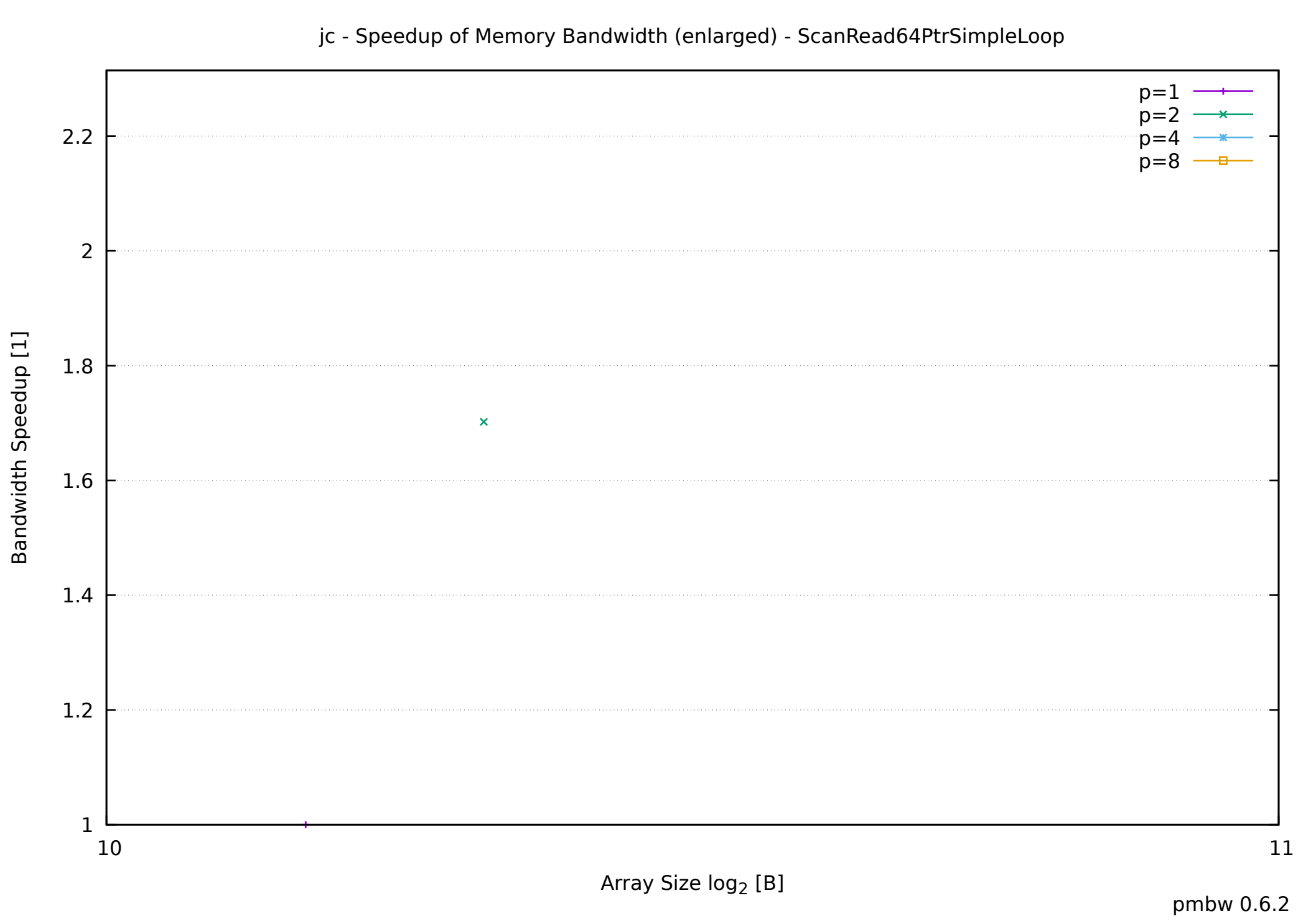

jc - Speedup of Memory Bandwidth - ScanWrite64PtrUnrollLoop
Bandwidth Speedup [1]
4
3.5
3
2.5
2
1.5
1
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

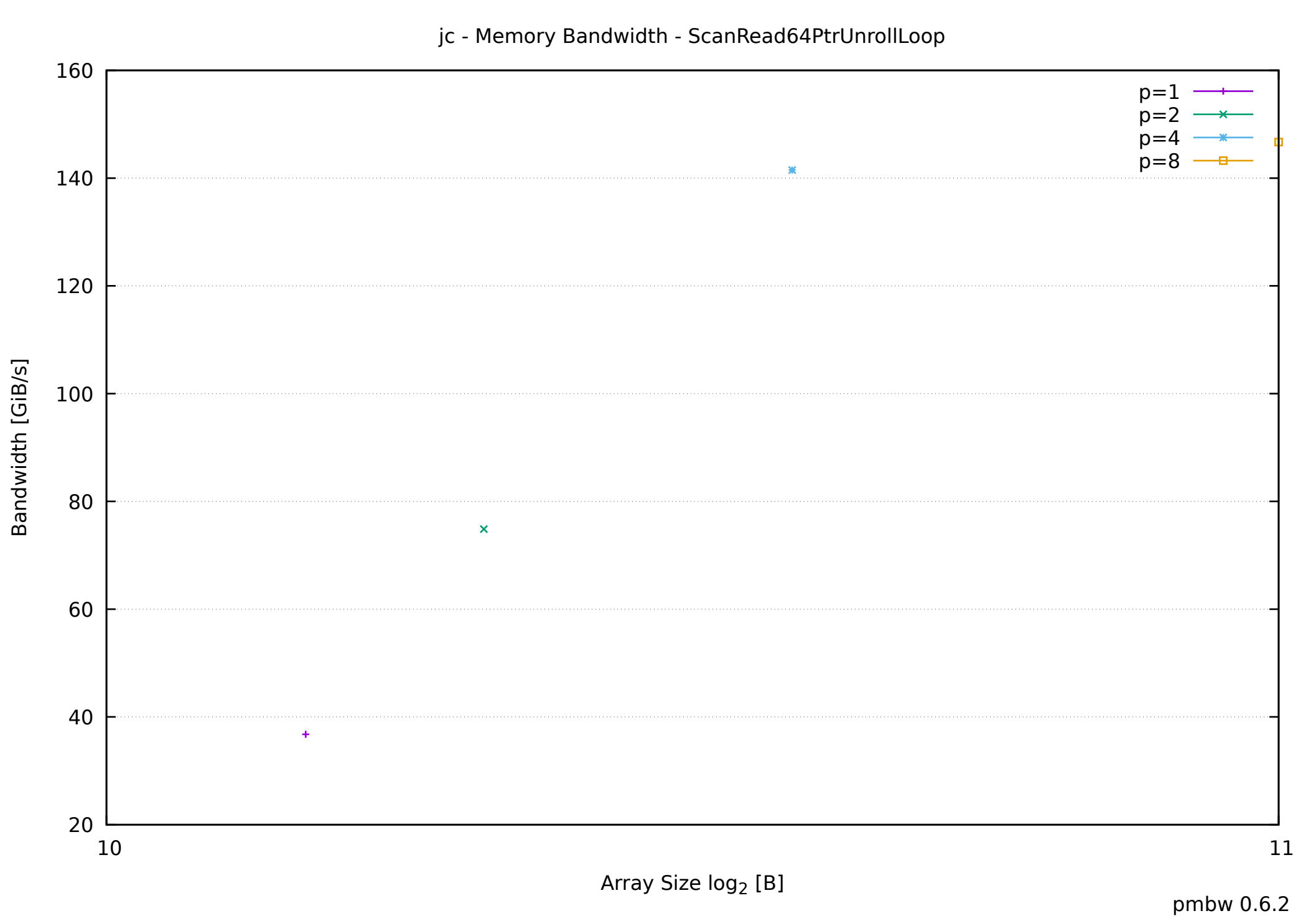

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite64PtrUnrollLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
2.4
2.2
2
1.8
1.6
1.4
1.2
1
10
11
Array Size log2 [B]
pmbw 0.6.2

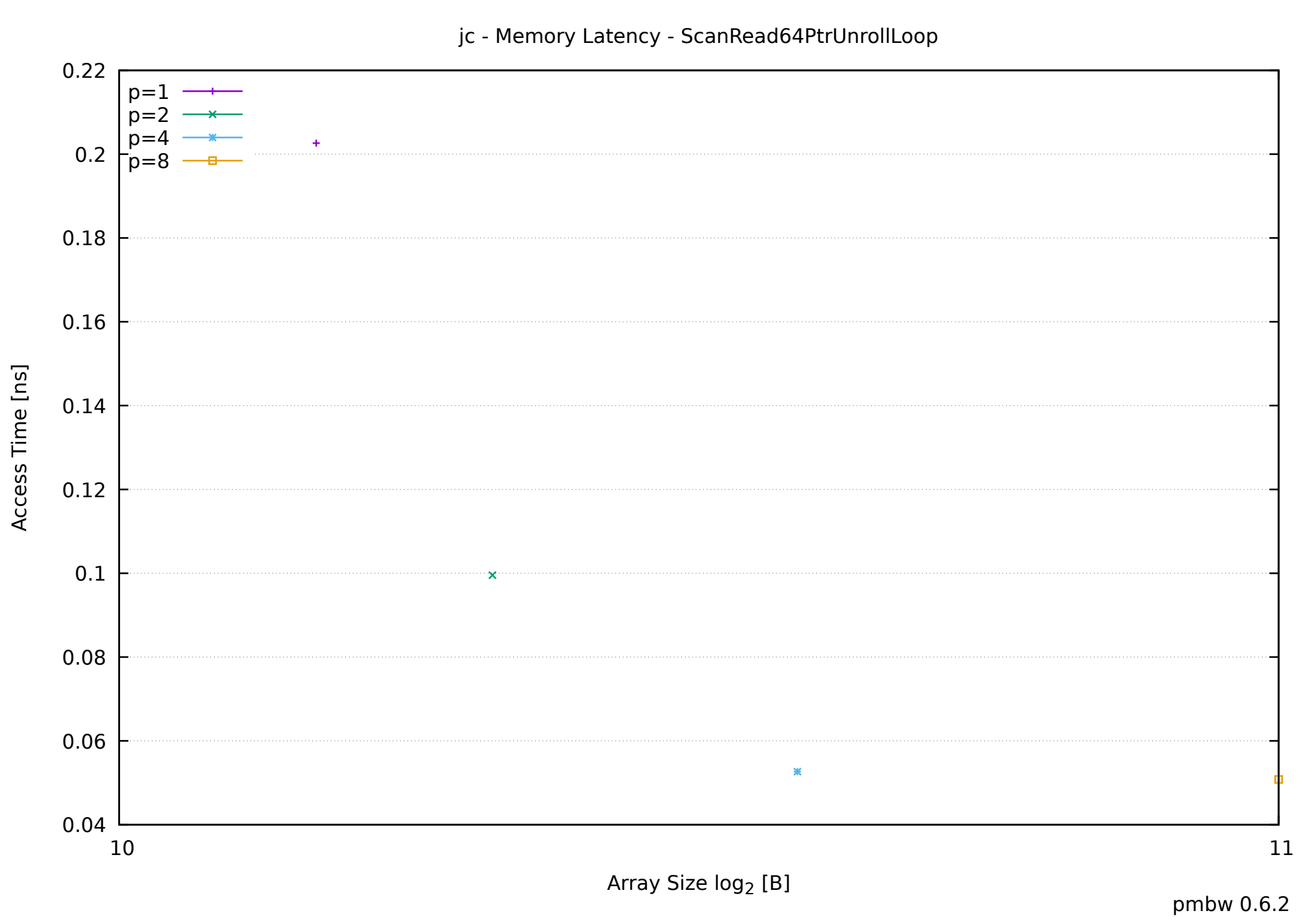

jc - Memory Bandwidth - ScanRead64PtrSimpleLoop
p=1
p=2
p=4
p=8
50
45
40
35
30
25
20
15
10
Bandwidth [GiB/s]
10
11
Array Size log2 [B]
pmbw 0.6.2

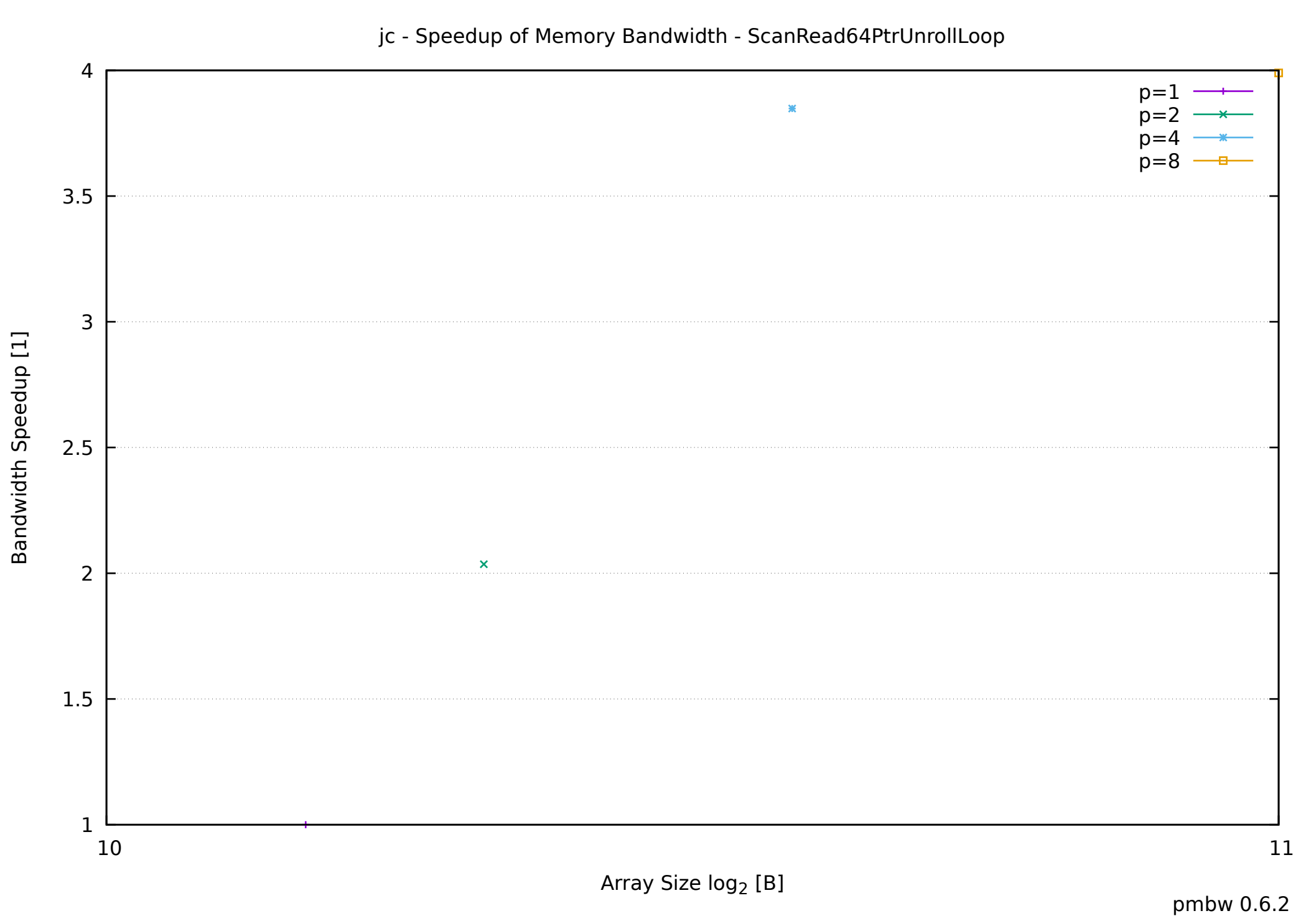

jc - Memory Latency - ScanRead64PtrSimpleLoop
p=1
p=2
p=4
p=8
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

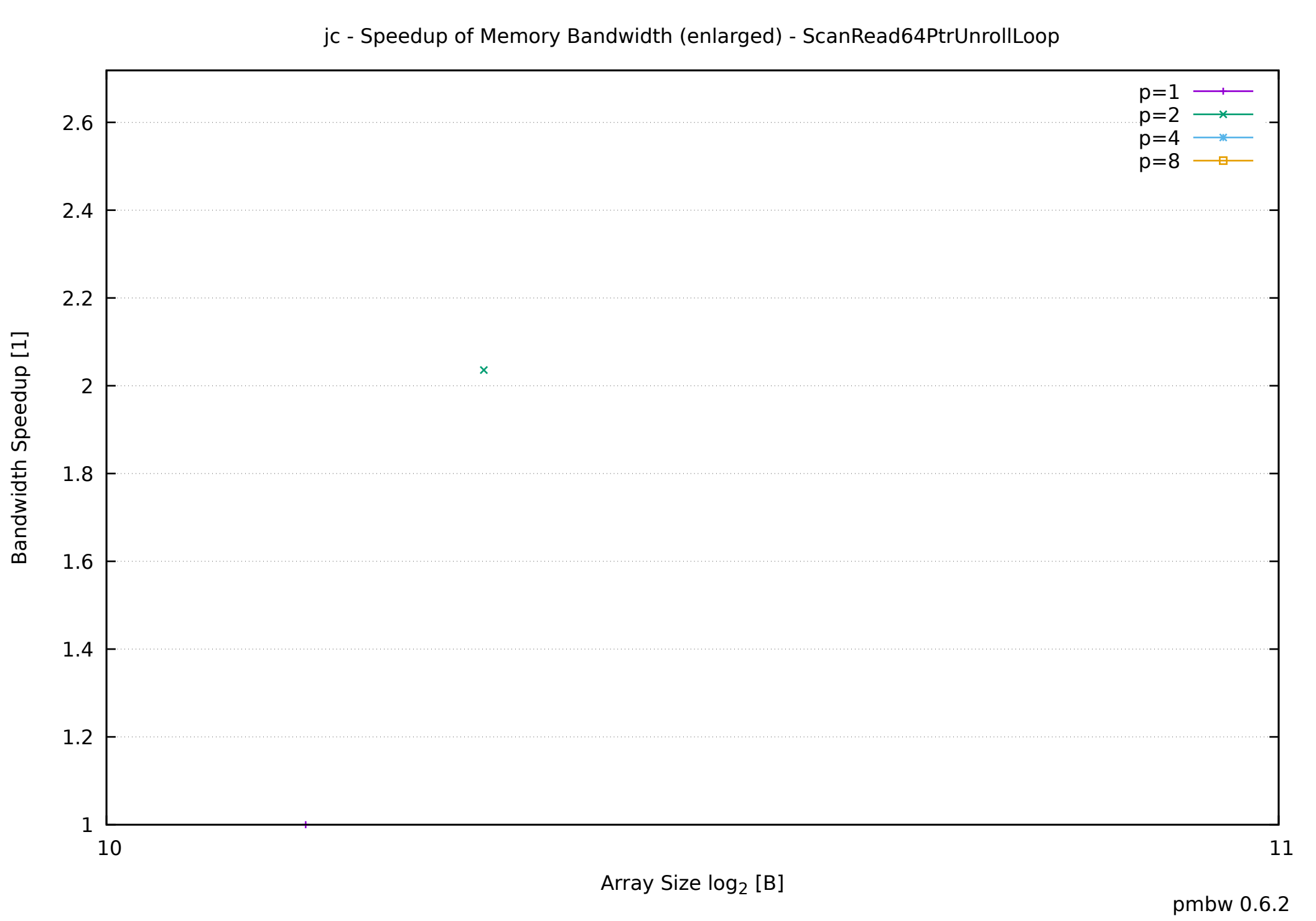

jc - Speedup of Memory Bandwidth - ScanRead64PtrSimpleLoop
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
p=1
p=2
p=4
p=8
10
11
Array Size log2 [B]
pmbw 0.6.2

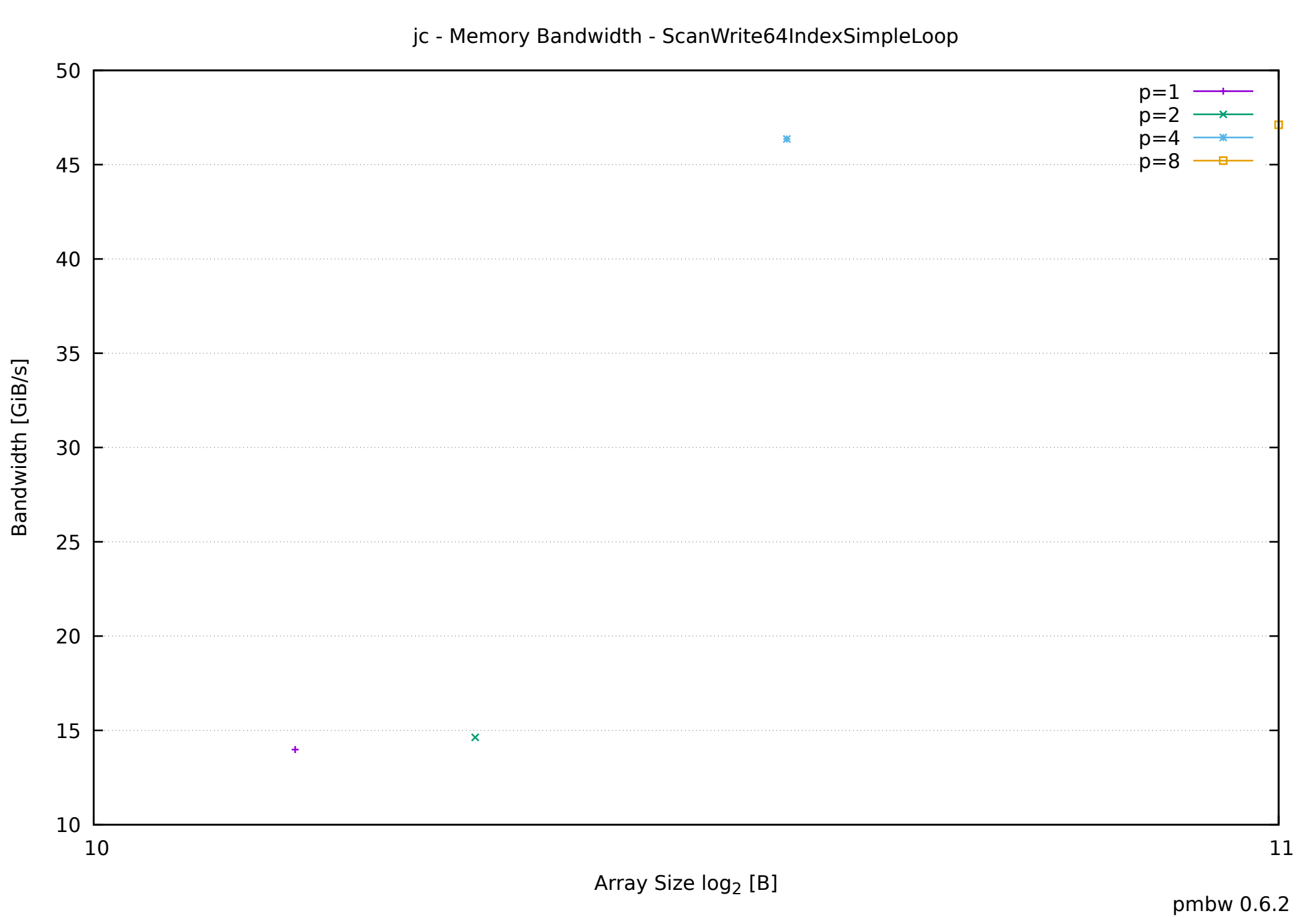

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead64PtrSimpleLoop
p=1
p=2
p=4
p=8
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

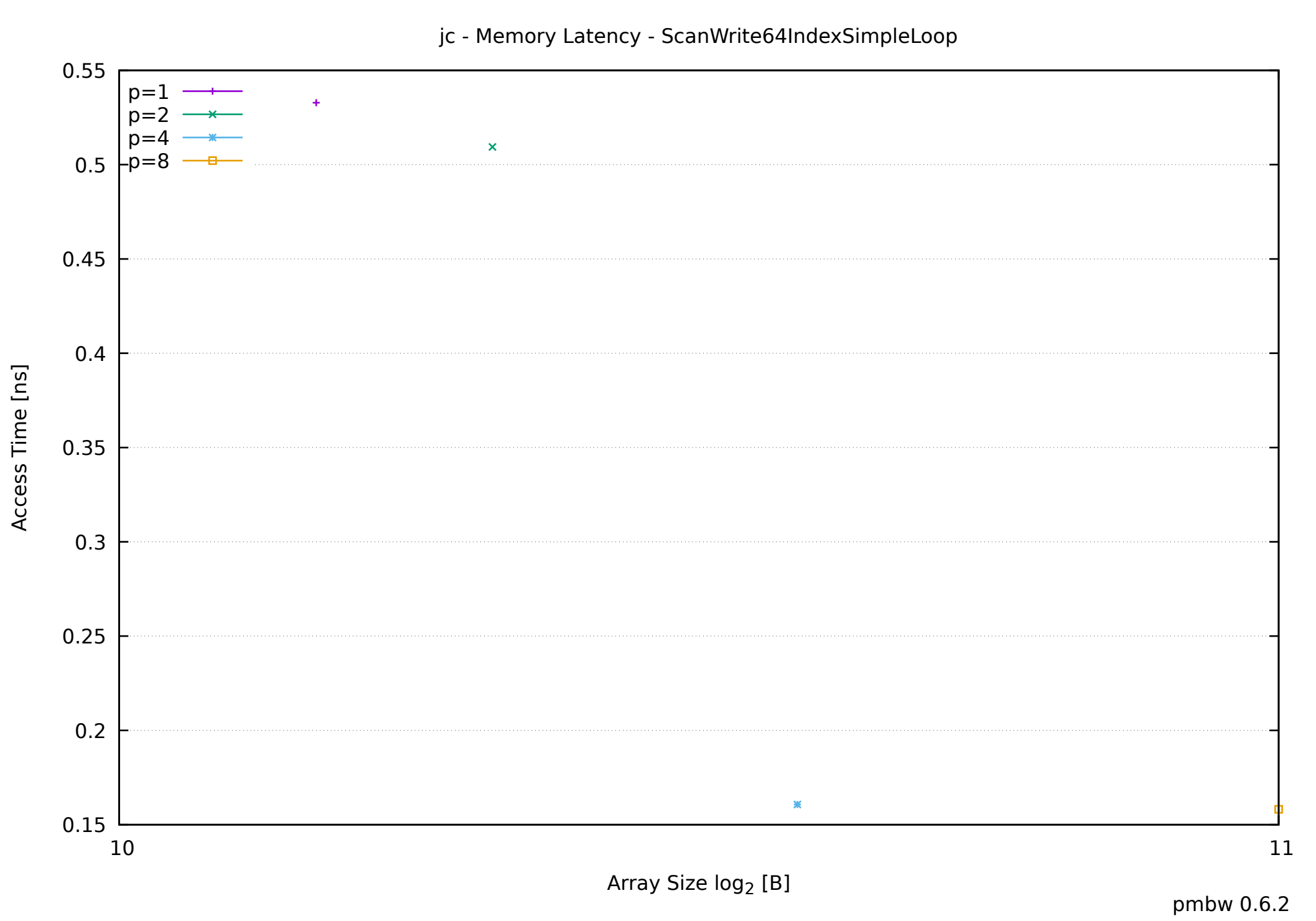

jc - Memory Bandwidth - ScanRead64PtrUnrollLoop
160
140
120
100
80
60
40
20
Bandwidth [GiB/s]
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

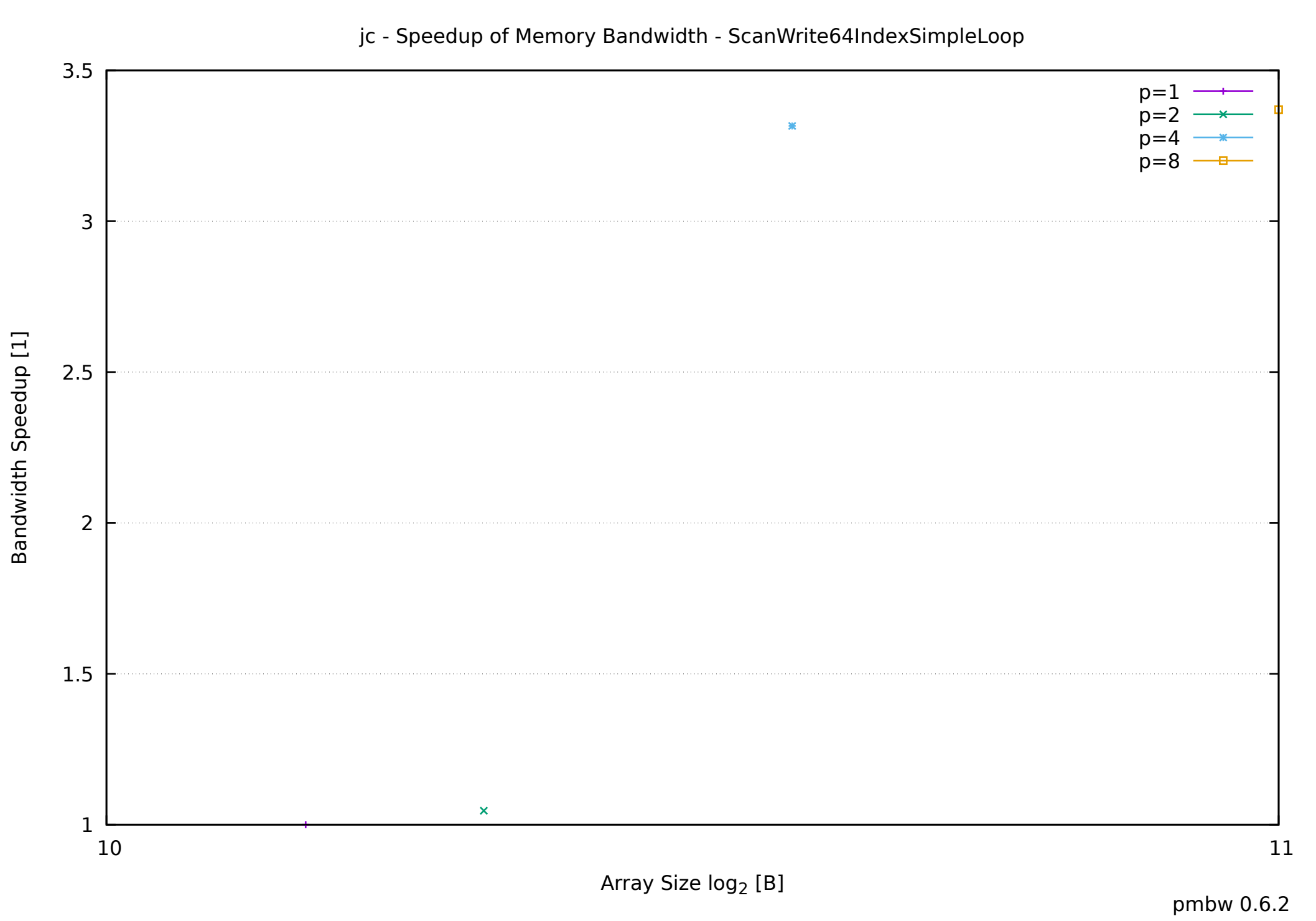

jc - Memory Latency - ScanRead64PtrUnrollLoop
p=1
p=2
p=4
p=8
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2


jc - Speedup of Memory Bandwidth - ScanRead64PtrUnrollLoop
Bandwidth Speedup [1]
4
3.5
3
2.5
2
1.5
1
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

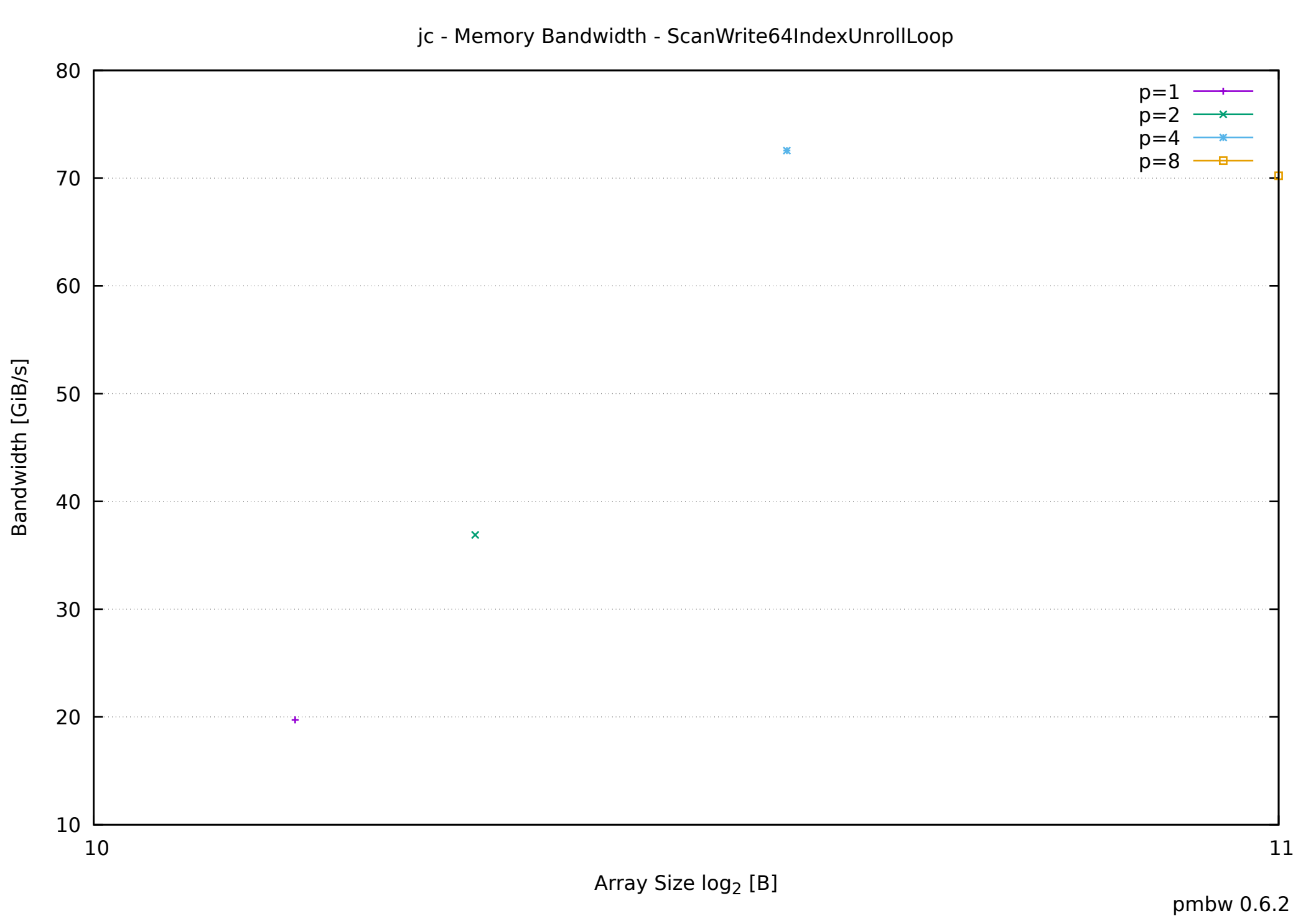

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead64PtrUnrollLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

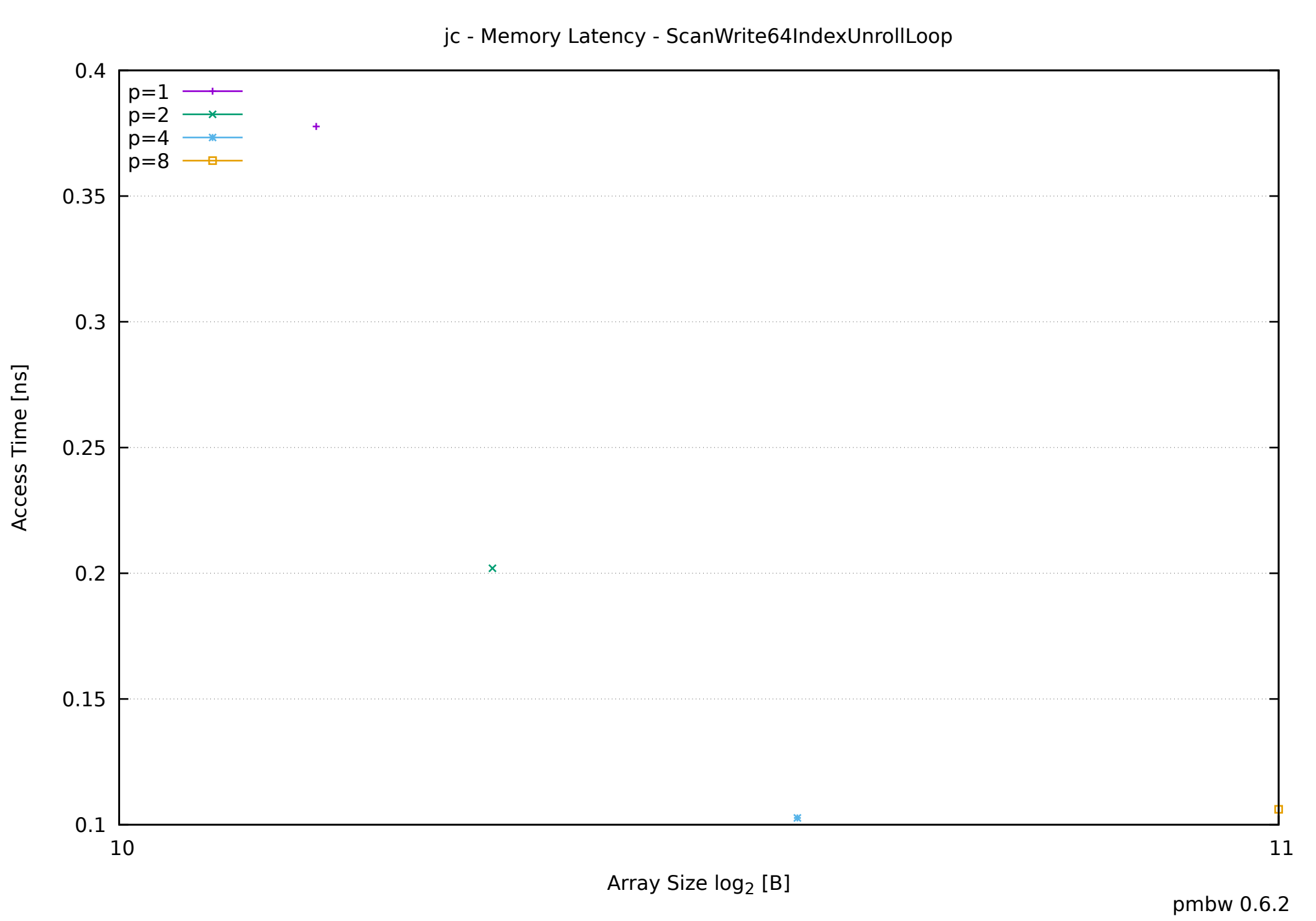

jc - Memory Bandwidth - ScanWrite64IndexSimpleLoop
p=1
p=2
p=4
p=8
50
45
40
35
30
25
20
15
10
Bandwidth [GiB/s]
10
11
Array Size log2 [B]
pmbw 0.6.2

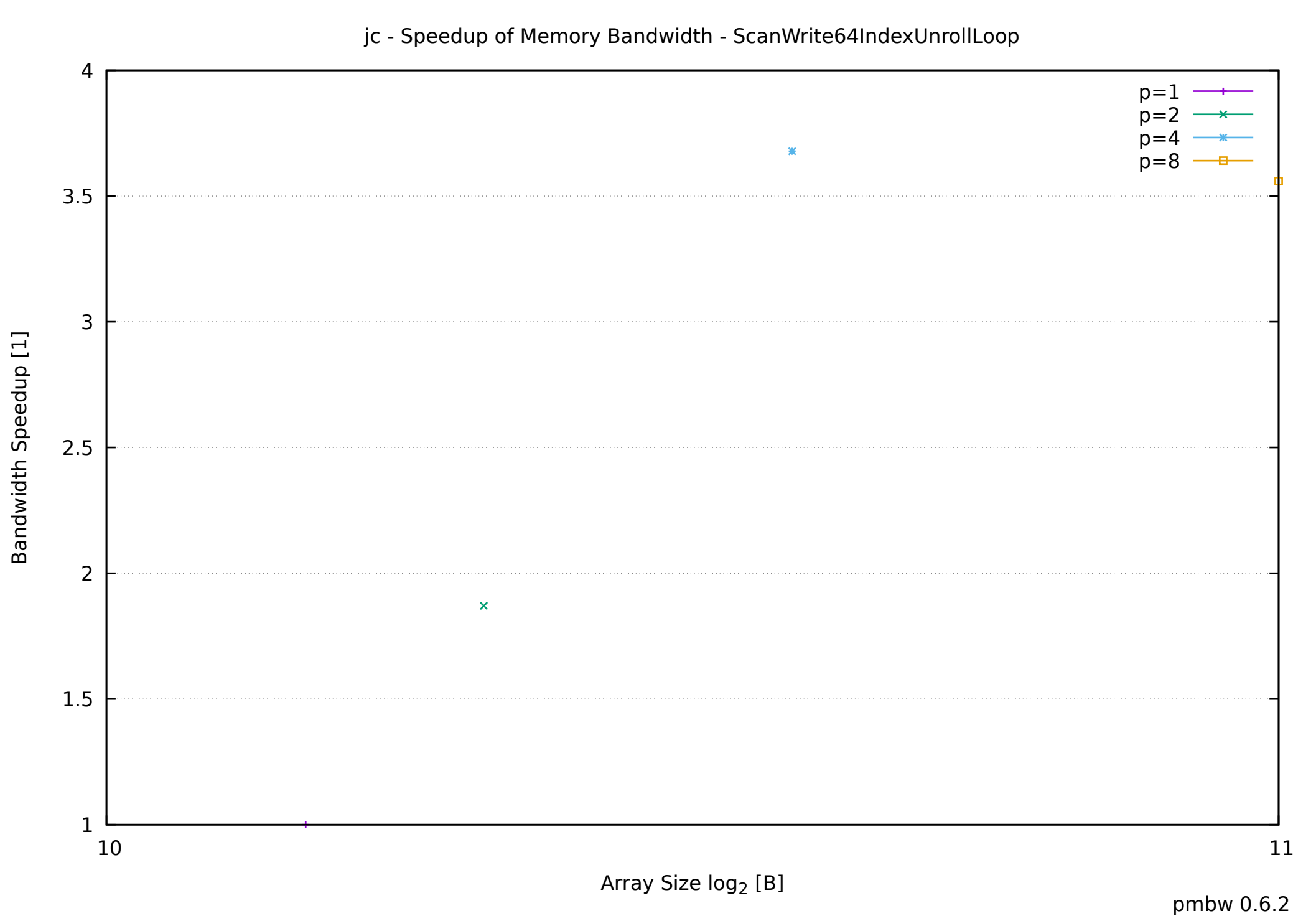

jc - Memory Latency - ScanWrite64IndexSimpleLoop
p=1
p=2
p=4
p=8
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

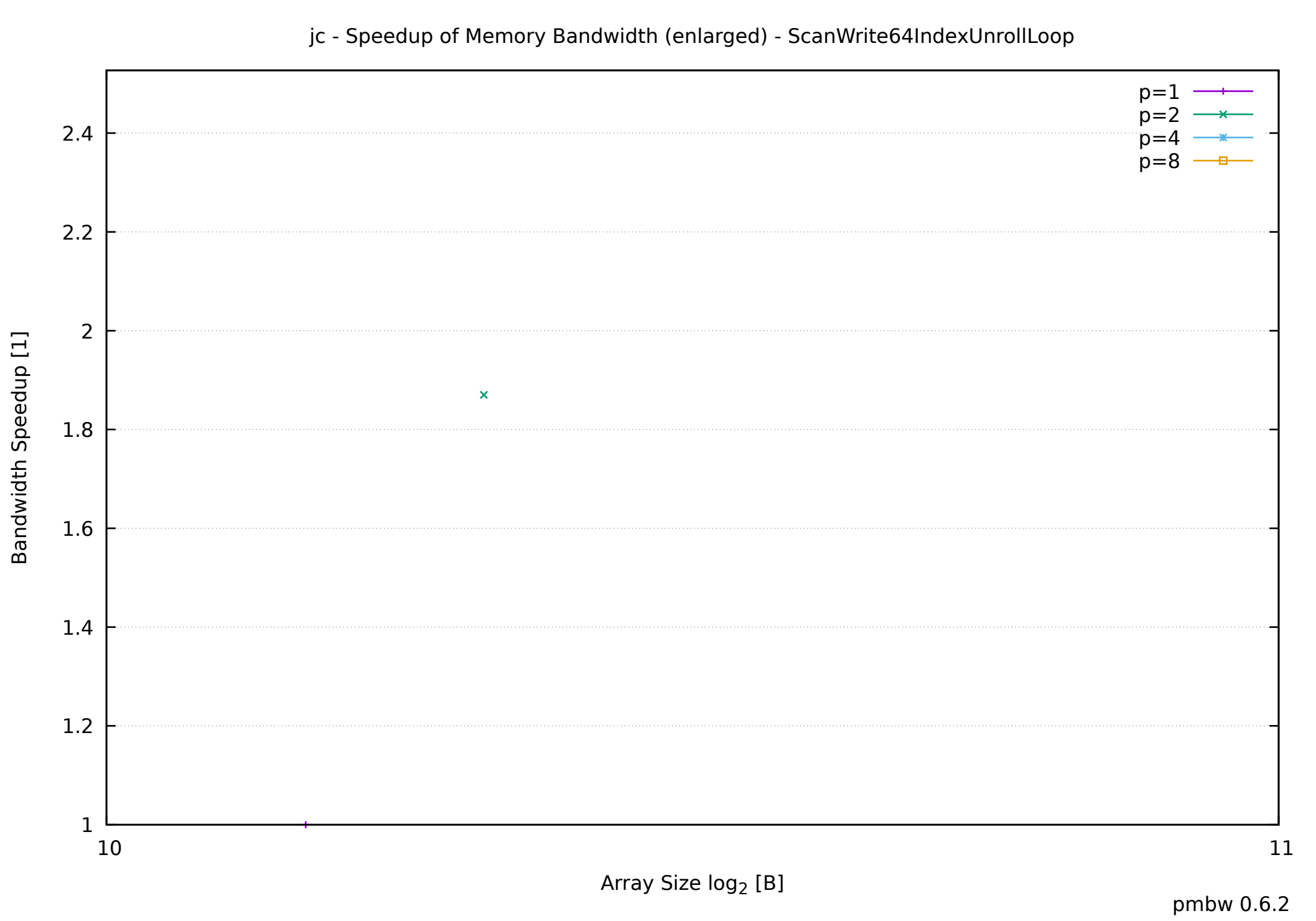

jc - Speedup of Memory Bandwidth - ScanWrite64IndexSimpleLoop
Bandwidth Speedup [1]
3.5
3
2.5
2
1.5
1
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

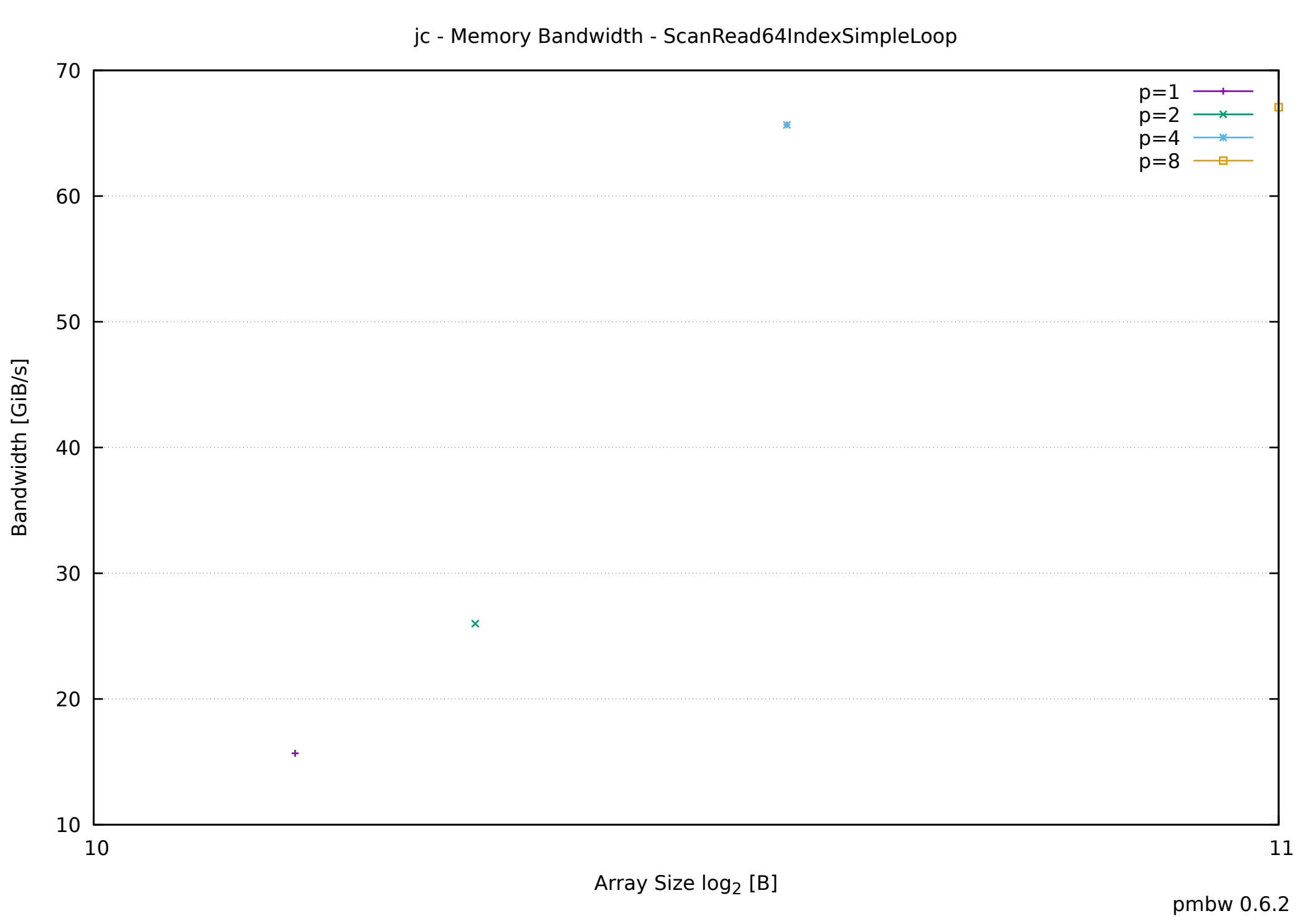
jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite64IndexSimpleLoop
p=1
p=2
p=4
p=8
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

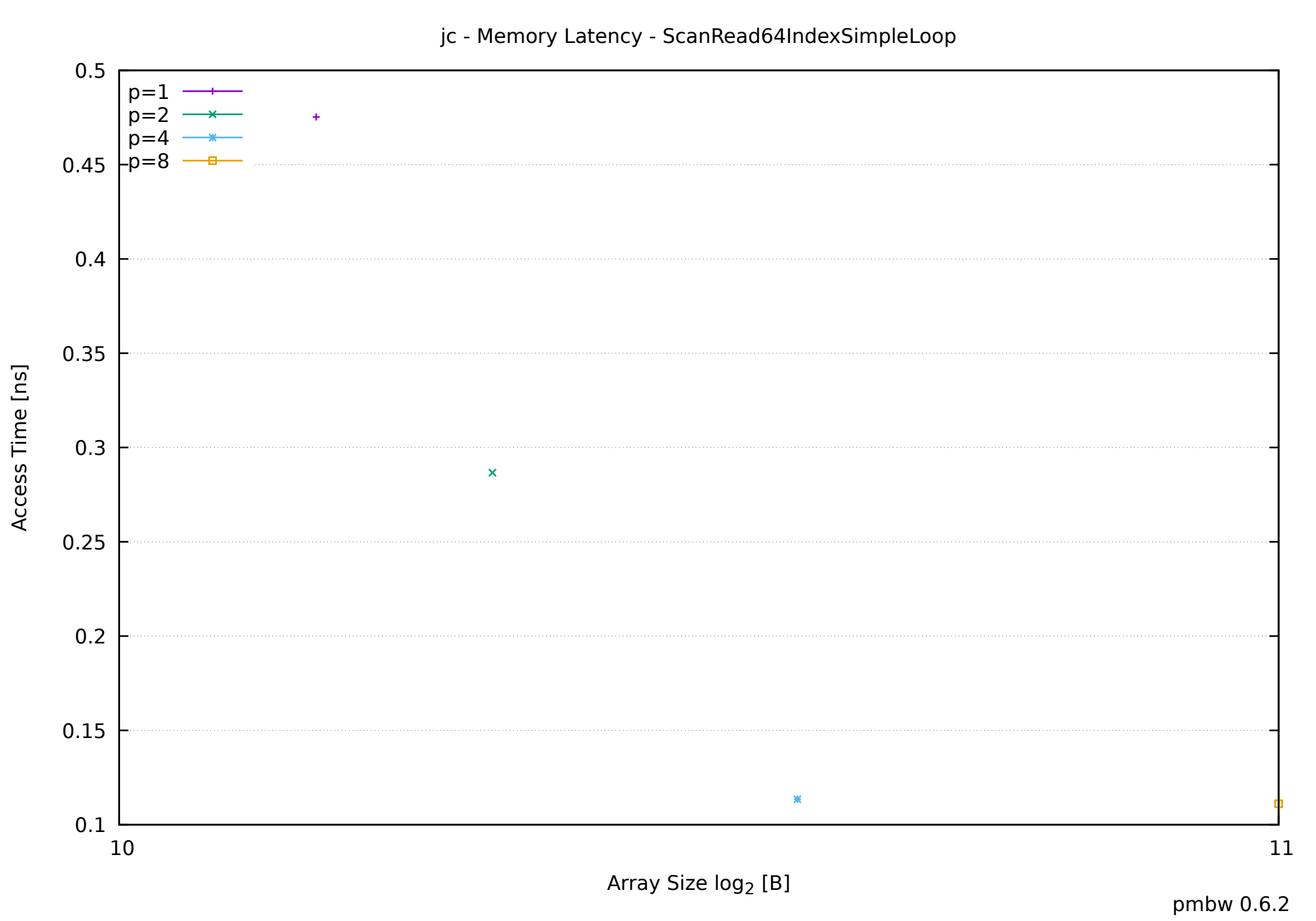

jc - Memory Bandwidth - ScanWrite64IndexUnrollLoop
Bandwidth [GiB/s]
80
70
60
50
40
30
20
10
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

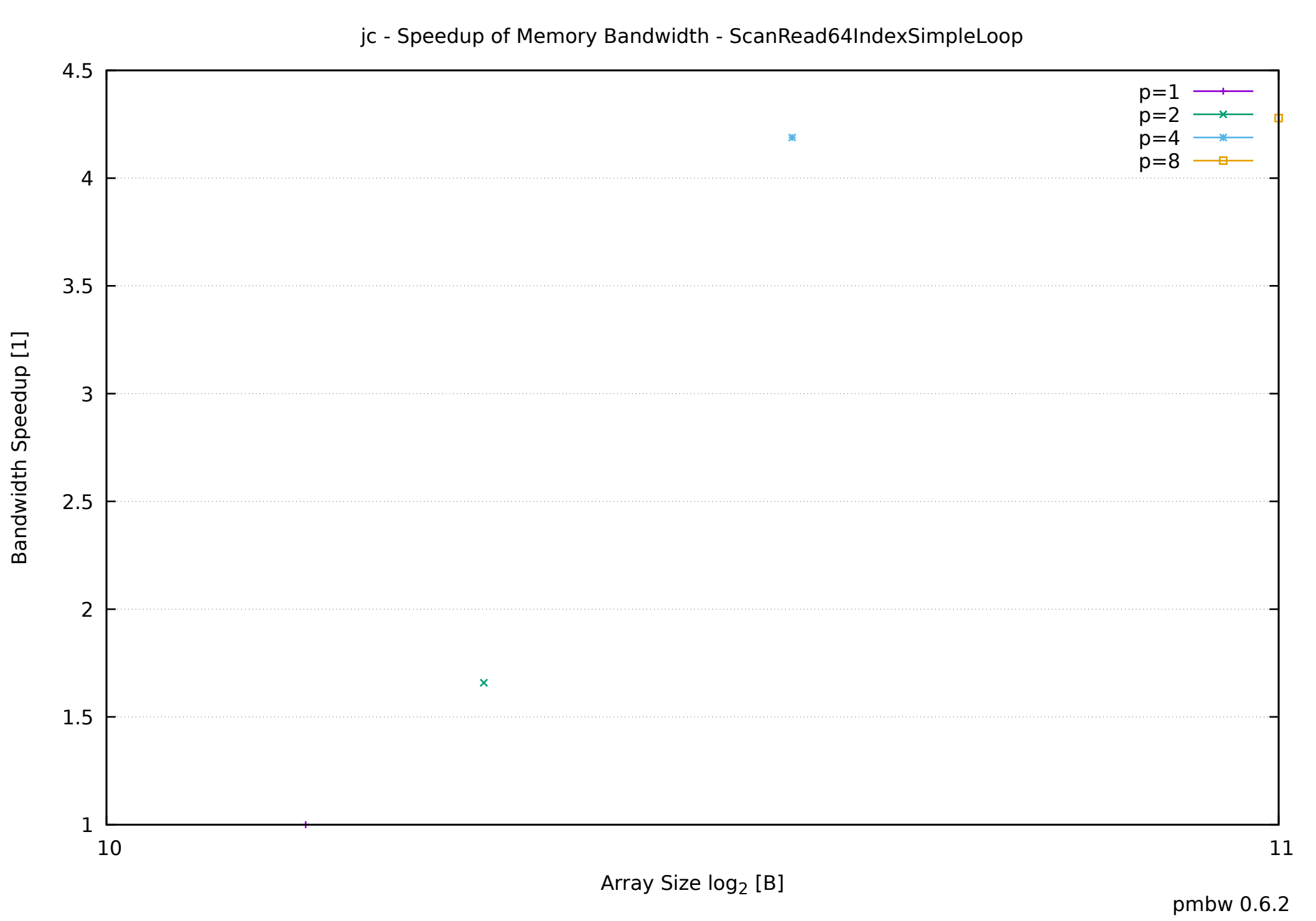

jc - Memory Latency - ScanWrite64IndexUnrollLoop
p=1
p=2
p=4
p=8
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

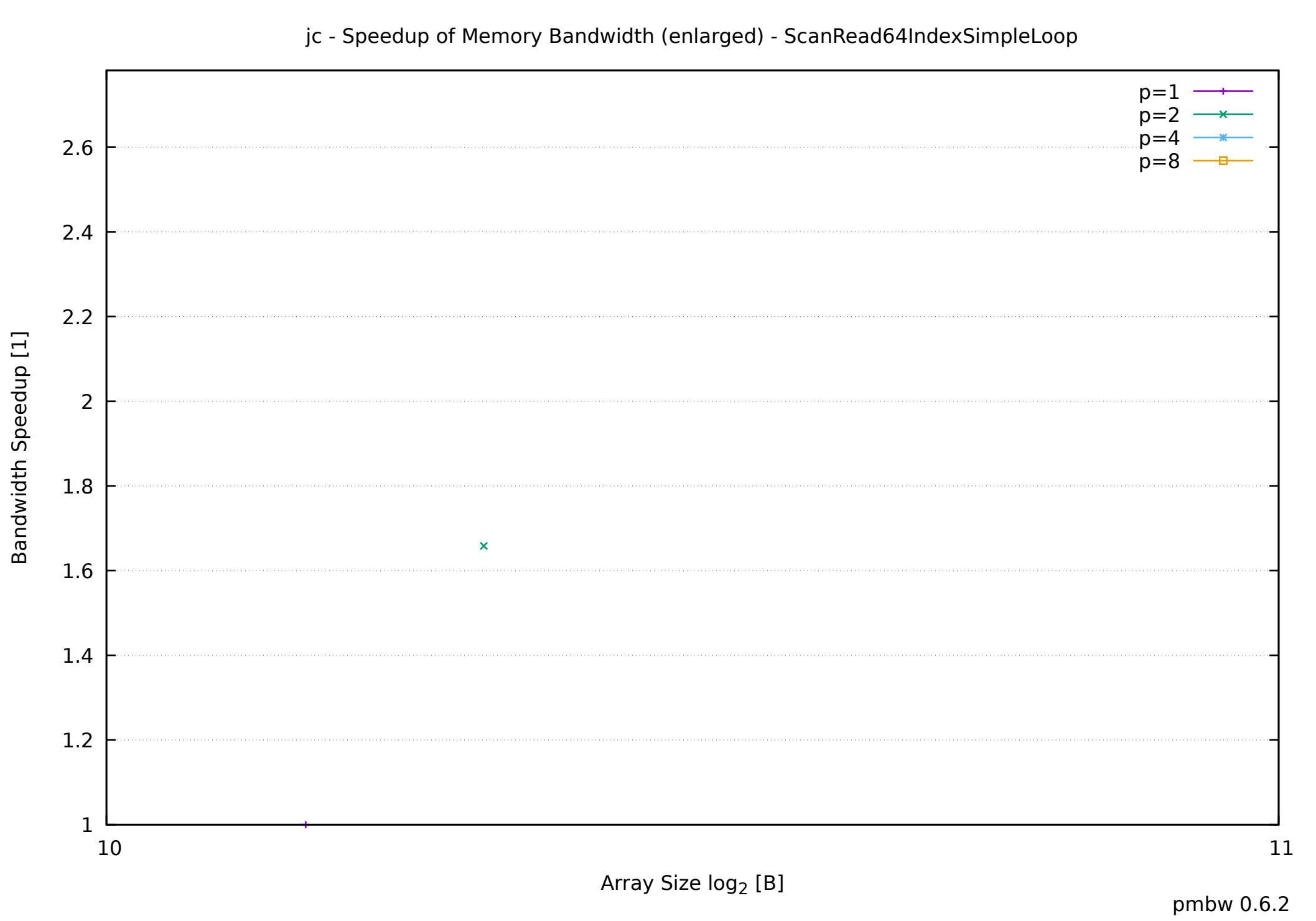

jc - Speedup of Memory Bandwidth - ScanWrite64IndexUnrollLoop
Bandwidth Speedup [1]
4
3.5
3
2.5
2
1.5
1
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

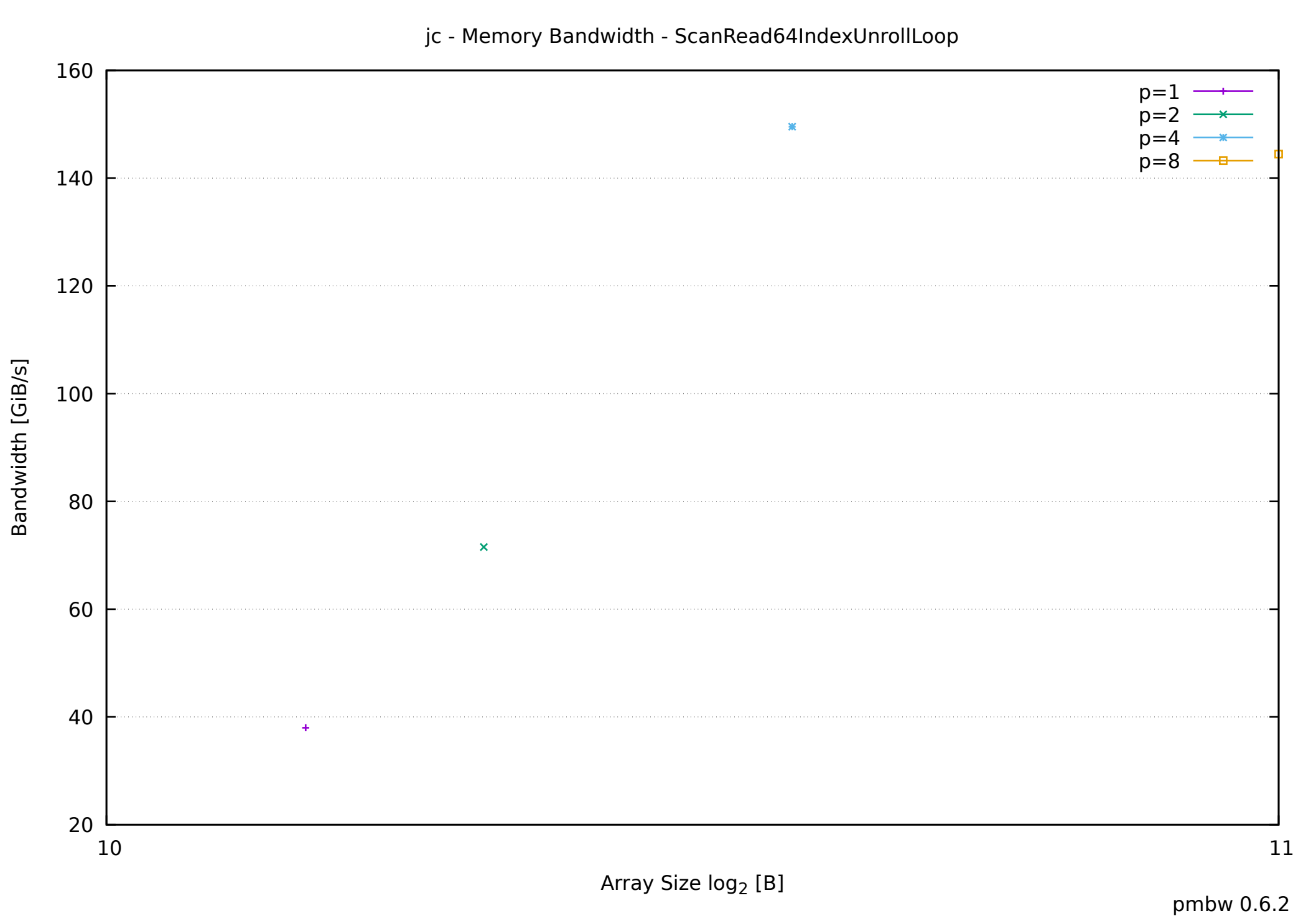

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite64IndexUnrollLoop
p=1
p=2
p=4
p=8
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

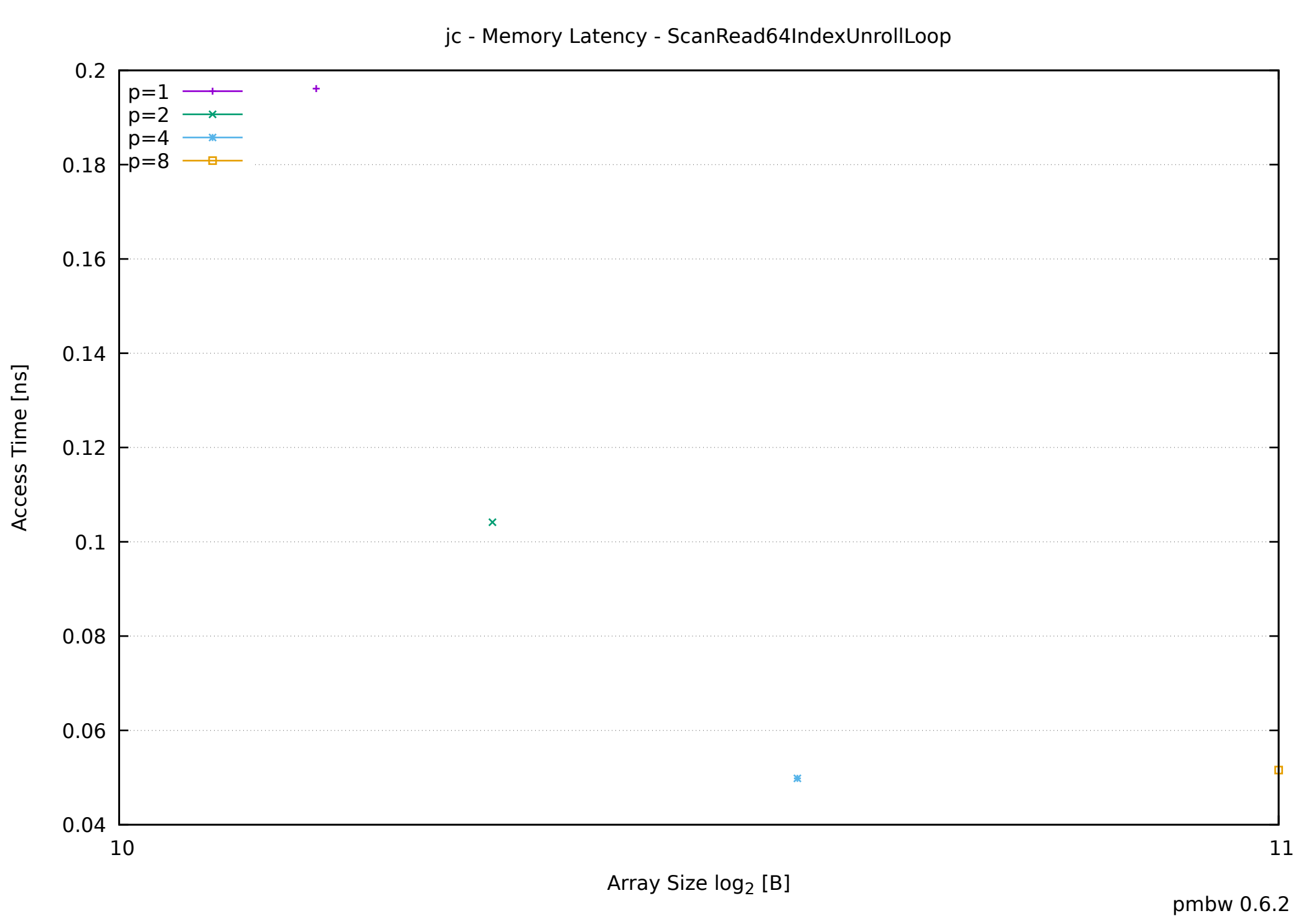

jc - Memory Bandwidth - ScanRead64IndexSimpleLoop
70
60
50
40
30
20
10
Bandwidth [GiB/s]
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

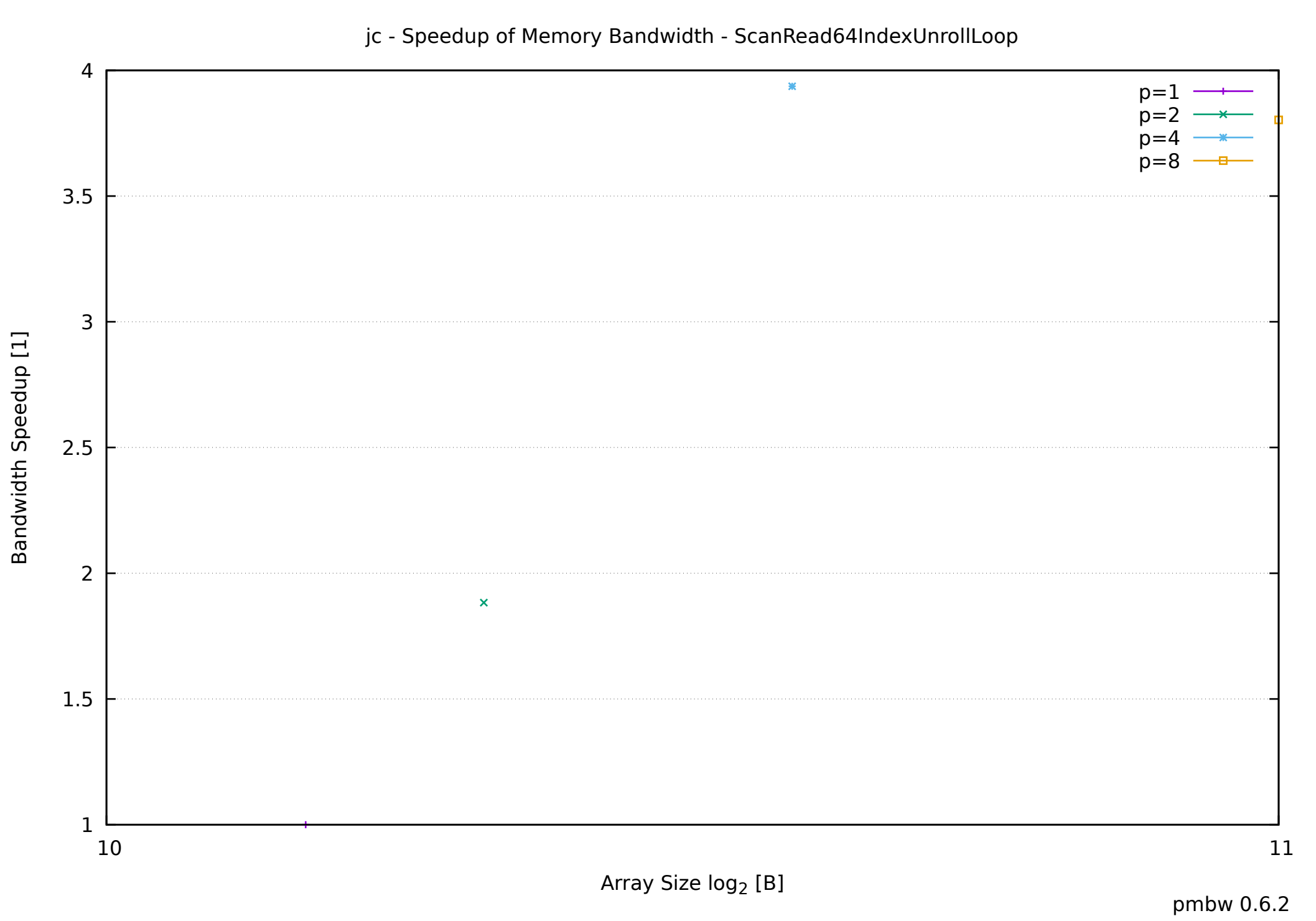

jc - Memory Latency - ScanRead64IndexSimpleLoop
p=1
p=2
p=4
p=8
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

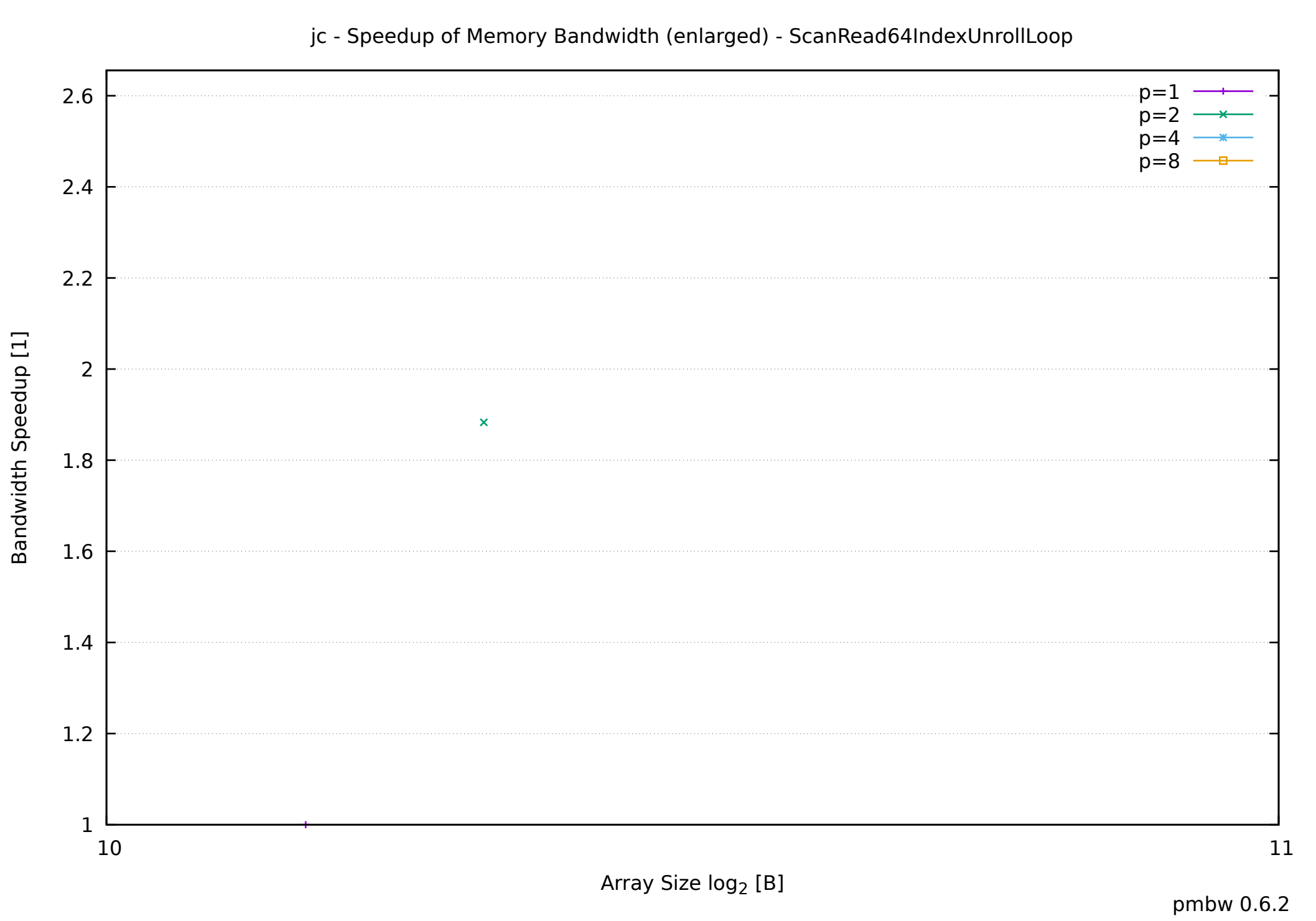

jc - Speedup of Memory Bandwidth - ScanRead64IndexSimpleLoop
p=1
p=2
p=4
p=8
4.5
4
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

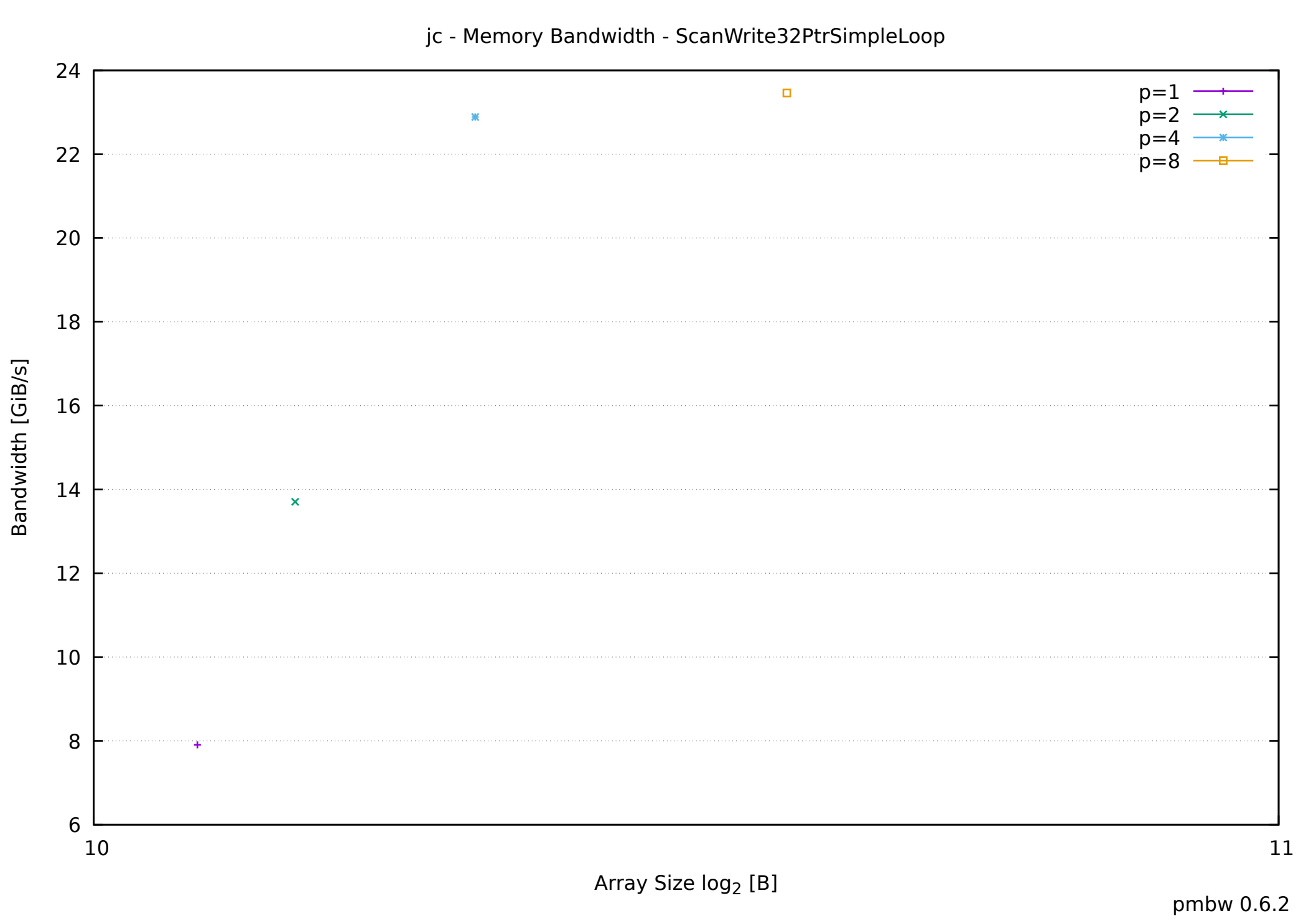

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead64IndexSimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
10
11
Array Size log2 [B]
pmbw 0.6.2

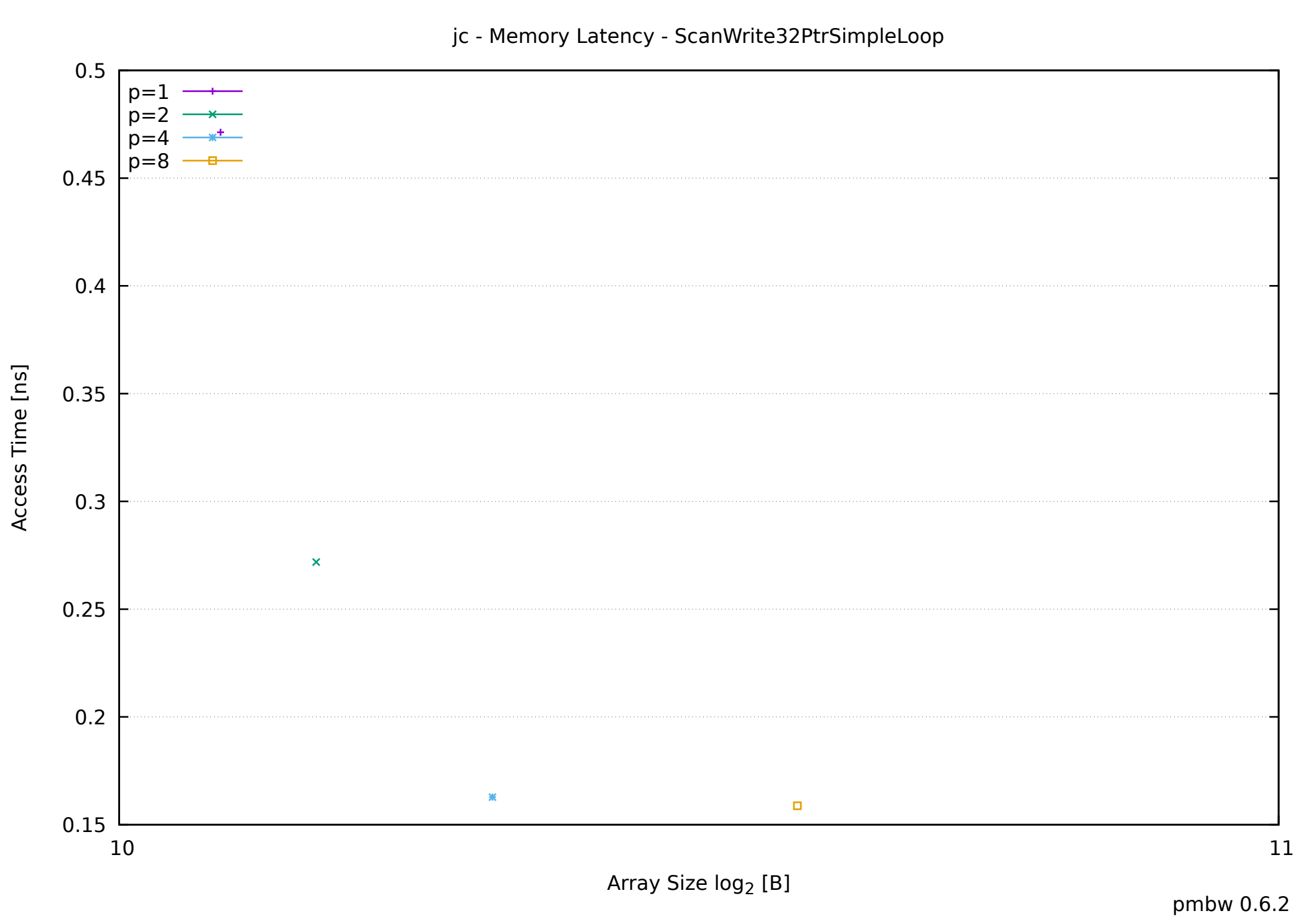

jc - Memory Bandwidth - ScanRead64IndexUnrollLoop
160
140
120
100
80
60
40
20
Bandwidth [GiB/s]
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

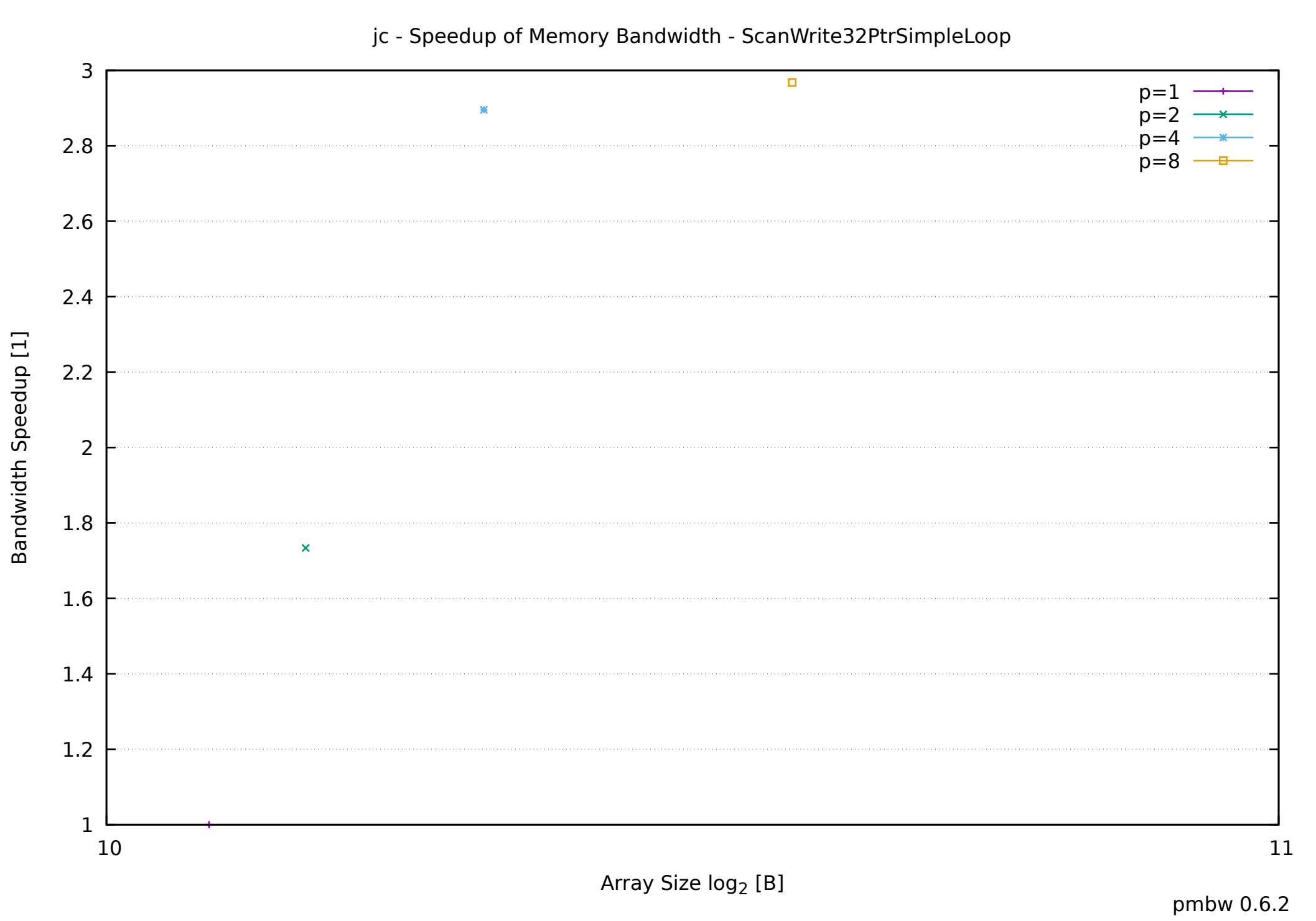

jc - Memory Latency - ScanRead64IndexUnrollLoop
p=1
p=2
p=4
p=8
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

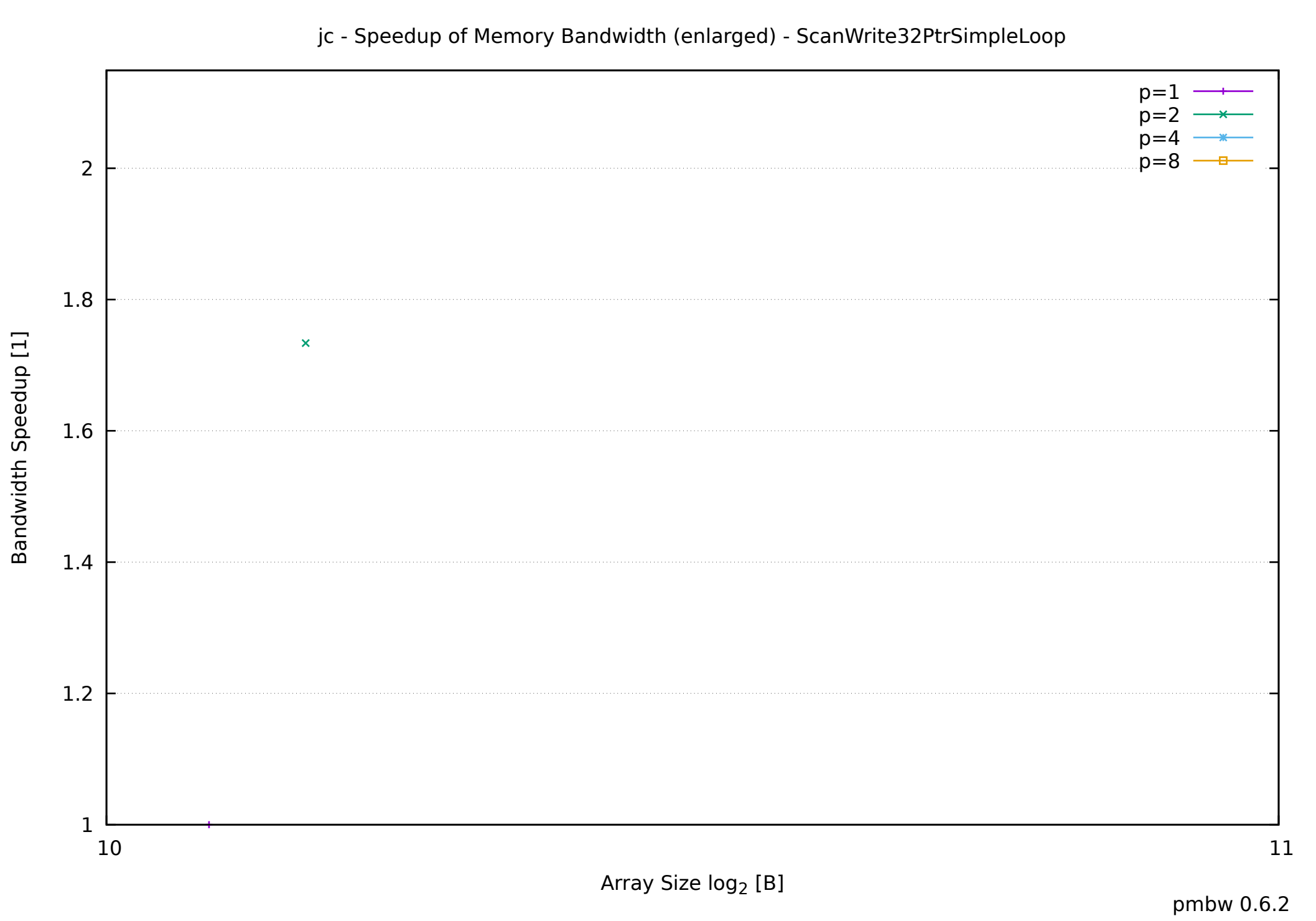

jc - Speedup of Memory Bandwidth - ScanRead64IndexUnrollLoop
Bandwidth Speedup [1]
4
3.5
3
2.5
2
1.5
1
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

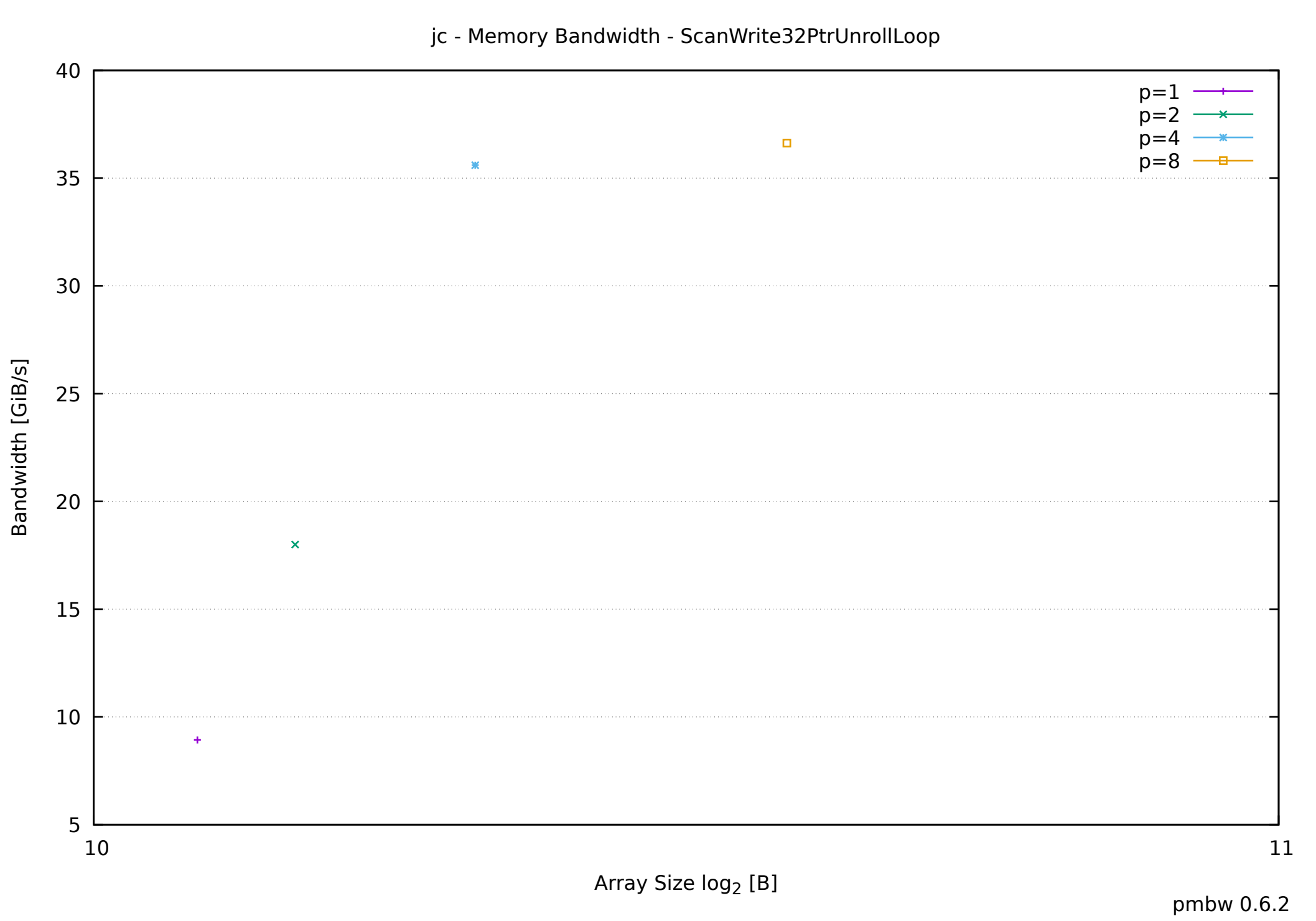

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead64IndexUnrollLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

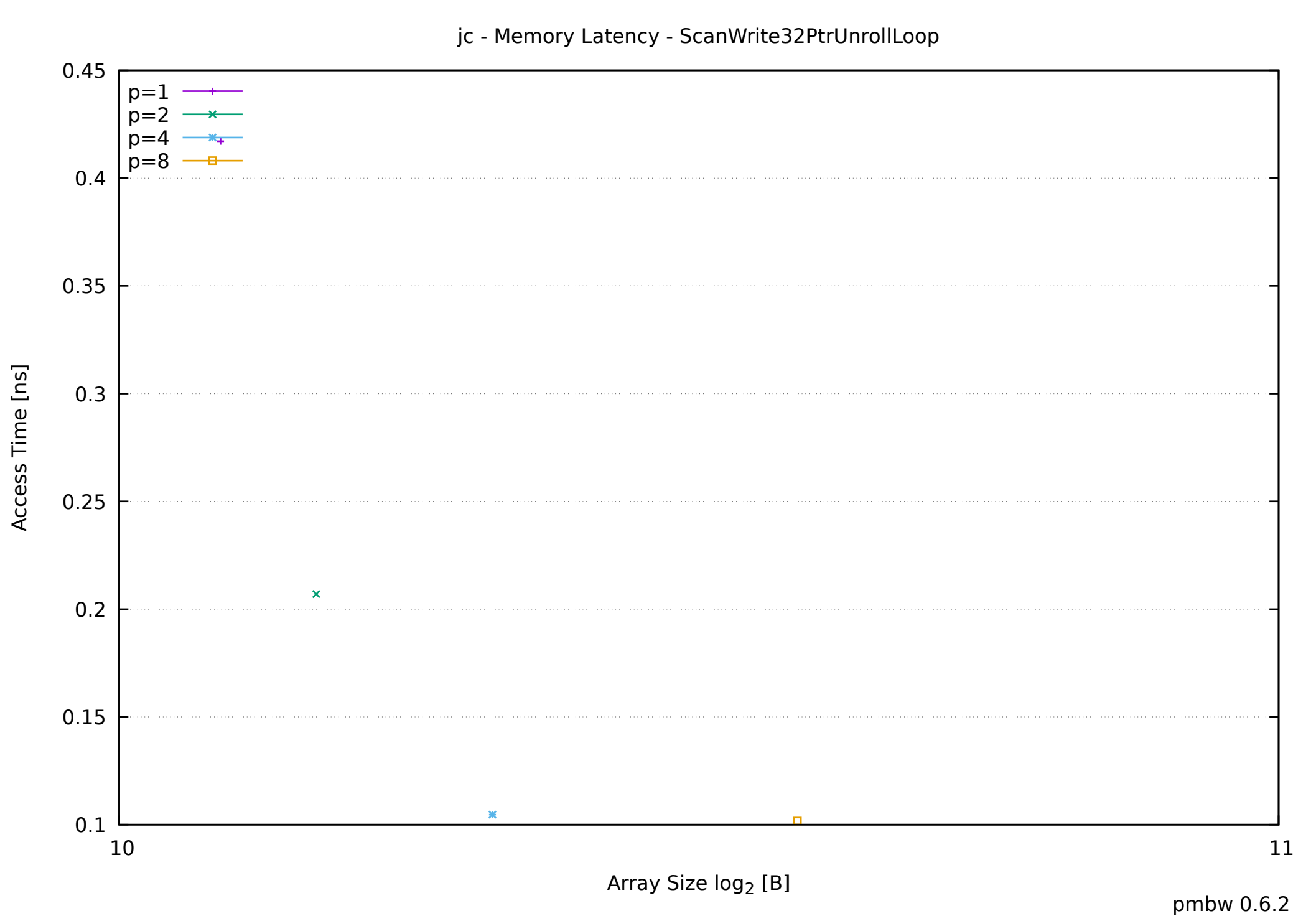

jc - Memory Bandwidth - ScanWrite32PtrSimpleLoop
Bandwidth [GiB/s]
24
22
20
18
16
14
12
10
8
6
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

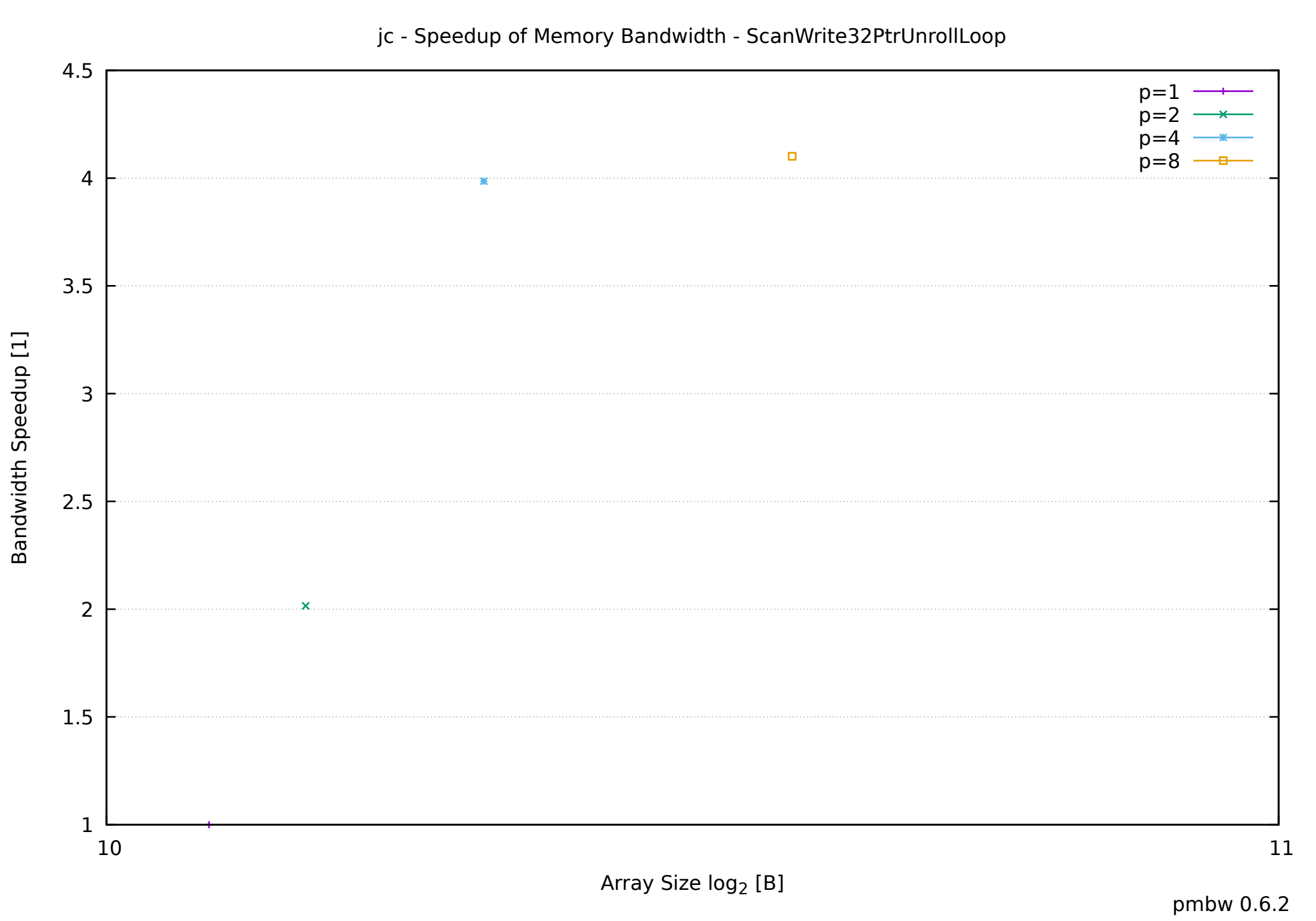

jc - Memory Latency - ScanWrite32PtrSimpleLoop
p=1
p=2
p=4
p=8
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

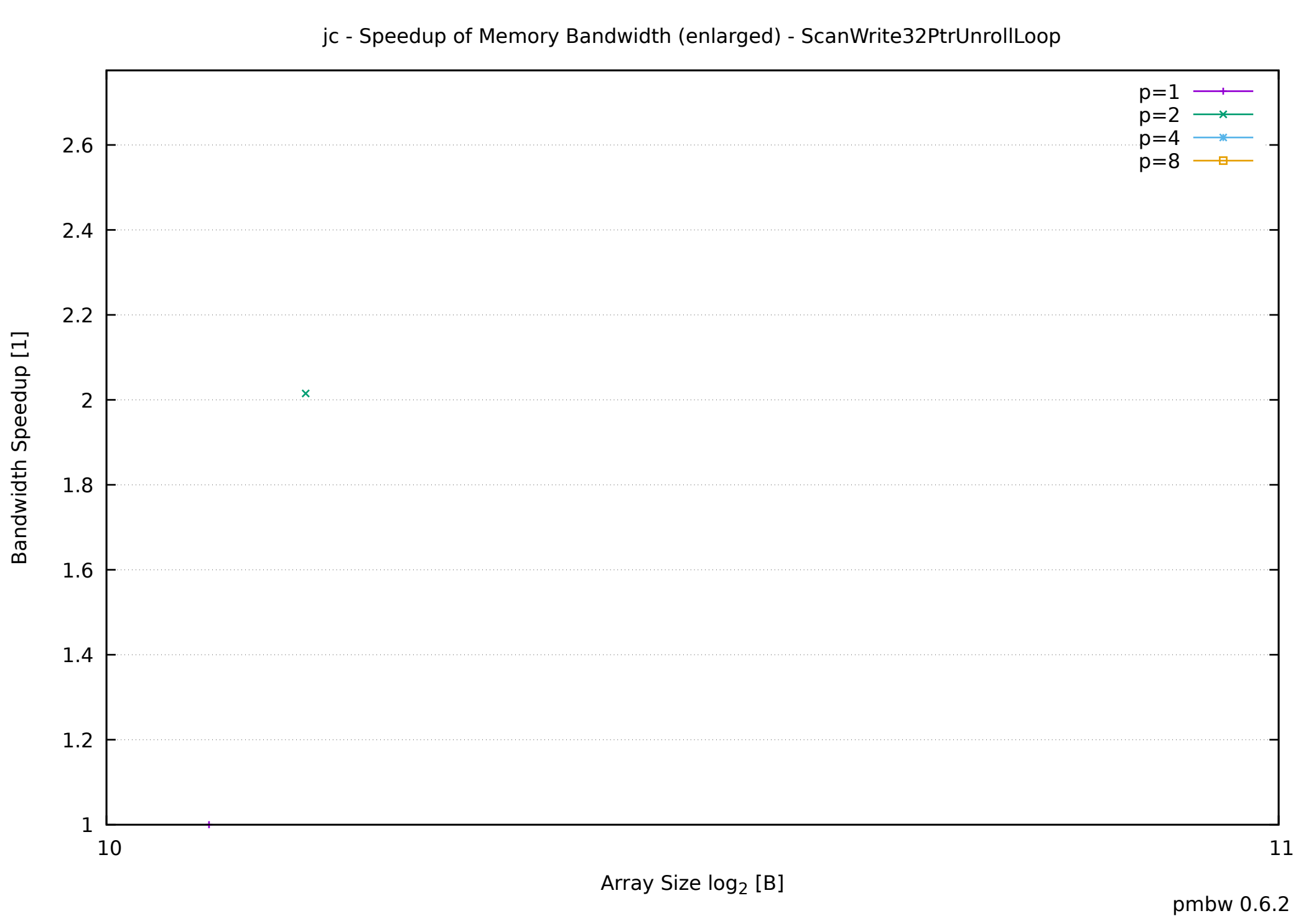

jc - Speedup of Memory Bandwidth - ScanWrite32PtrSimpleLoop
Bandwidth Speedup [1]
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

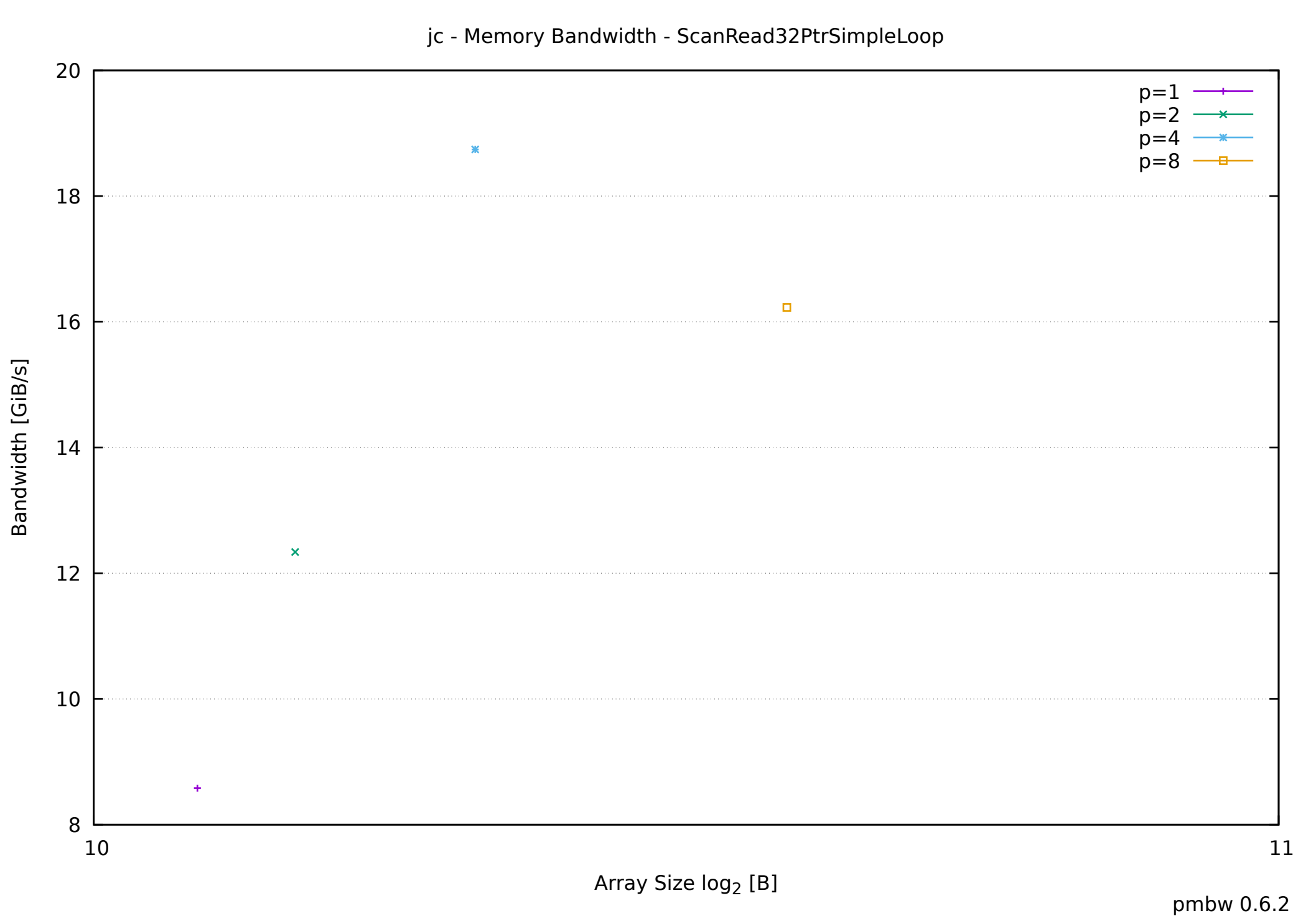

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite32PtrSimpleLoop
p=1
p=2
p=4
p=8
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

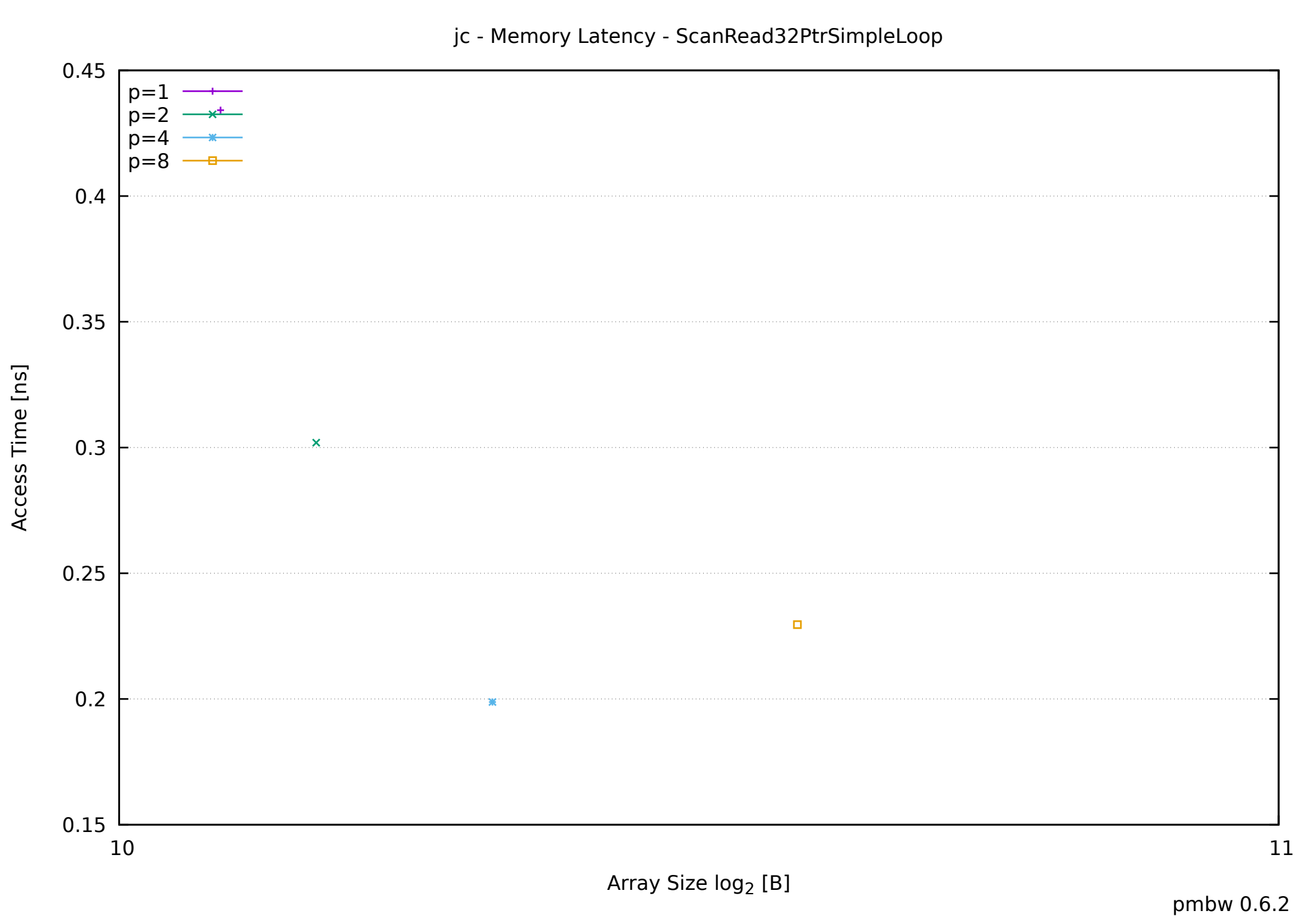

jc - Memory Bandwidth - ScanWrite32PtrUnrollLoop
Bandwidth [GiB/s]
40
35
30
25
20
15
10
5
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

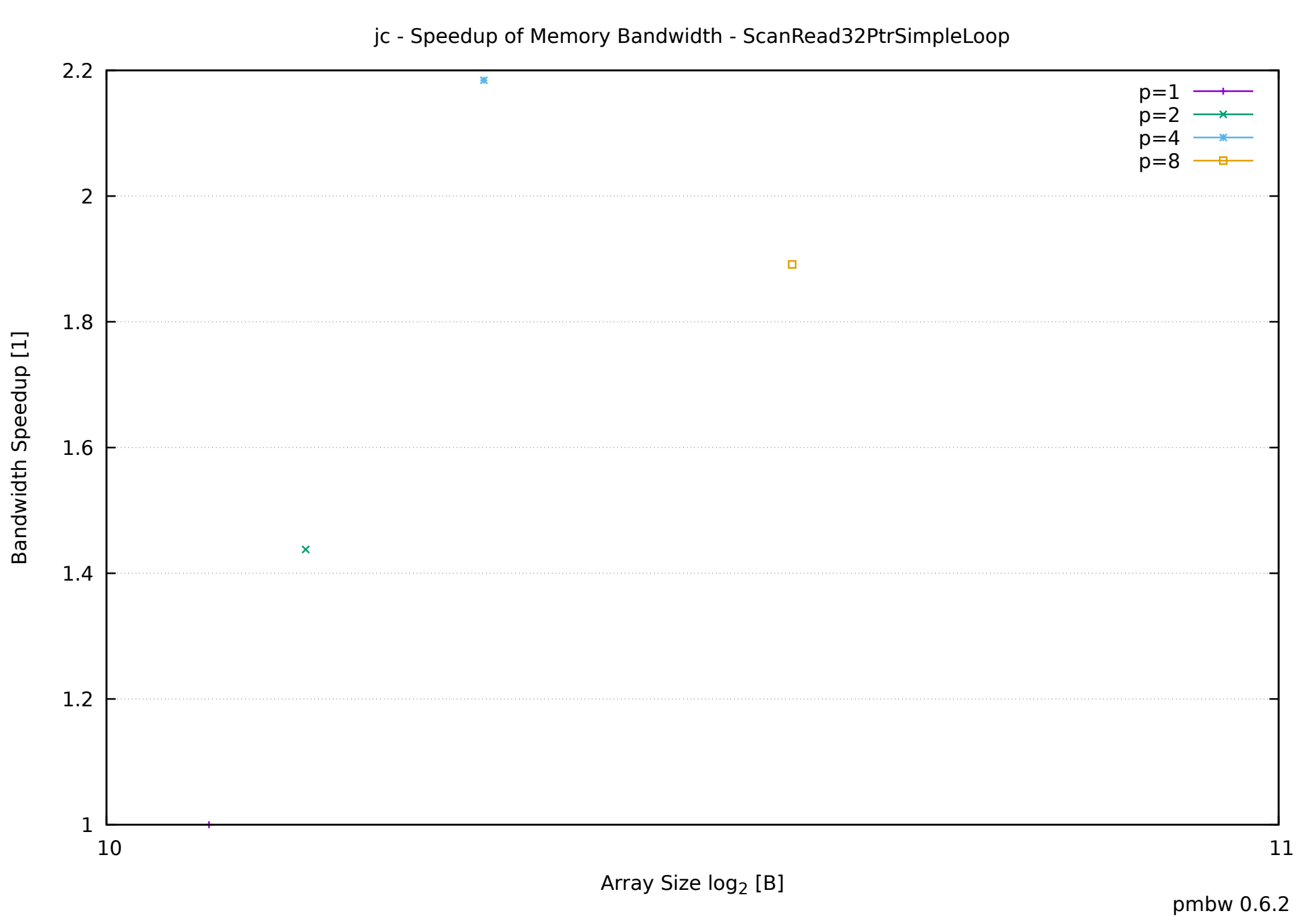

jc - Memory Latency - ScanWrite32PtrUnrollLoop
p=1
p=2
p=4
p=8
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

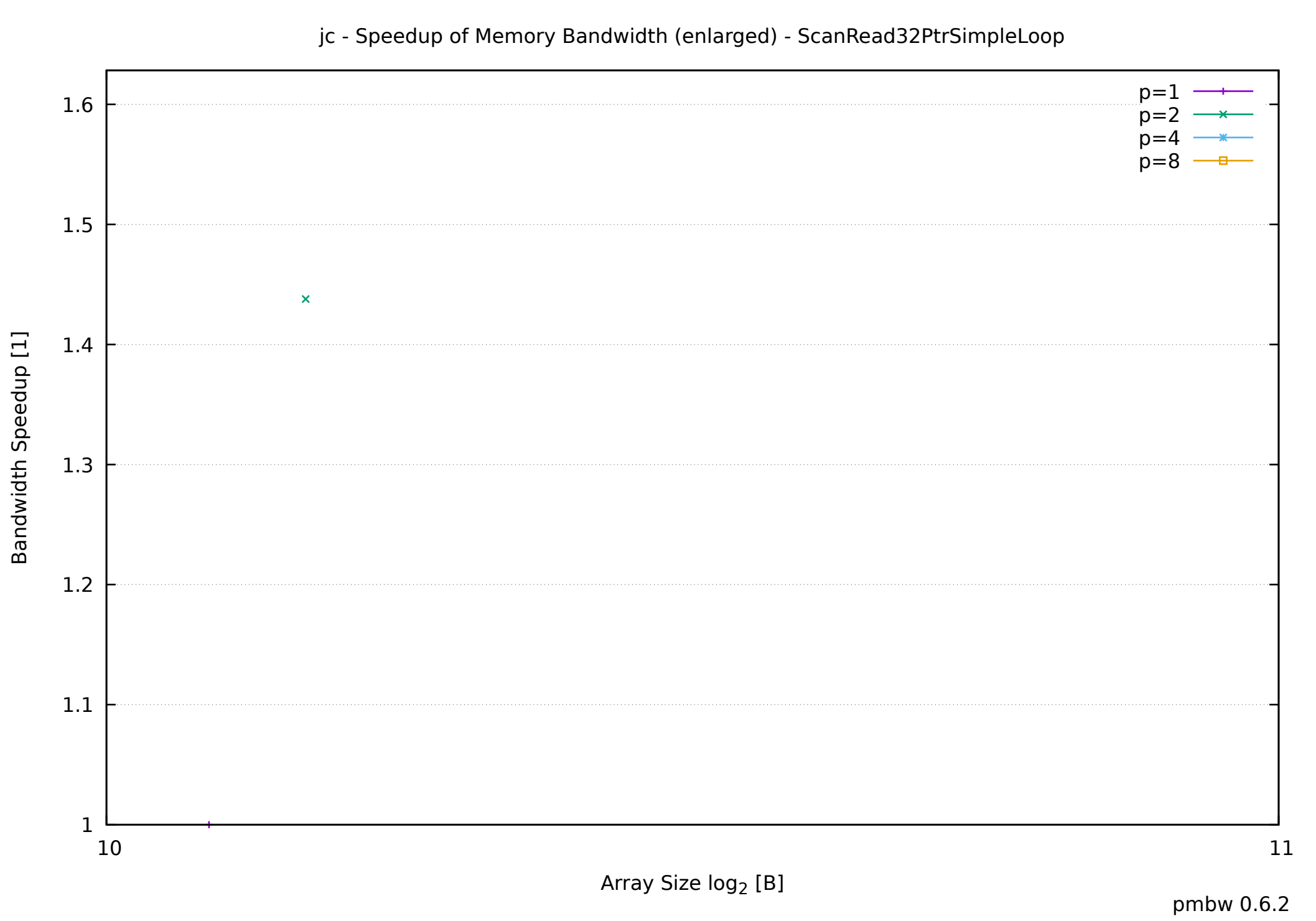

jc - Speedup of Memory Bandwidth - ScanWrite32PtrUnrollLoop
4.5
4
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

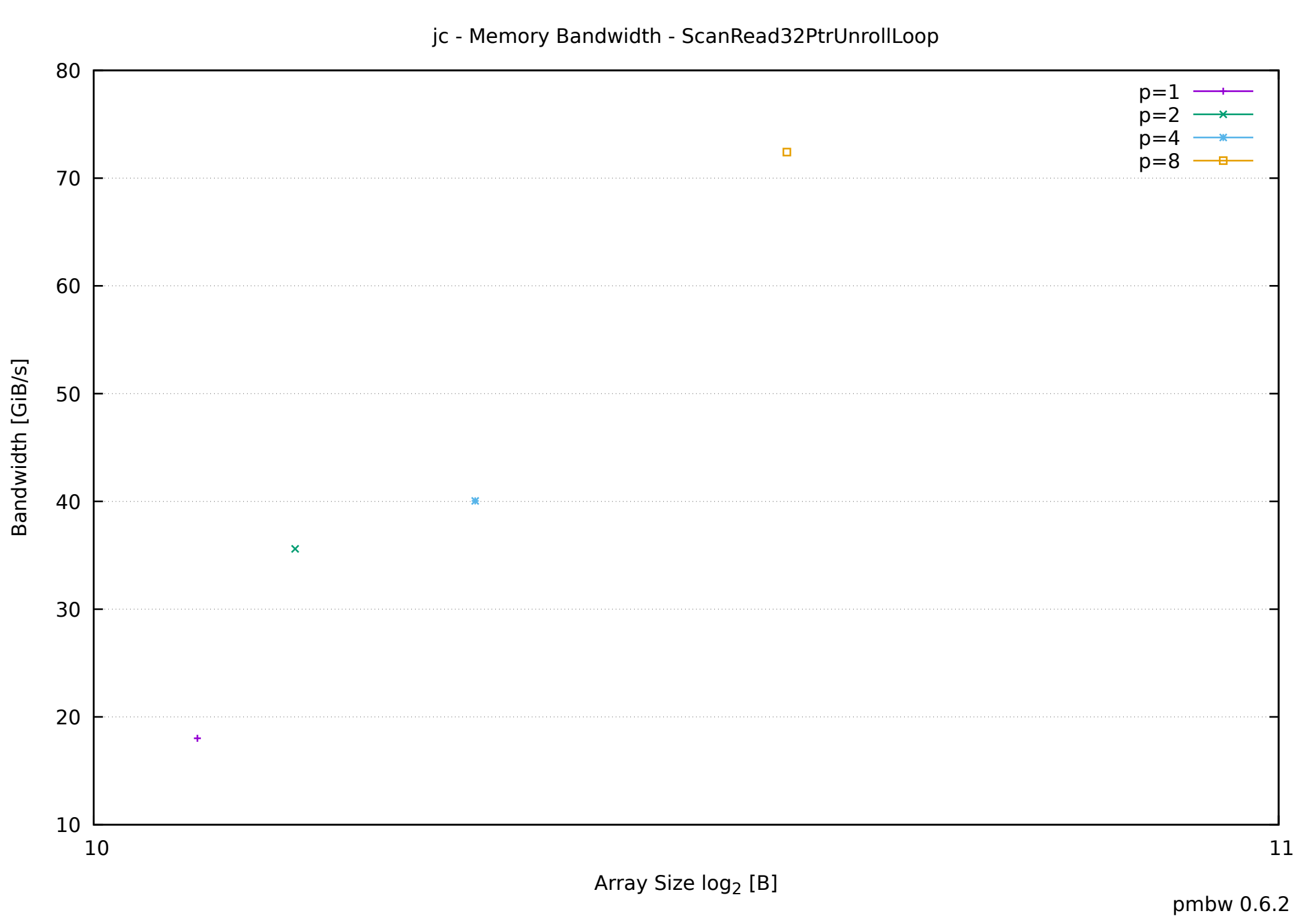

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite32PtrUnrollLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

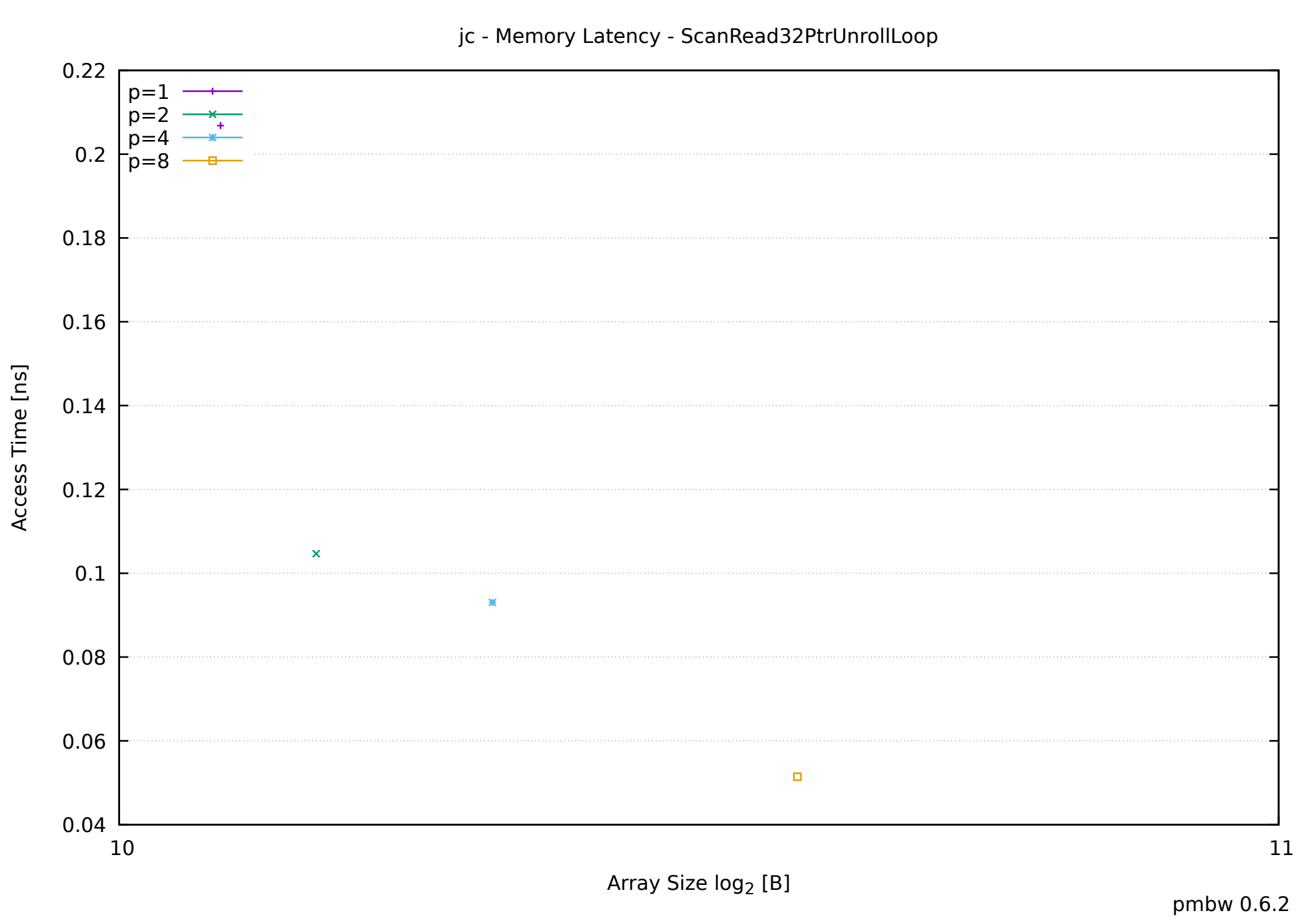

jc - Memory Bandwidth - ScanRead32PtrSimpleLoop
Bandwidth [GiB/s]
20
18
16
14
12
10
8
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

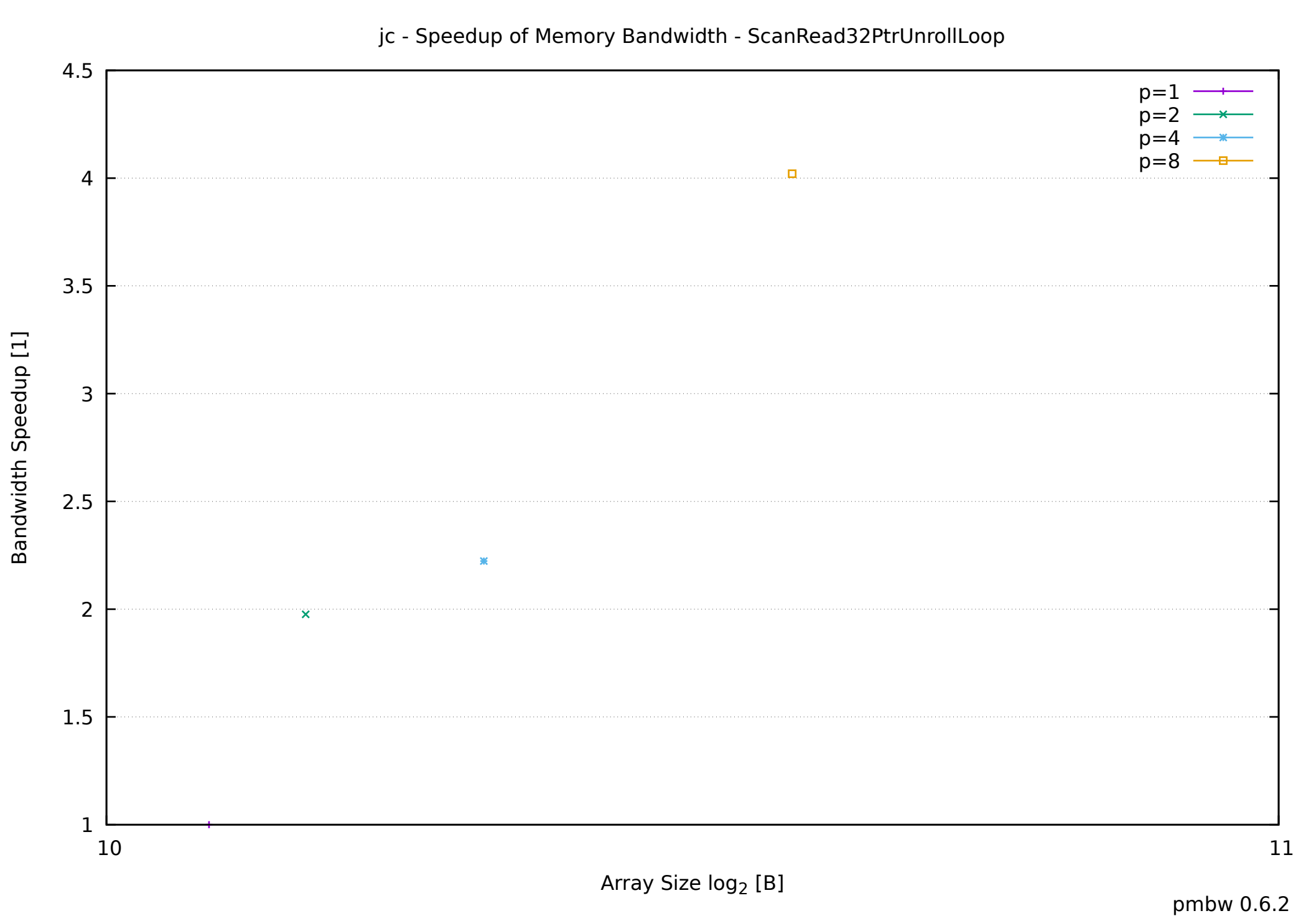

jc - Memory Latency - ScanRead32PtrSimpleLoop
p=1
p=2
p=4
p=8
0.45
0.4
0.35
0.3
0.25
0.2
0.15
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

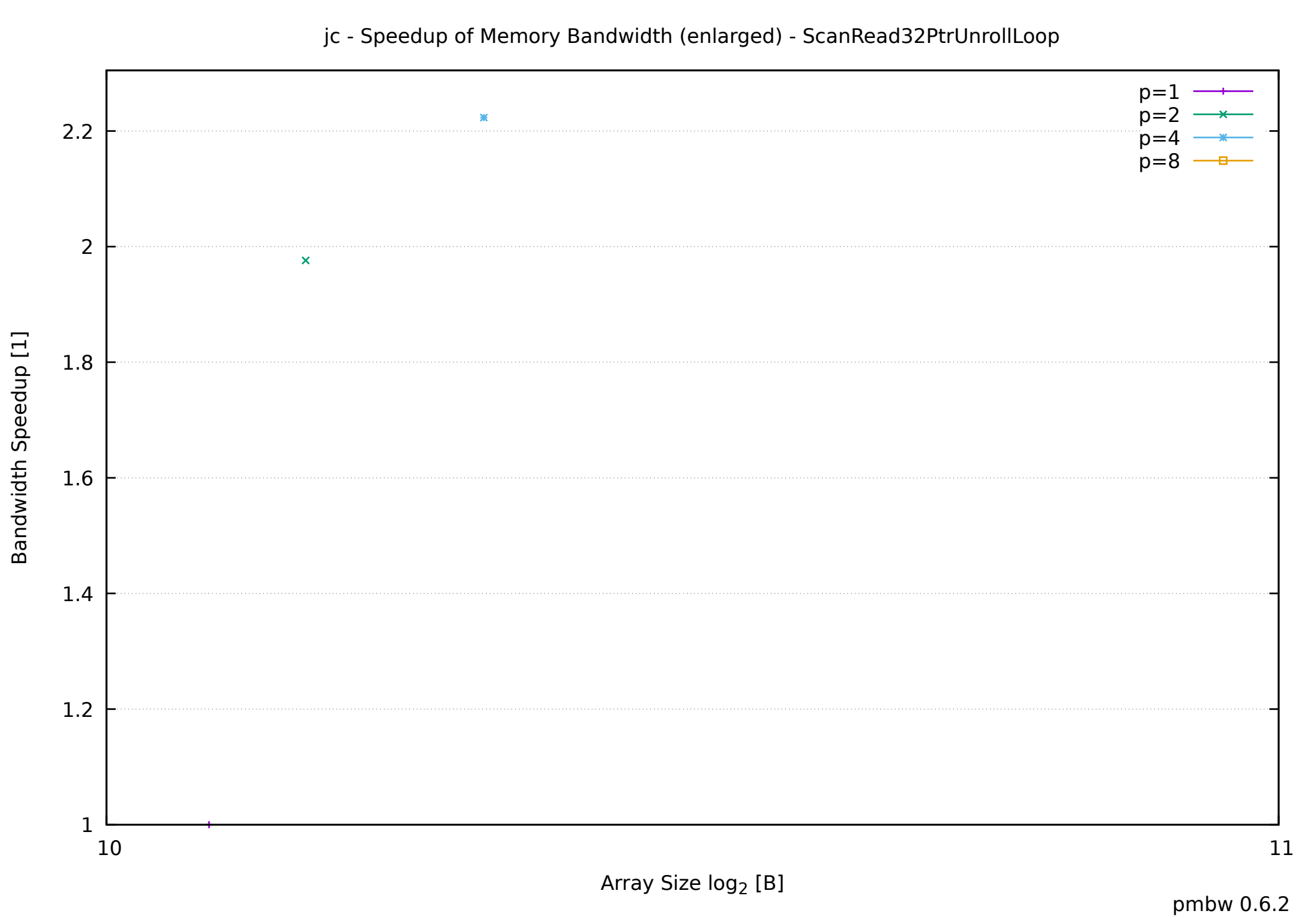

jc - Speedup of Memory Bandwidth - ScanRead32PtrSimpleLoop
Bandwidth Speedup [1]
2.2
2
1.8
1.6
1.4
1.2
1
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

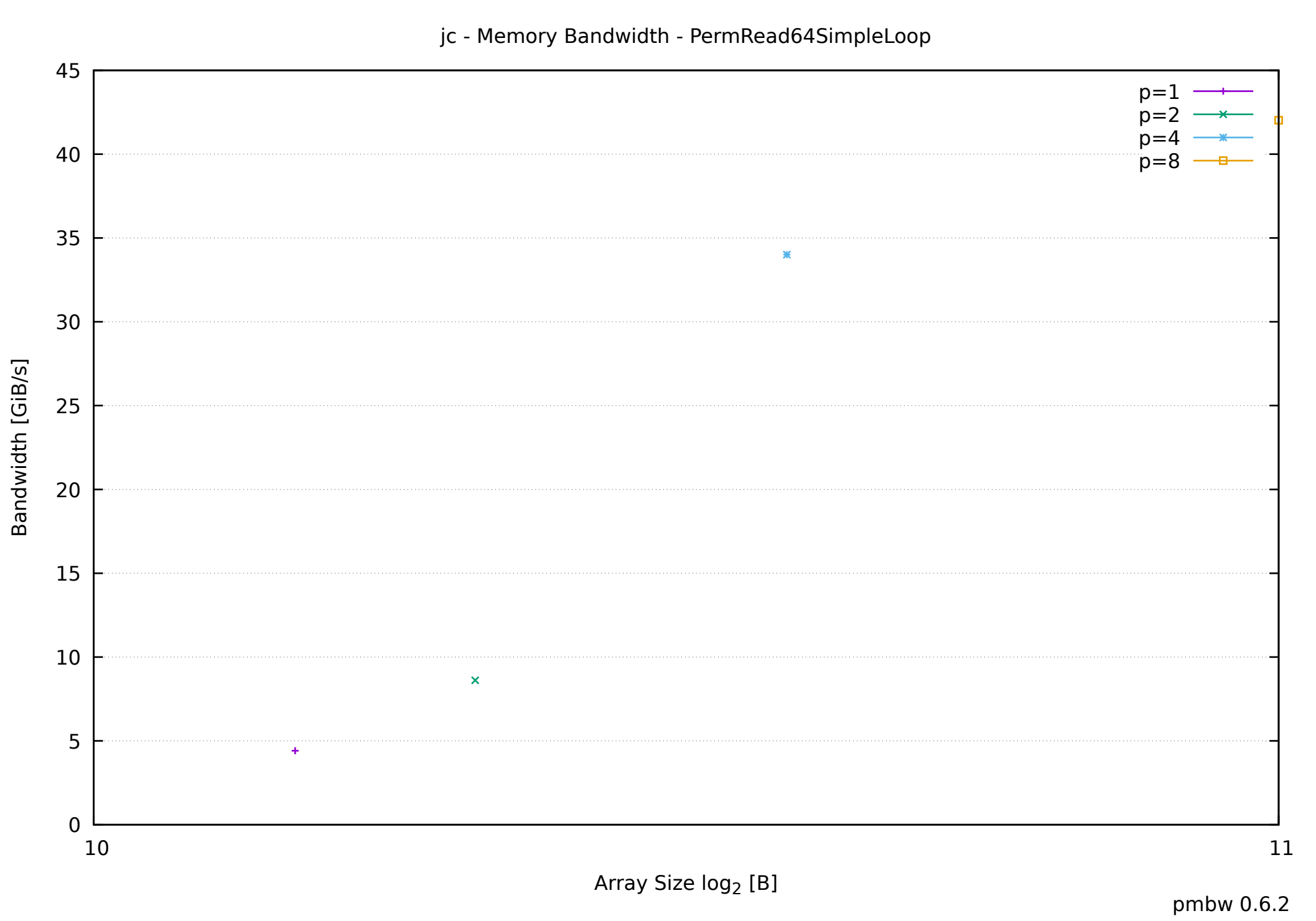

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead32PtrSimpleLoop
p=1
p=2
p=4
p=8
1.6
1.5
1.4
1.3
1.2
1.1
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

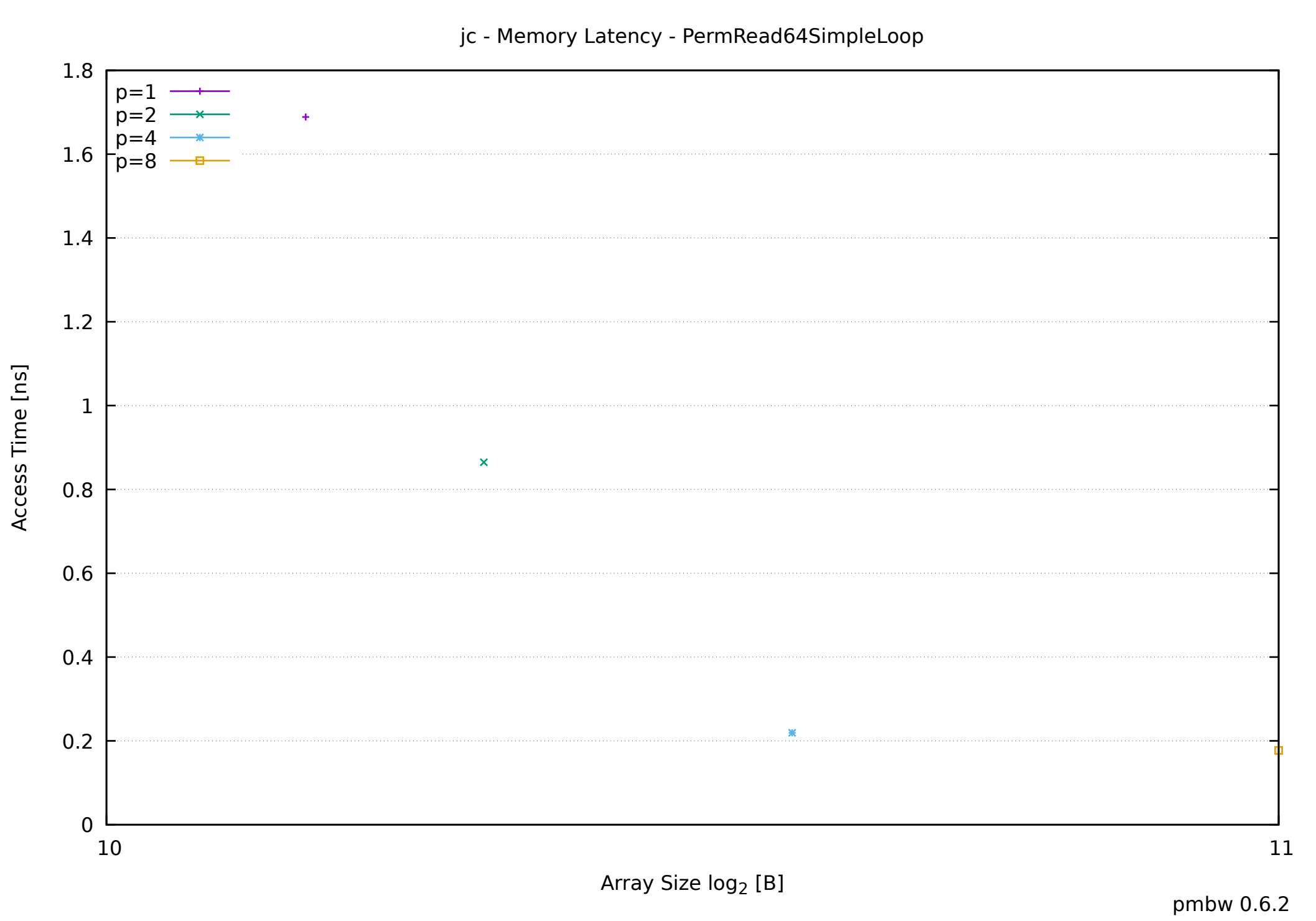

jc - Memory Bandwidth - ScanRead32PtrUnrollLoop
Bandwidth [GiB/s]
80
70
60
50
40
30
20
10
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

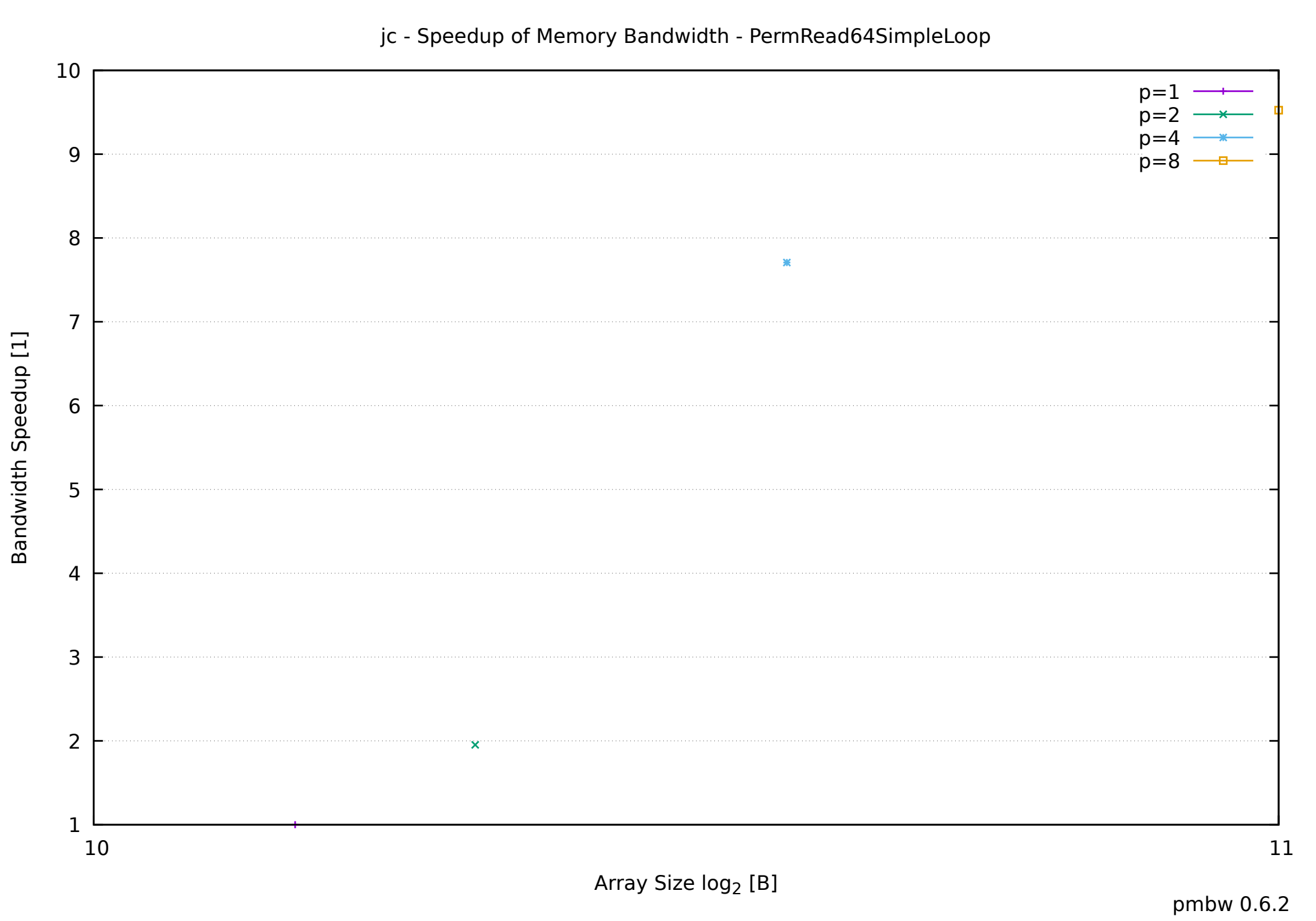

jc - Memory Latency - ScanRead32PtrUnrollLoop
p=1
p=2
p=4
p=8
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

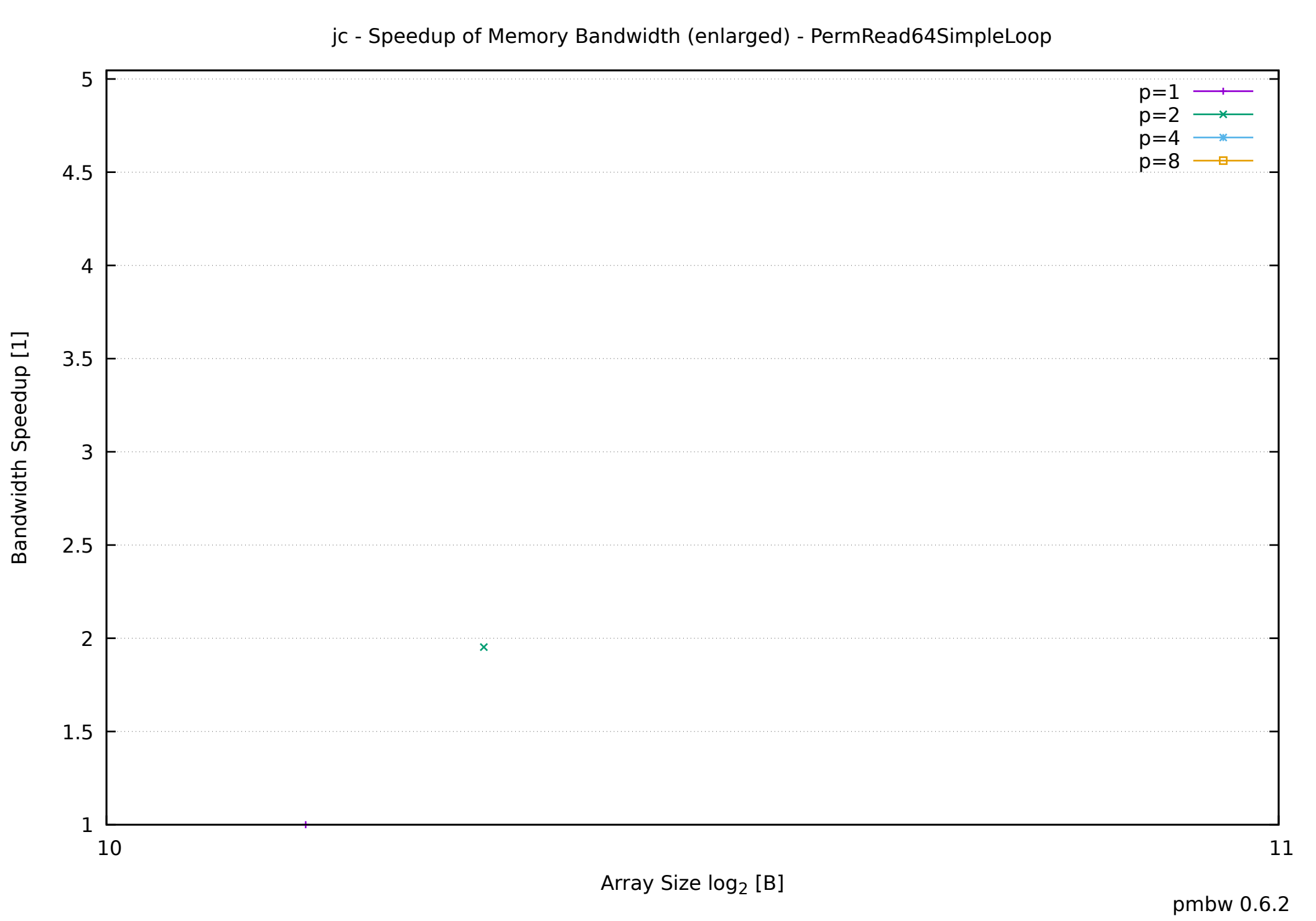

jc - Speedup of Memory Bandwidth - ScanRead32PtrUnrollLoop
Bandwidth Speedup [1]
4.5
4
3.5
3
2.5
2
1.5
1
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

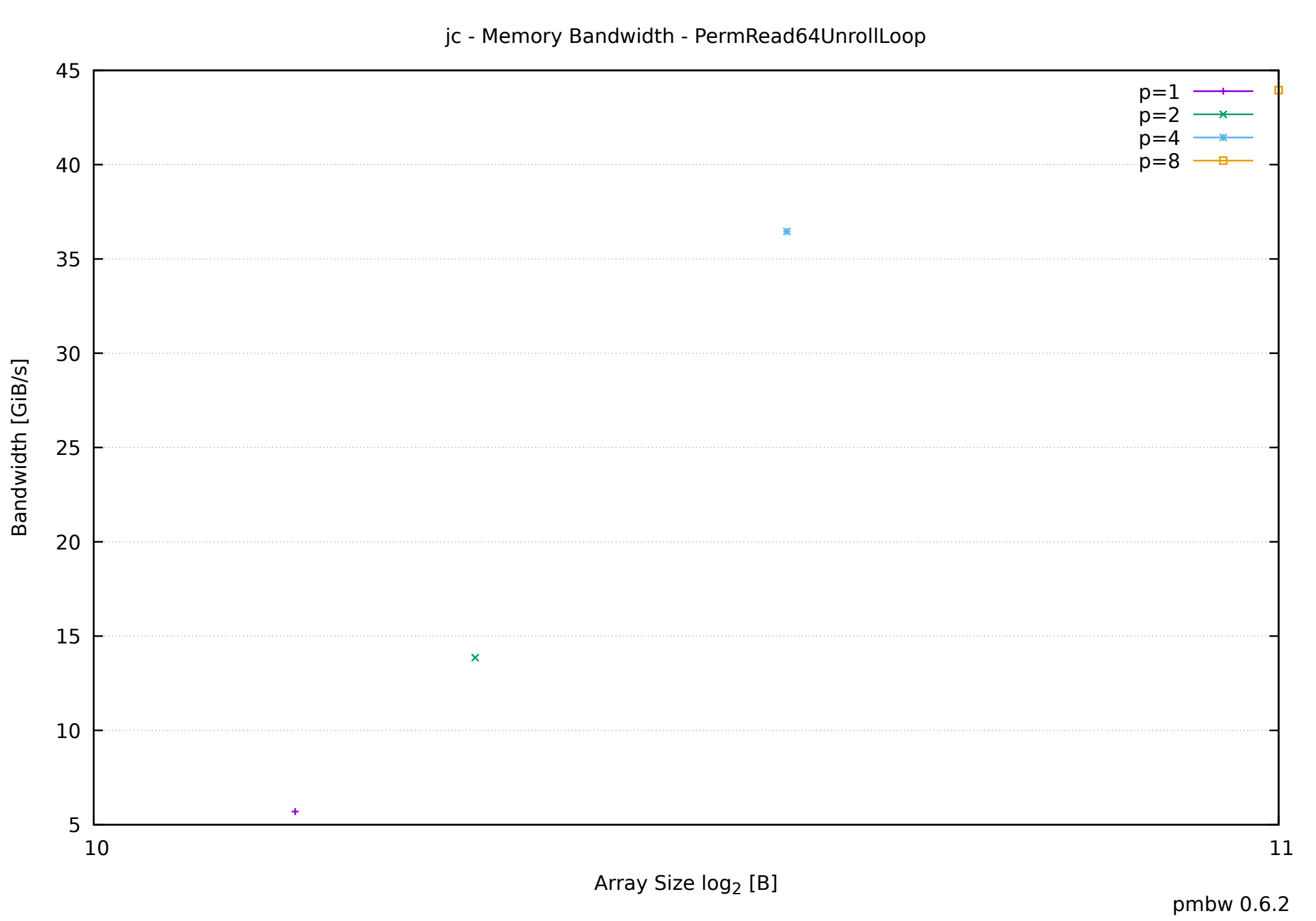

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead32PtrUnrollLoop
p=1
p=2
p=4
p=8
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
10
11
Array Size log2 [B]
pmbw 0.6.2

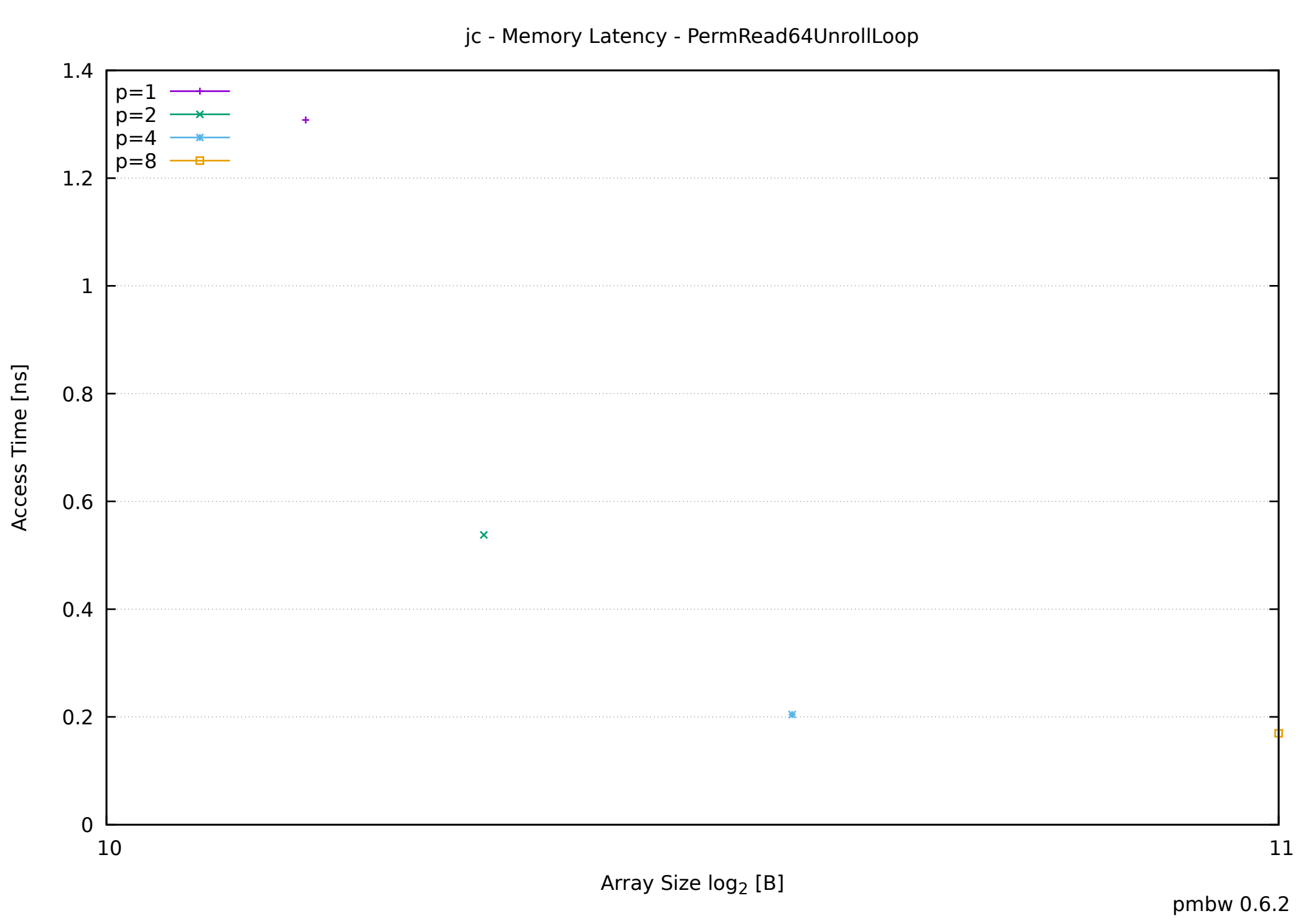

jc - Memory Bandwidth - PermRead64SimpleLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=4
p=8
0
5
10
15
20
25
30
35
40
45
10
11
pmbw 0.6.2

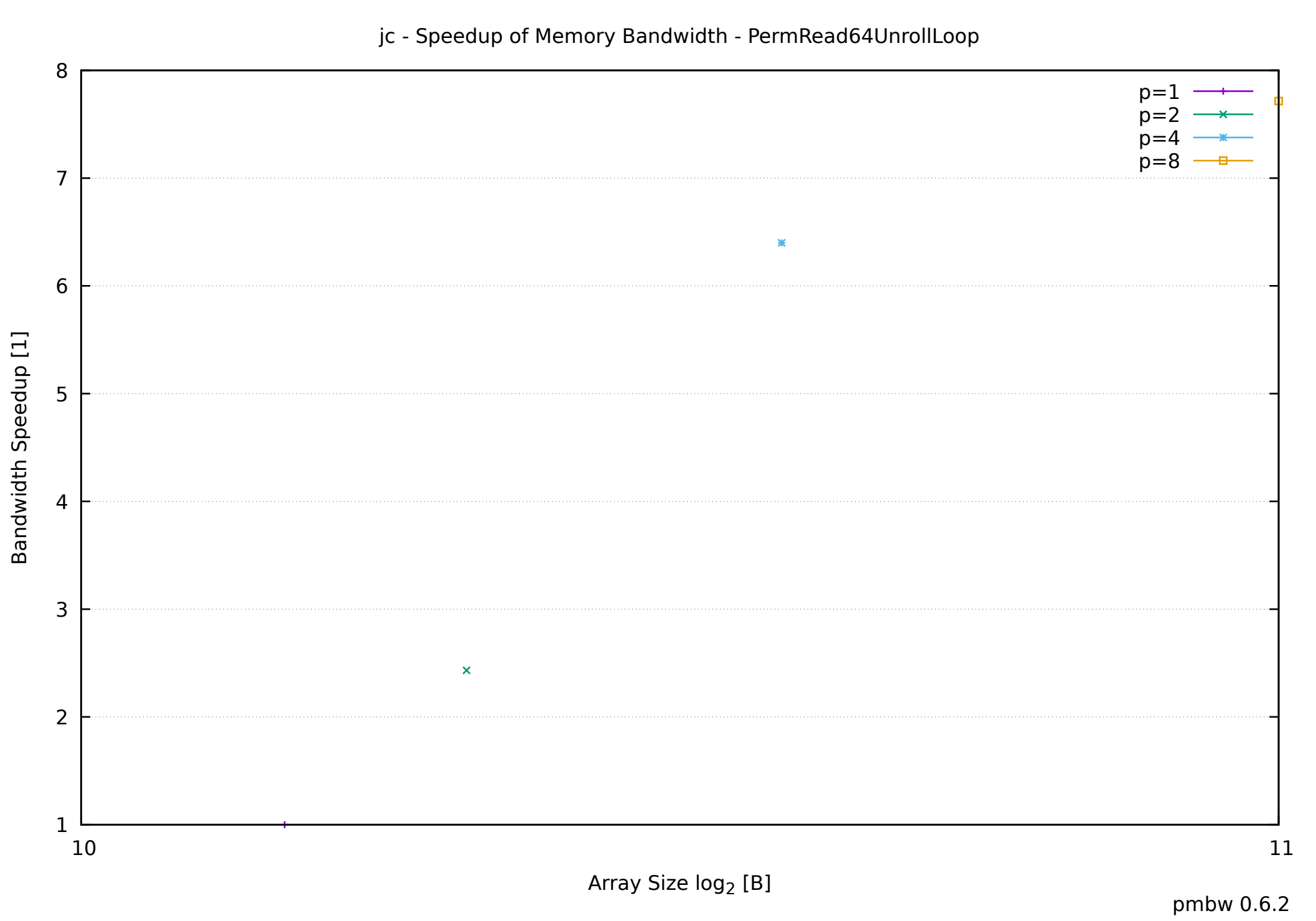

jc - Memory Latency - PermRead64SimpleLoop
p=1
p=2
p=4
p=8
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2

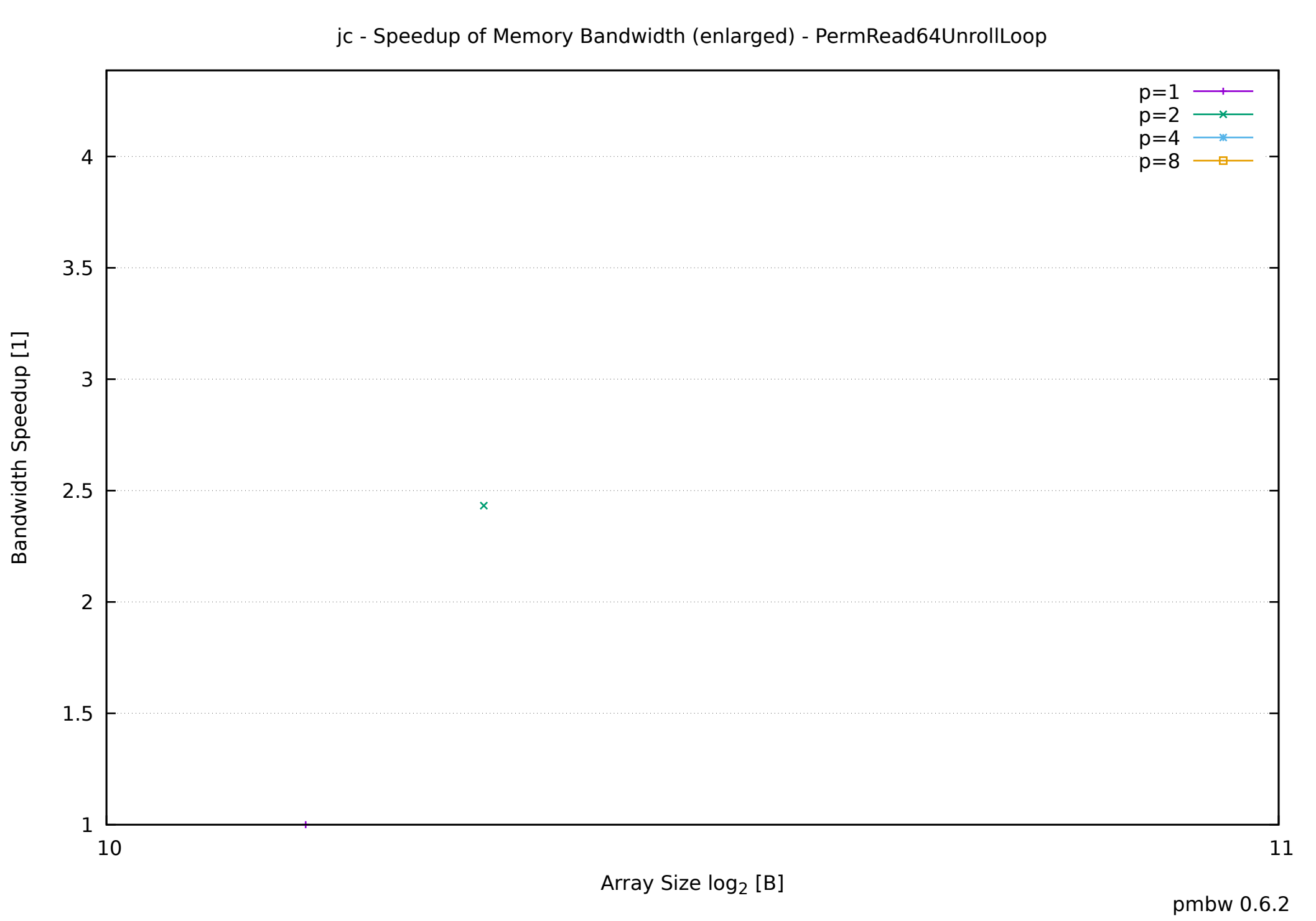

jc - Speedup of Memory Bandwidth - PermRead64SimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=4
p=8
10
9
8
7
6
5
4
3
2
1
10
11
pmbw 0.6.2


jc - Speedup of Memory Bandwidth (enlarged) - PermRead64SimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
5
4.5
4
3.5
3
2.5
2
1.5
1
10
11
Array Size log2 [B]
pmbw 0.6.2


jc - Memory Bandwidth - PermRead64UnrollLoop
Bandwidth [GiB/s]
45
40
35
30
25
20
15
10
5
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2


jc - Memory Latency - PermRead64UnrollLoop
p=1
p=2
p=4
p=8
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Access Time [ns]
10
11
Array Size log2 [B]
pmbw 0.6.2


jc - Speedup of Memory Bandwidth - PermRead64UnrollLoop
Bandwidth Speedup [1]
8
7
6
5
4
3
2
1
10
11
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2


jc - Speedup of Memory Bandwidth (enlarged) - PermRead64UnrollLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
4
3.5
3
2.5
2
1.5
1
10
11
Array Size log2 [B]
pmbw 0.6.2