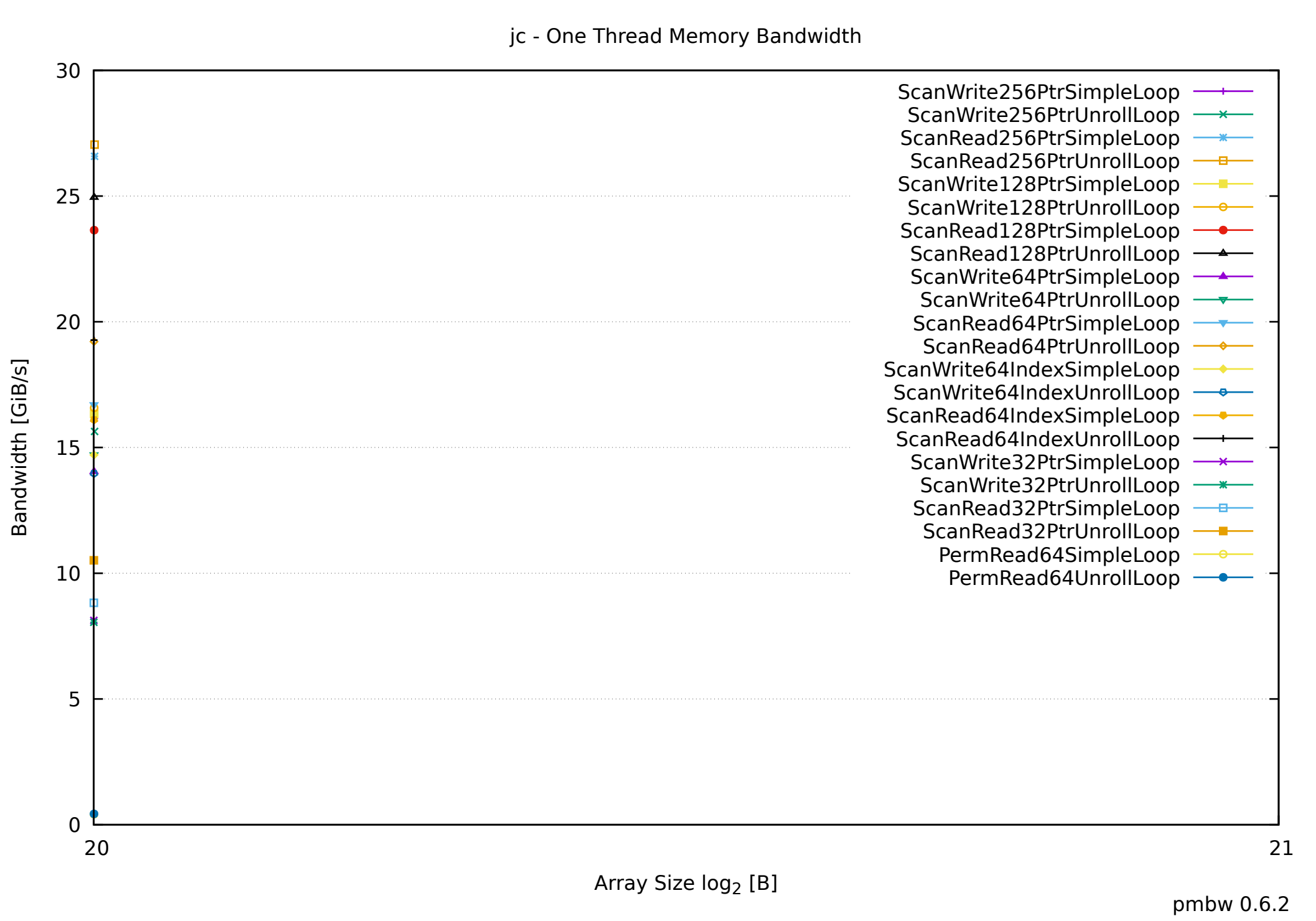
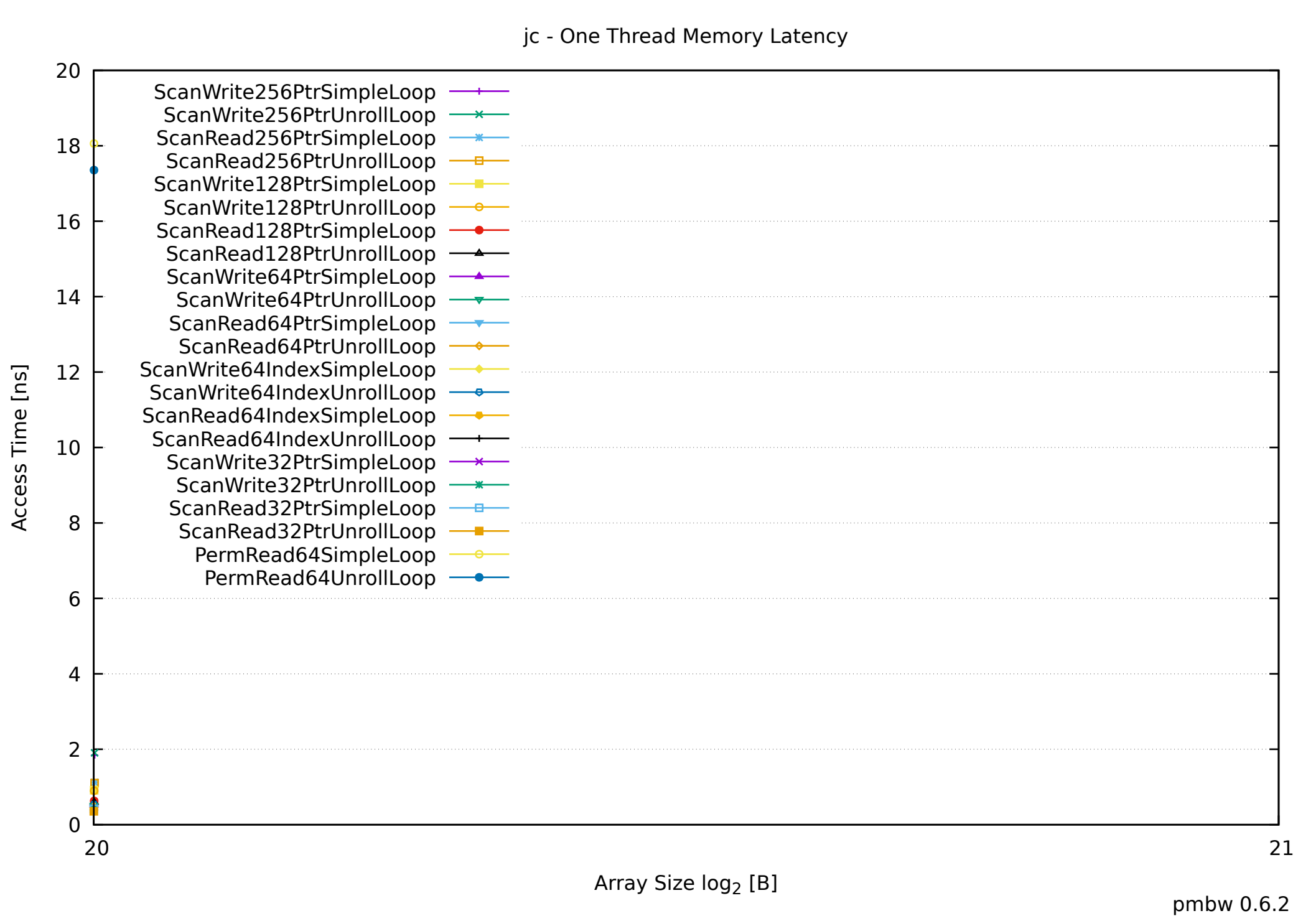
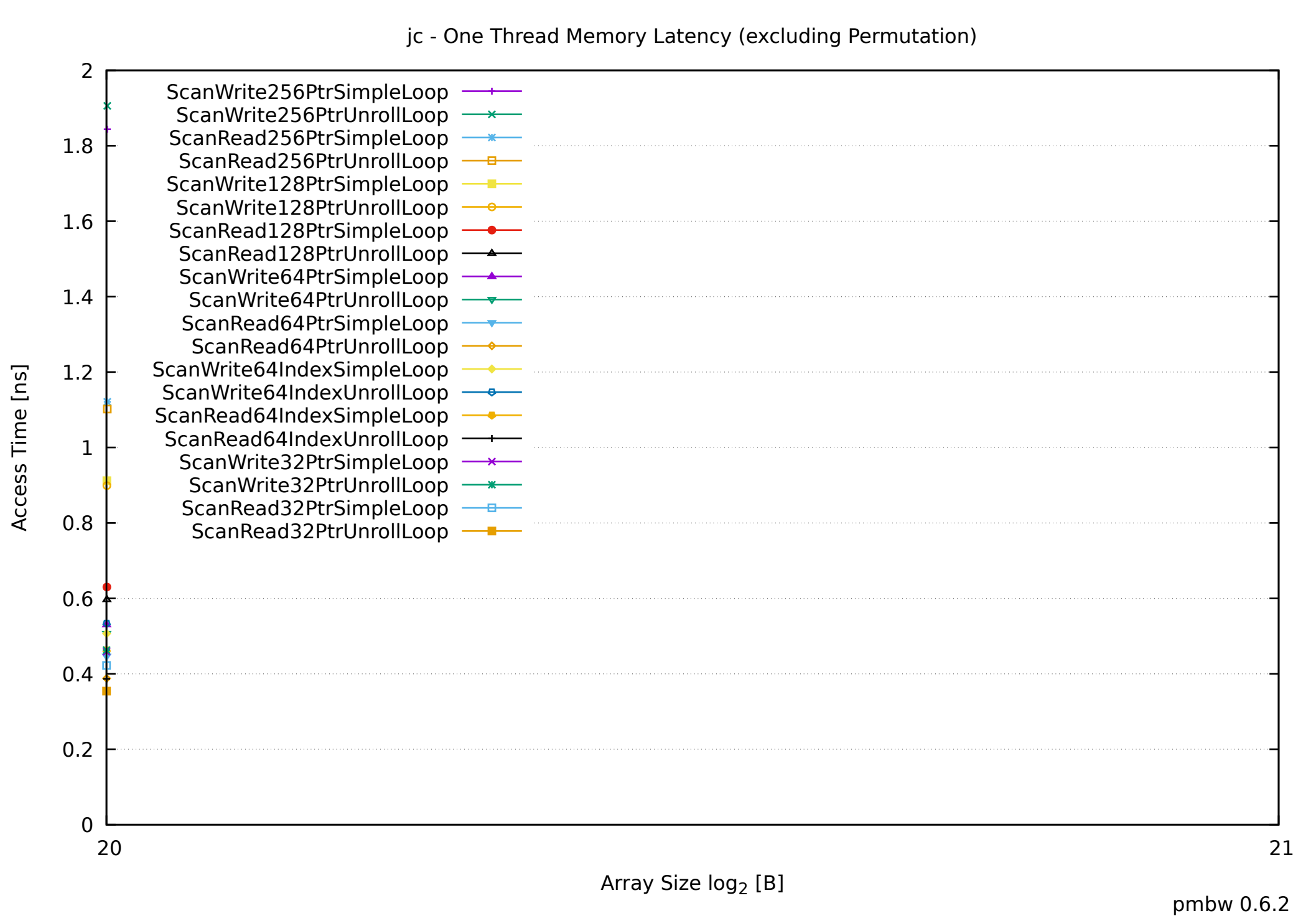
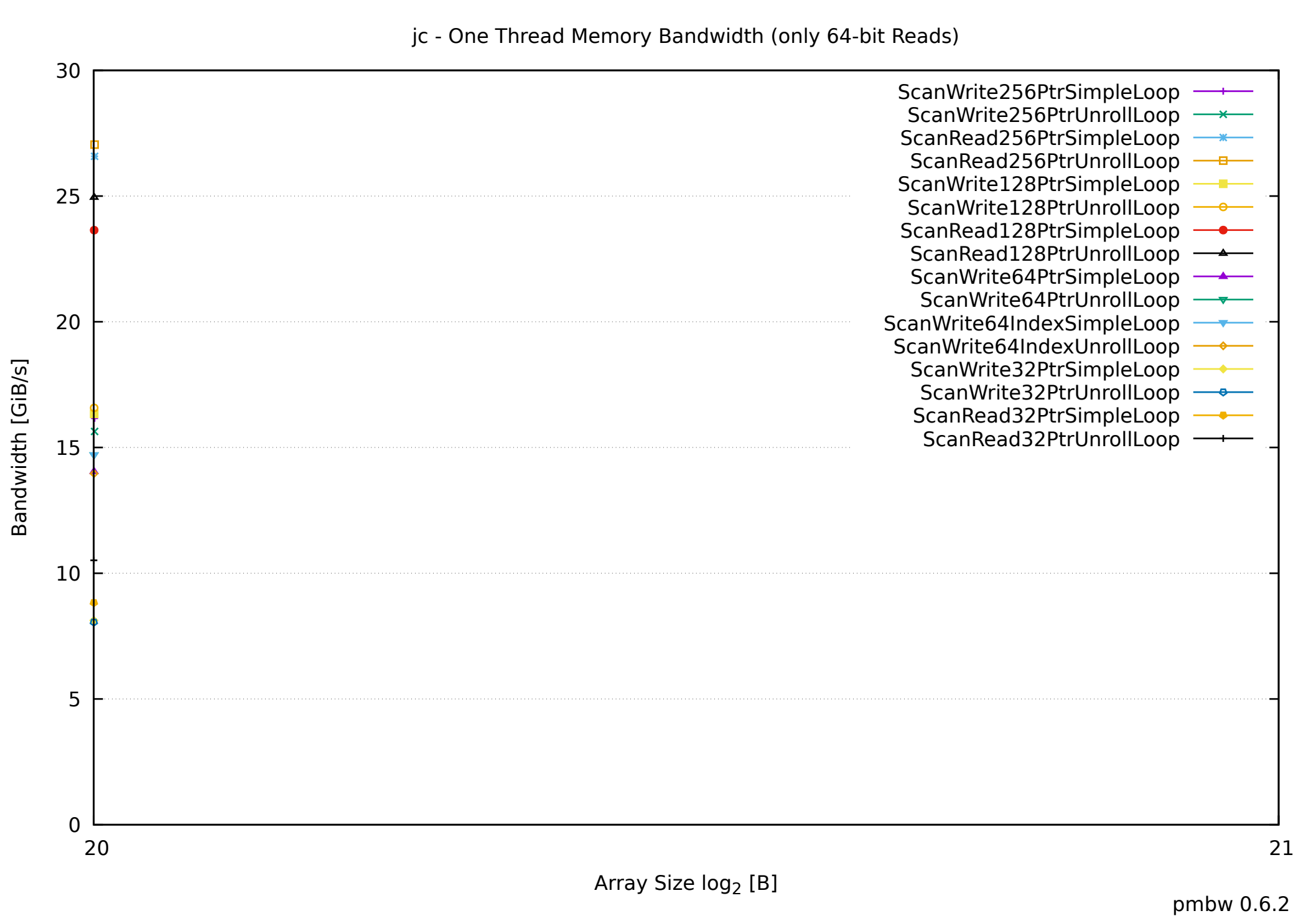
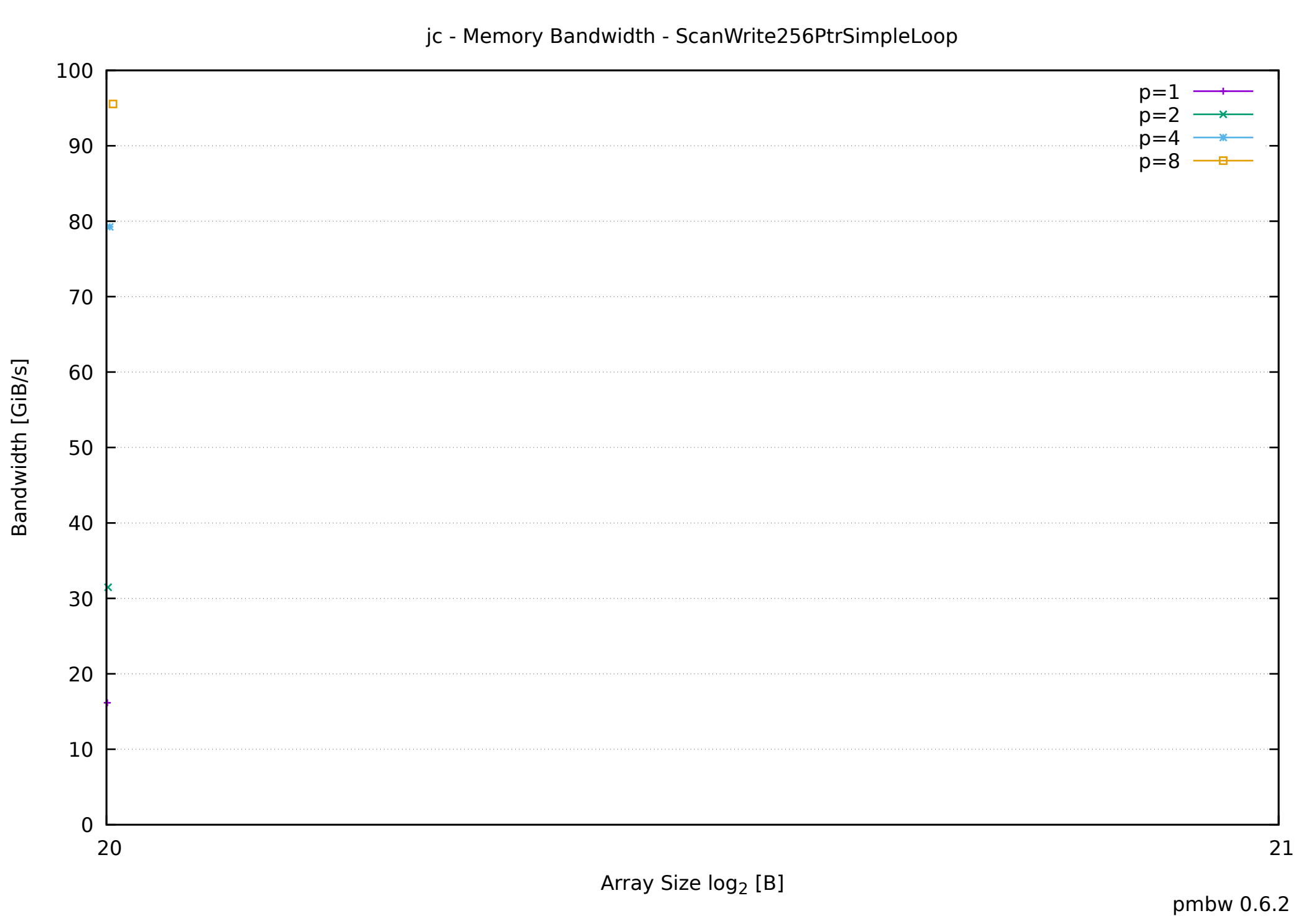
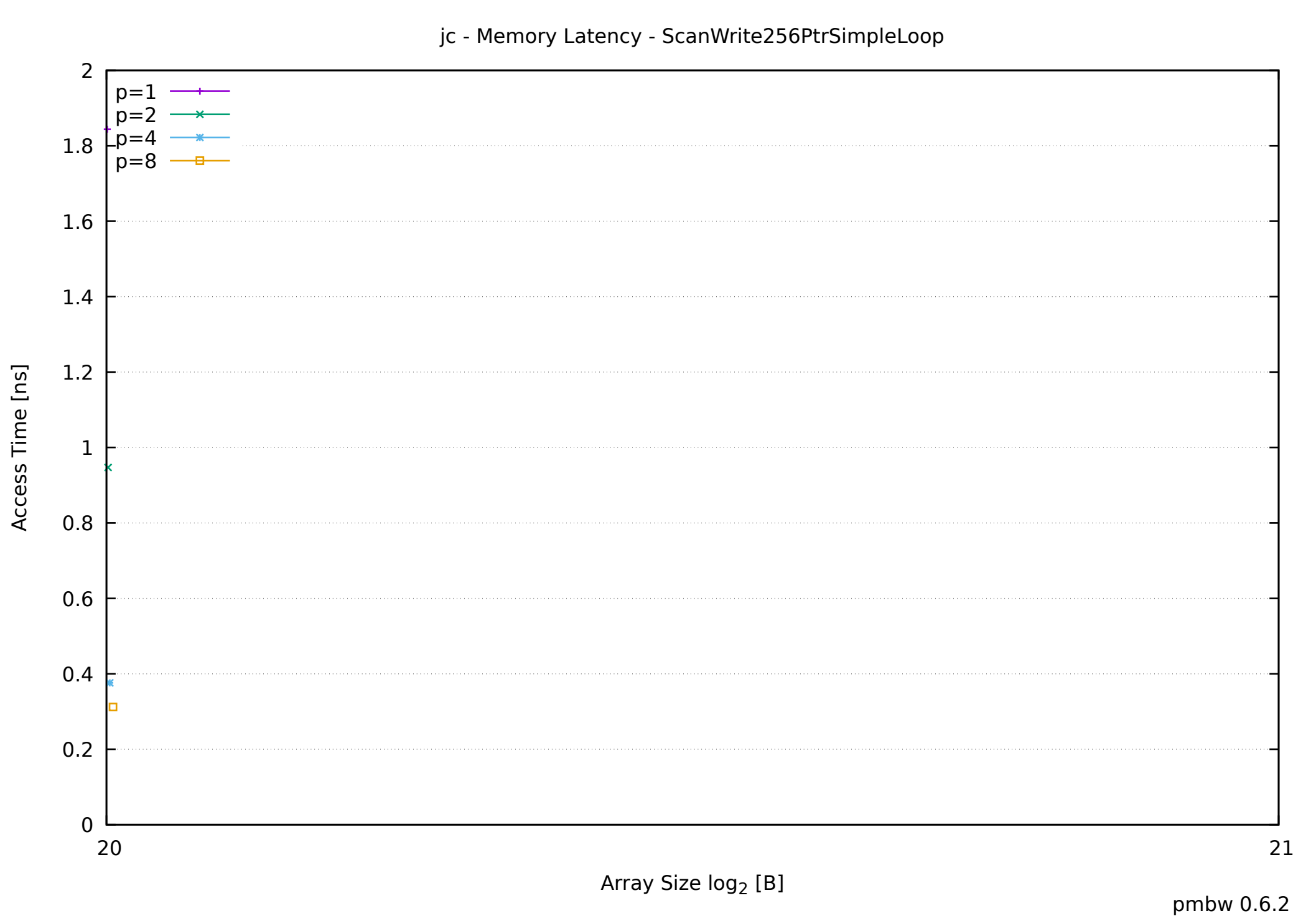

jc - One Thread Memory Bandwidth
Bandwidth [GiB/s]
Array Size log2 [B]
30
25
20
15
10
5
0
20
21
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanRead64IndexSimpleLoop
ScanRead64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
PermRead64SimpleLoop
PermRead64UnrollLoop
pmbw 0.6.2

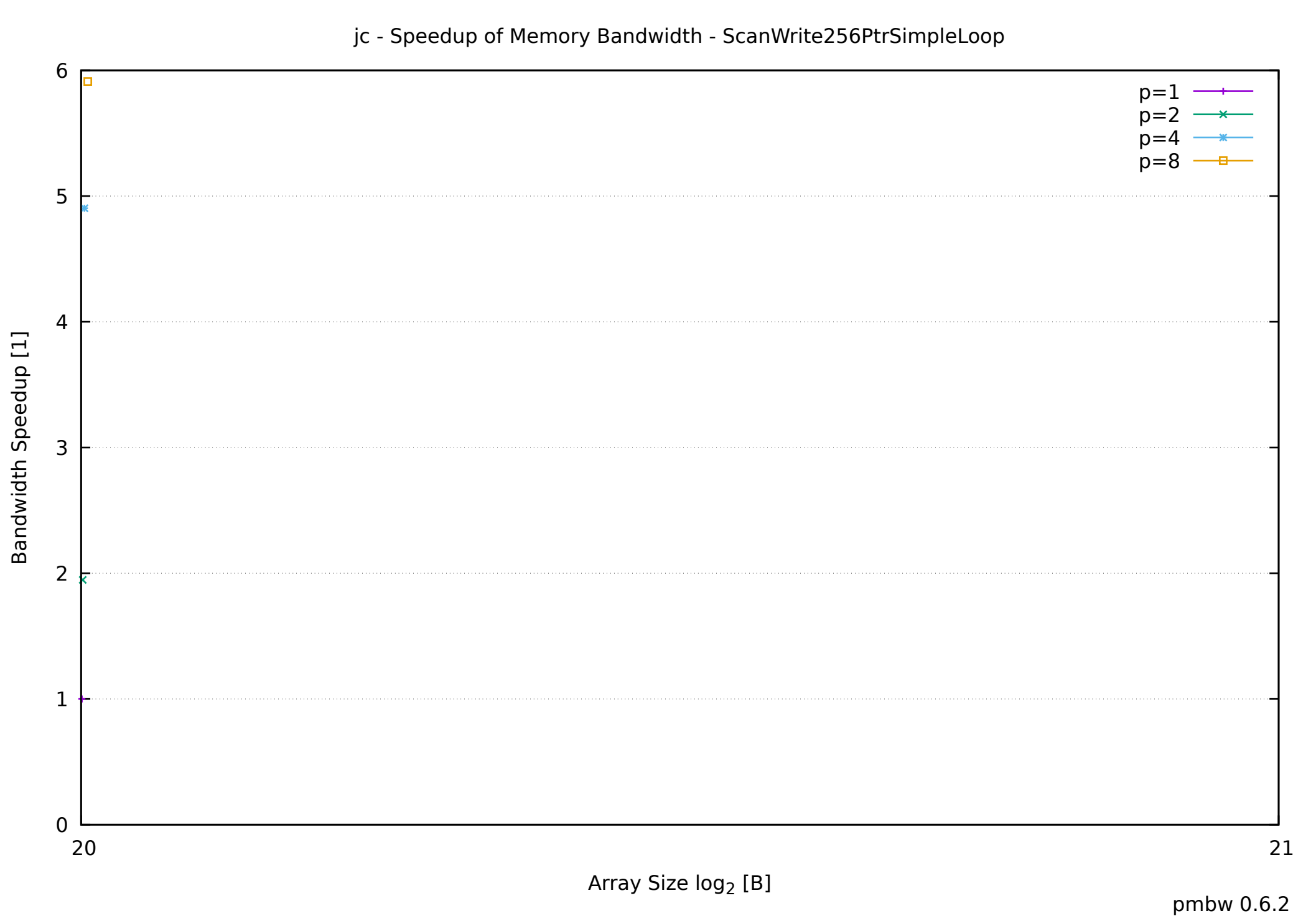

jc - One Thread Memory Latency
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanRead64IndexSimpleLoop
ScanRead64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
PermRead64SimpleLoop
PermRead64UnrollLoop
Access Time [ns]
0
2
4
6
8
10
12
14
16
18
20
20
21
Array Size log2 [B]
pmbw 0.6.2

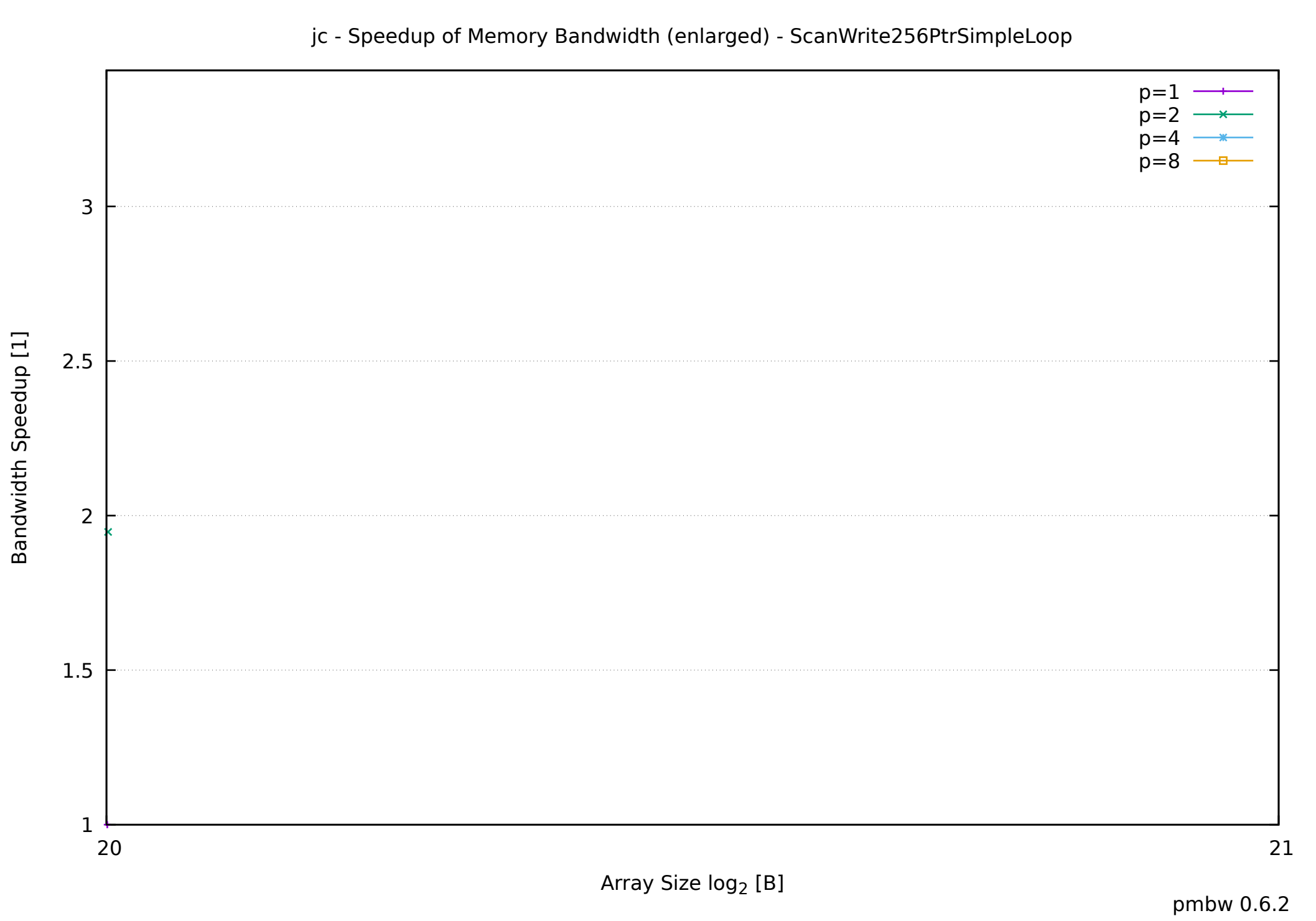

jc - One Thread Memory Latency (excluding Permutation)
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanRead64IndexSimpleLoop
ScanRead64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
Access Time [ns]
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
20
21
Array Size log2 [B]
pmbw 0.6.2

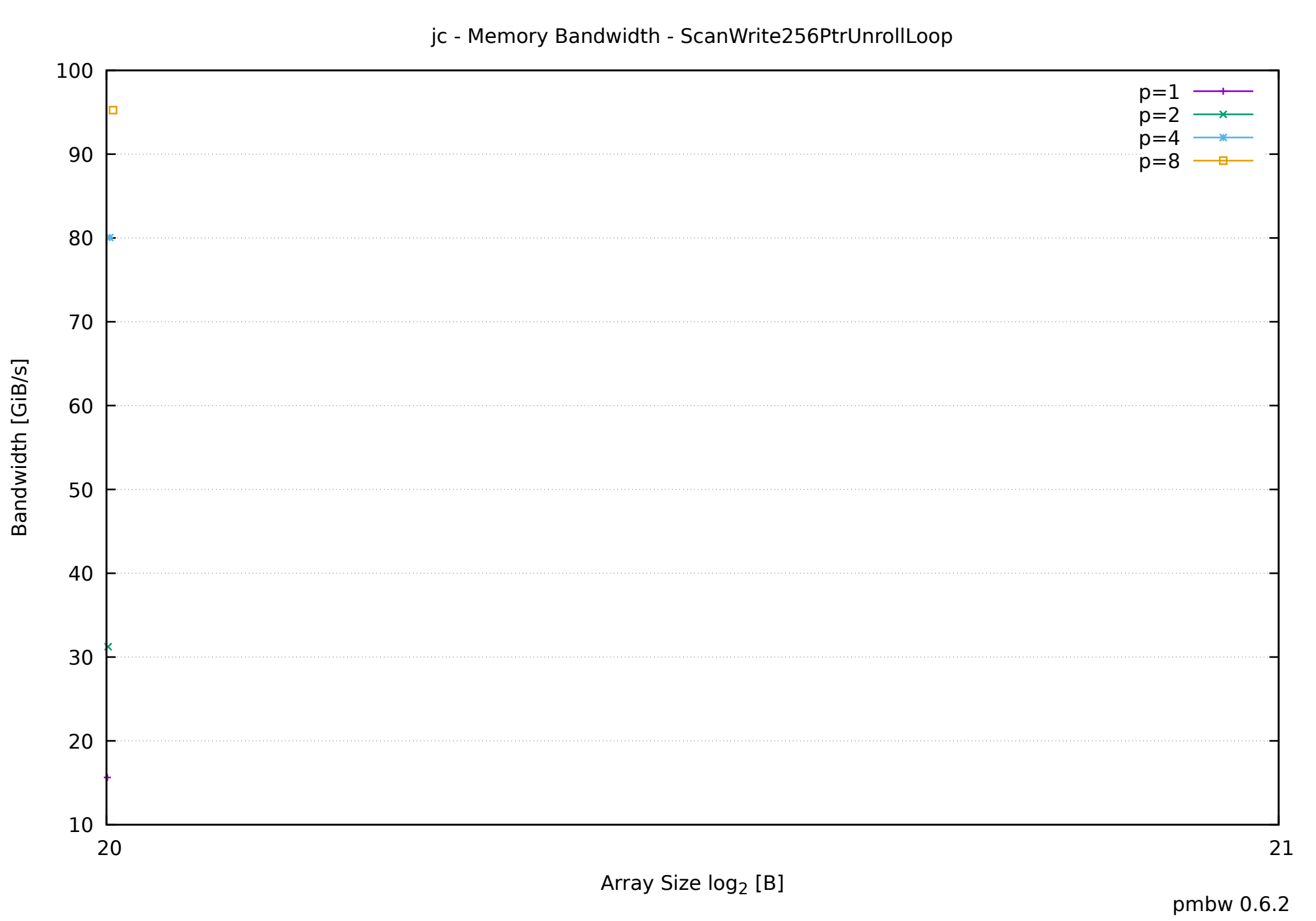

jc - One Thread Memory Bandwidth (only 64-bit Reads)
Bandwidth [GiB/s]
30
25
20
15
10
5
0
20
21
Array Size log2 [B]
ScanWrite256PtrSimpleLoop
ScanWrite256PtrUnrollLoop
ScanRead256PtrSimpleLoop
ScanRead256PtrUnrollLoop
ScanWrite128PtrSimpleLoop
ScanWrite128PtrUnrollLoop
ScanRead128PtrSimpleLoop
ScanRead128PtrUnrollLoop
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanWrite64IndexSimpleLoop
ScanWrite64IndexUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
pmbw 0.6.2

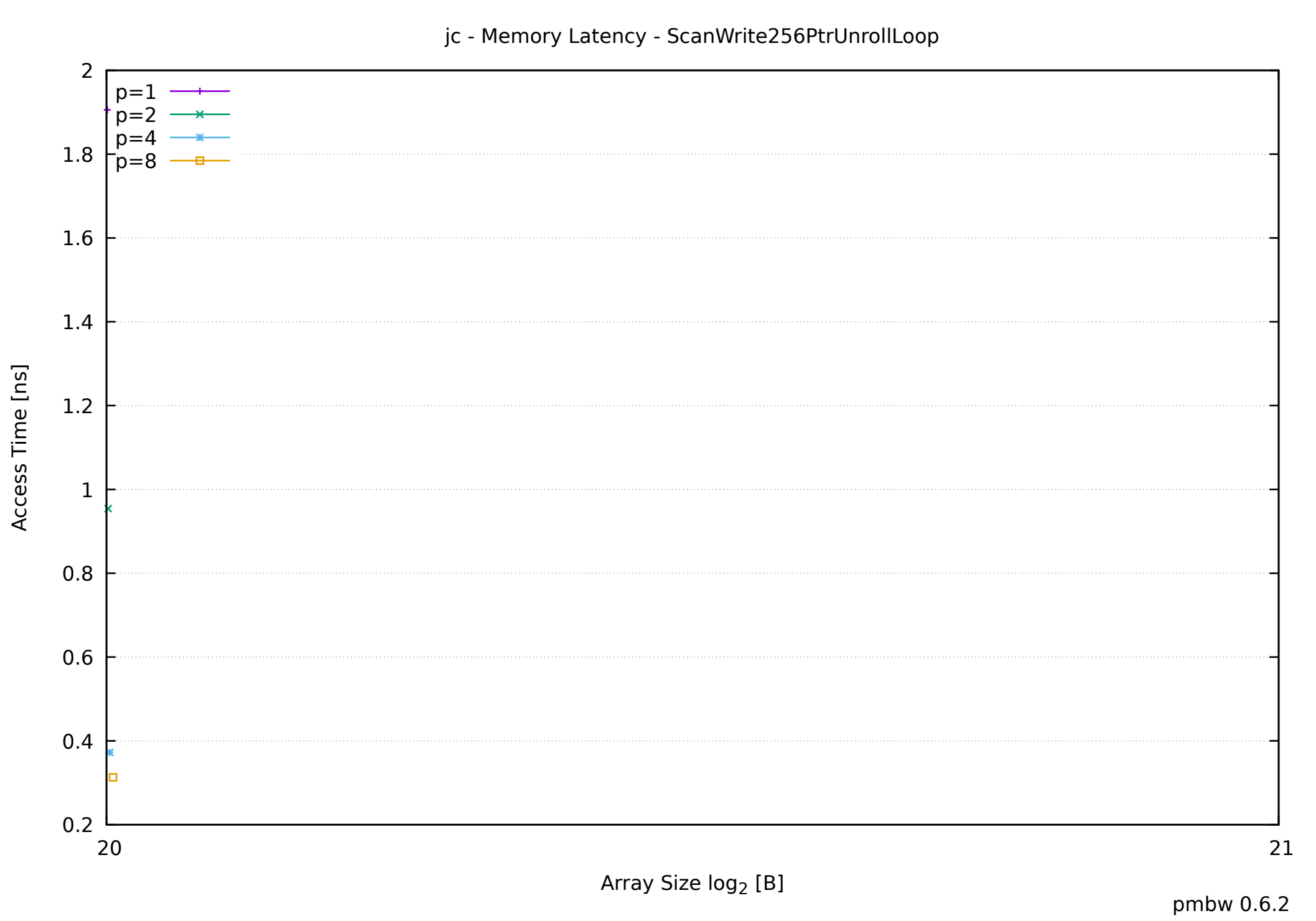

jc - Memory Bandwidth - ScanWrite256PtrSimpleLoop
Bandwidth [GiB/s]
100
90
80
70
60
50
40
30
20
10
0
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

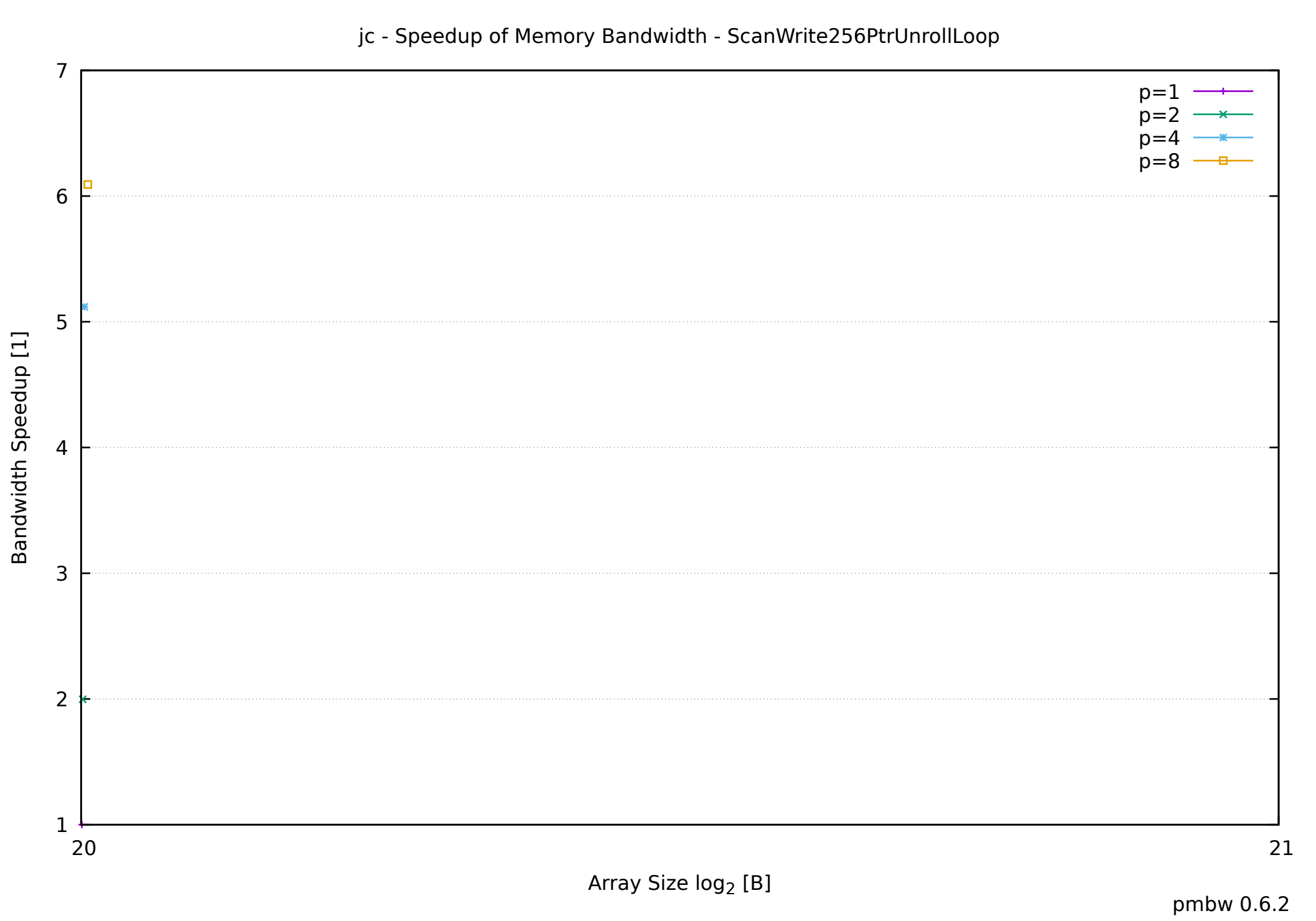

jc - Memory Latency - ScanWrite256PtrSimpleLoop
p=1
p=2
p=4
p=8
Access Time [ns]
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
20
21
Array Size log2 [B]
pmbw 0.6.2

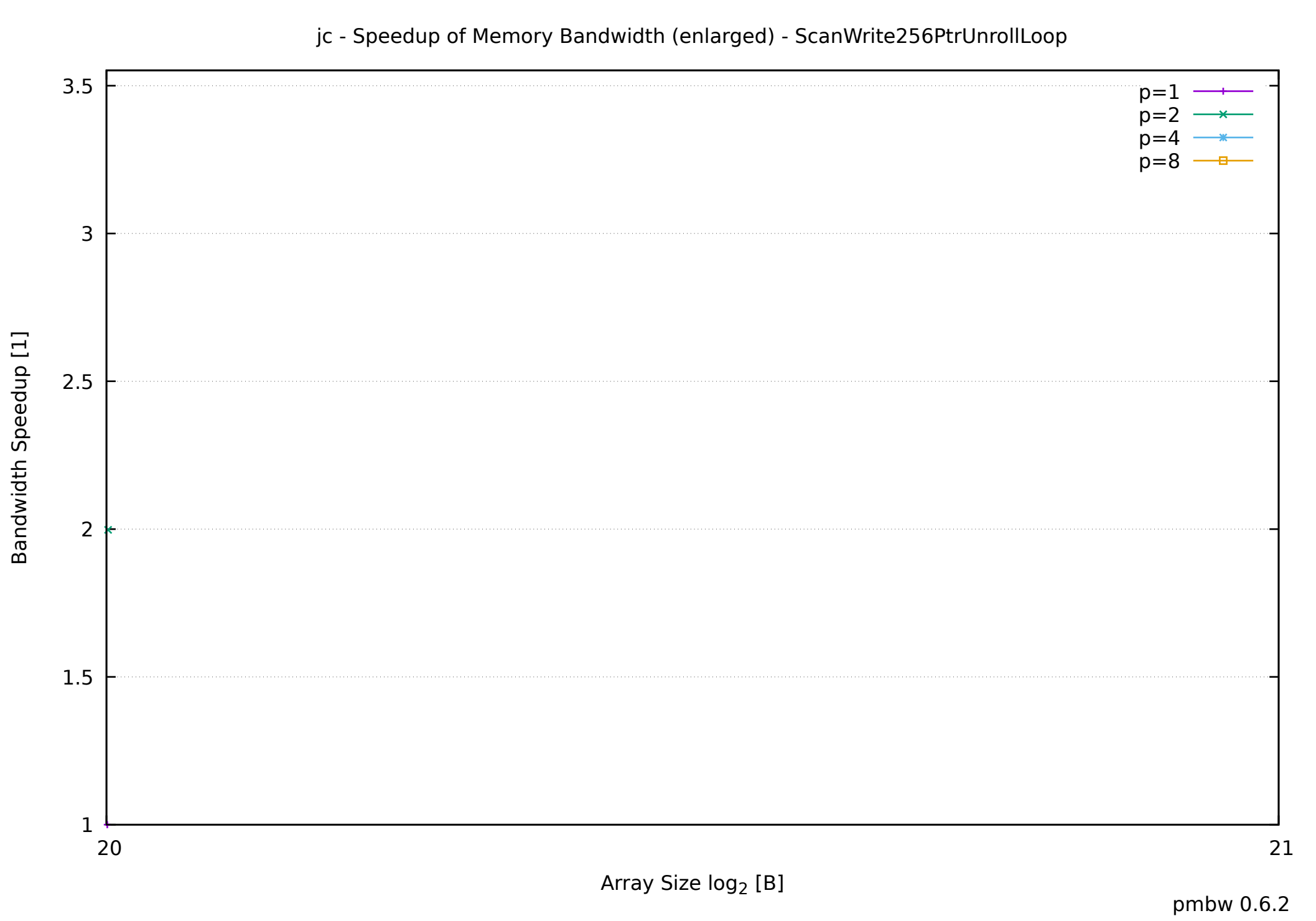

jc - Speedup of Memory Bandwidth - ScanWrite256PtrSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=4
p=8
0
1
2
3
4
5
6
20
21
pmbw 0.6.2

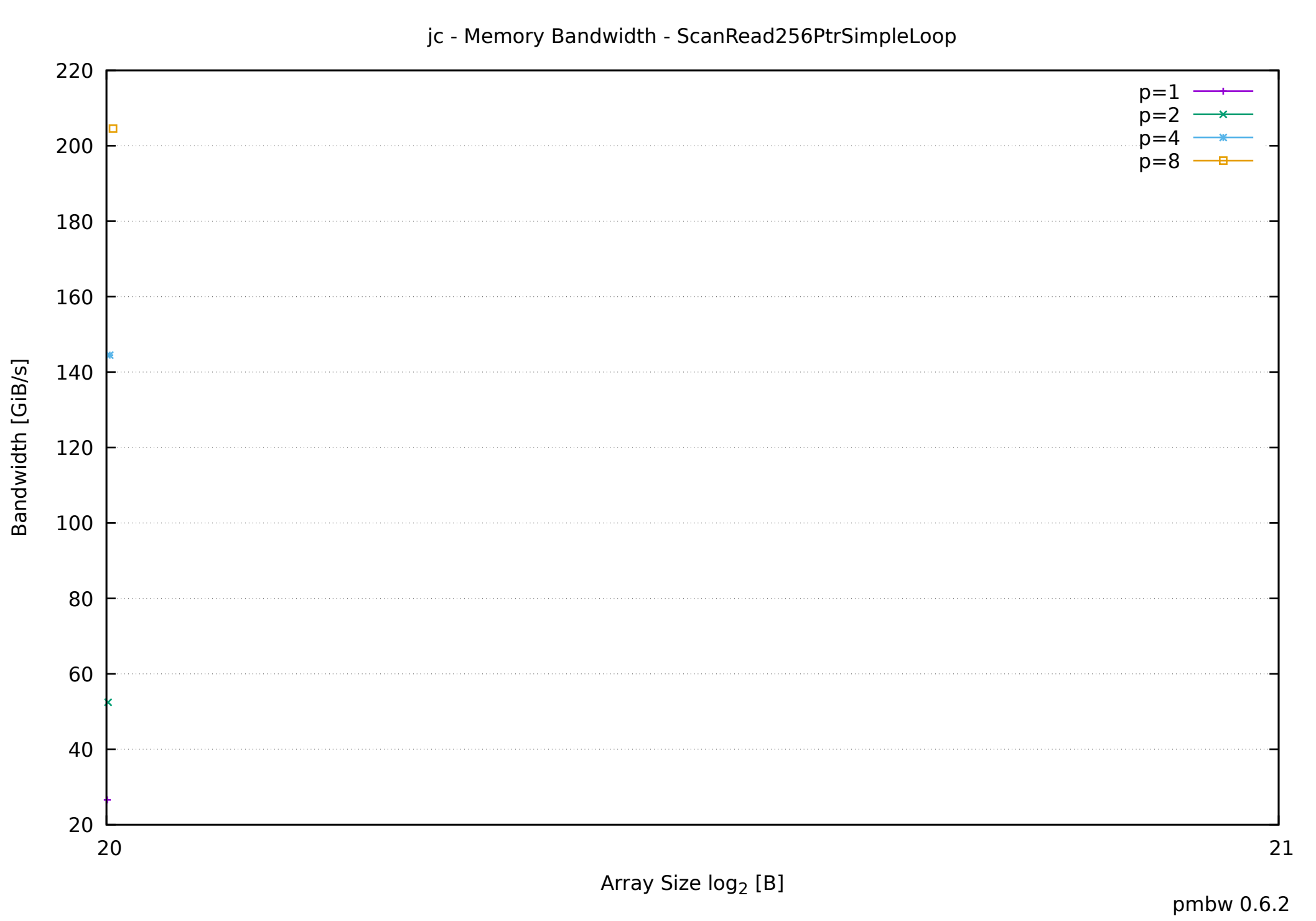

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite256PtrSimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
pmbw 0.6.2

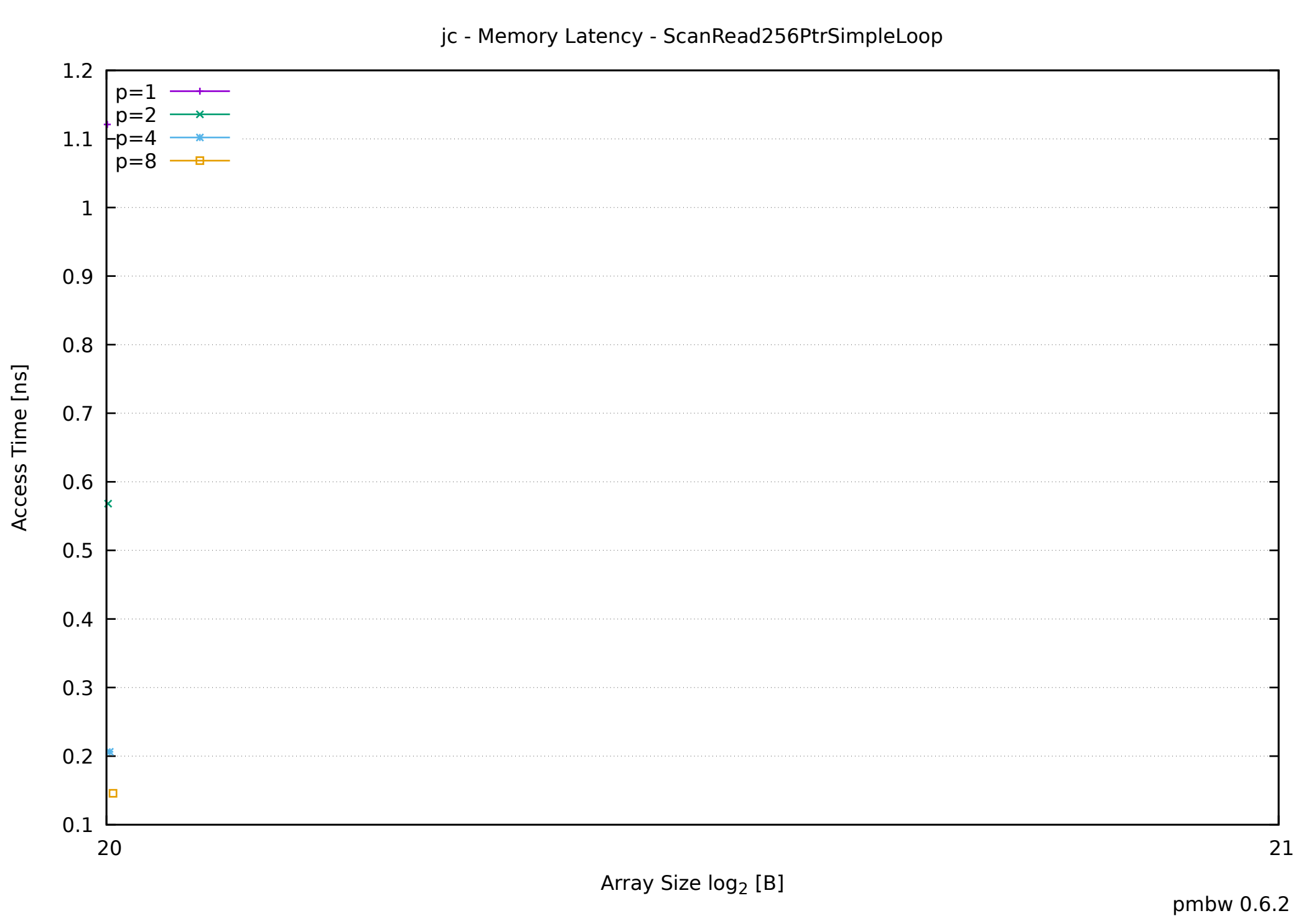

jc - Memory Bandwidth - ScanWrite256PtrUnrollLoop
Bandwidth [GiB/s]
100
90
80
70
60
50
40
30
20
10
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

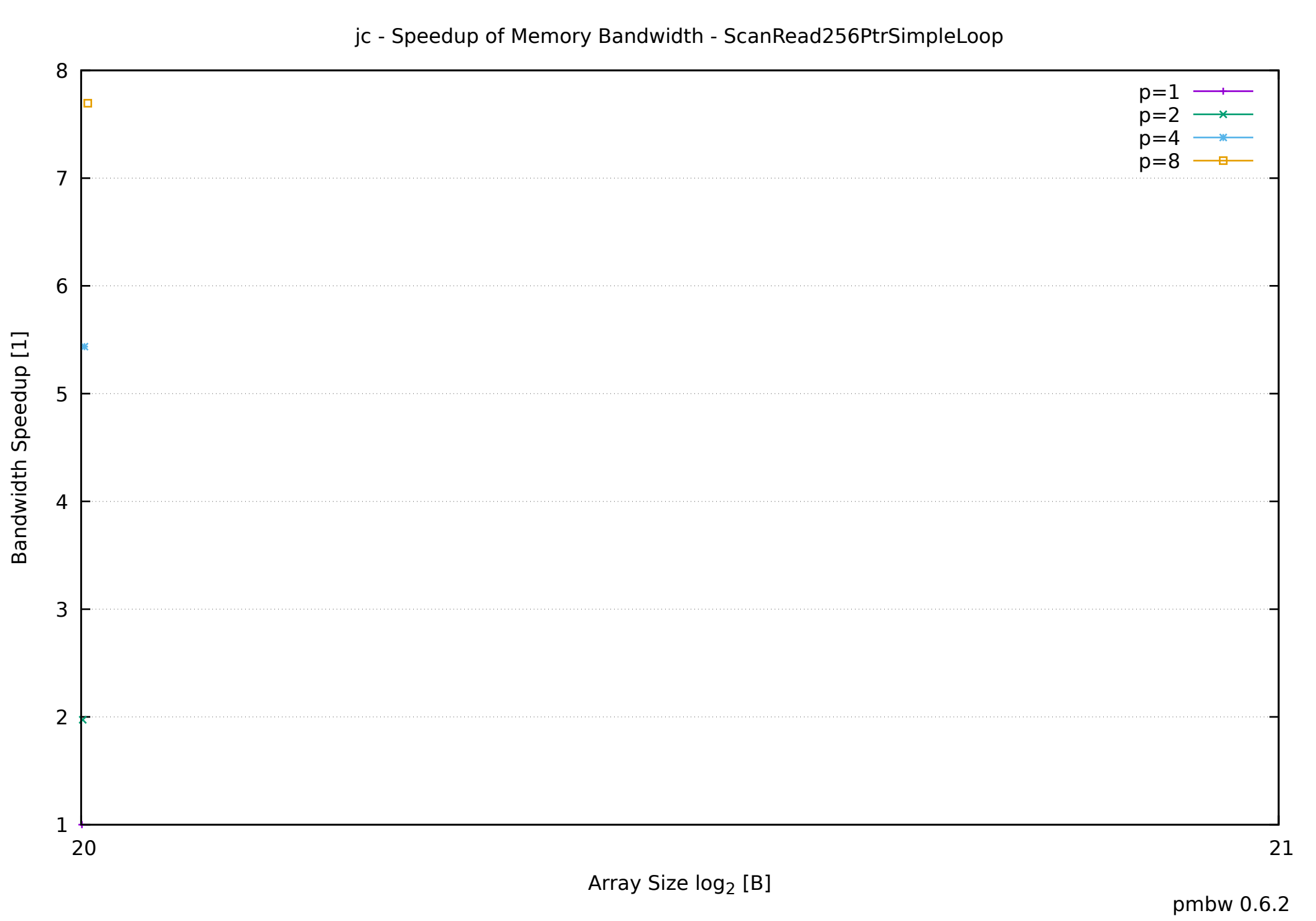

jc - Memory Latency - ScanWrite256PtrUnrollLoop
p=1
p=2
p=4
p=8
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

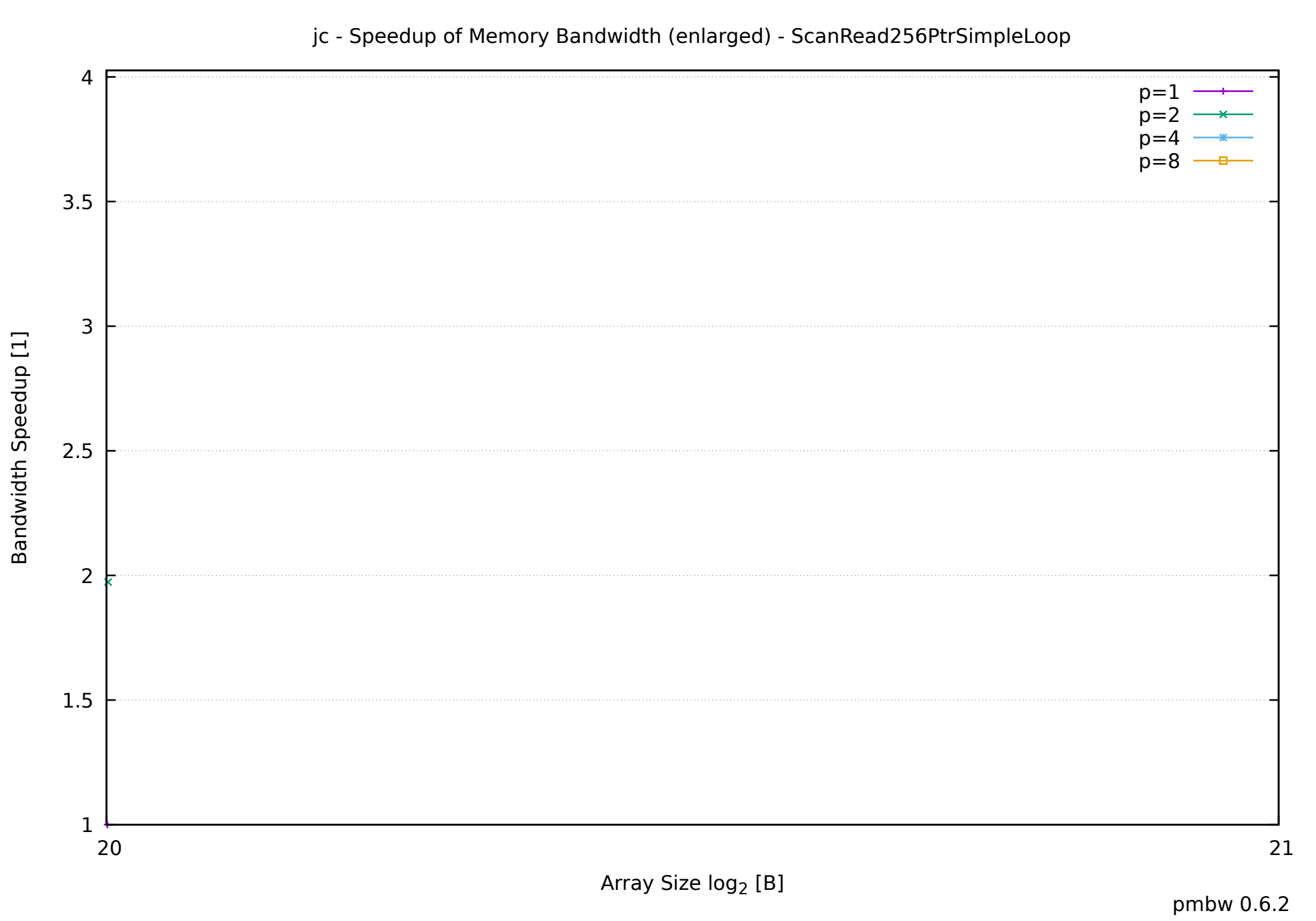

jc - Speedup of Memory Bandwidth - ScanWrite256PtrUnrollLoop
Bandwidth Speedup [1]
7
6
5
4
3
2
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

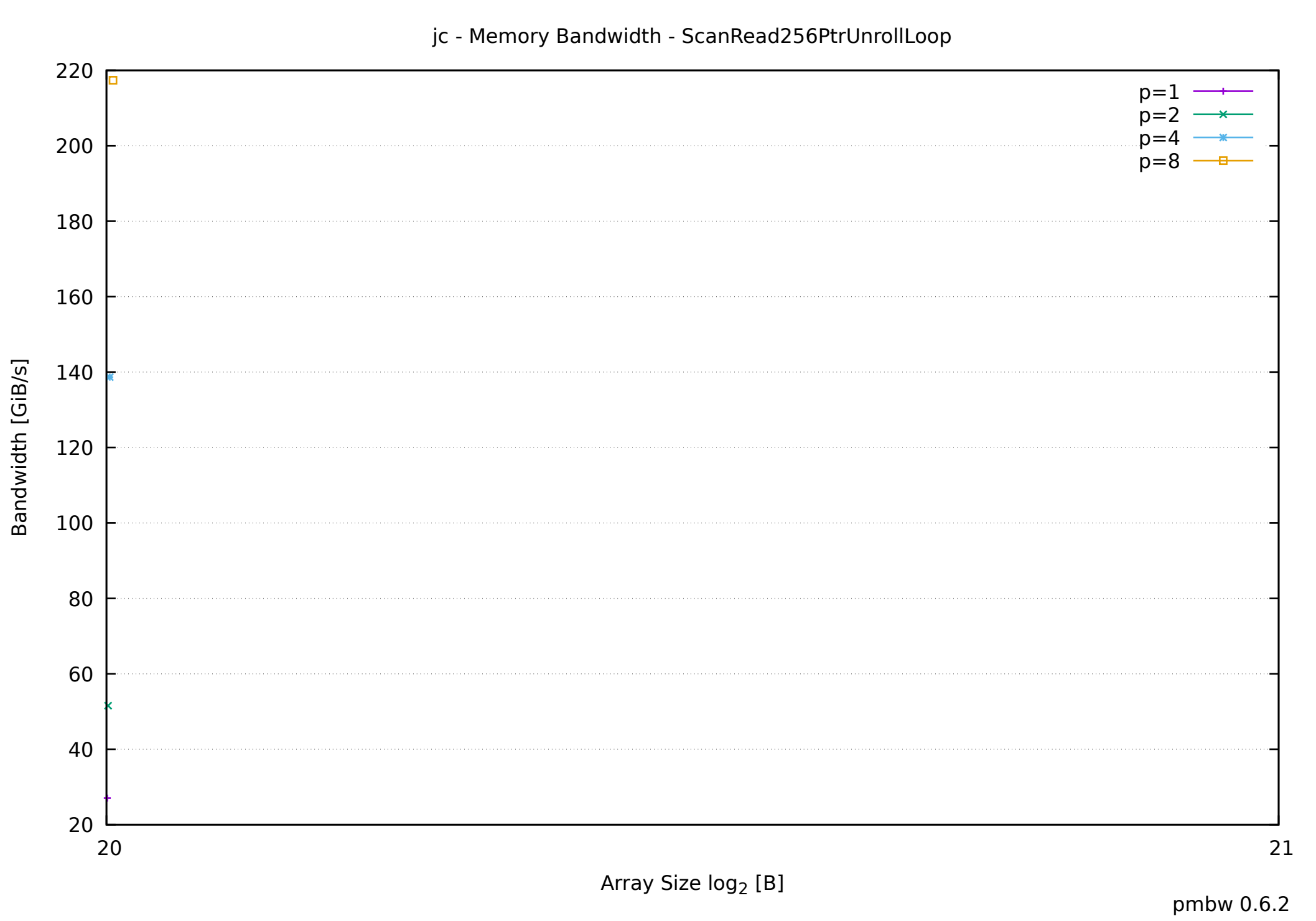

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite256PtrUnrollLoop
p=1
p=2
p=4
p=8
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

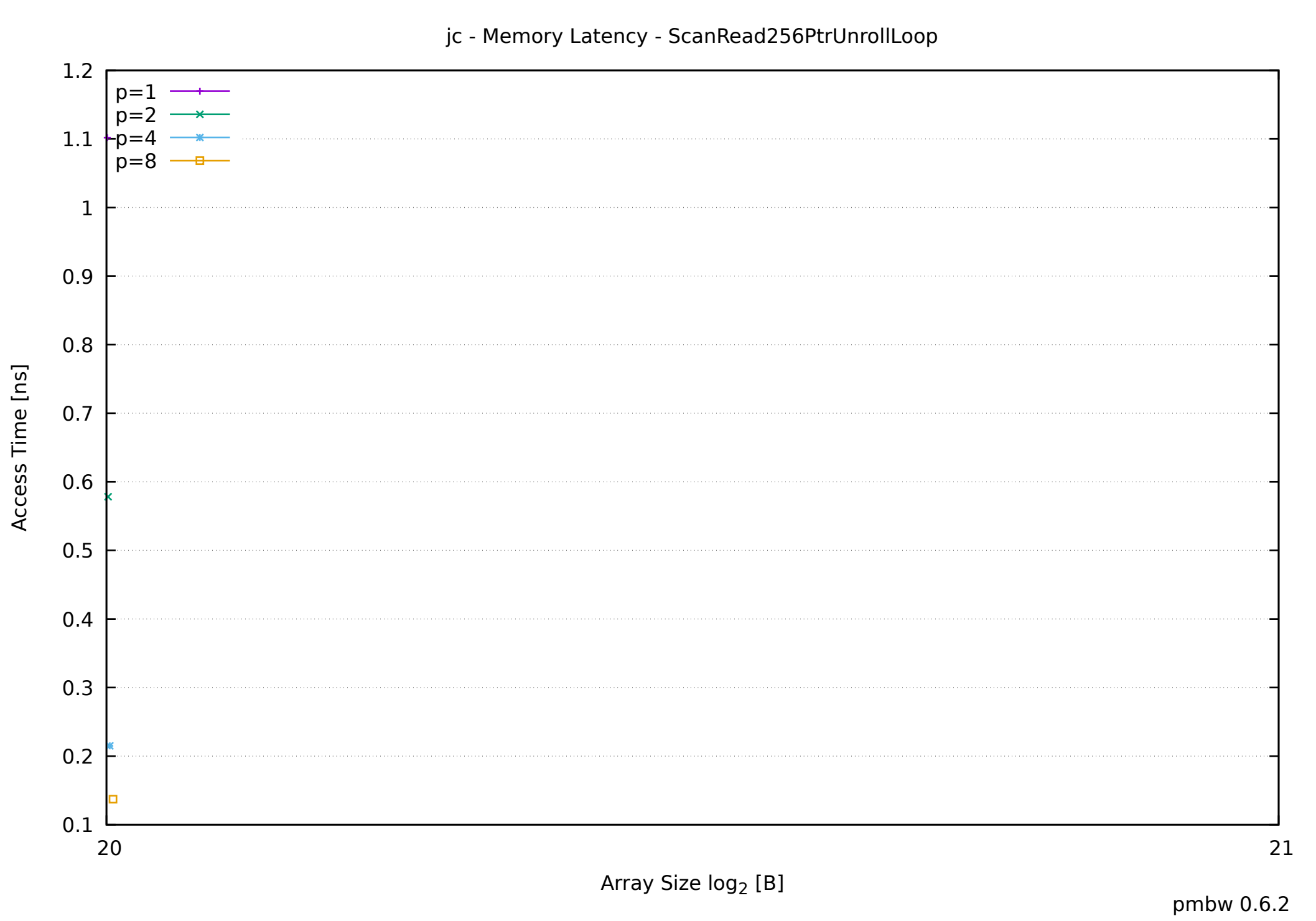

jc - Memory Bandwidth - ScanRead256PtrSimpleLoop
Bandwidth [GiB/s]
220
200
180
160
140
120
100
80
60
40
20
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

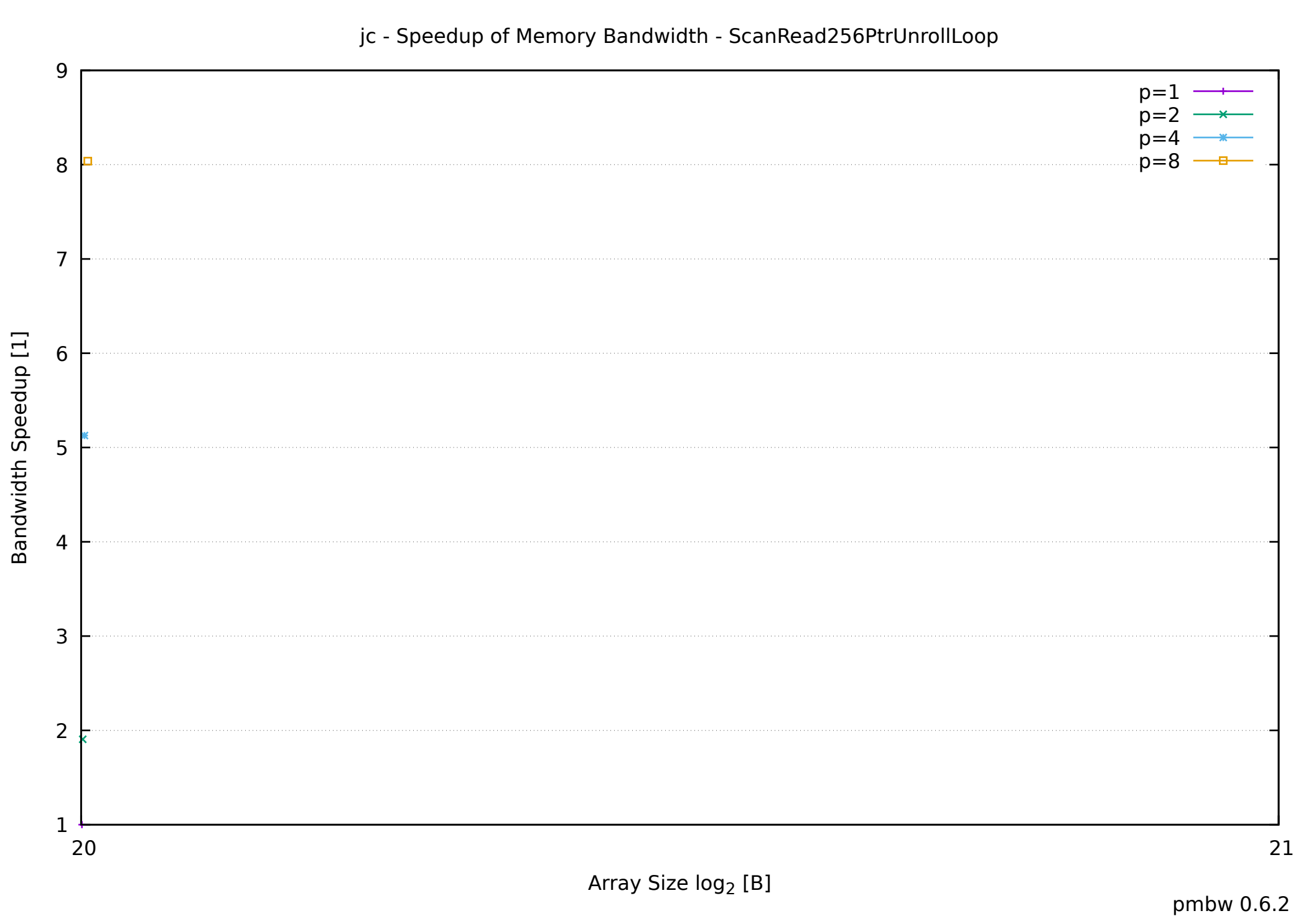

jc - Memory Latency - ScanRead256PtrSimpleLoop
p=1
p=2
p=4
p=8
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

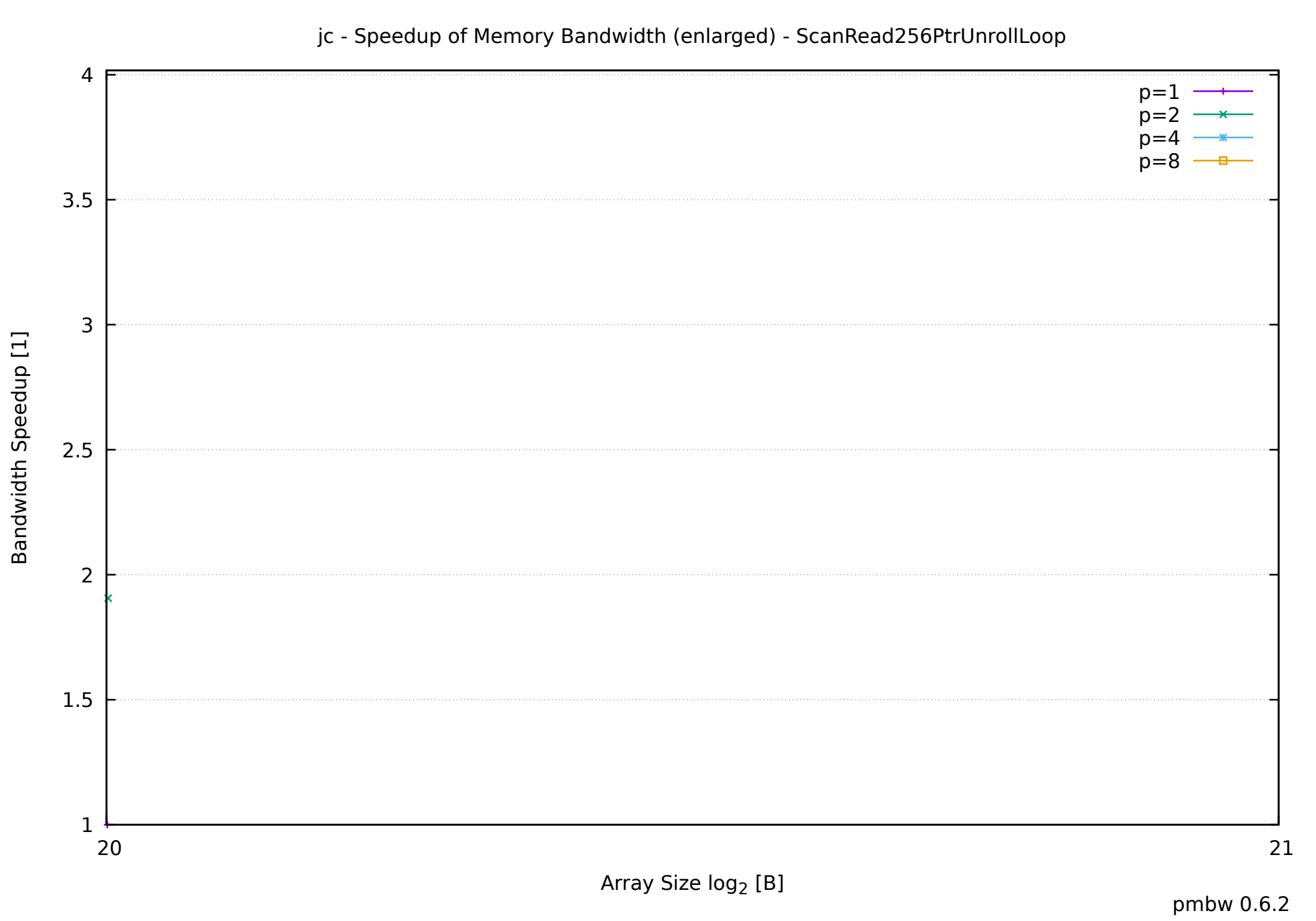

jc - Speedup of Memory Bandwidth - ScanRead256PtrSimpleLoop
Bandwidth Speedup [1]
8
7
6
5
4
3
2
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

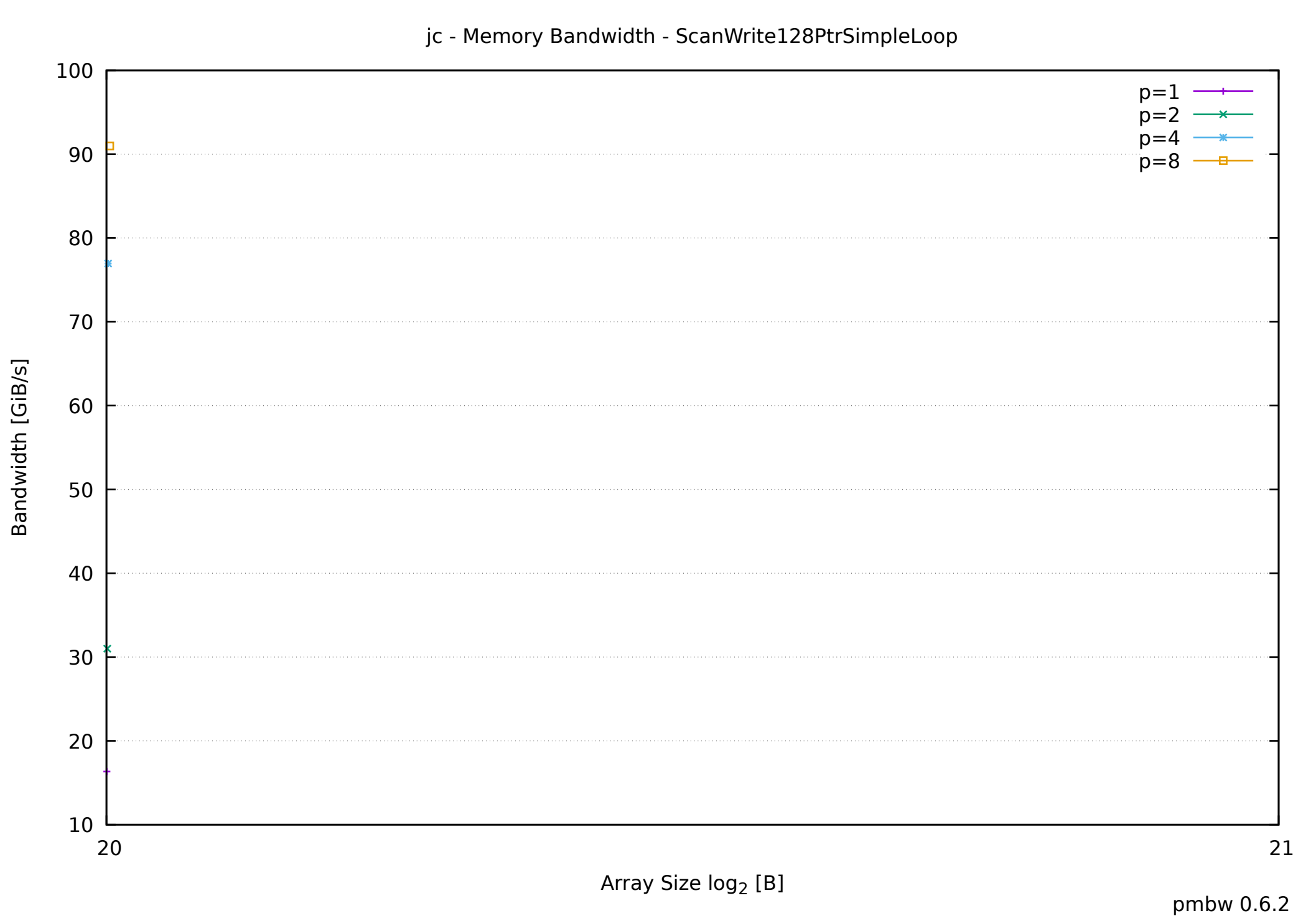

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead256PtrSimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
pmbw 0.6.2

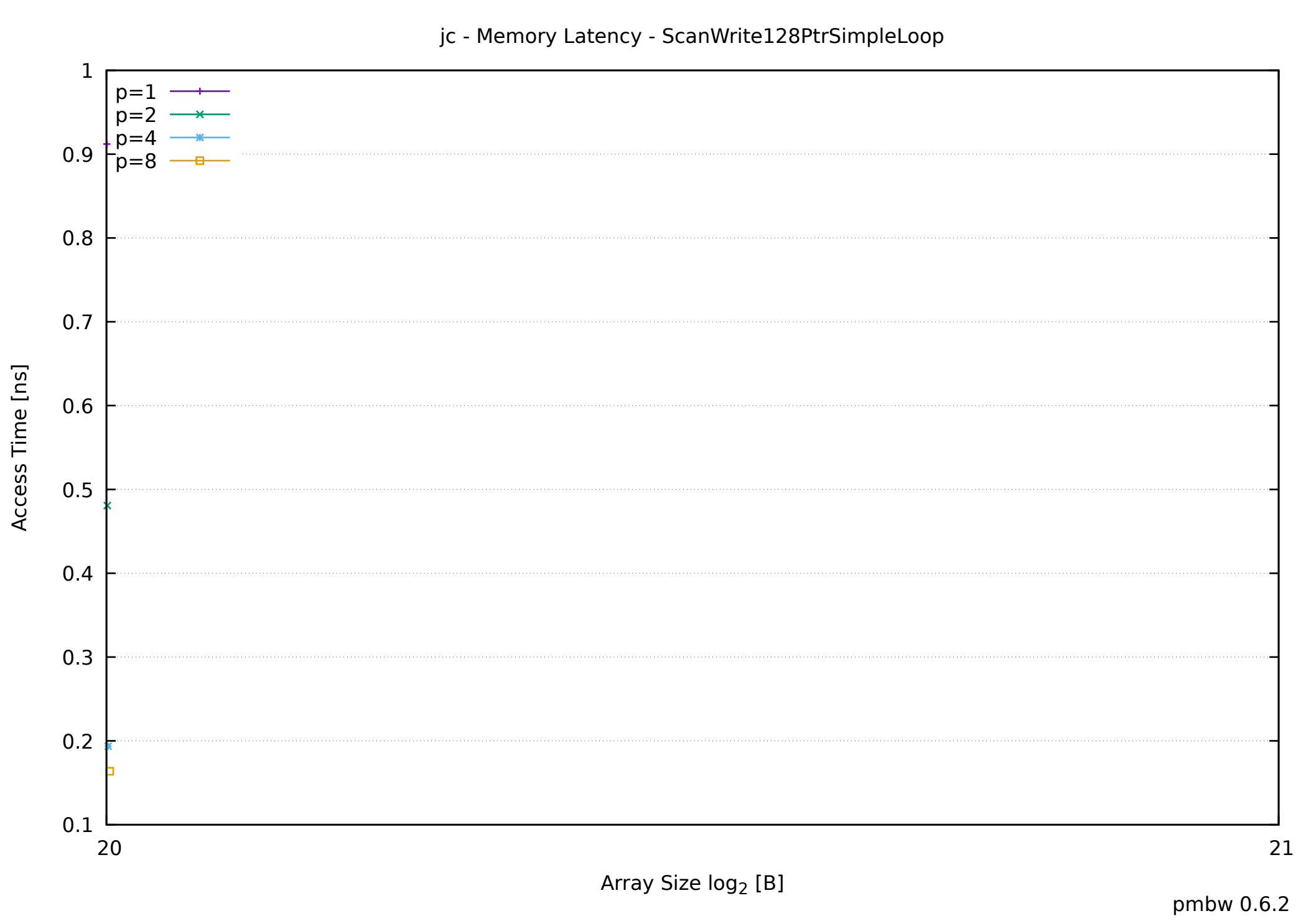

jc - Memory Bandwidth - ScanRead256PtrUnrollLoop
Bandwidth [GiB/s]
220
200
180
160
140
120
100
80
60
40
20
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

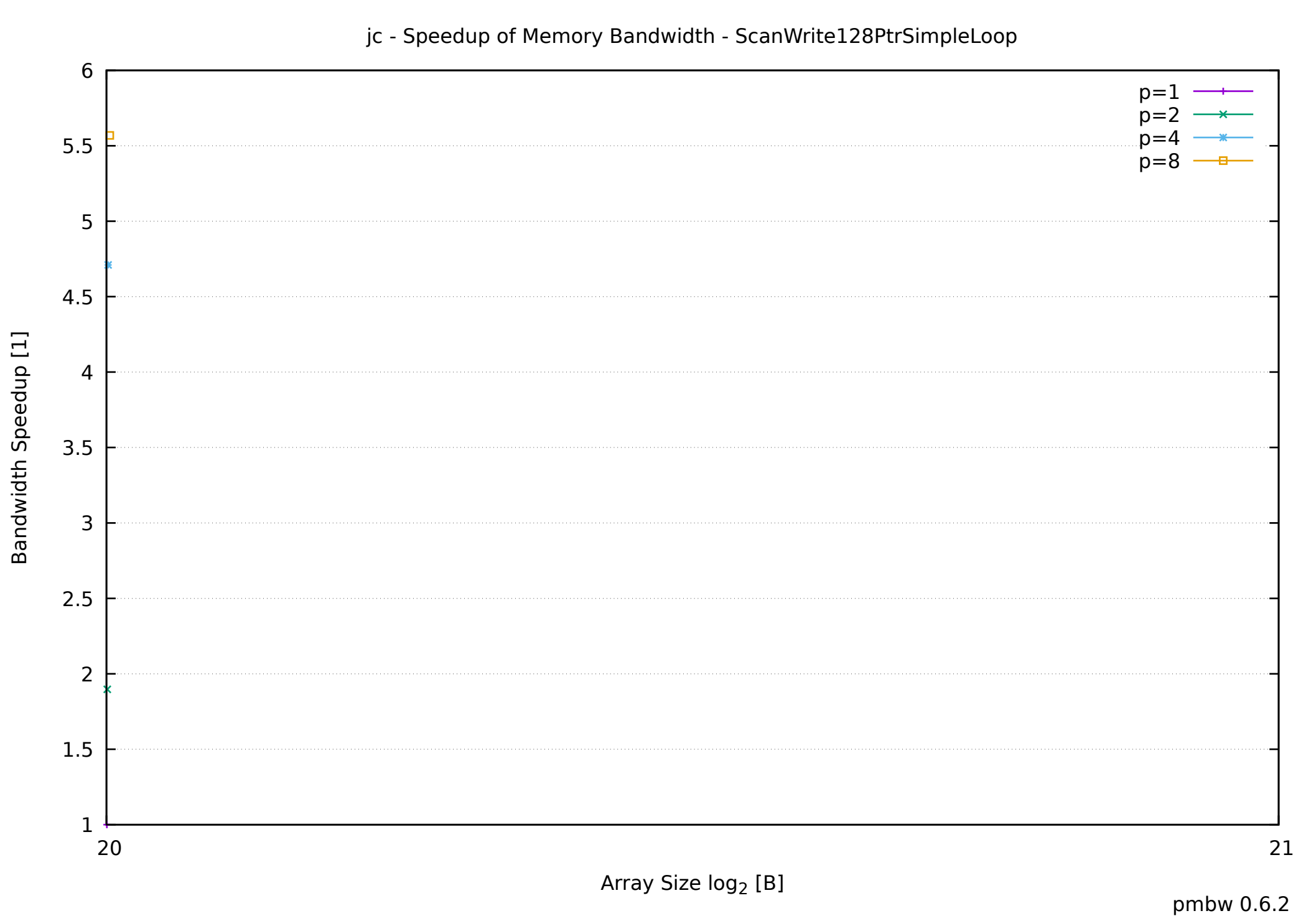

jc - Memory Latency - ScanRead256PtrUnrollLoop
p=1
p=2
p=4
p=8
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

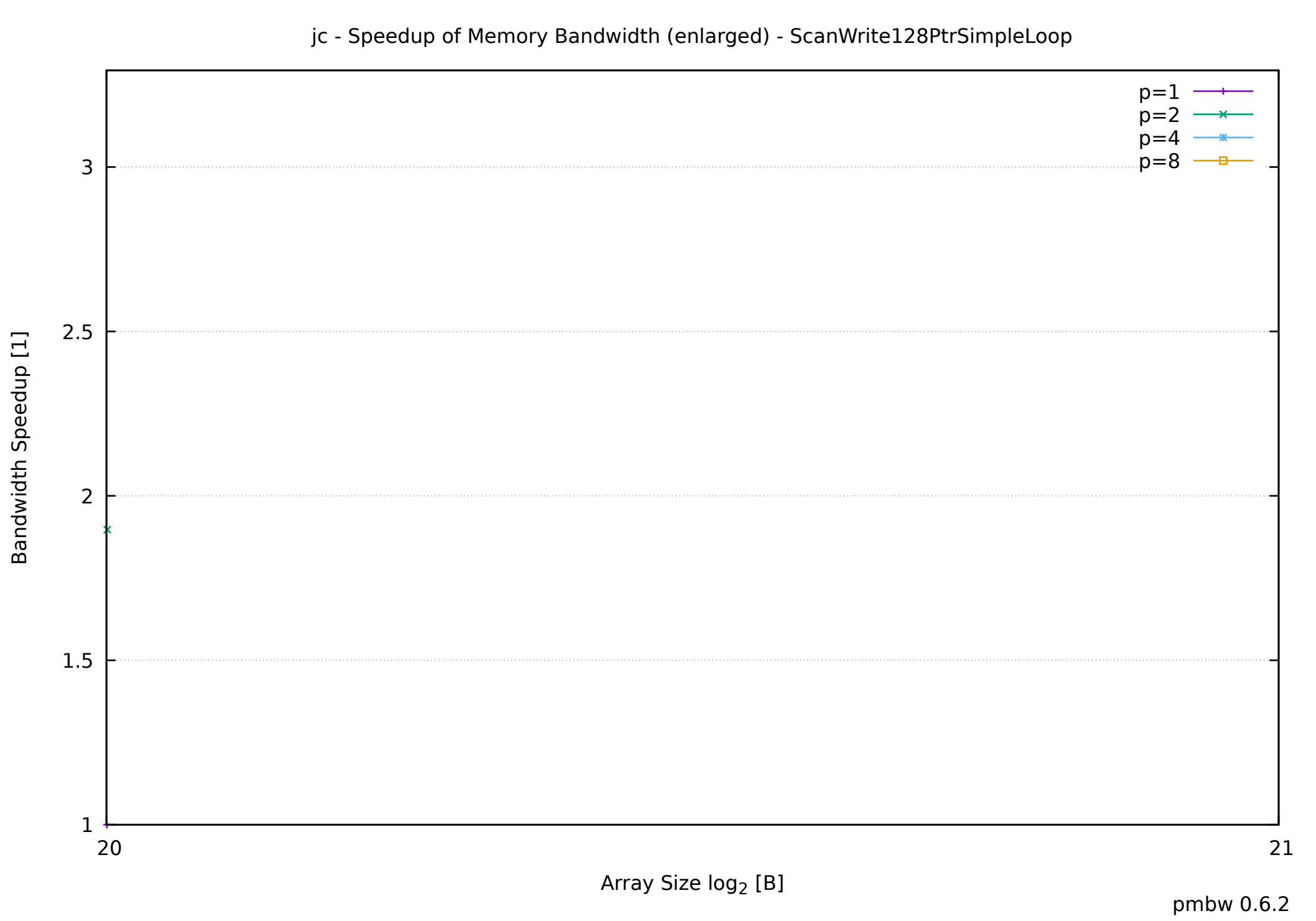

jc - Speedup of Memory Bandwidth - ScanRead256PtrUnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=4
p=8
9
8
7
6
5
4
3
2
1
20
21
pmbw 0.6.2

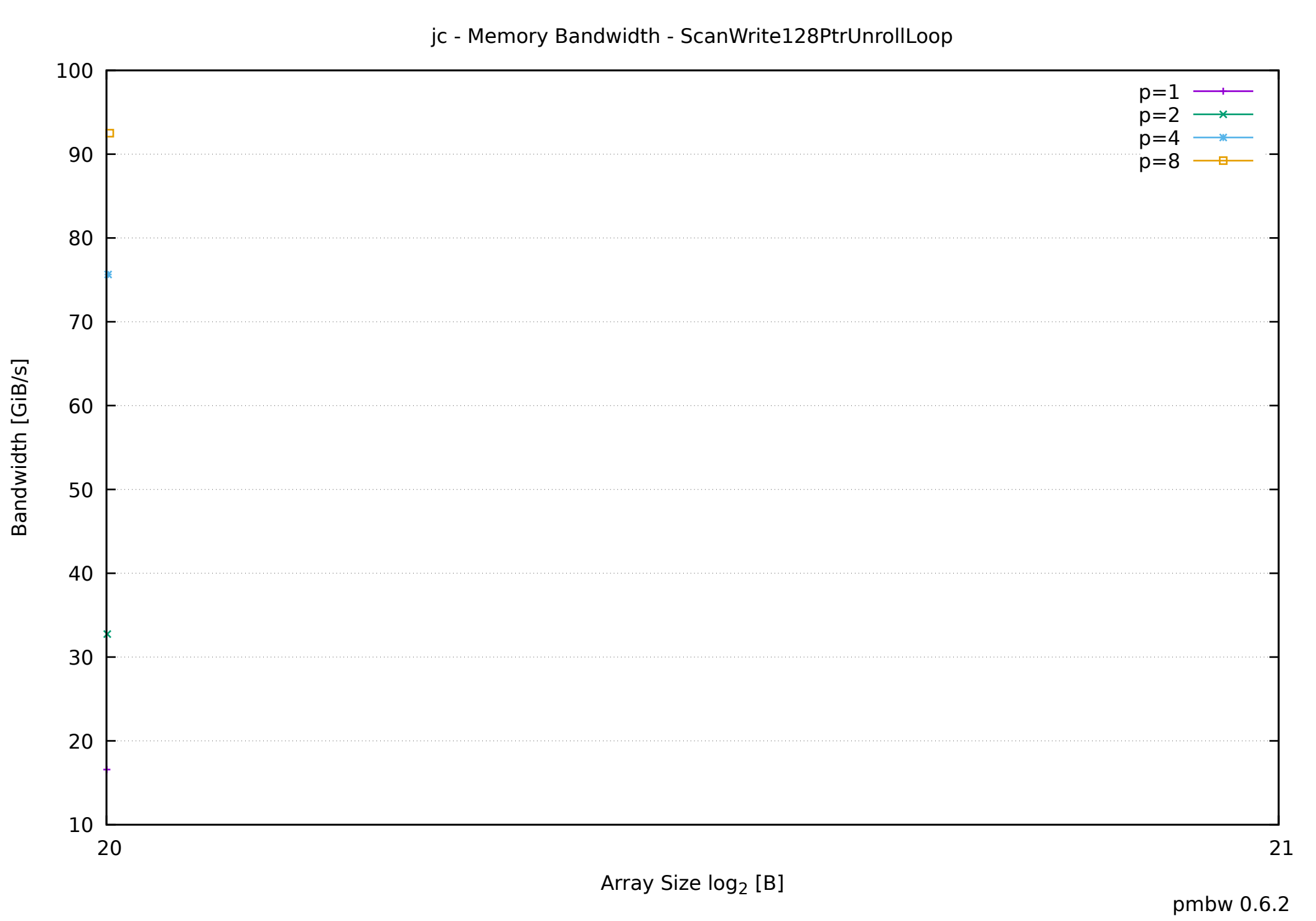

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead256PtrUnrollLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
pmbw 0.6.2

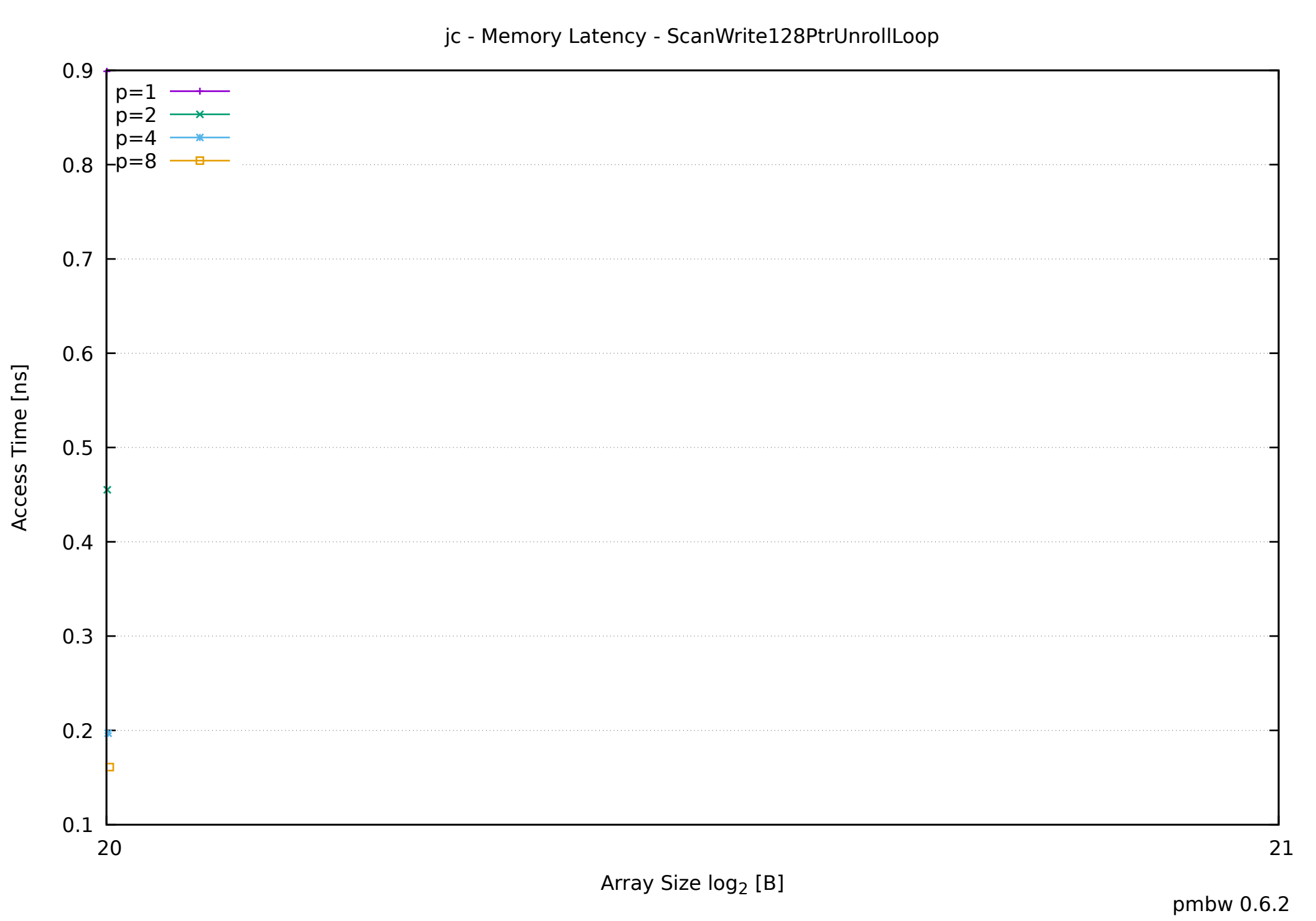

jc - Memory Bandwidth - ScanWrite128PtrSimpleLoop
Bandwidth [GiB/s]
100
90
80
70
60
50
40
30
20
10
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

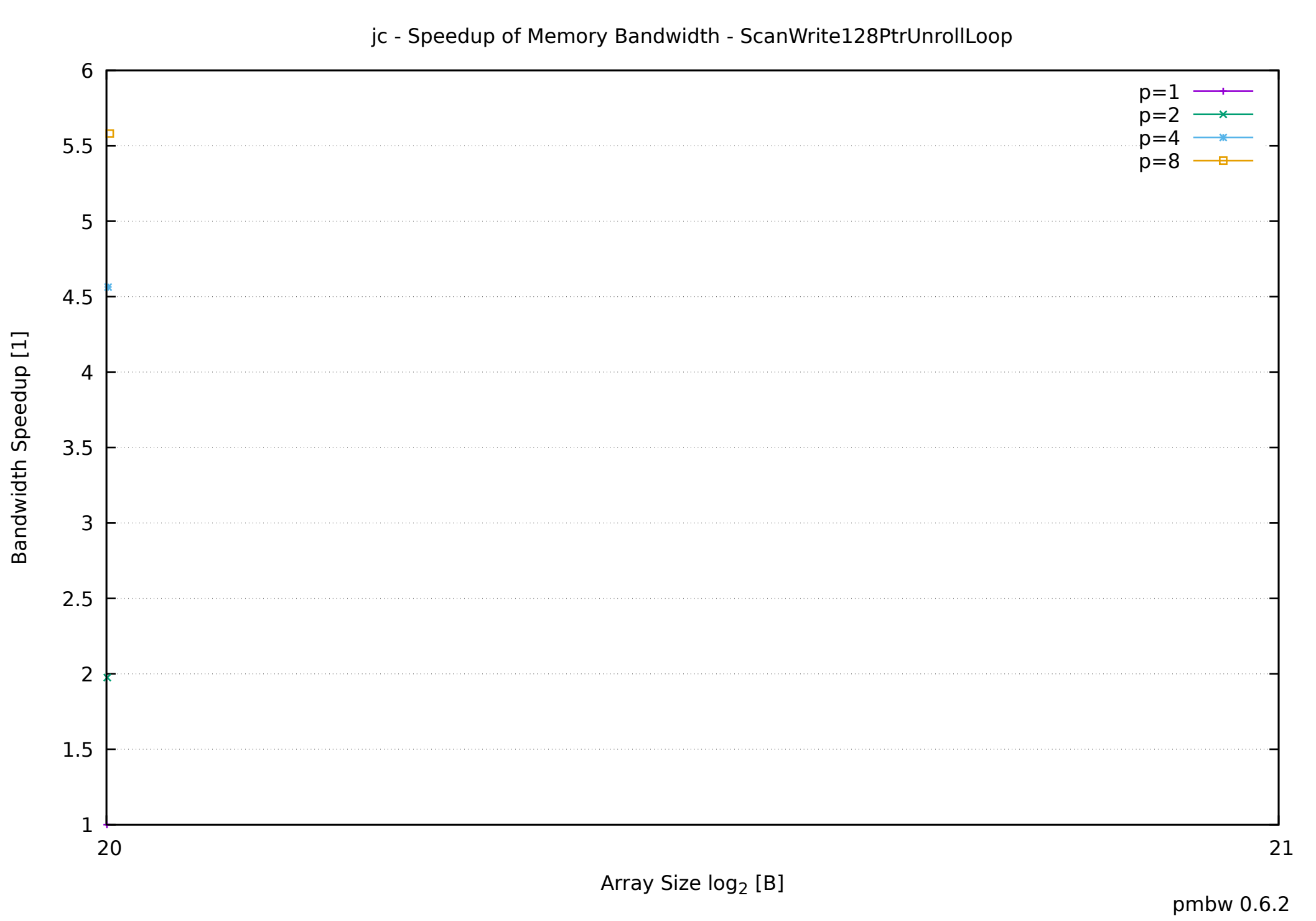

jc - Memory Latency - ScanWrite128PtrSimpleLoop
p=1
p=2
p=4
p=8
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

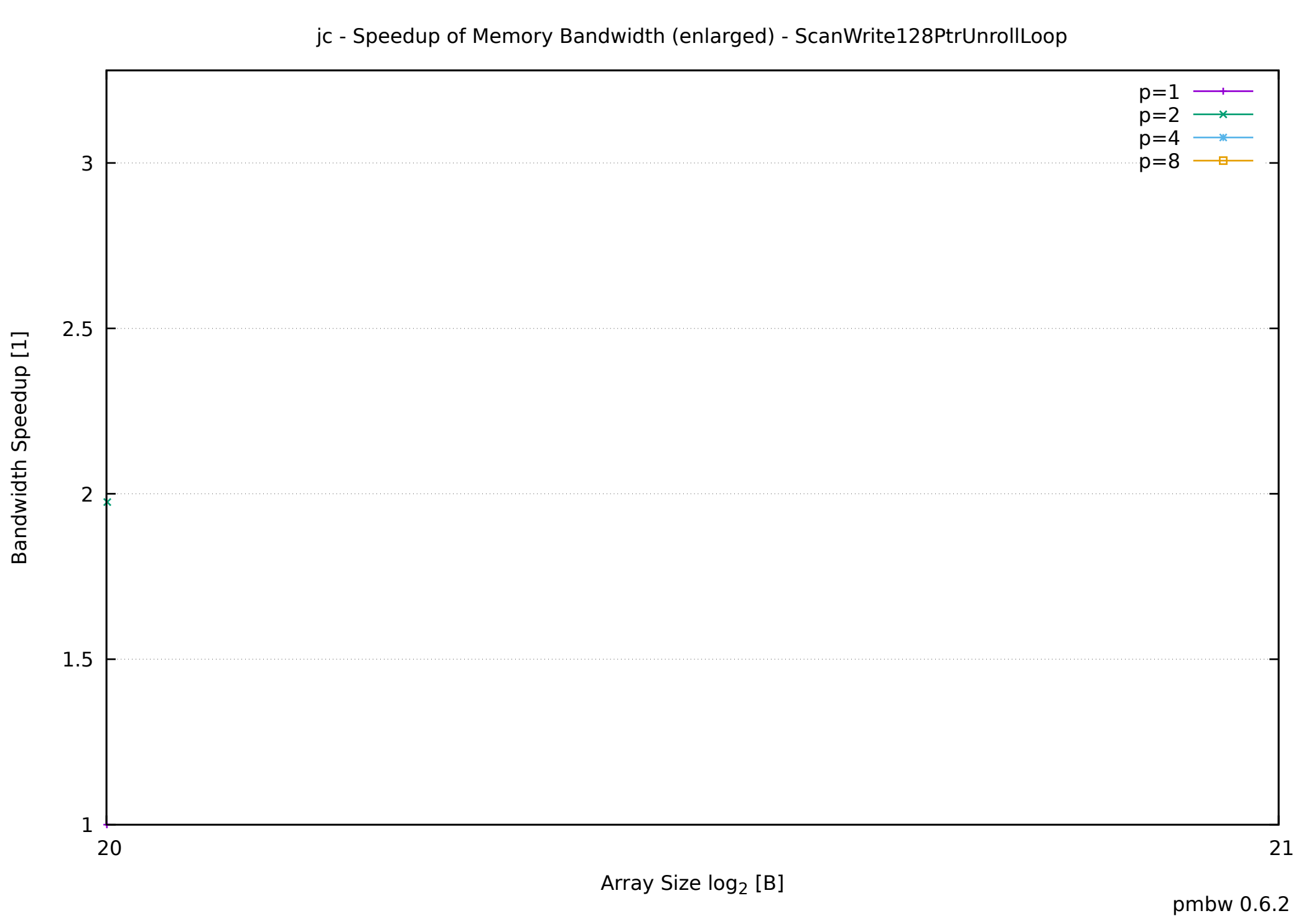

jc - Speedup of Memory Bandwidth - ScanWrite128PtrSimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
pmbw 0.6.2


jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite128PtrSimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
pmbw 0.6.2

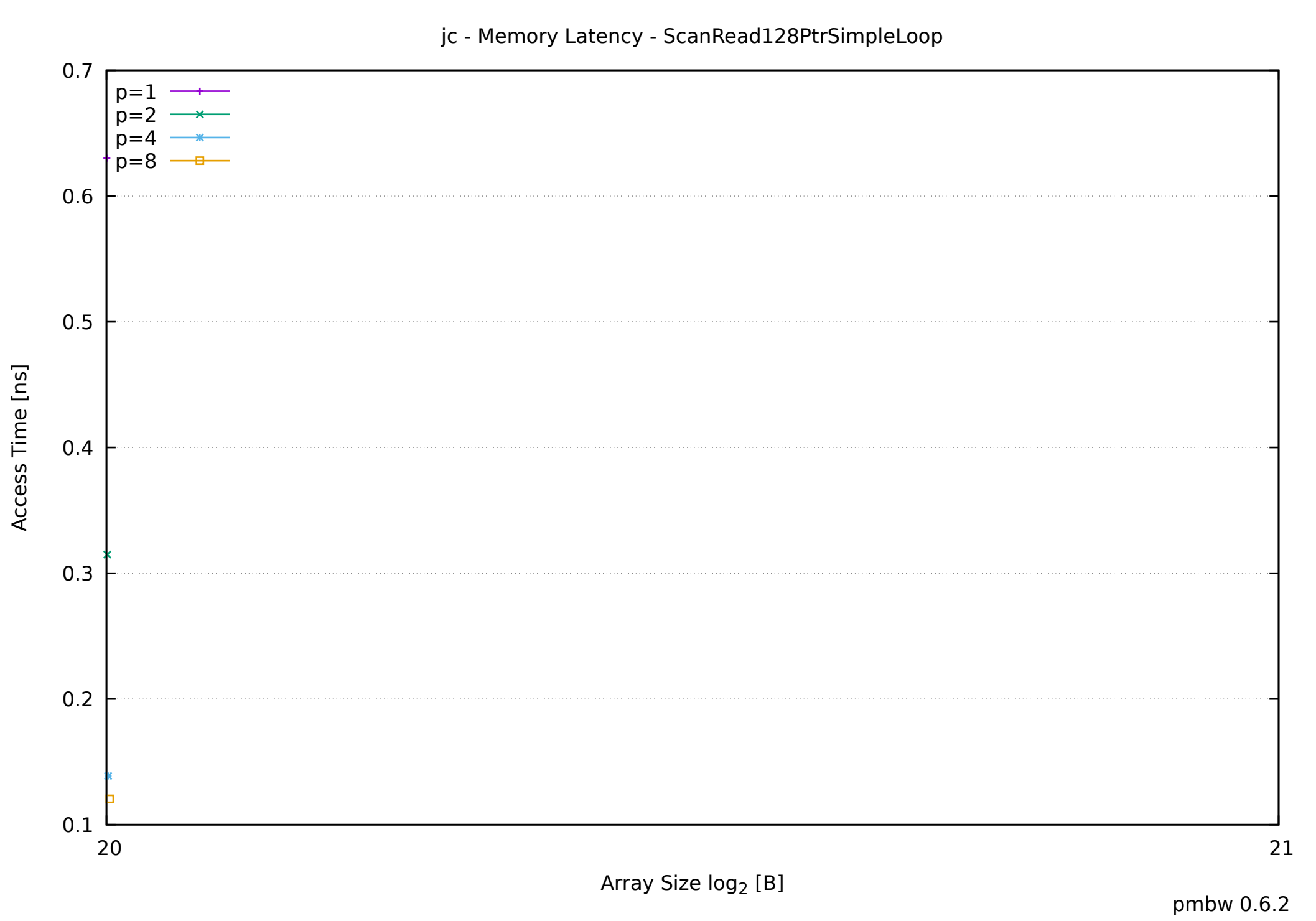

jc - Memory Bandwidth - ScanWrite128PtrUnrollLoop
Bandwidth [GiB/s]
100
90
80
70
60
50
40
30
20
10
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

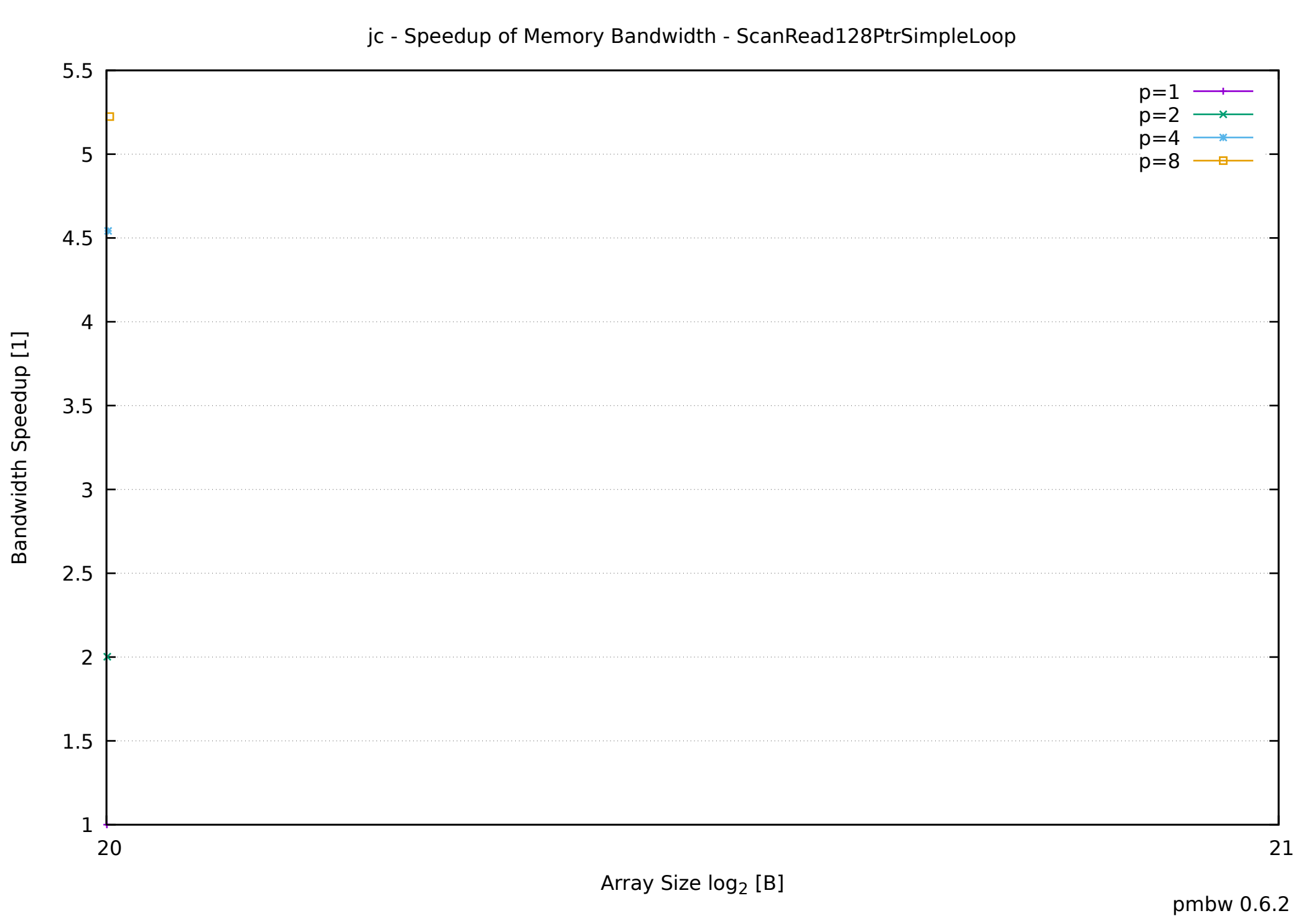

jc - Memory Latency - ScanWrite128PtrUnrollLoop
p=1
p=2
p=4
p=8
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

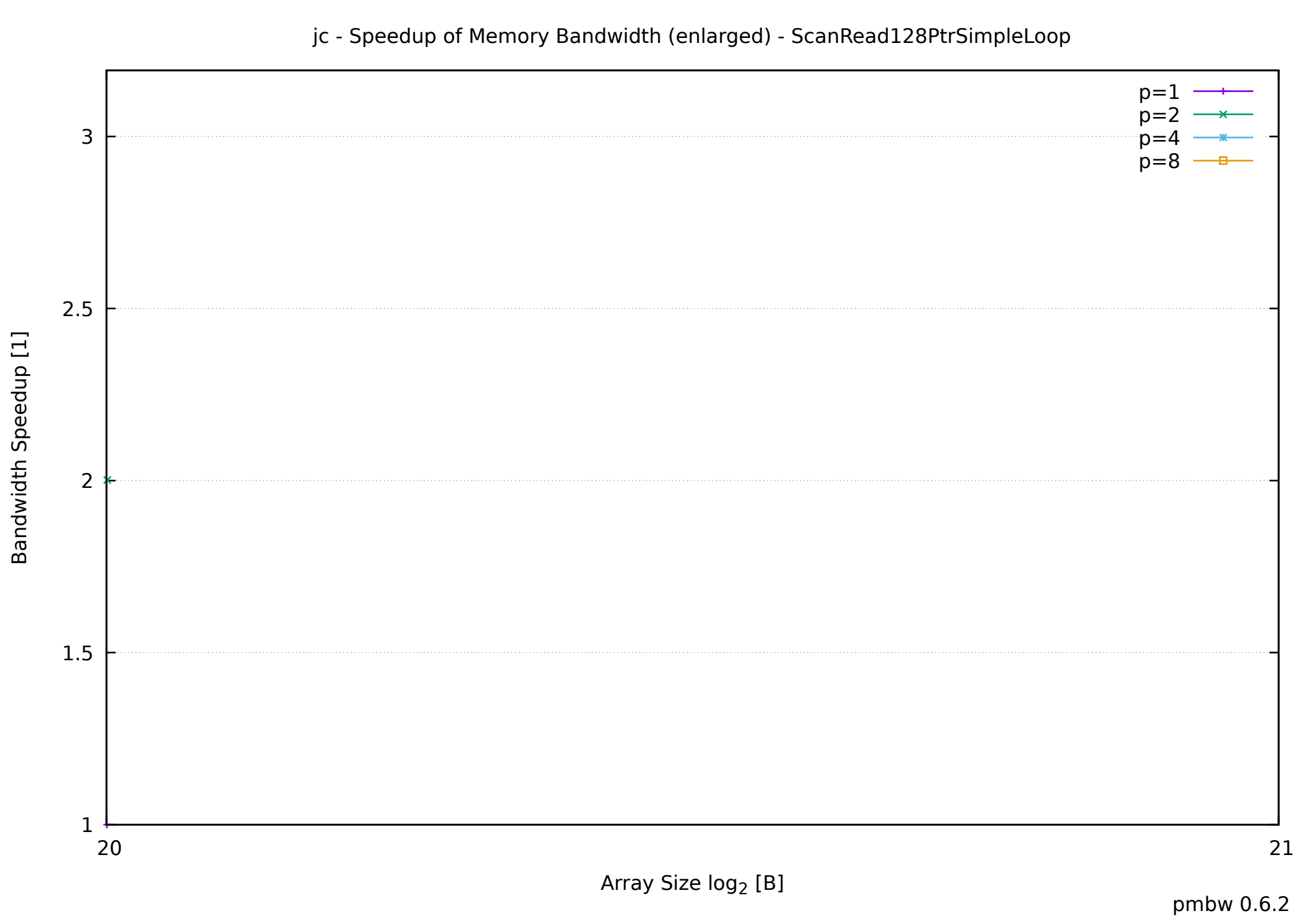

jc - Speedup of Memory Bandwidth - ScanWrite128PtrUnrollLoop
Bandwidth Speedup [1]
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

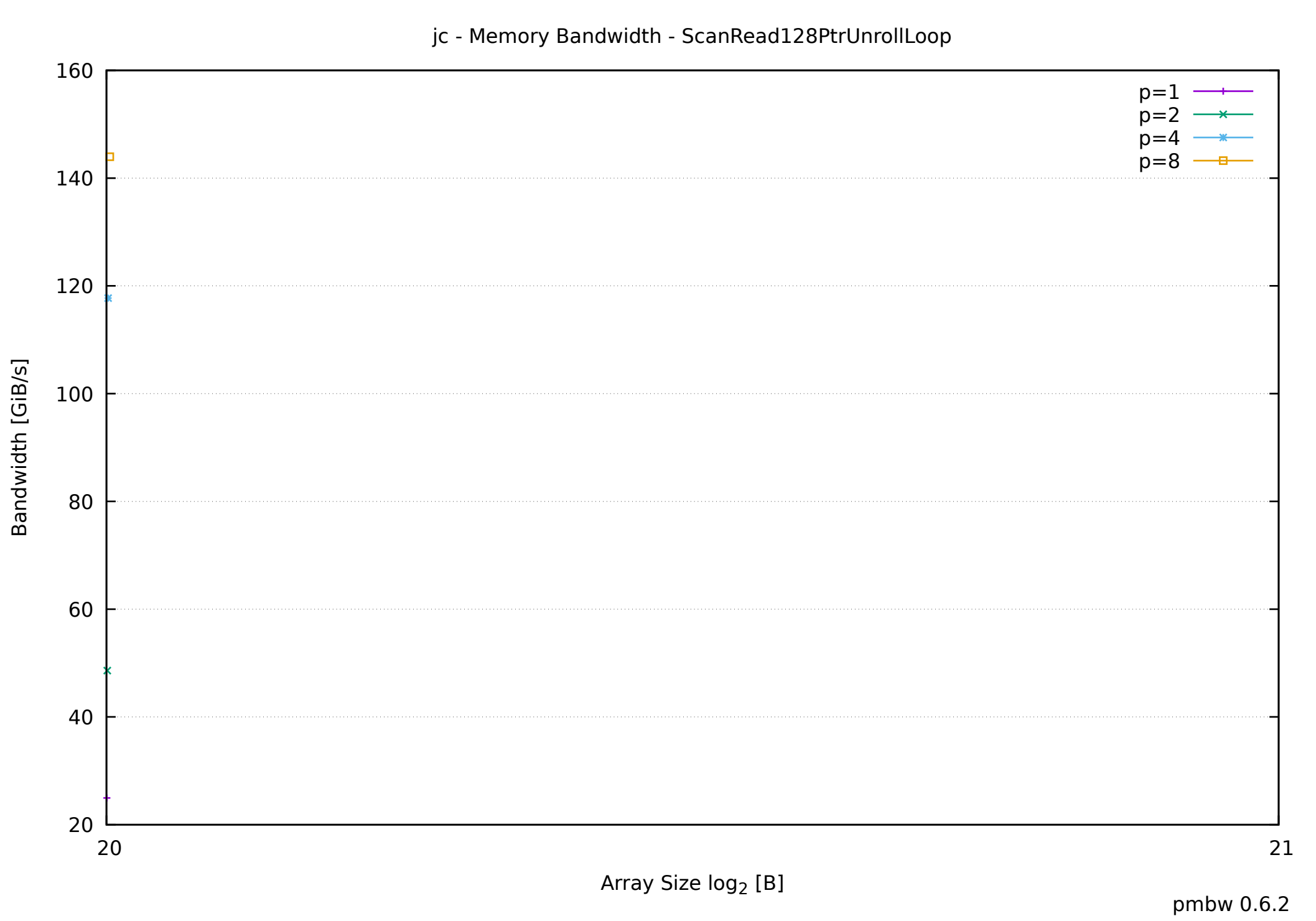

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite128PtrUnrollLoop
p=1
p=2
p=4
p=8
3
2.5
2
1.5
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

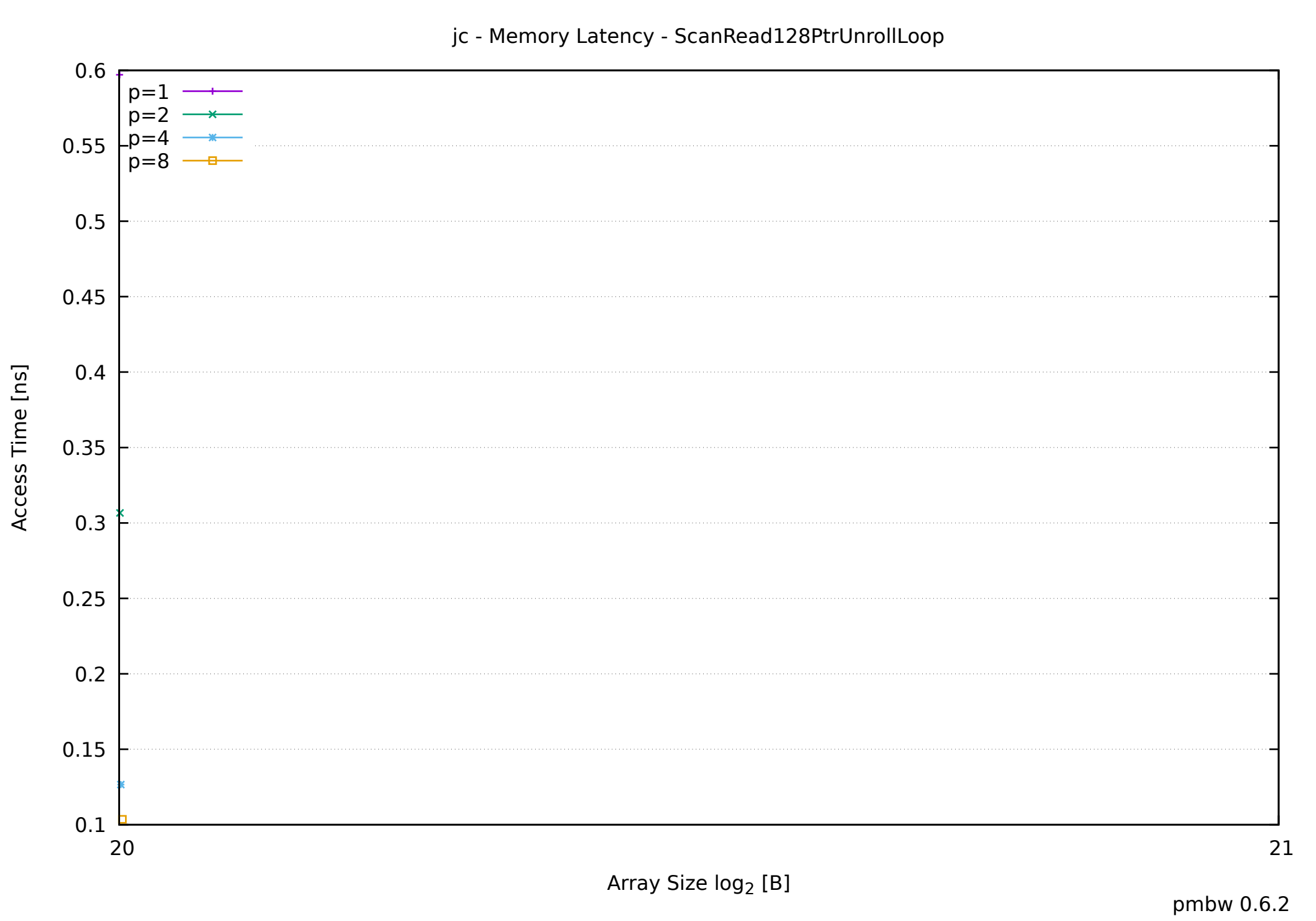
jc - Memory Bandwidth - ScanRead128PtrSimpleLoop
p=1
p=2
p=4
p=8
130
120
110
100
90
80
70
60
50
40
30
20
Bandwidth [GiB/s]
20
21
Array Size log2 [B]
pmbw 0.6.2

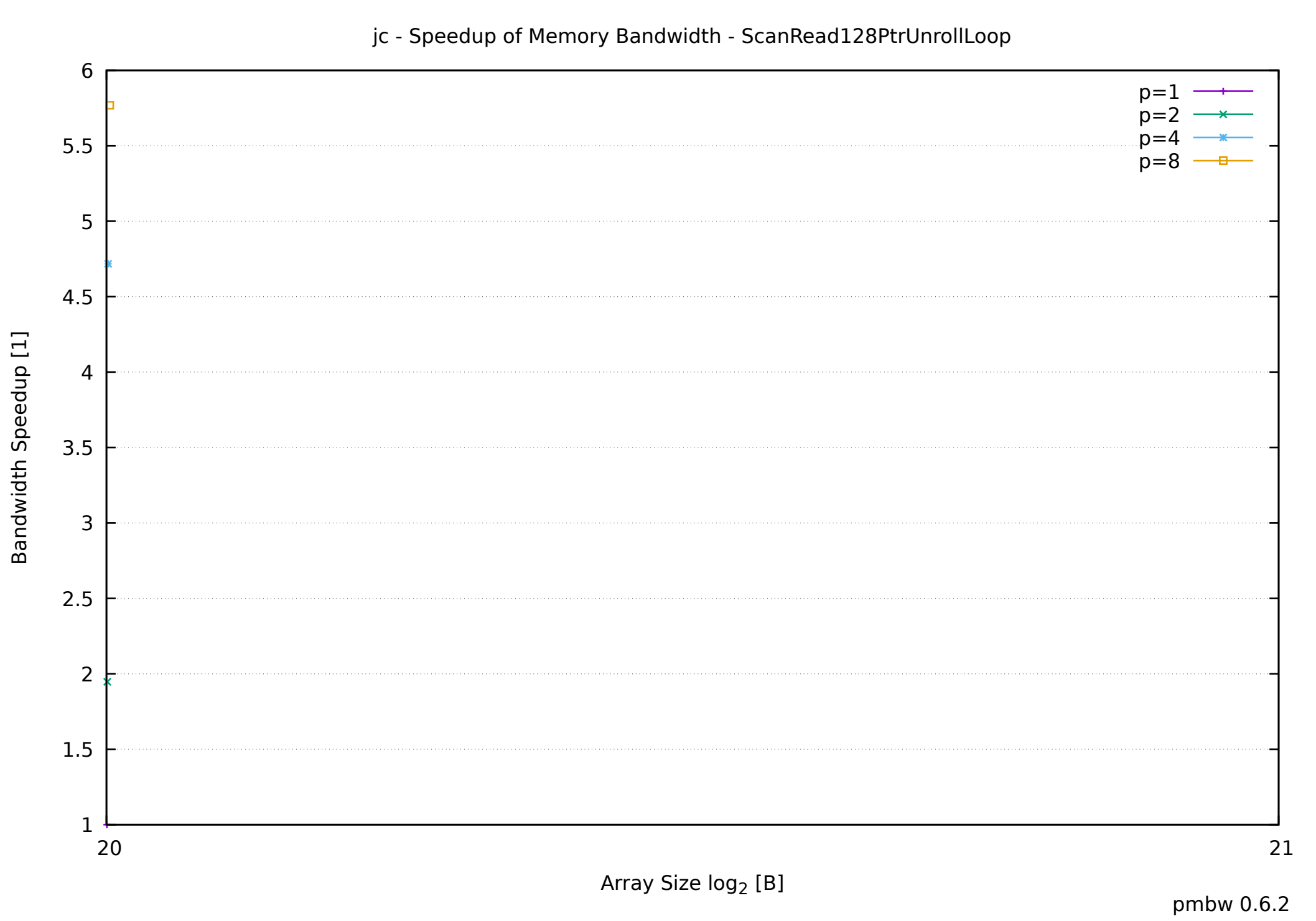

jc - Memory Latency - ScanRead128PtrSimpleLoop
p=1
p=2
p=4
p=8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

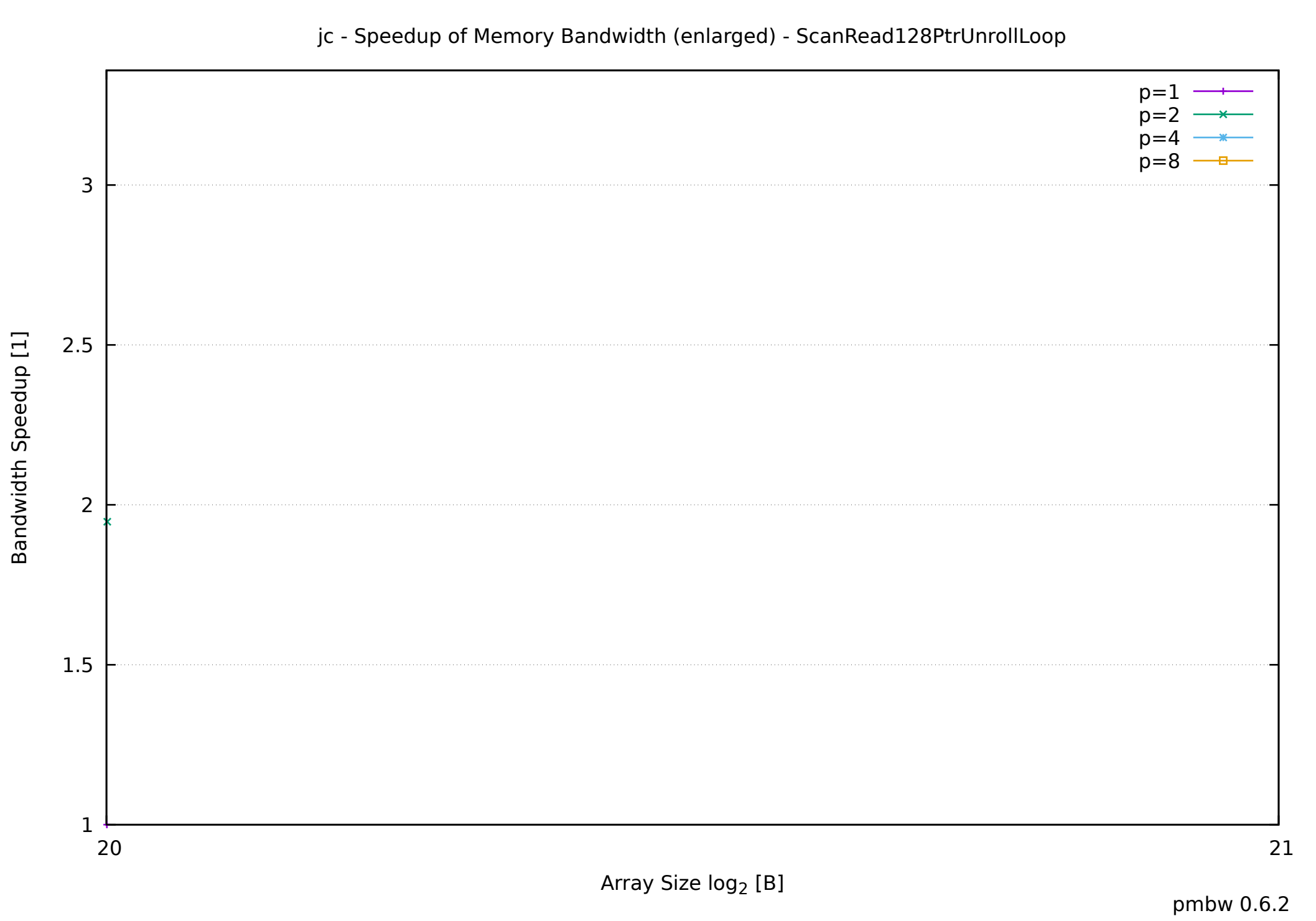

jc - Speedup of Memory Bandwidth - ScanRead128PtrSimpleLoop
Bandwidth Speedup [1]
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2


jc - Speedup of Memory Bandwidth (enlarged) - ScanRead128PtrSimpleLoop
p=1
p=2
p=4
p=8
3
2.5
2
1.5
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

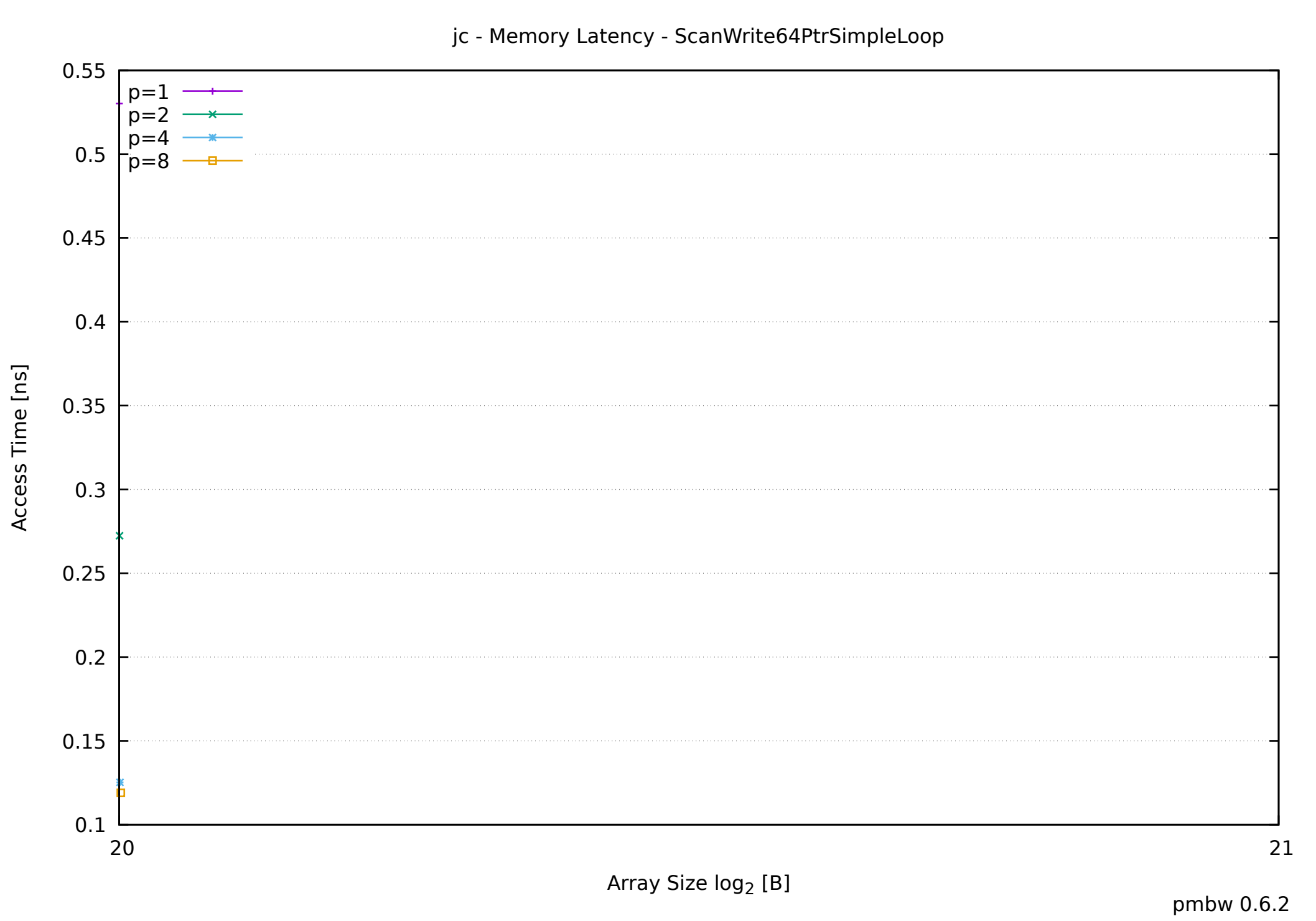

jc - Memory Bandwidth - ScanRead128PtrUnrollLoop
160
140
120
100
80
60
40
20
Bandwidth [GiB/s]
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

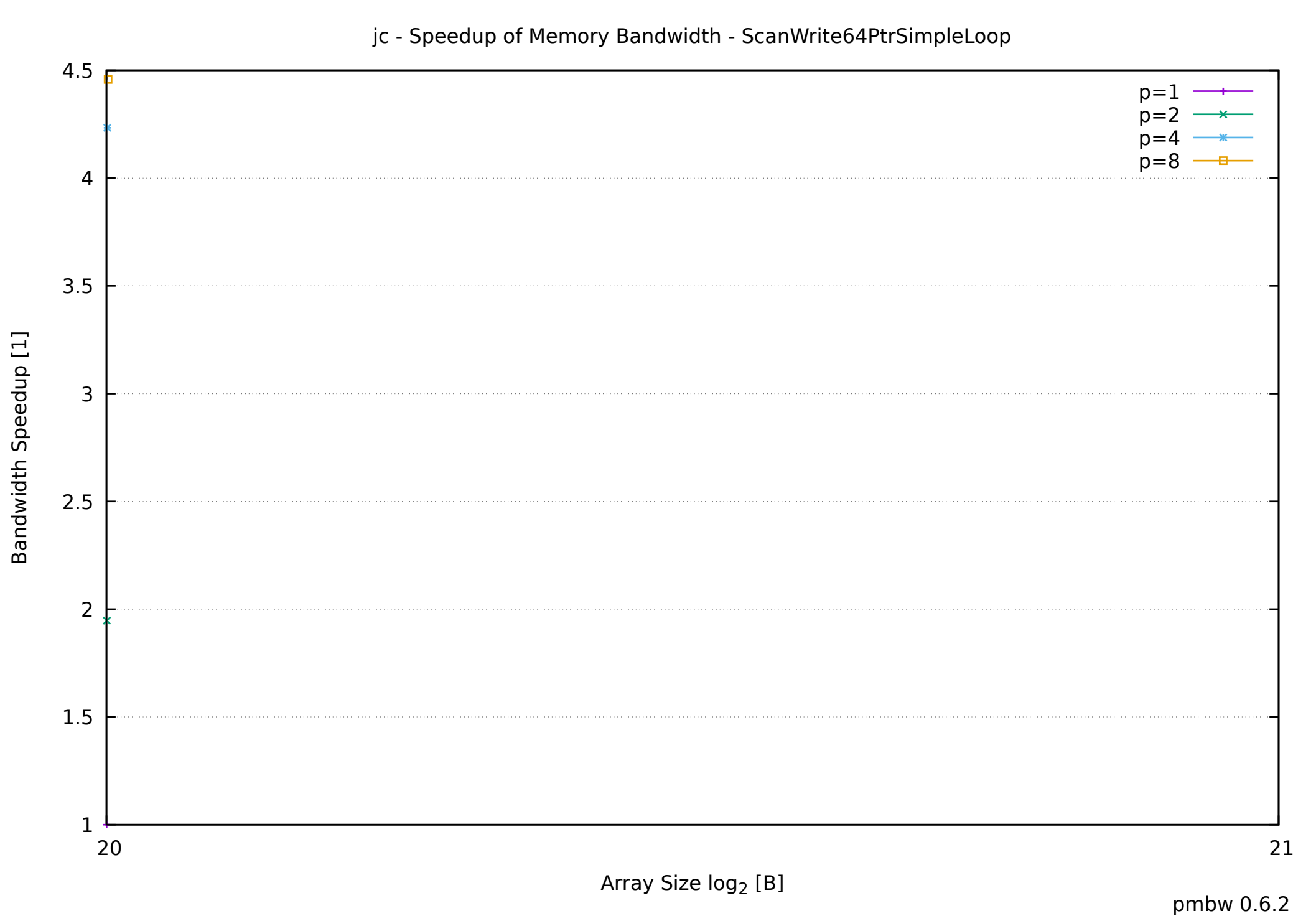

jc - Memory Latency - ScanRead128PtrUnrollLoop
p=1
p=2
p=4
p=8
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

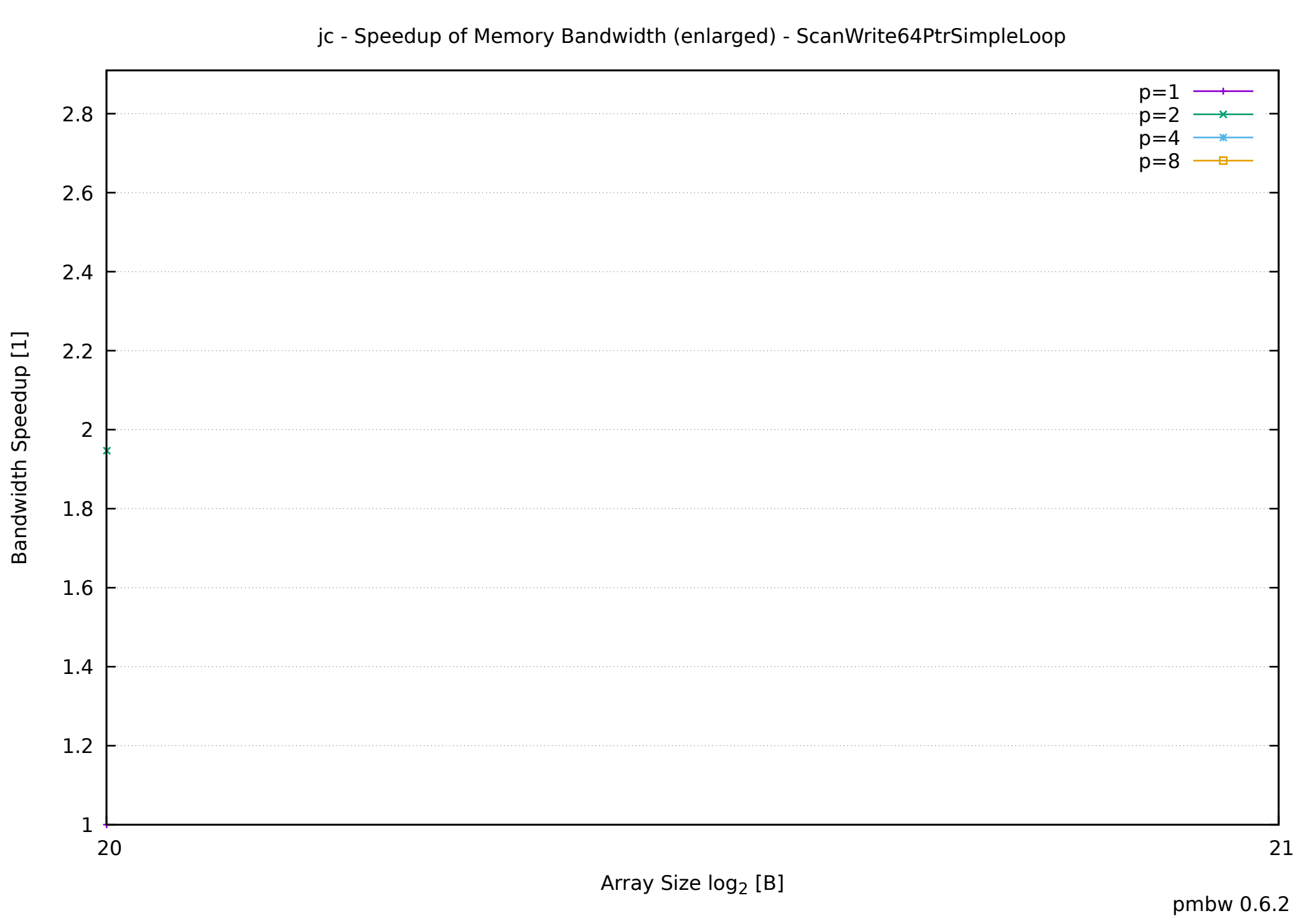

jc - Speedup of Memory Bandwidth - ScanRead128PtrUnrollLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
pmbw 0.6.2

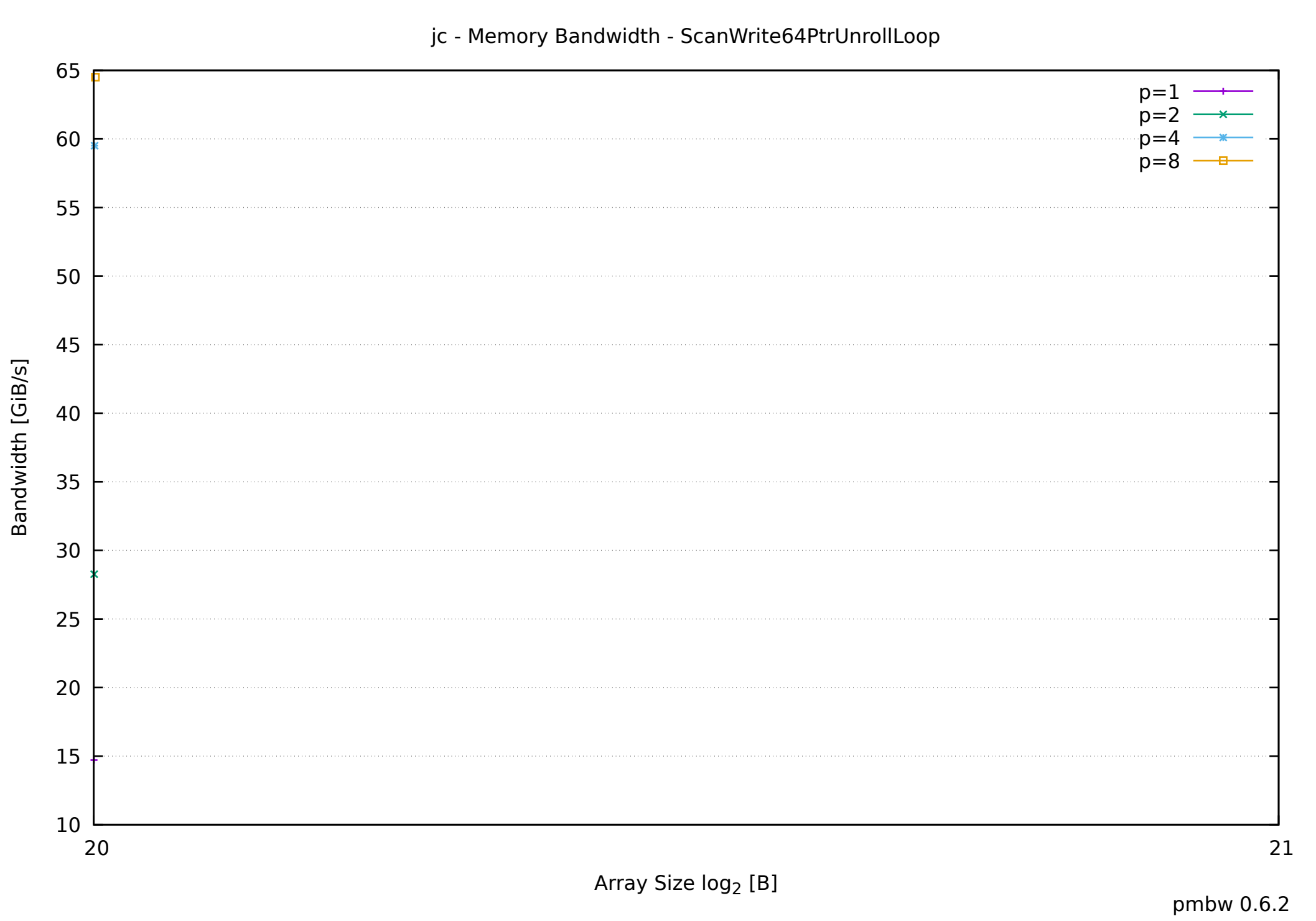

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead128PtrUnrollLoop
p=1
p=2
p=4
p=8
3
2.5
2
1.5
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

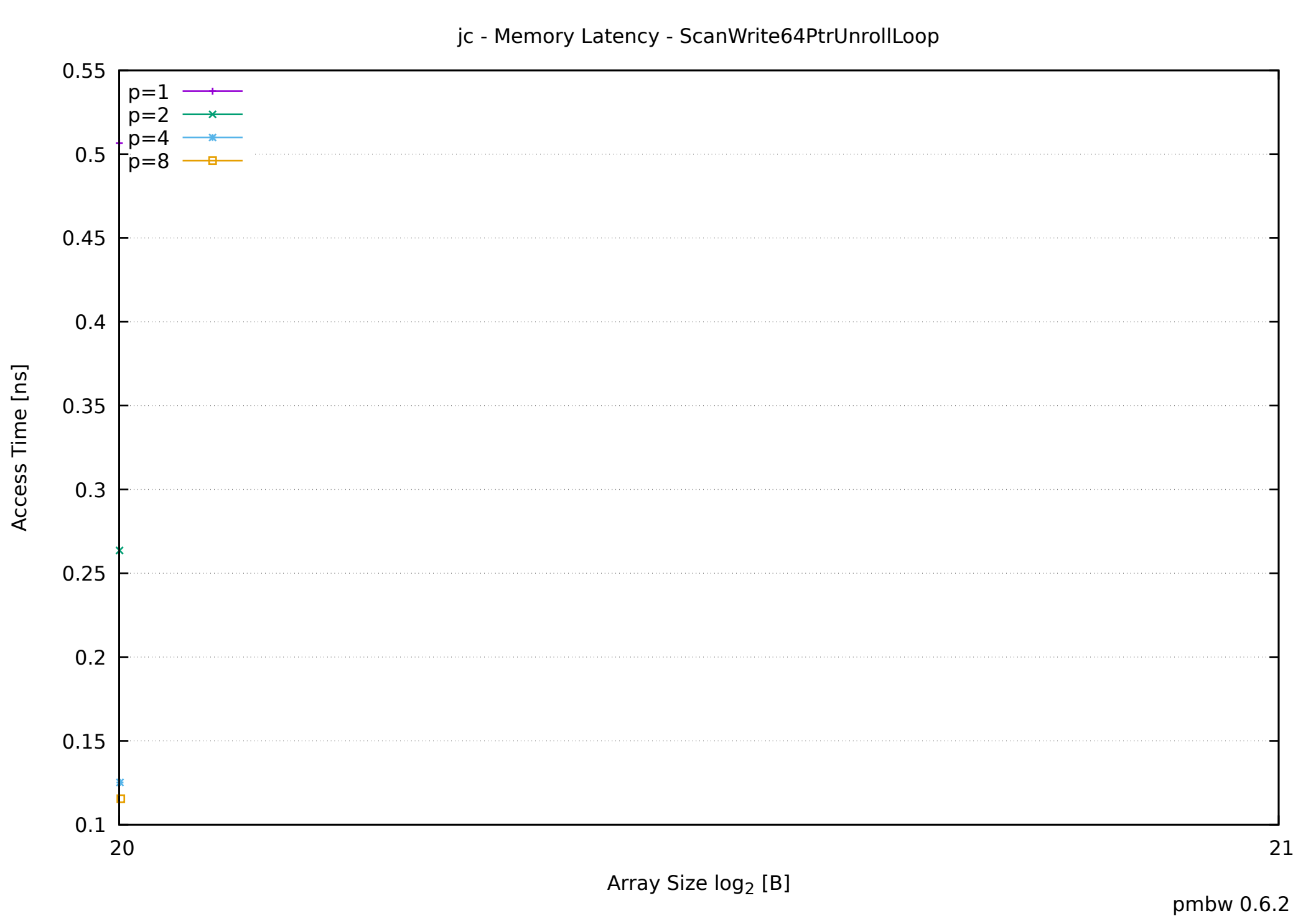
jc - Memory Bandwidth - ScanWrite64PtrSimpleLoop
p=1
p=2
p=4
p=8
65
60
55
50
45
40
35
30
25
20
15
10
Bandwidth [GiB/s]
20
21
Array Size log2 [B]
pmbw 0.6.2

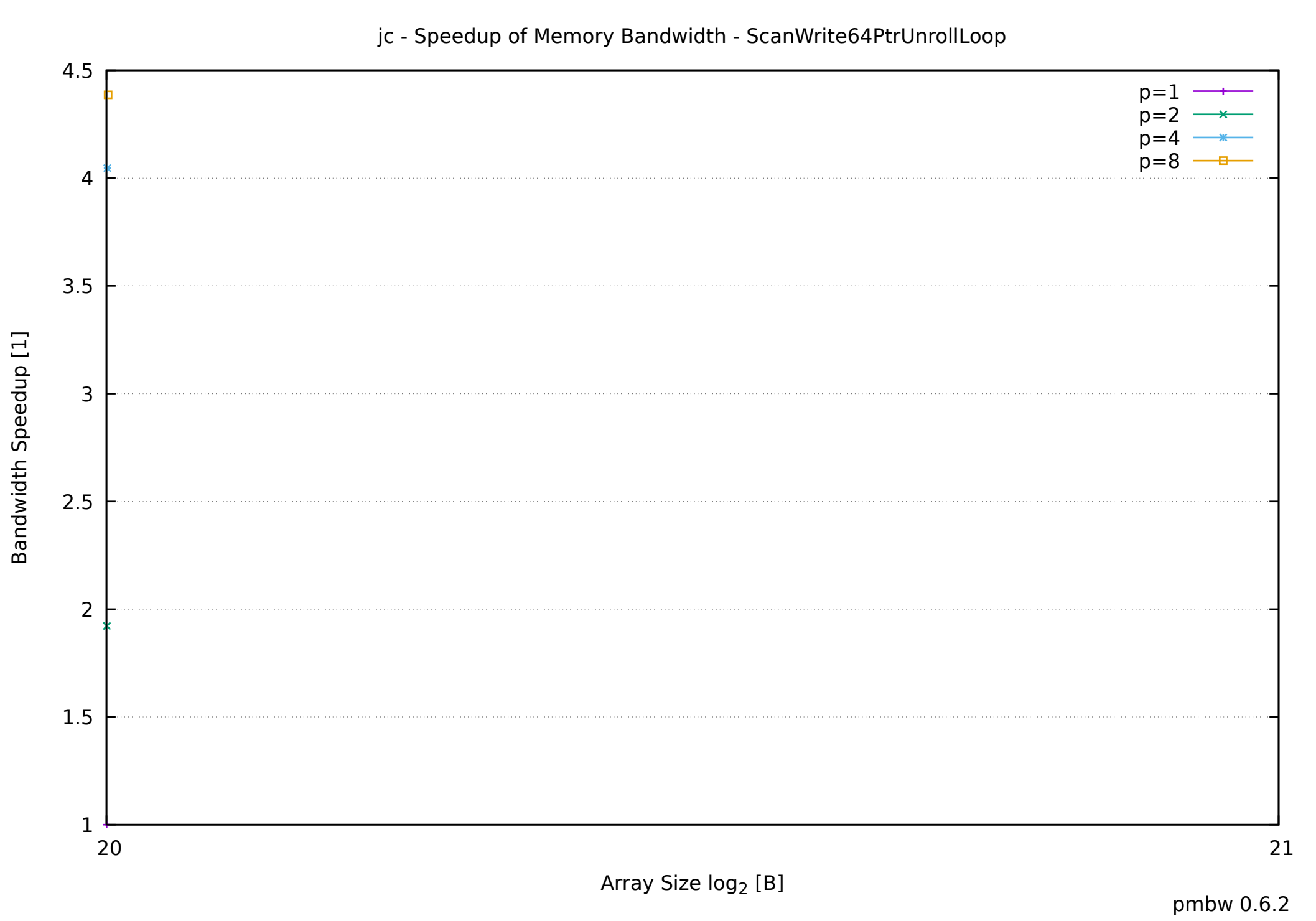

jc - Memory Latency - ScanWrite64PtrSimpleLoop
p=1
p=2
p=4
p=8
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

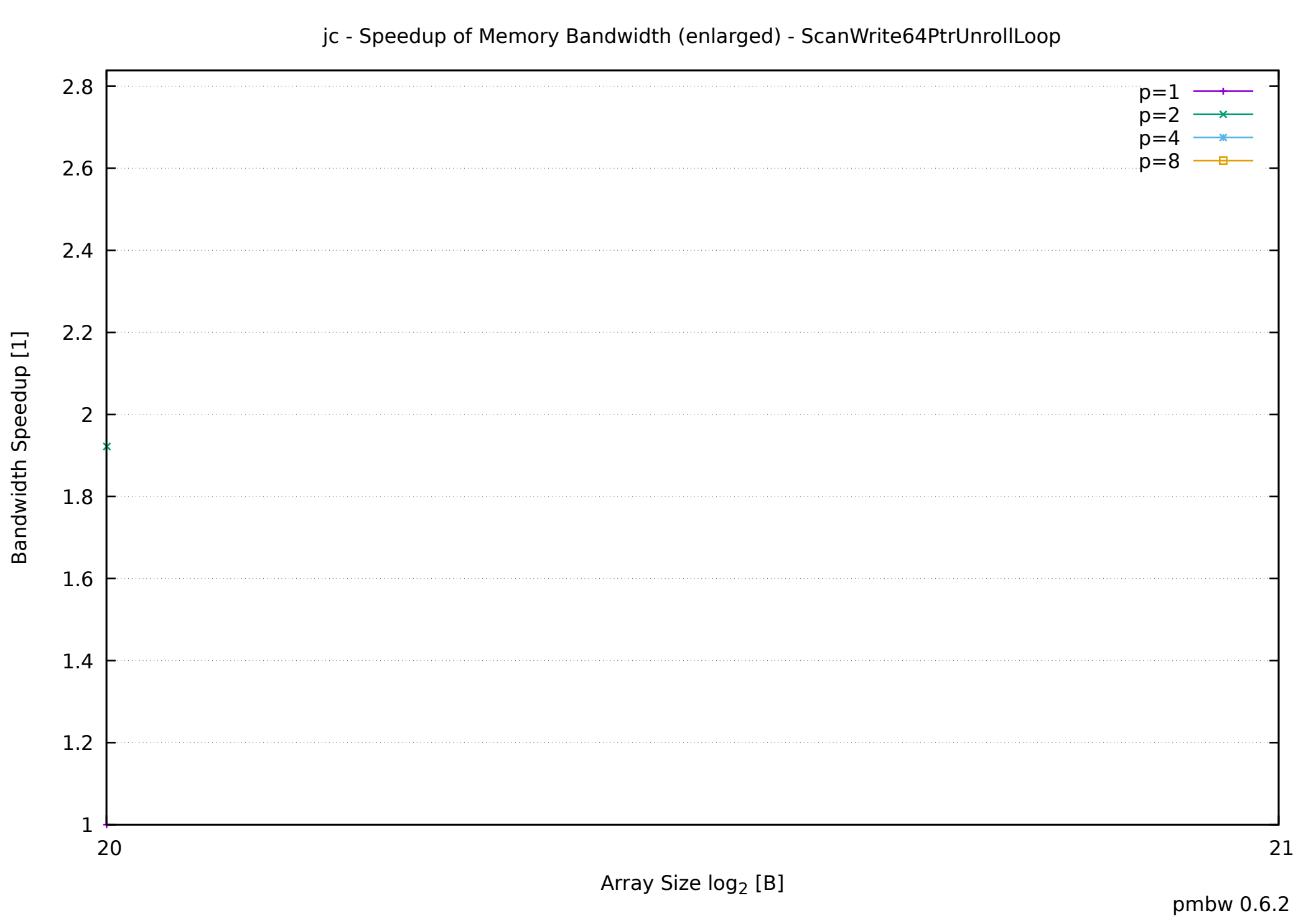

jc - Speedup of Memory Bandwidth - ScanWrite64PtrSimpleLoop
Bandwidth Speedup [1]
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

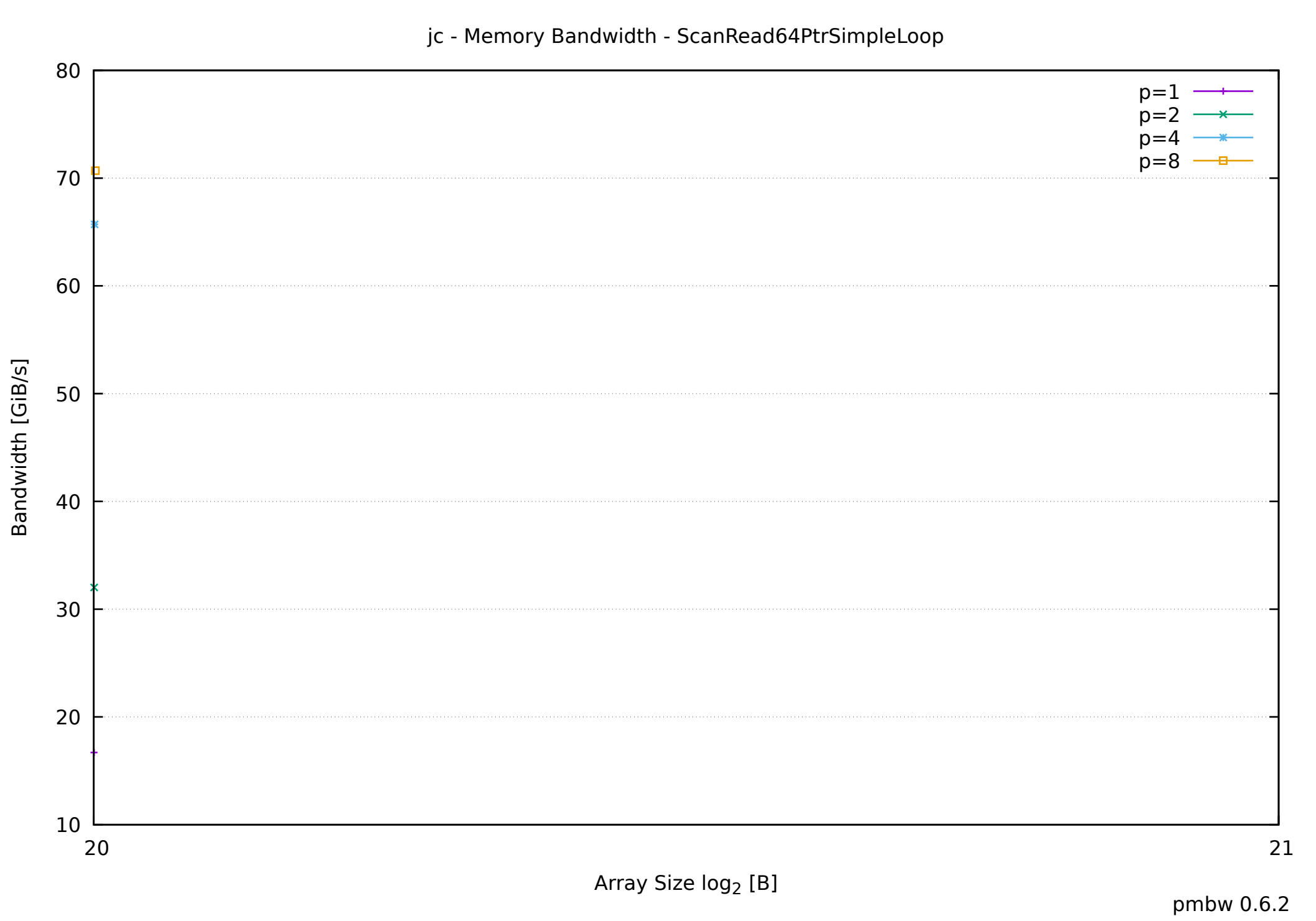

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite64PtrSimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
20
21
Array Size log2 [B]
pmbw 0.6.2

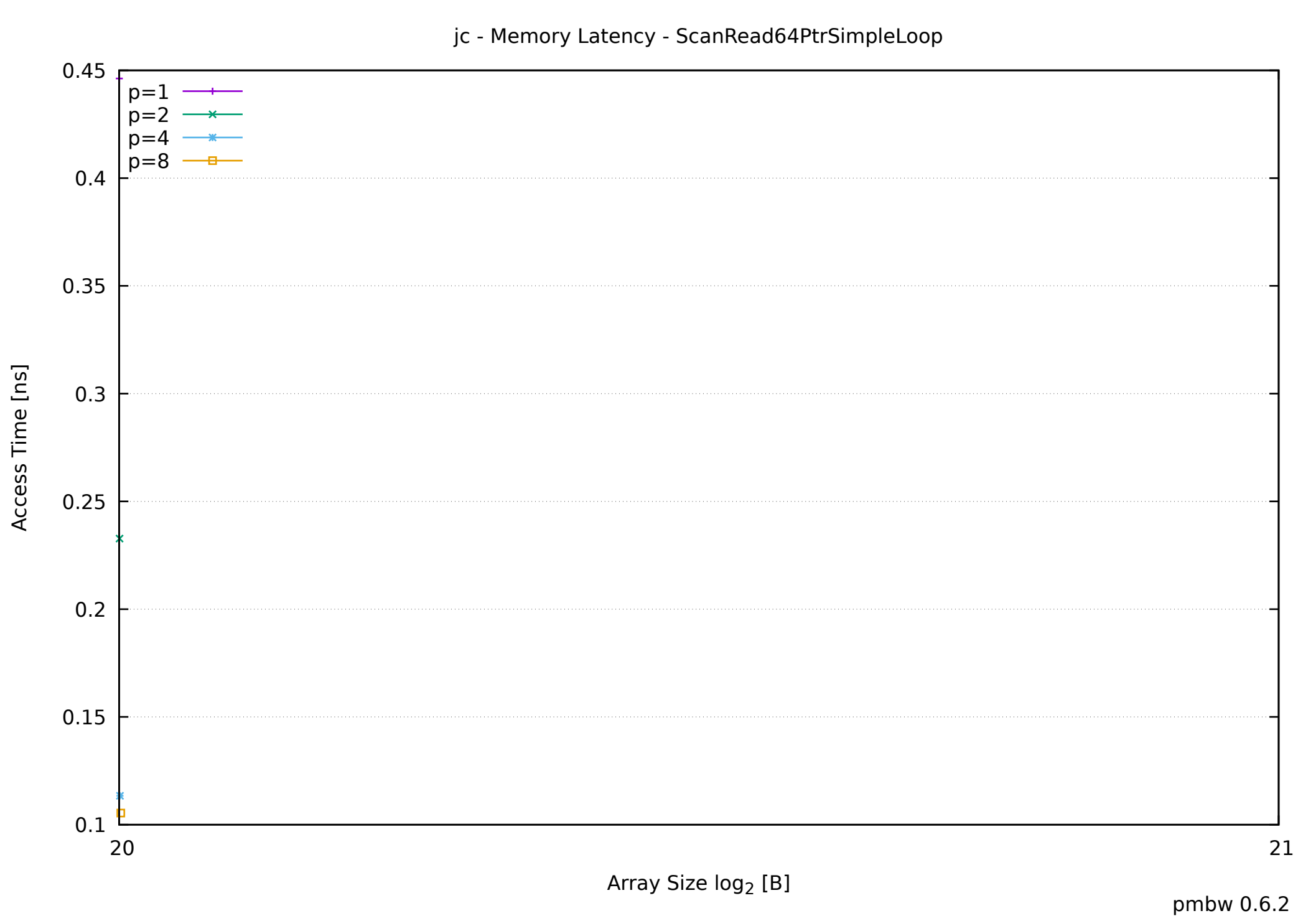

jc - Memory Bandwidth - ScanWrite64PtrUnrollLoop
p=1
p=2
p=4
p=8
65
60
55
50
45
40
35
30
25
20
15
10
Bandwidth [GiB/s]
20
21
Array Size log2 [B]
pmbw 0.6.2

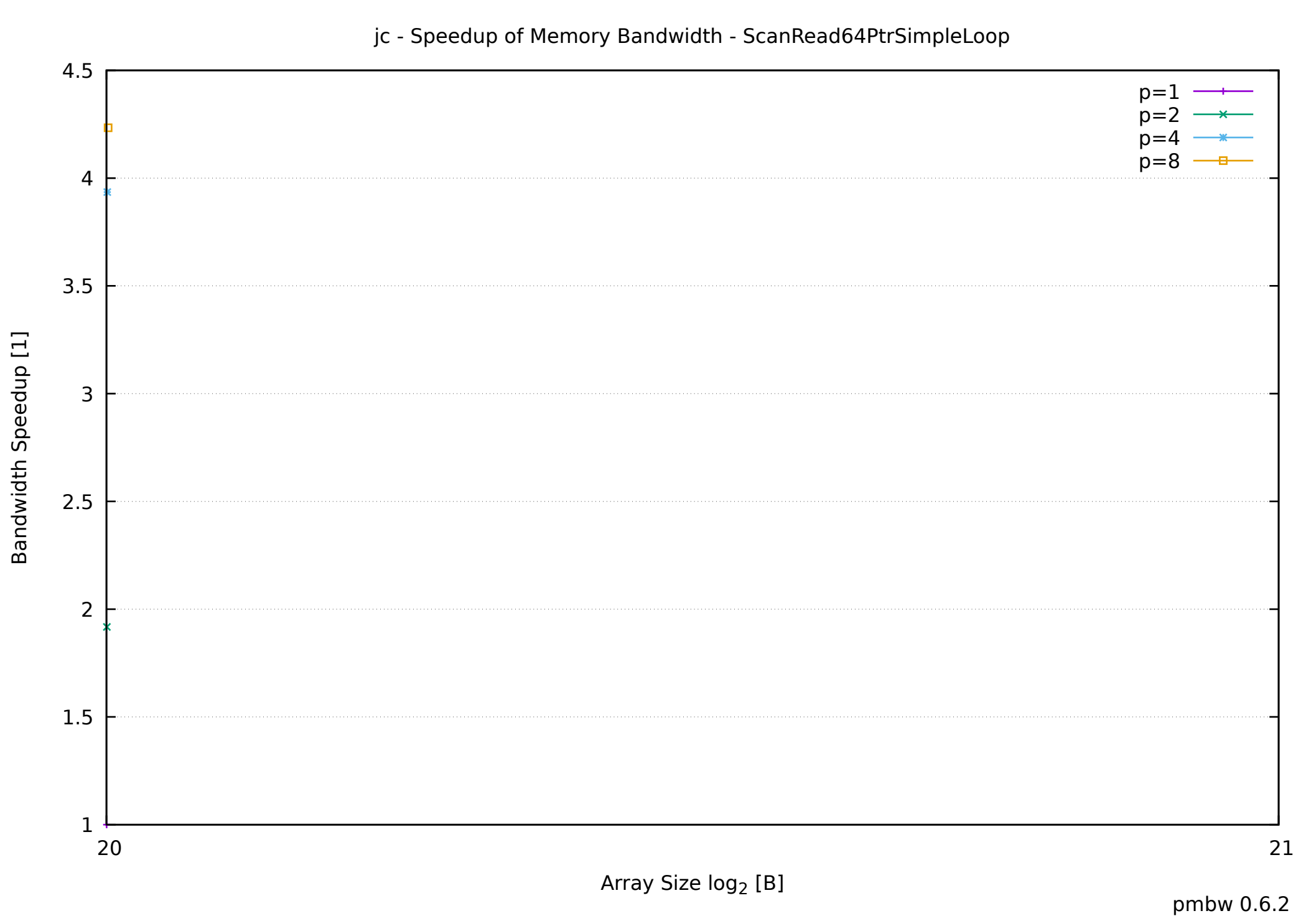

jc - Memory Latency - ScanWrite64PtrUnrollLoop
p=1
p=2
p=4
p=8
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

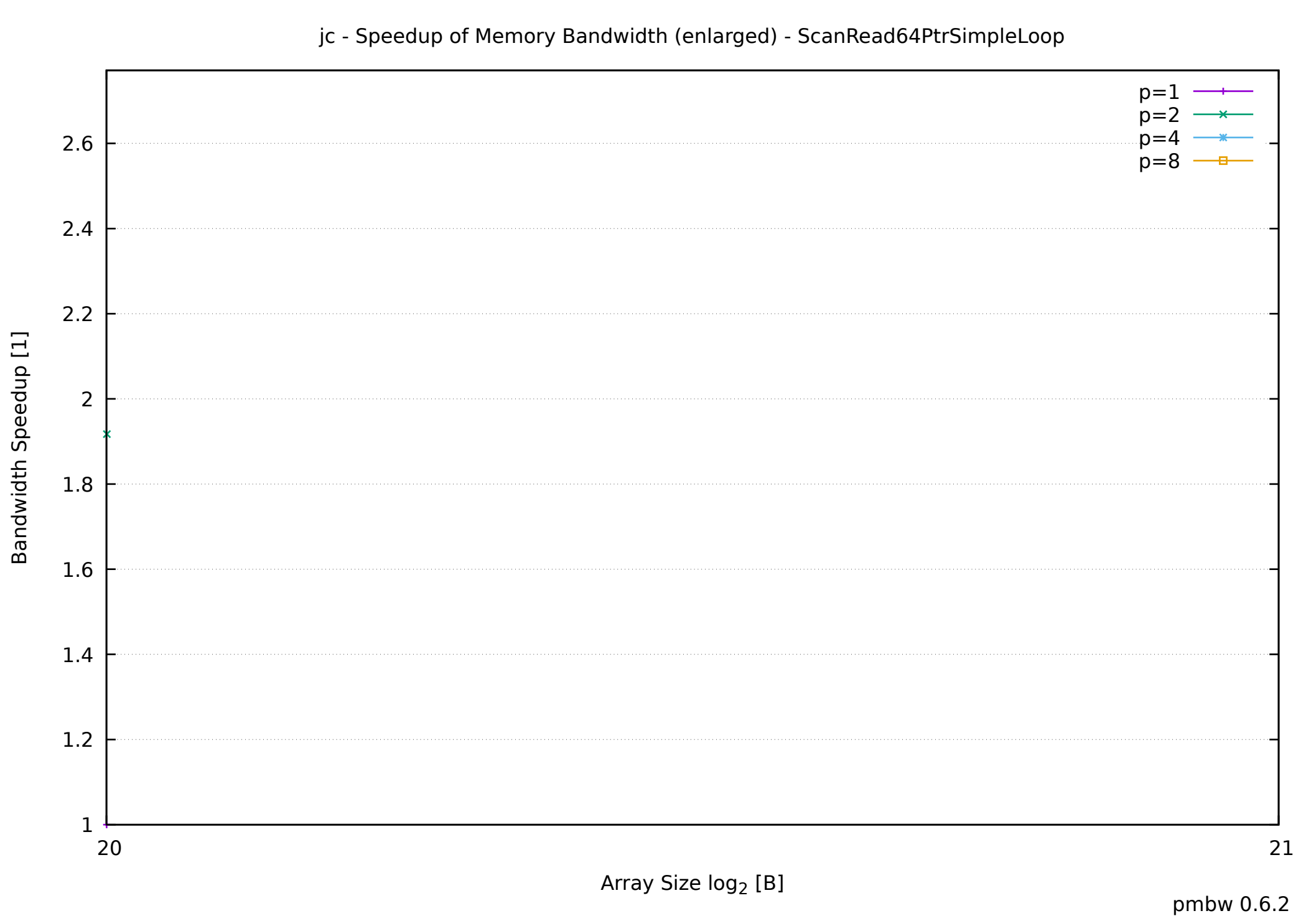

jc - Speedup of Memory Bandwidth - ScanWrite64PtrUnrollLoop
Bandwidth Speedup [1]
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

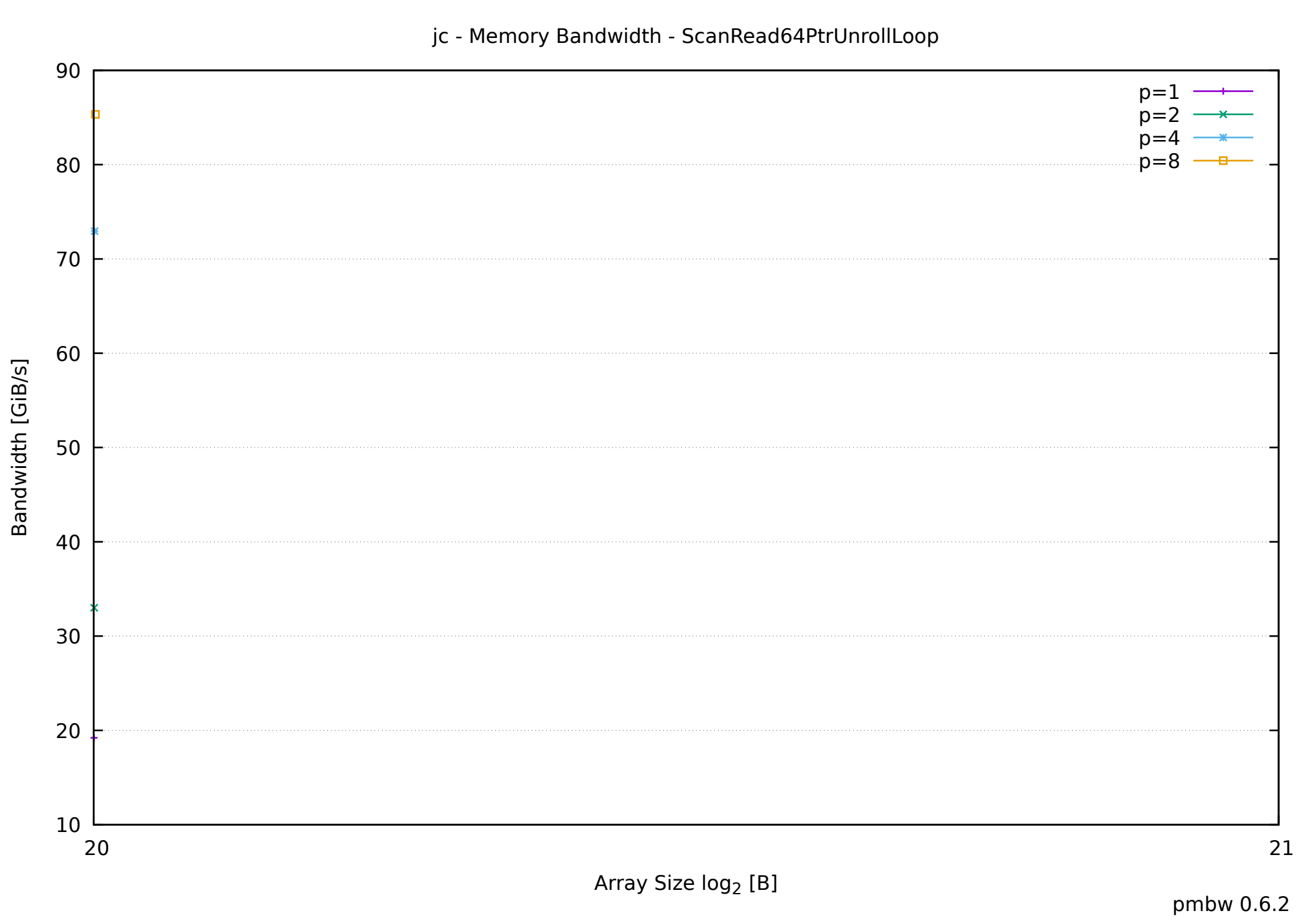

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite64PtrUnrollLoop
p=1
p=2
p=4
p=8
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

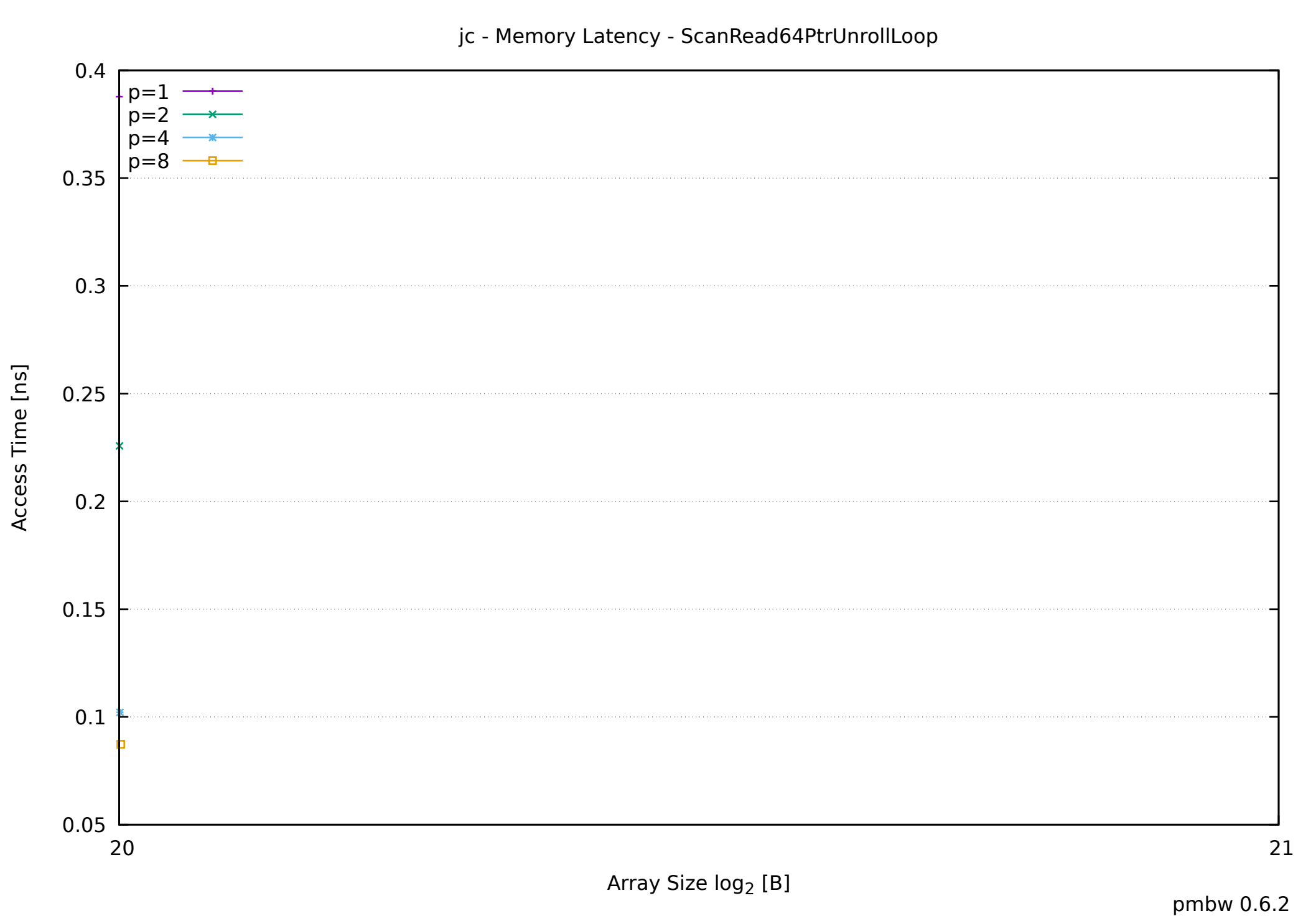

jc - Memory Bandwidth - ScanRead64PtrSimpleLoop
Bandwidth [GiB/s]
80
70
60
50
40
30
20
10
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

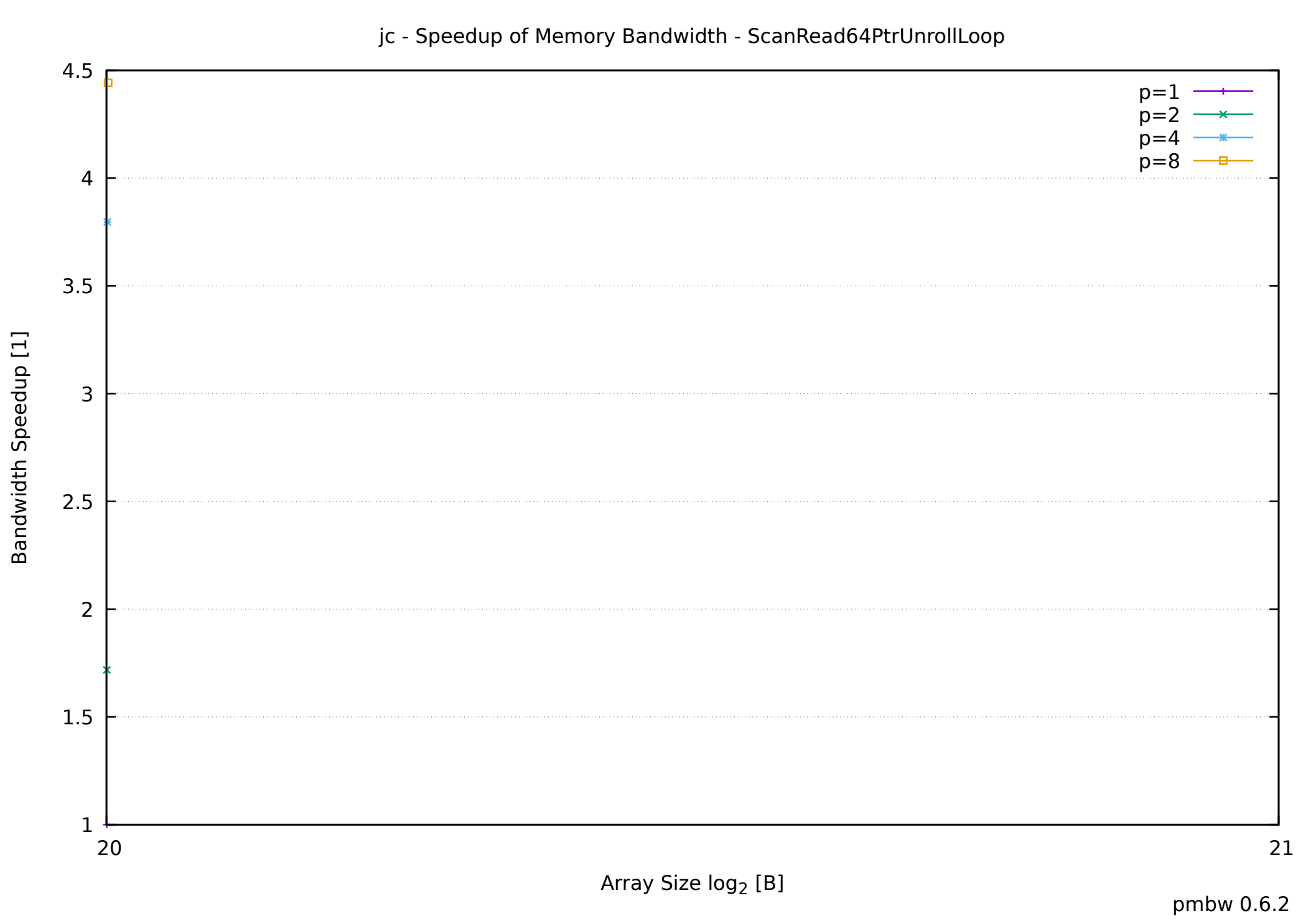

jc - Memory Latency - ScanRead64PtrSimpleLoop
p=1
p=2
p=4
p=8
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

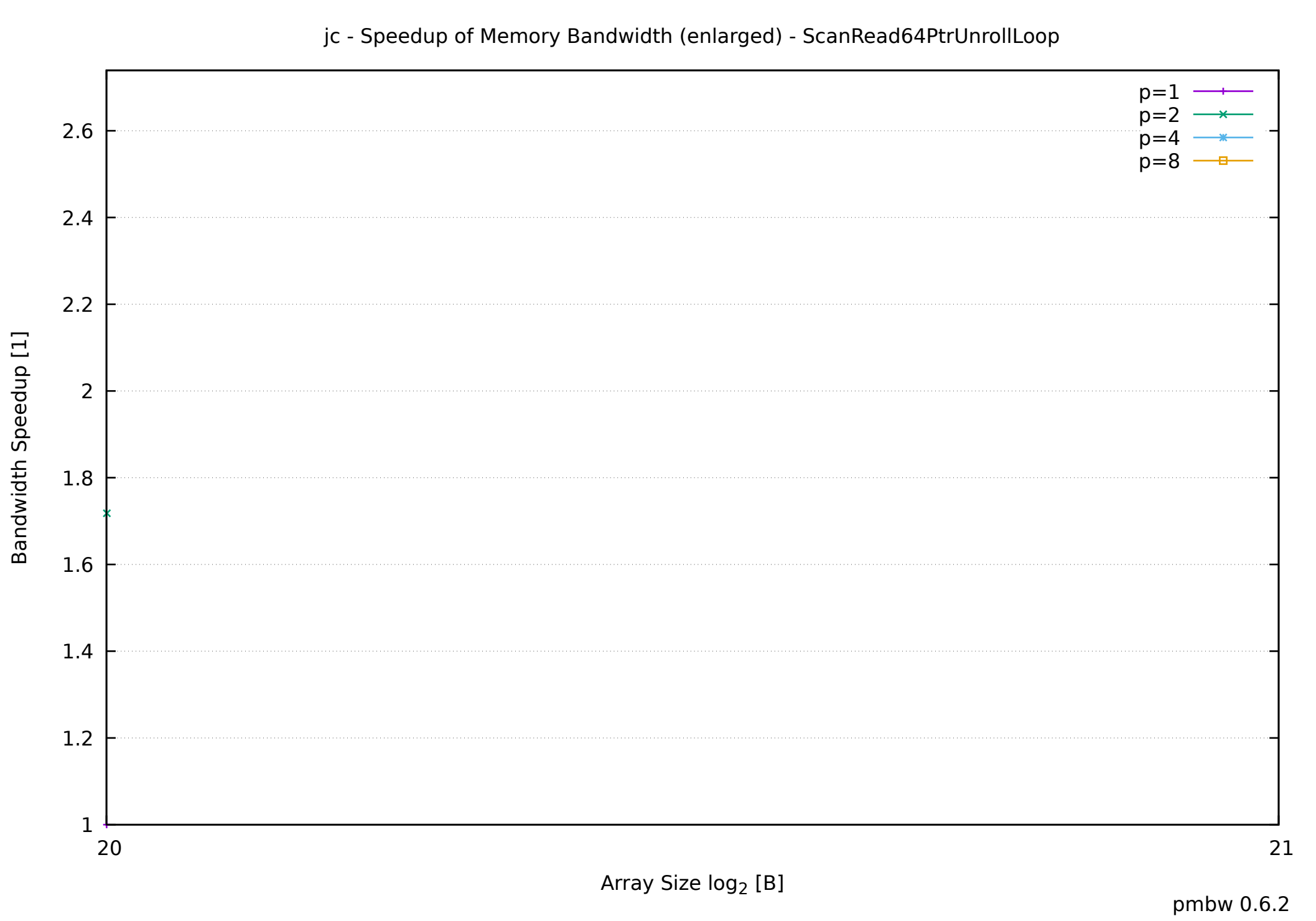

jc - Speedup of Memory Bandwidth - ScanRead64PtrSimpleLoop
p=1
p=2
p=4
p=8
4.5
4
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

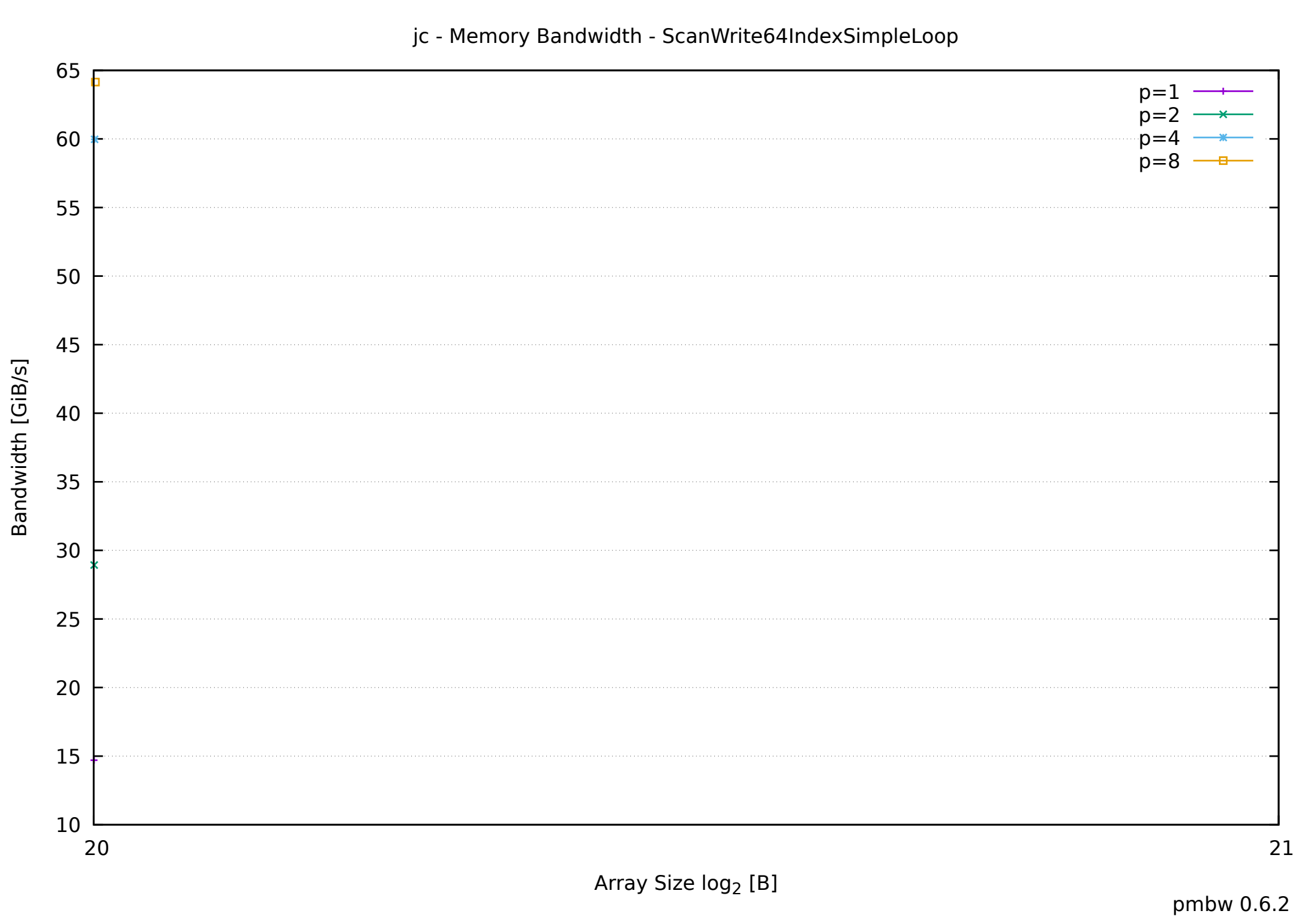

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead64PtrSimpleLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

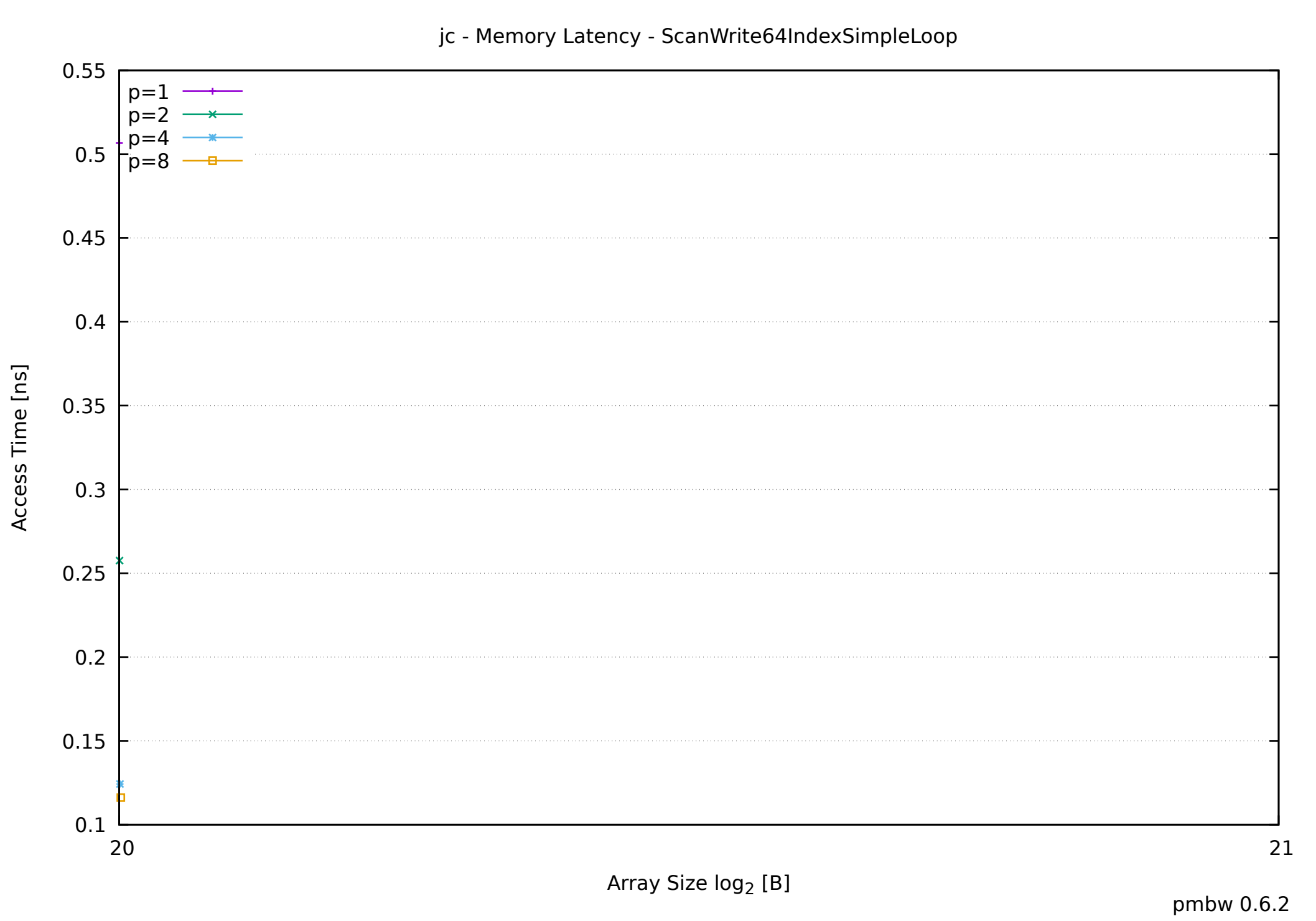

jc - Memory Bandwidth - ScanRead64PtrUnrollLoop
Bandwidth [GiB/s]
90
80
70
60
50
40
30
20
10
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

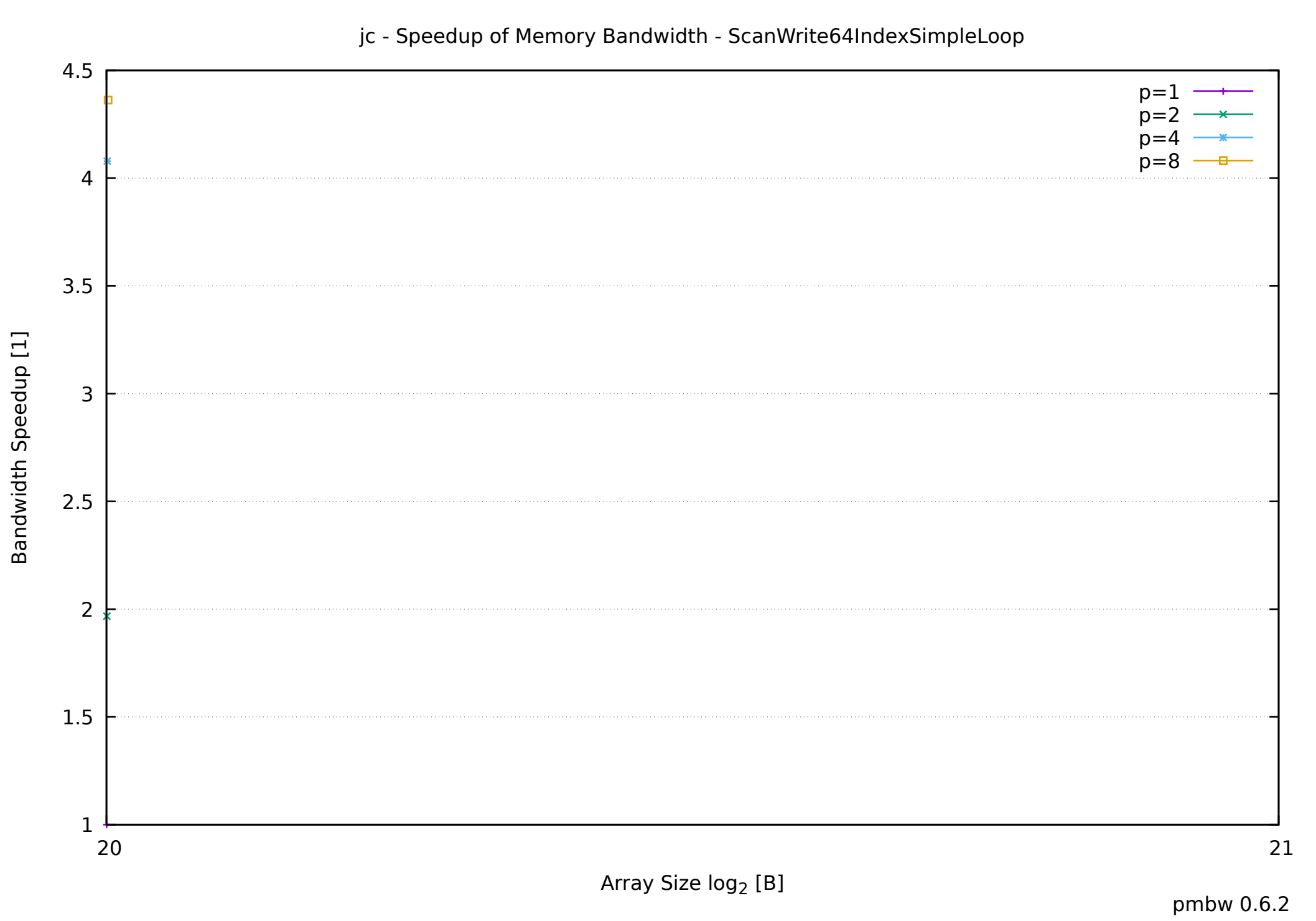

jc - Memory Latency - ScanRead64PtrUnrollLoop
p=1
p=2
p=4
p=8
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2


jc - Speedup of Memory Bandwidth - ScanRead64PtrUnrollLoop
Bandwidth Speedup [1]
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

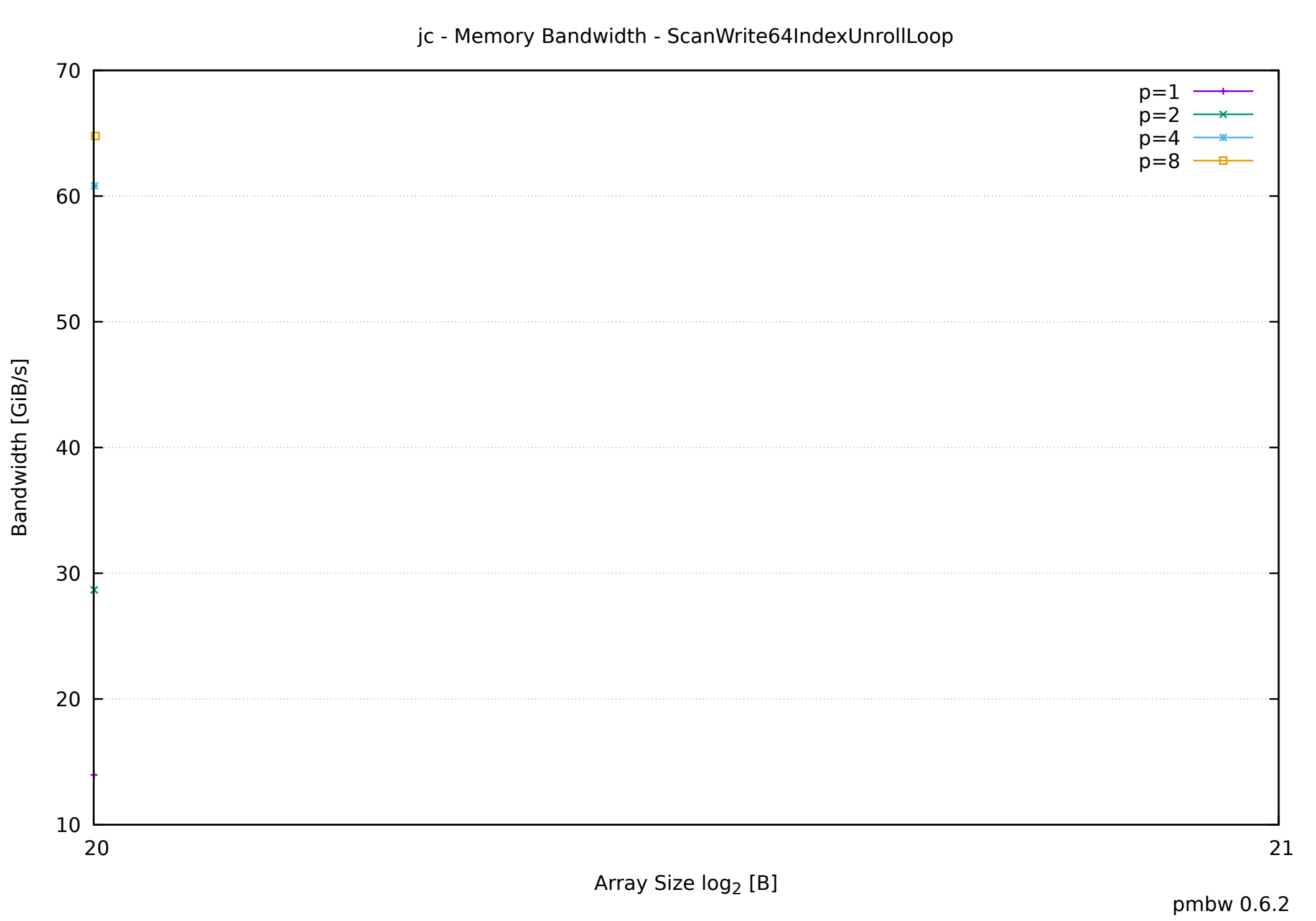

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead64PtrUnrollLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

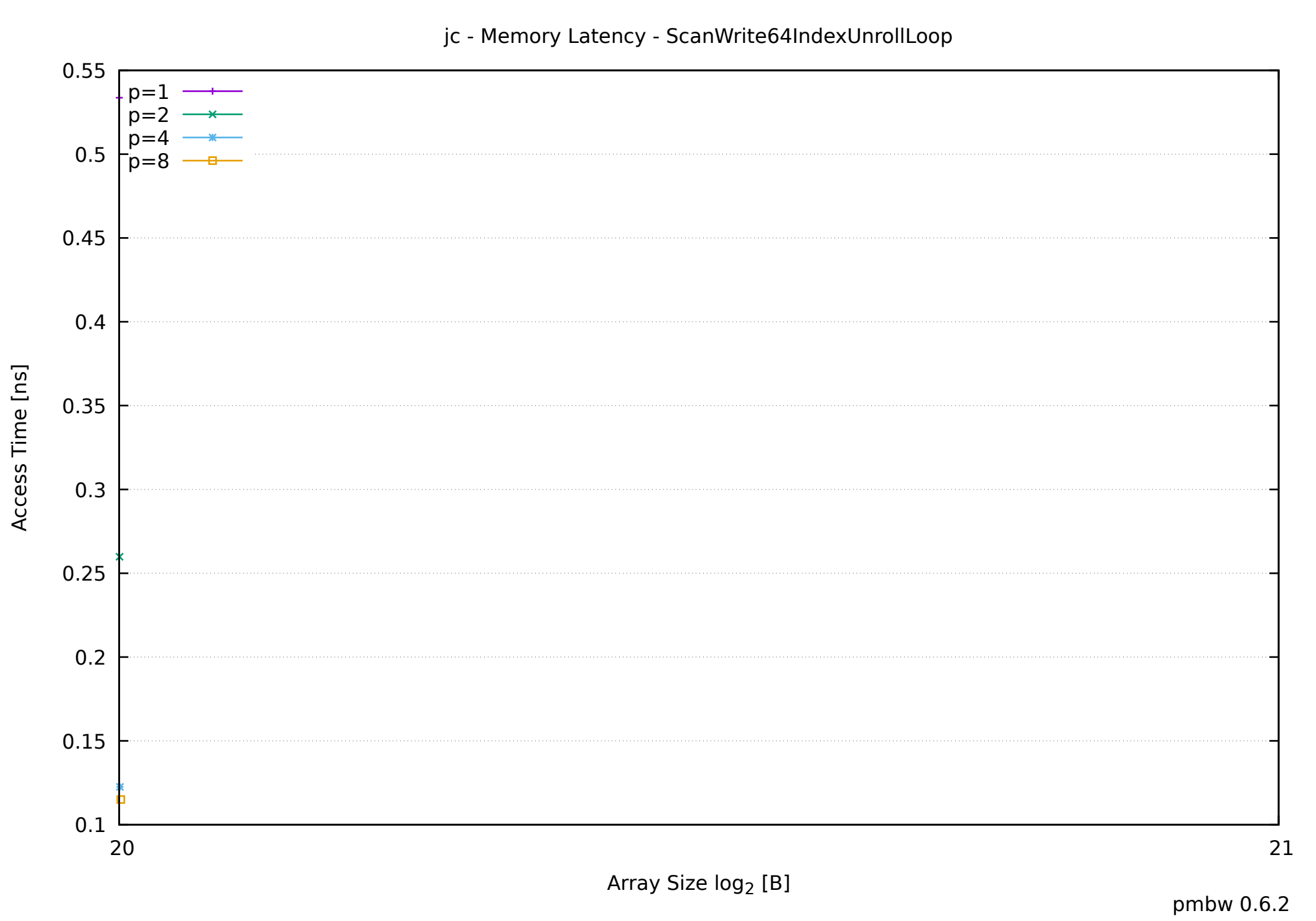

jc - Memory Bandwidth - ScanWrite64IndexSimpleLoop
65
60
55
50
45
40
35
30
25
20
15
10
Bandwidth [GiB/s]
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

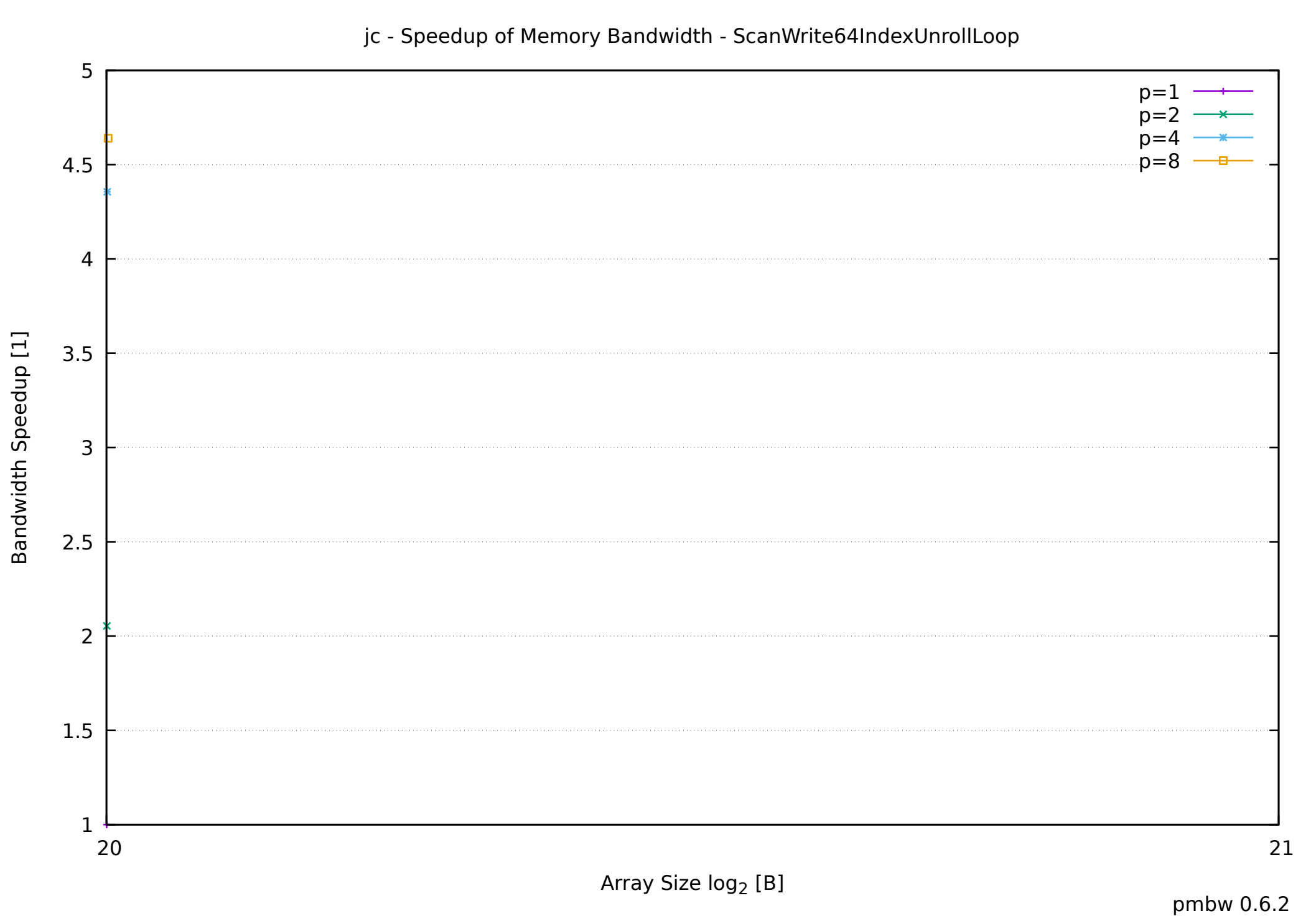

jc - Memory Latency - ScanWrite64IndexSimpleLoop
p=1
p=2
p=4
p=8
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

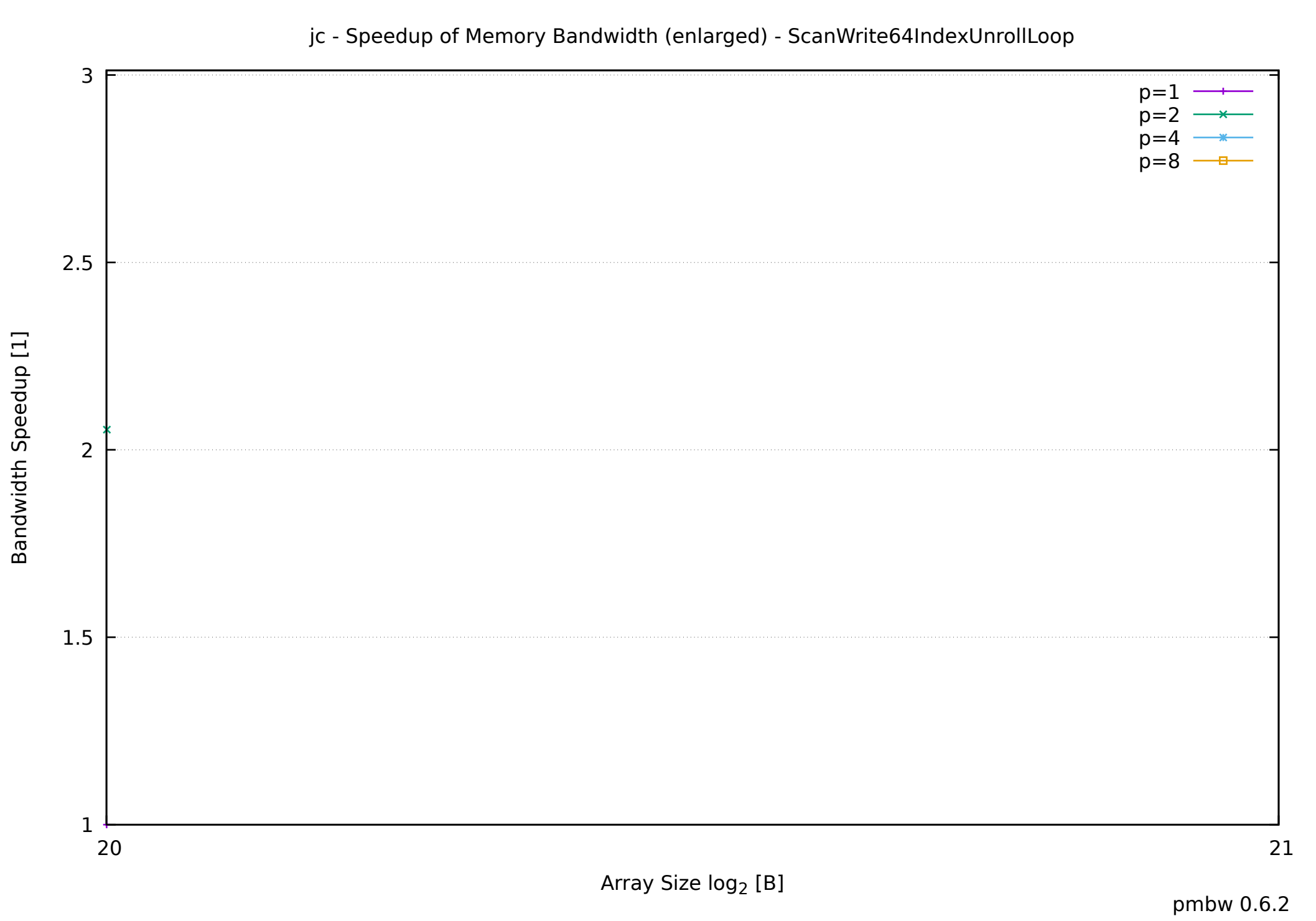

jc - Speedup of Memory Bandwidth - ScanWrite64IndexSimpleLoop
Bandwidth Speedup [1]
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

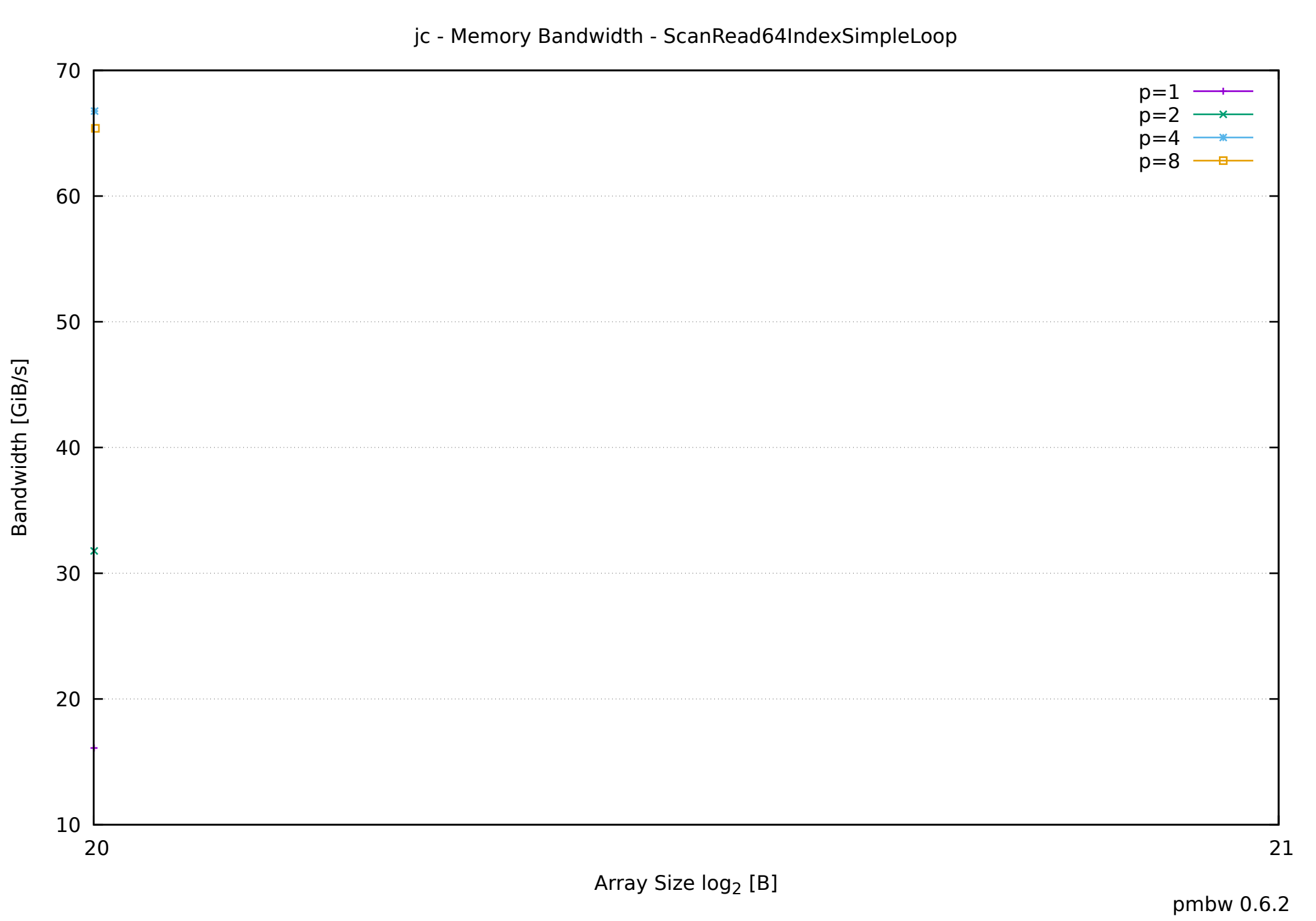
jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite64IndexSimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
20
21
Array Size log2 [B]
pmbw 0.6.2

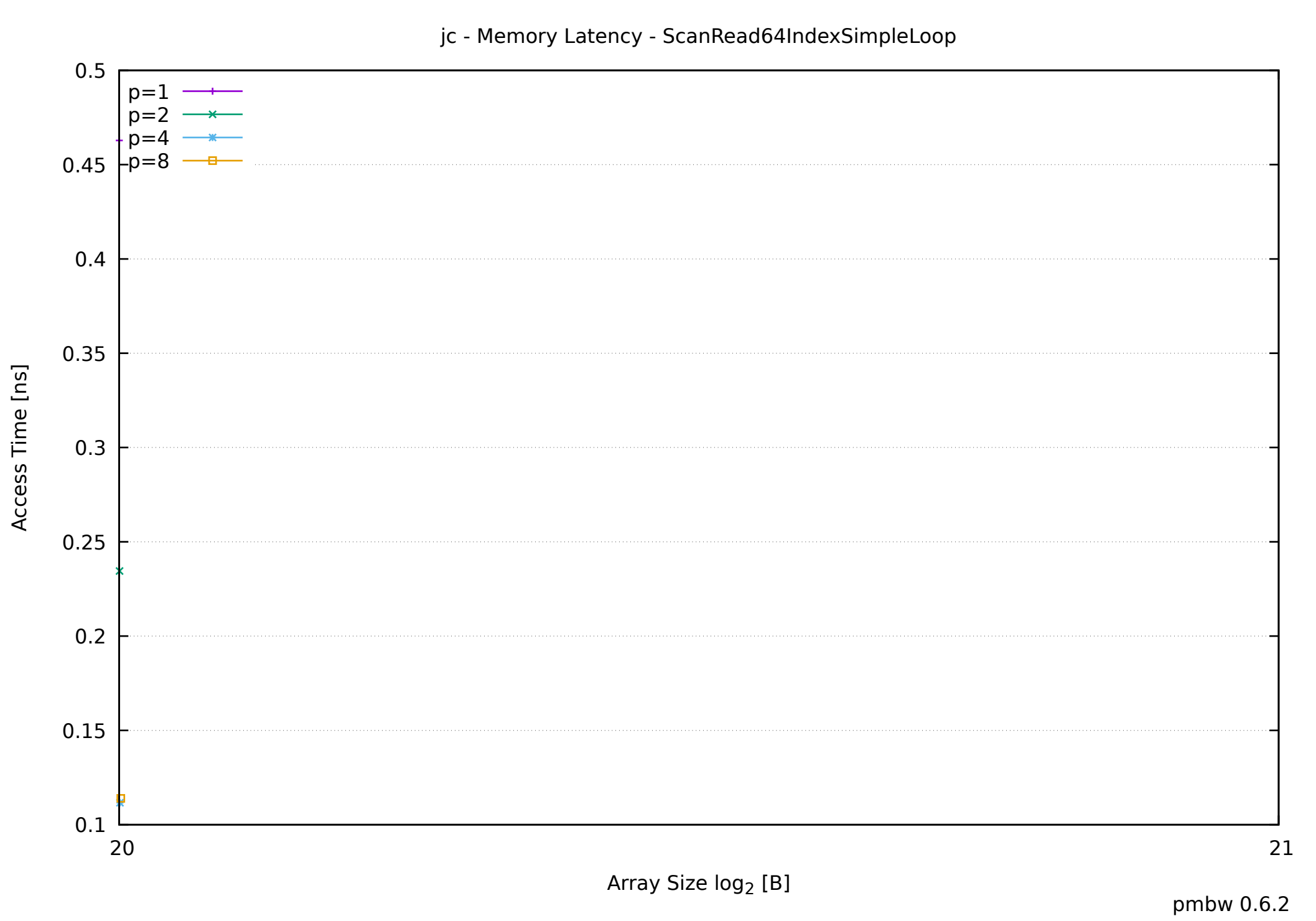

jc - Memory Bandwidth - ScanWrite64IndexUnrollLoop
70
60
50
40
30
20
10
Bandwidth [GiB/s]
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

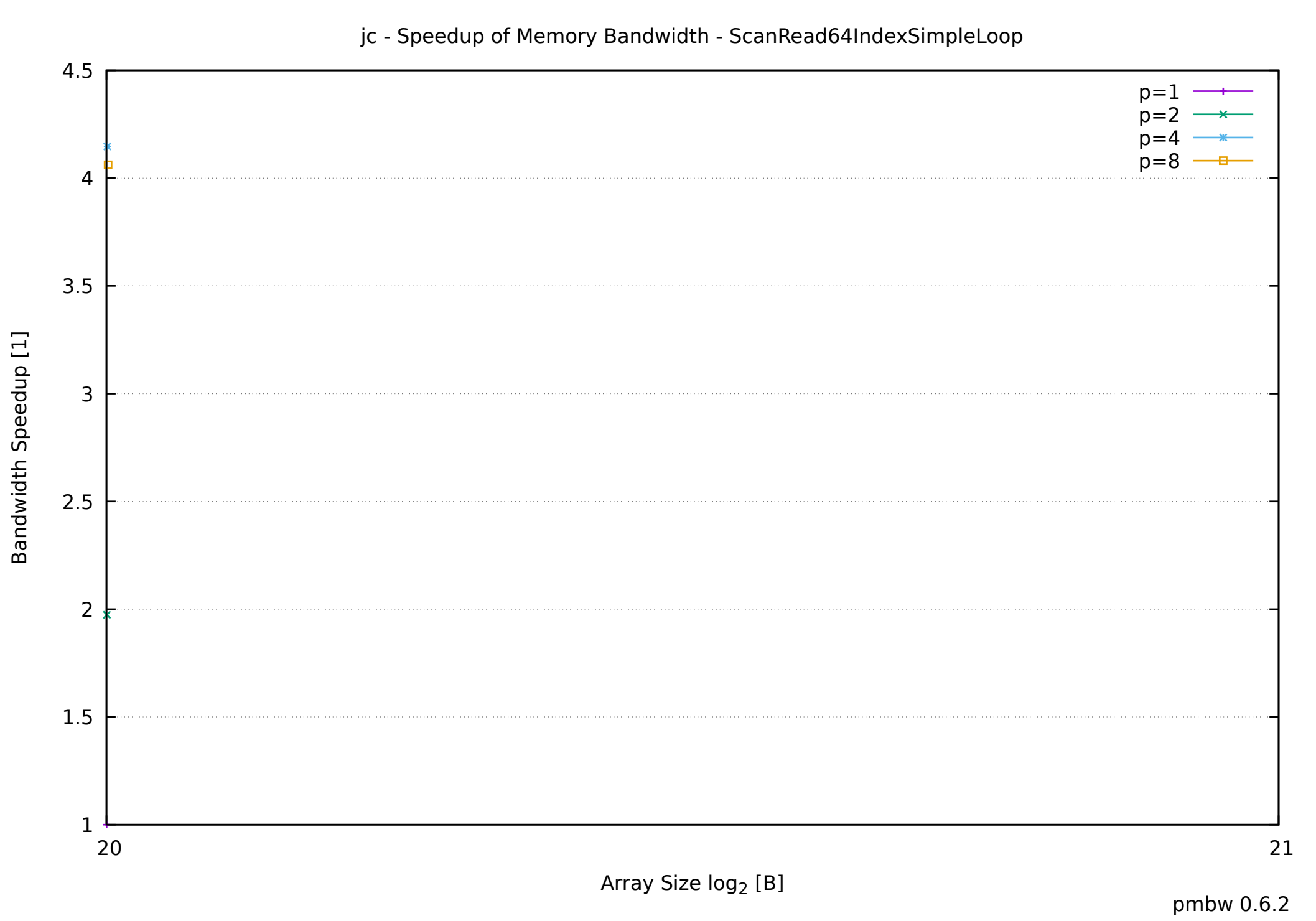

jc - Memory Latency - ScanWrite64IndexUnrollLoop
p=1
p=2
p=4
p=8
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

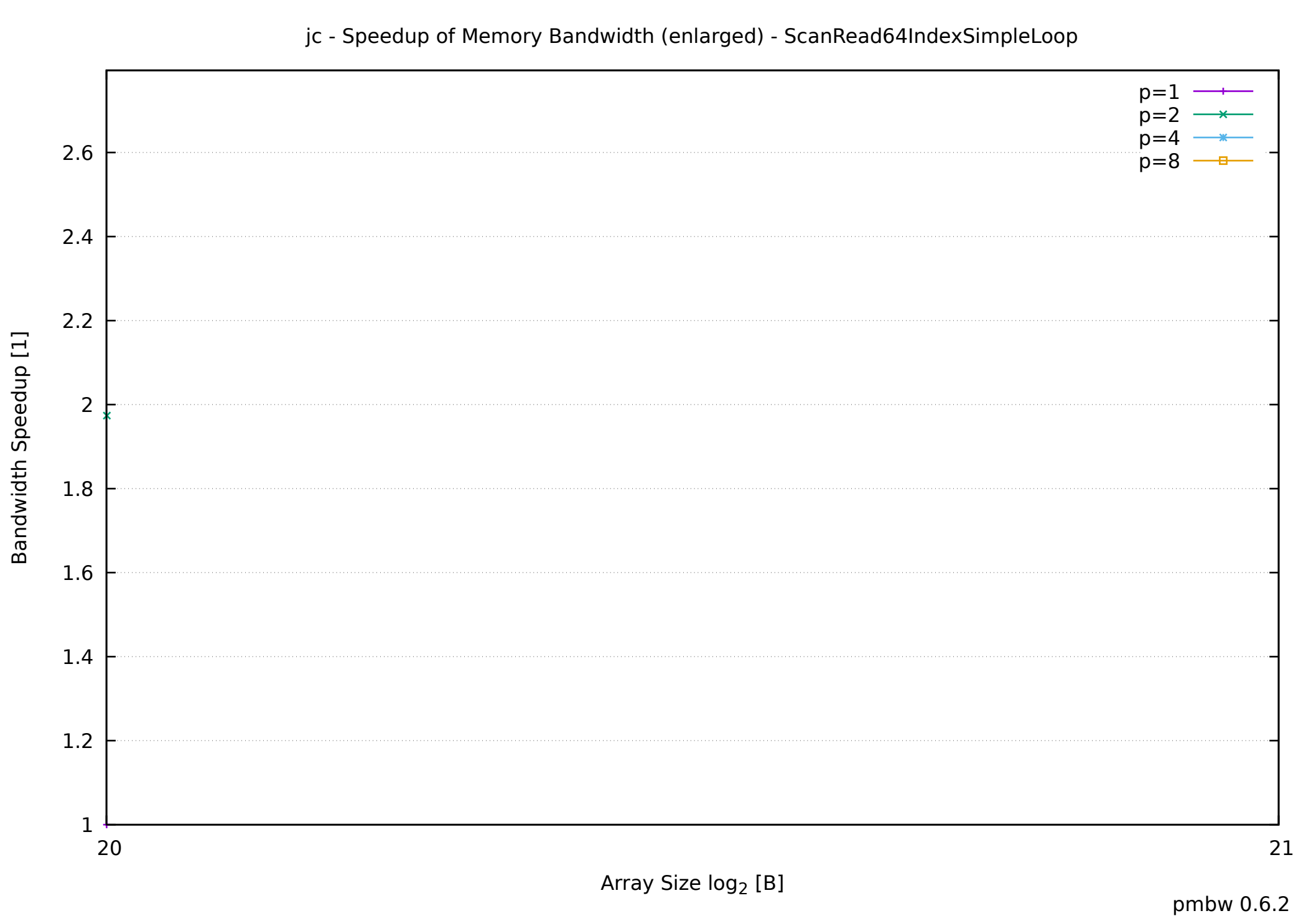

jc - Speedup of Memory Bandwidth - ScanWrite64IndexUnrollLoop
Bandwidth Speedup [1]
5
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

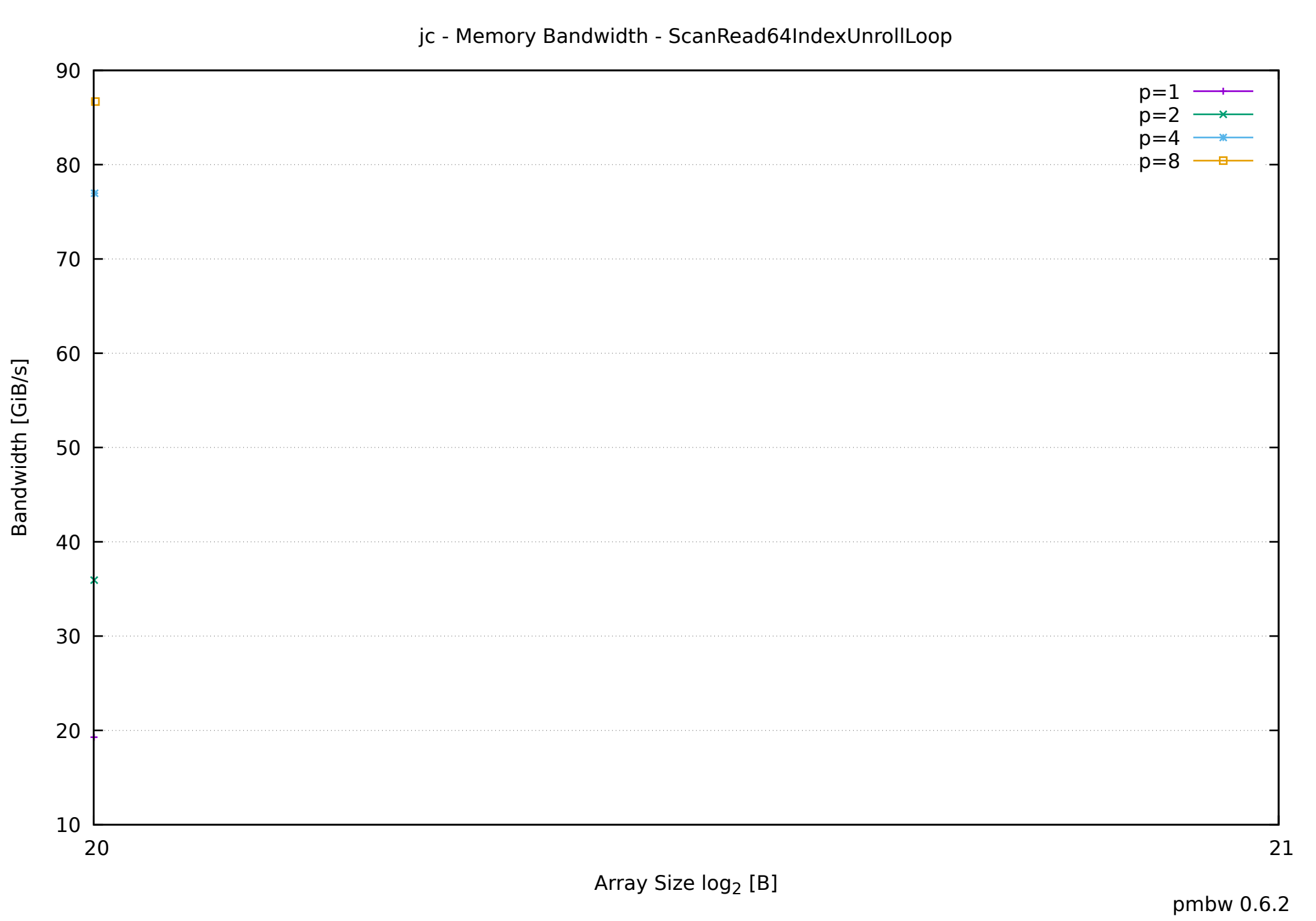

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite64IndexUnrollLoop
p=1
p=2
p=4
p=8
3
2.5
2
1.5
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

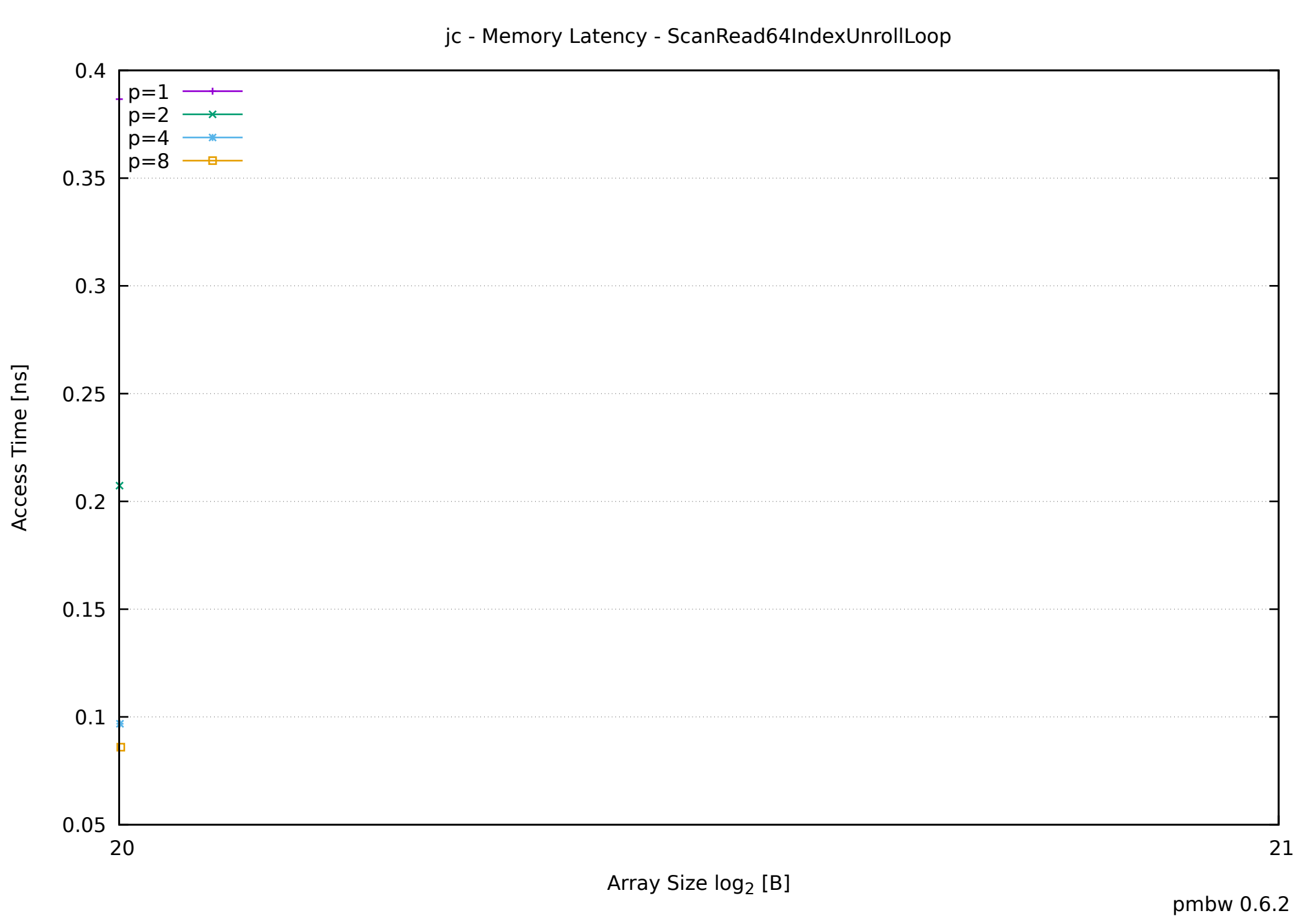

jc - Memory Bandwidth - ScanRead64IndexSimpleLoop
70
60
50
40
30
20
10
Bandwidth [GiB/s]
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

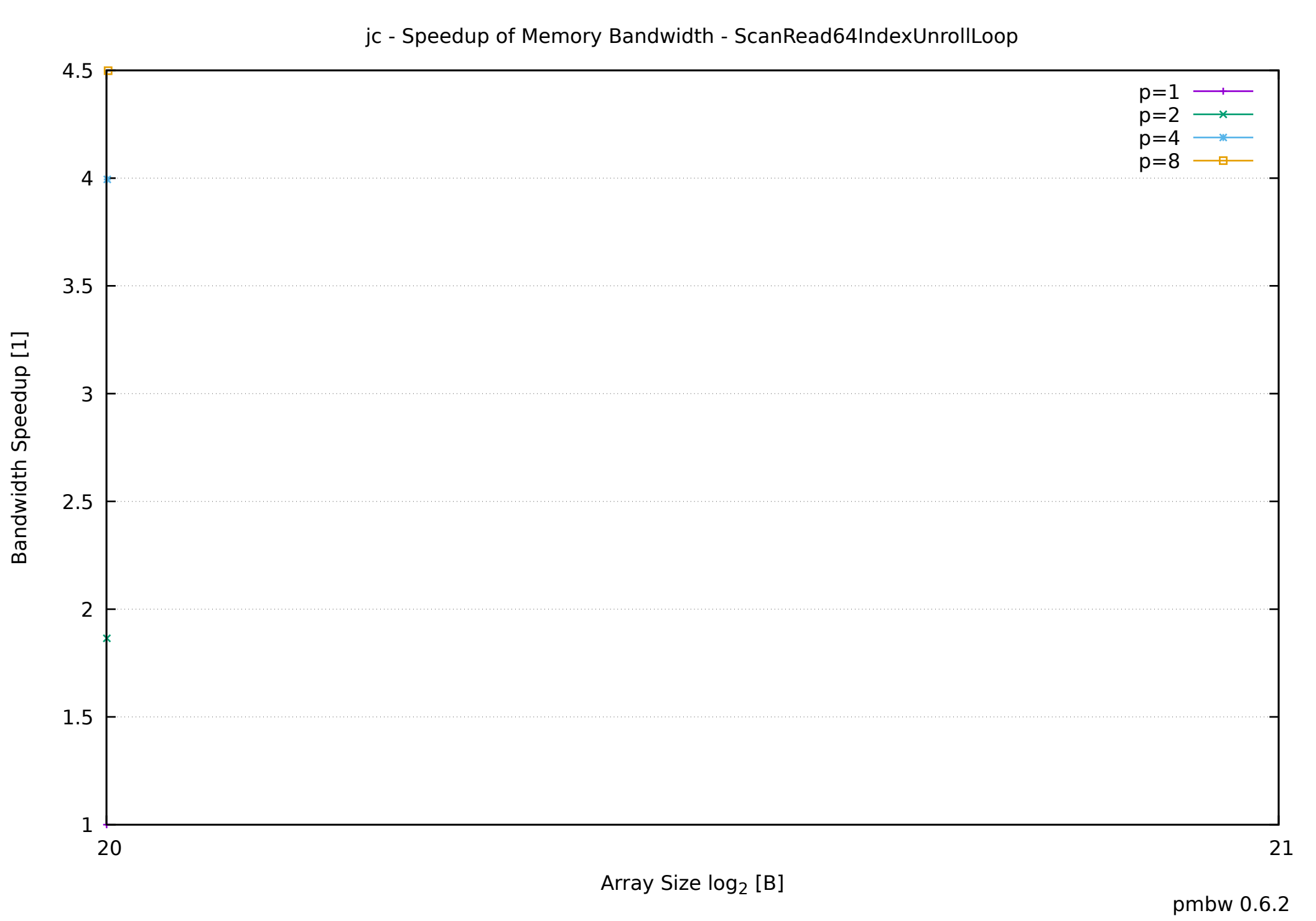

jc - Memory Latency - ScanRead64IndexSimpleLoop
p=1
p=2
p=4
p=8
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

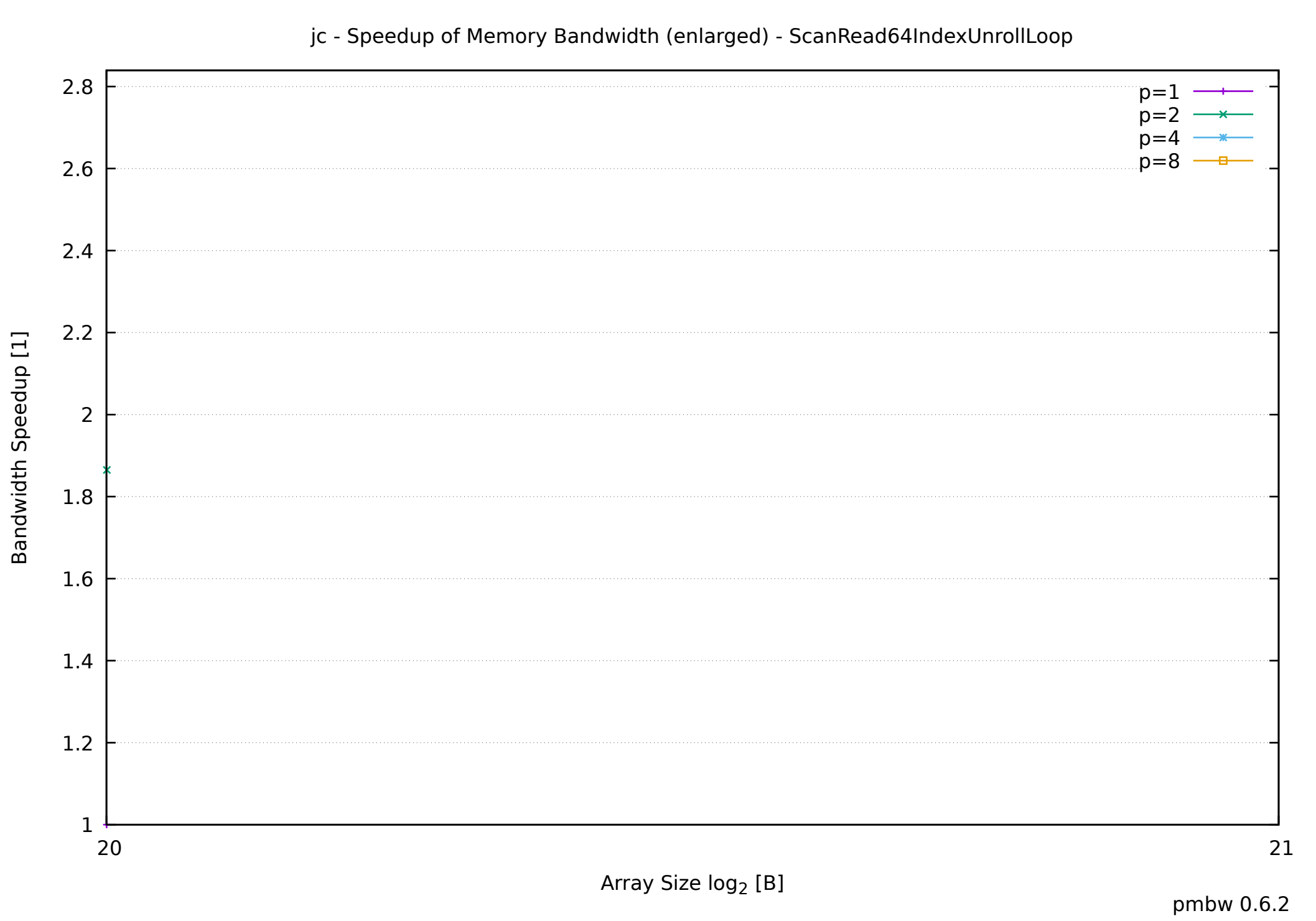

jc - Speedup of Memory Bandwidth - ScanRead64IndexSimpleLoop
p=1
p=2
p=4
p=8
4.5
4
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

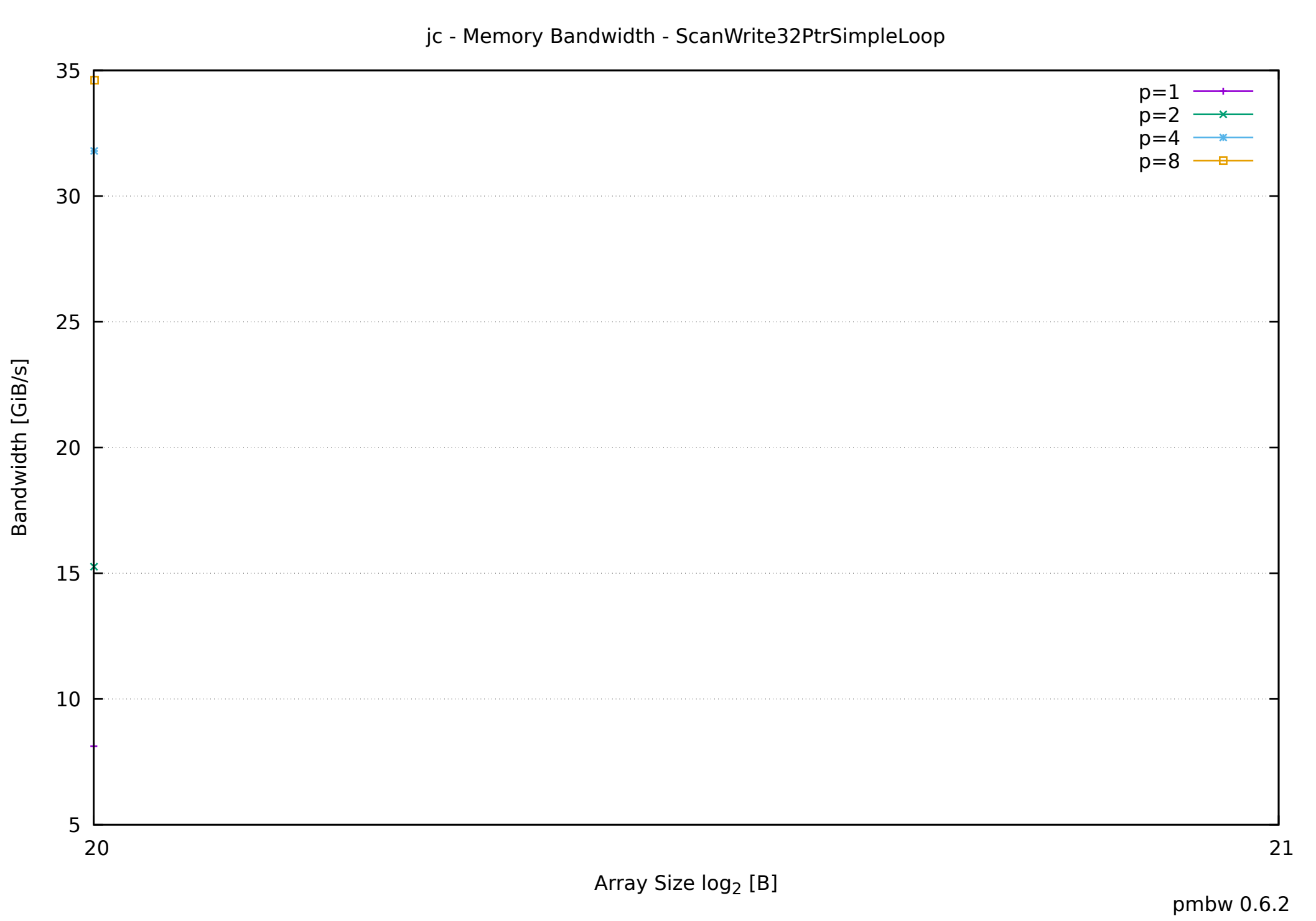

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead64IndexSimpleLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

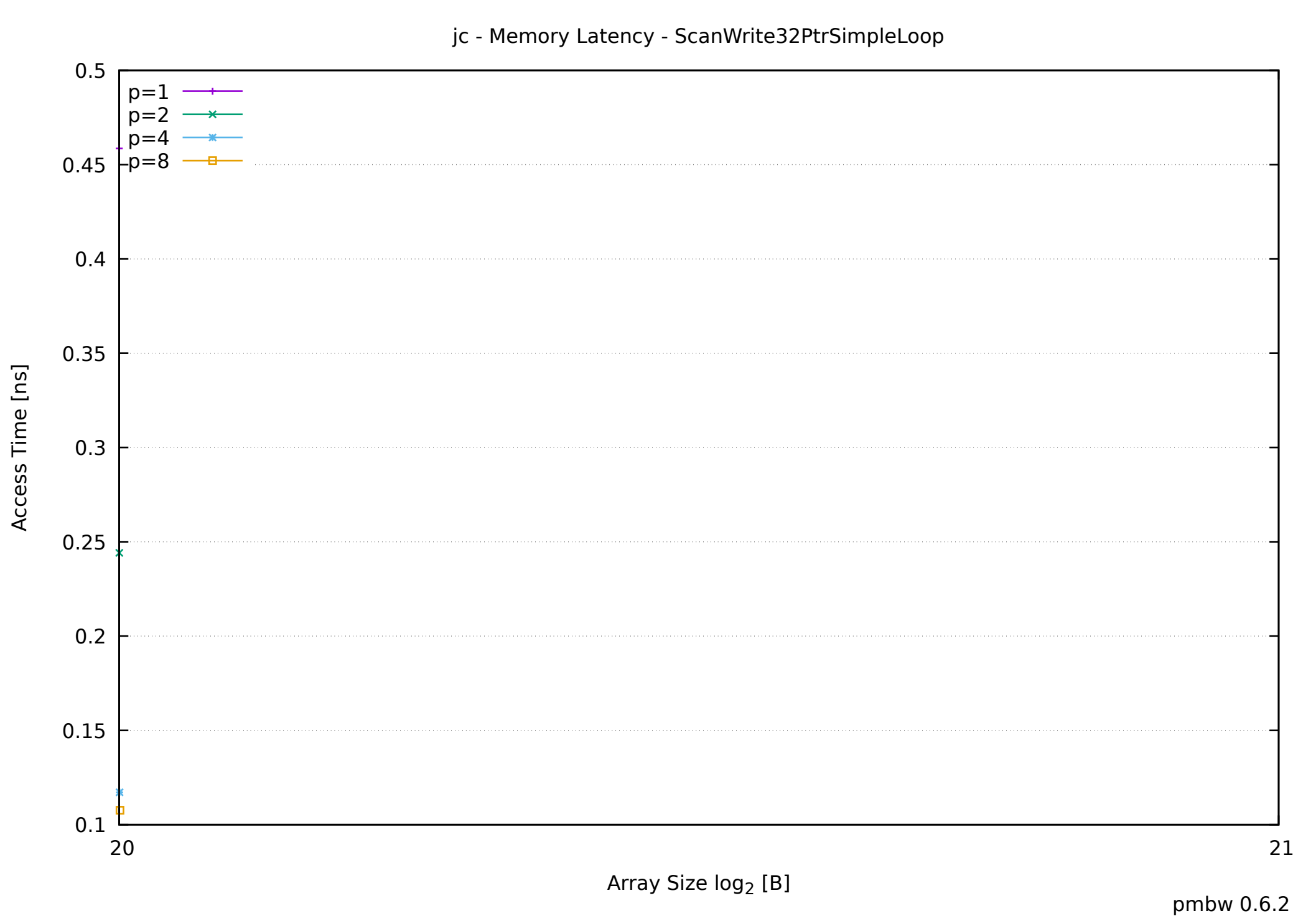

jc - Memory Bandwidth - ScanRead64IndexUnrollLoop
Bandwidth [GiB/s]
90
80
70
60
50
40
30
20
10
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

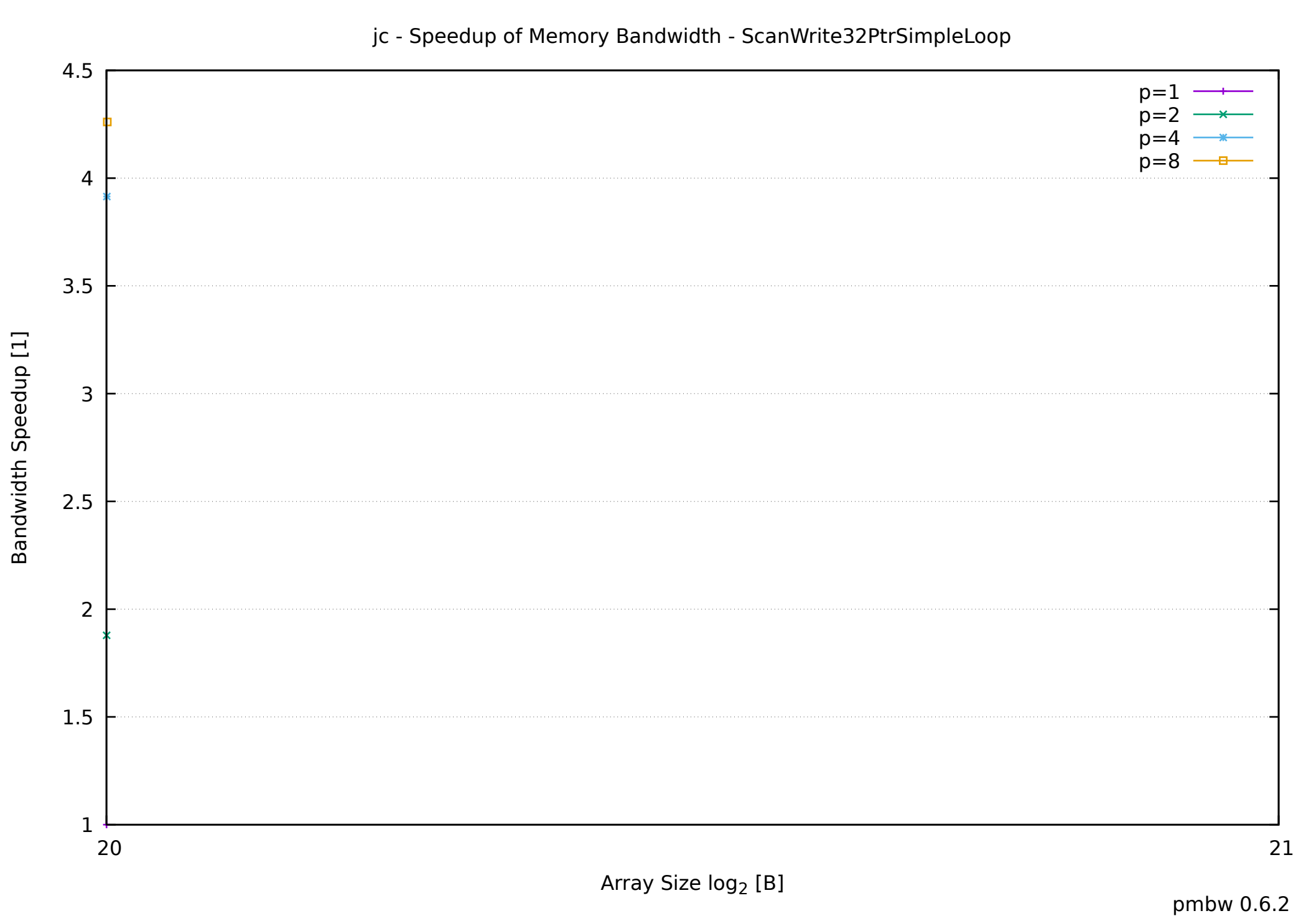

jc - Memory Latency - ScanRead64IndexUnrollLoop
p=1
p=2
p=4
p=8
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

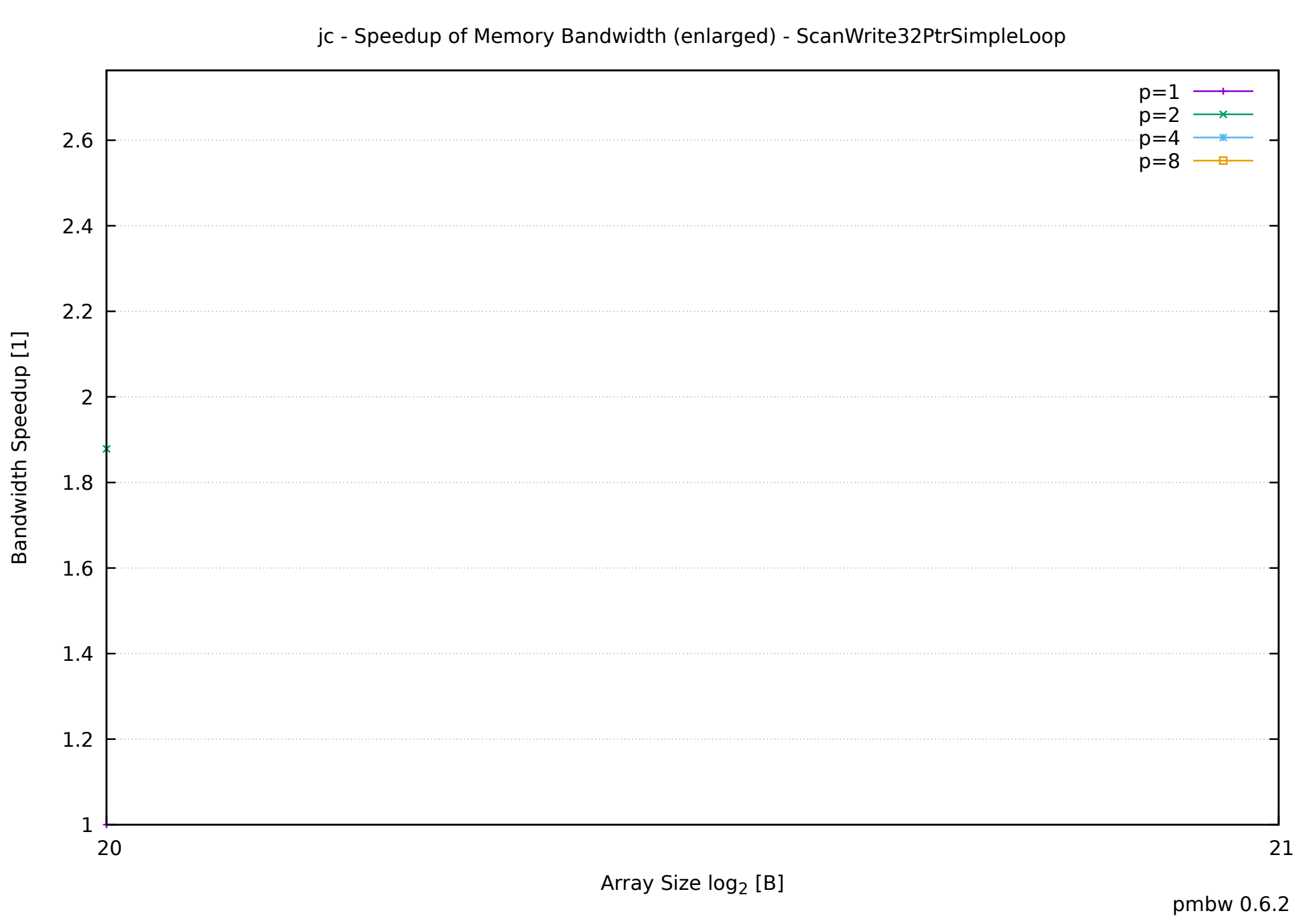

jc - Speedup of Memory Bandwidth - ScanRead64IndexUnrollLoop
Bandwidth Speedup [1]
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

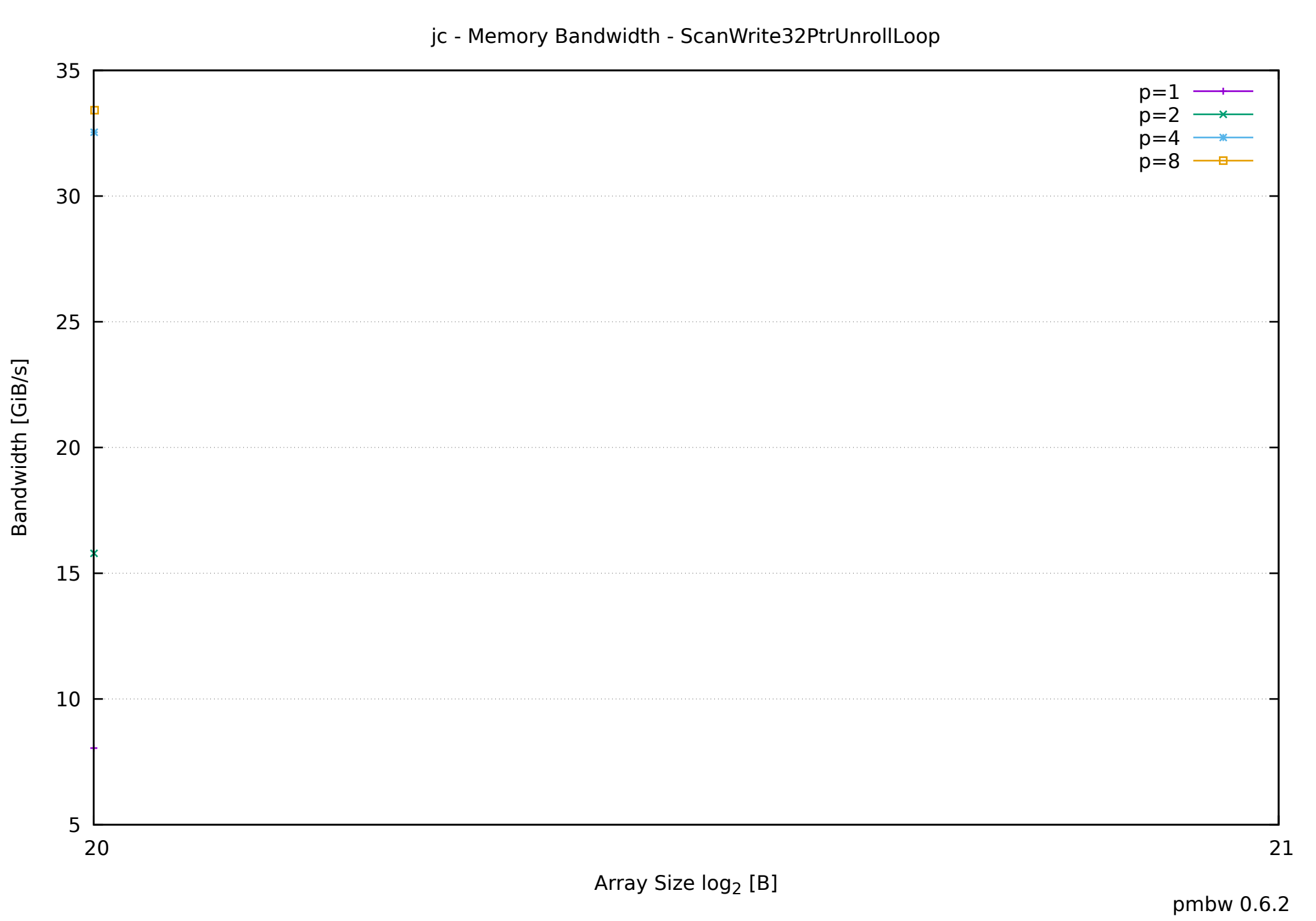

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead64IndexUnrollLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
20
21
Array Size log2 [B]
pmbw 0.6.2

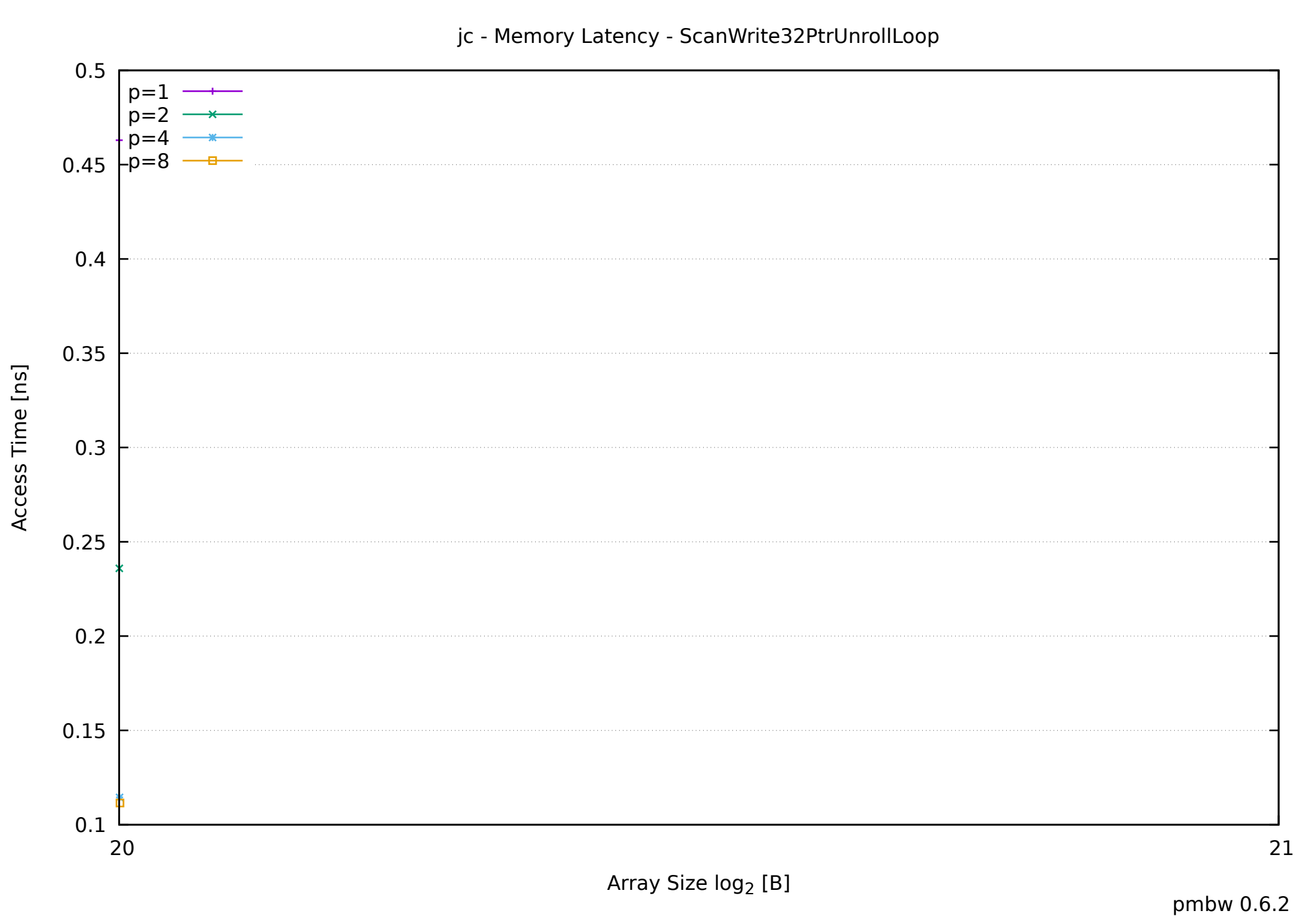

jc - Memory Bandwidth - ScanWrite32PtrSimpleLoop
p=1
p=2
p=4
p=8
35
30
25
20
15
10
5
Bandwidth [GiB/s]
20
21
Array Size log2 [B]
pmbw 0.6.2

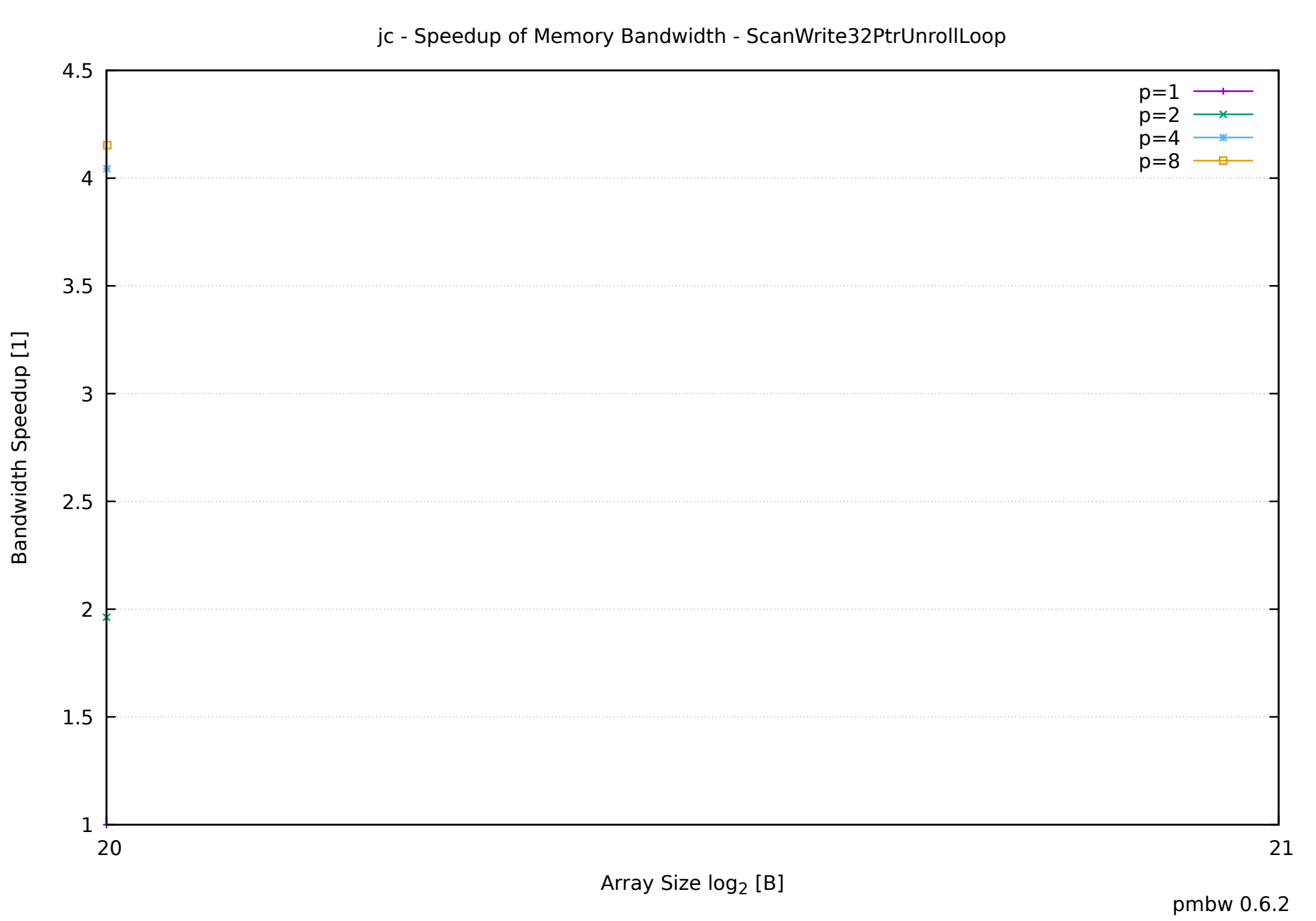

jc - Memory Latency - ScanWrite32PtrSimpleLoop
p=1
p=2
p=4
p=8
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

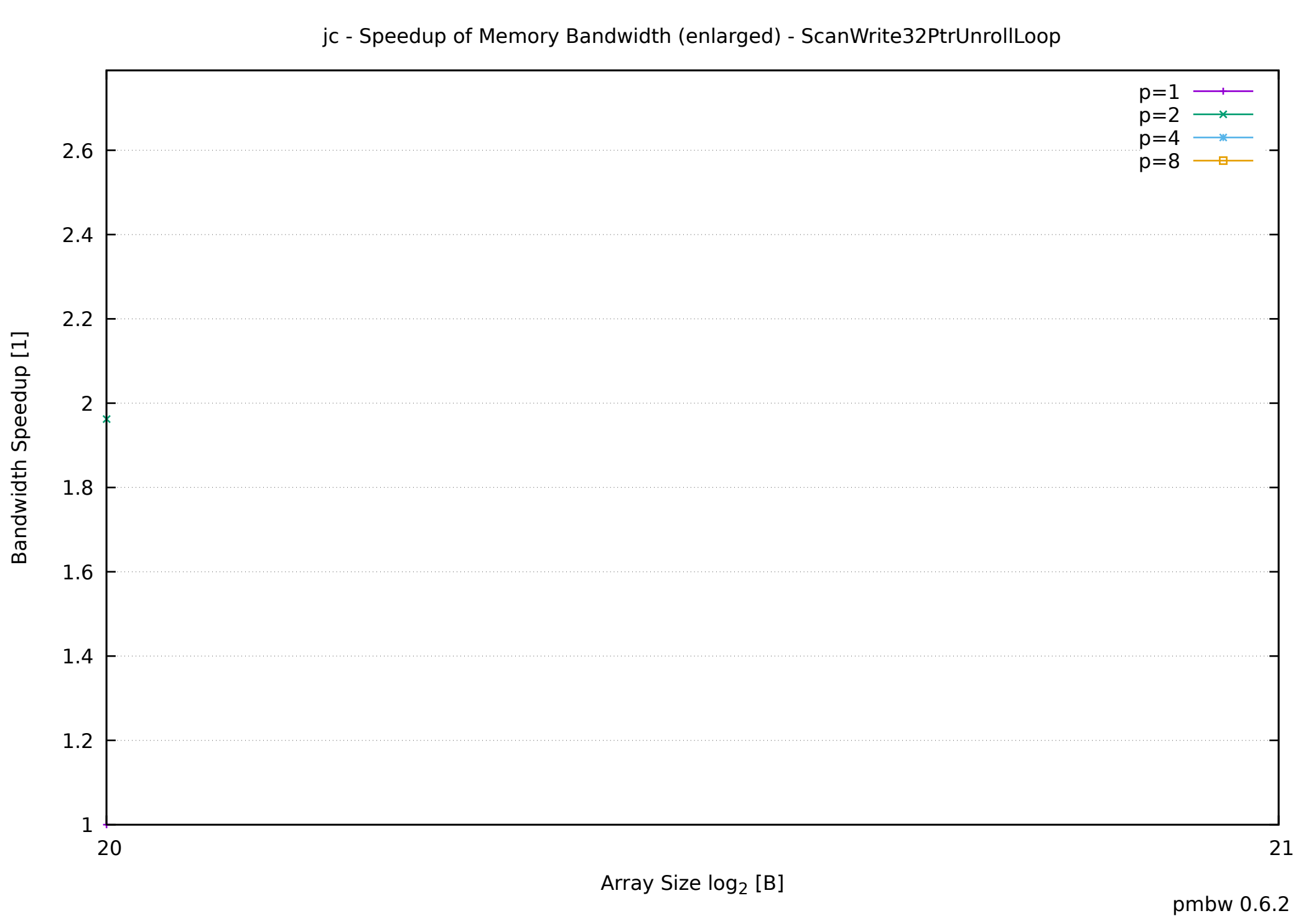

jc - Speedup of Memory Bandwidth - ScanWrite32PtrSimpleLoop
p=1
p=2
p=4
p=8
4.5
4
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

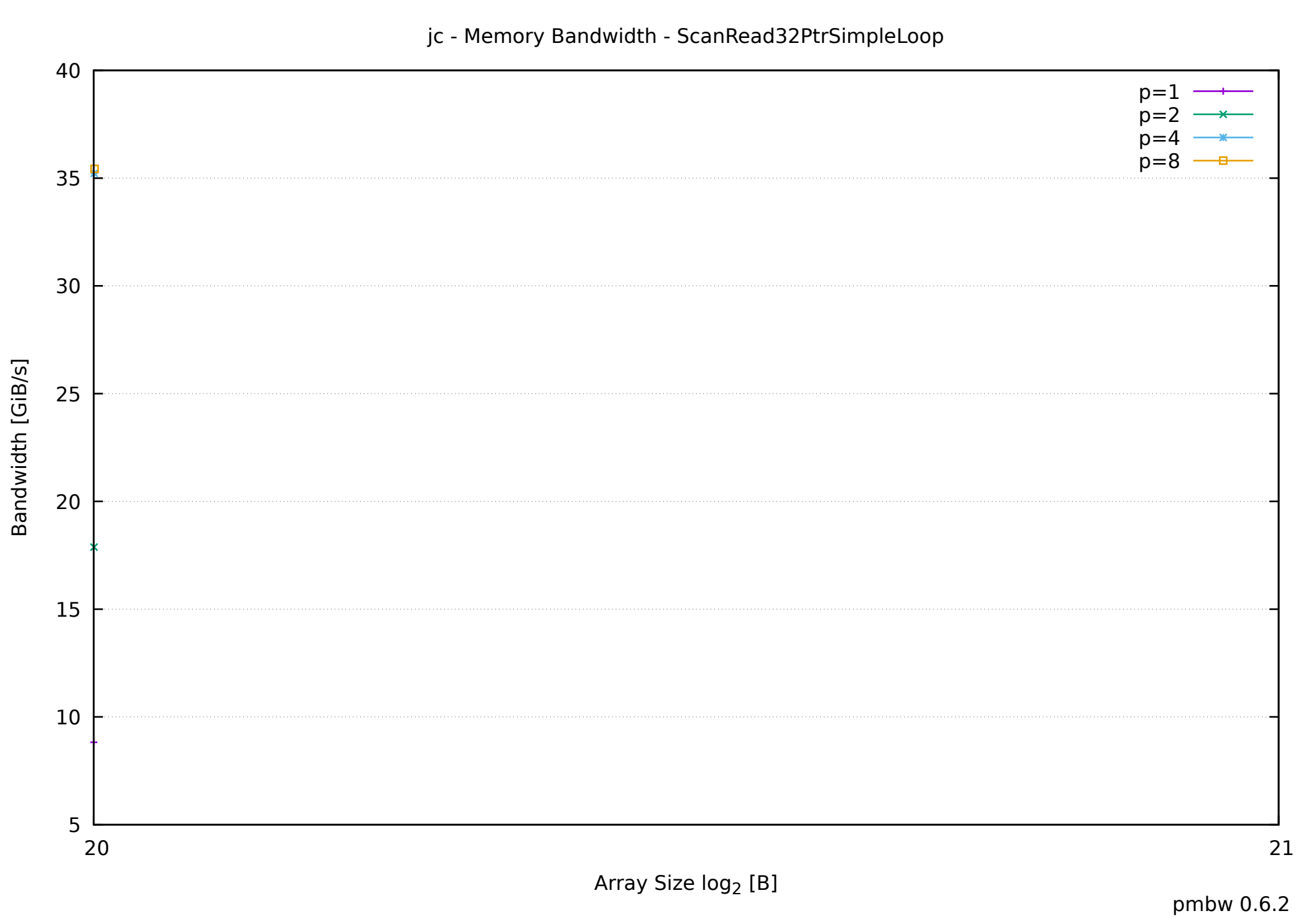

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite32PtrSimpleLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

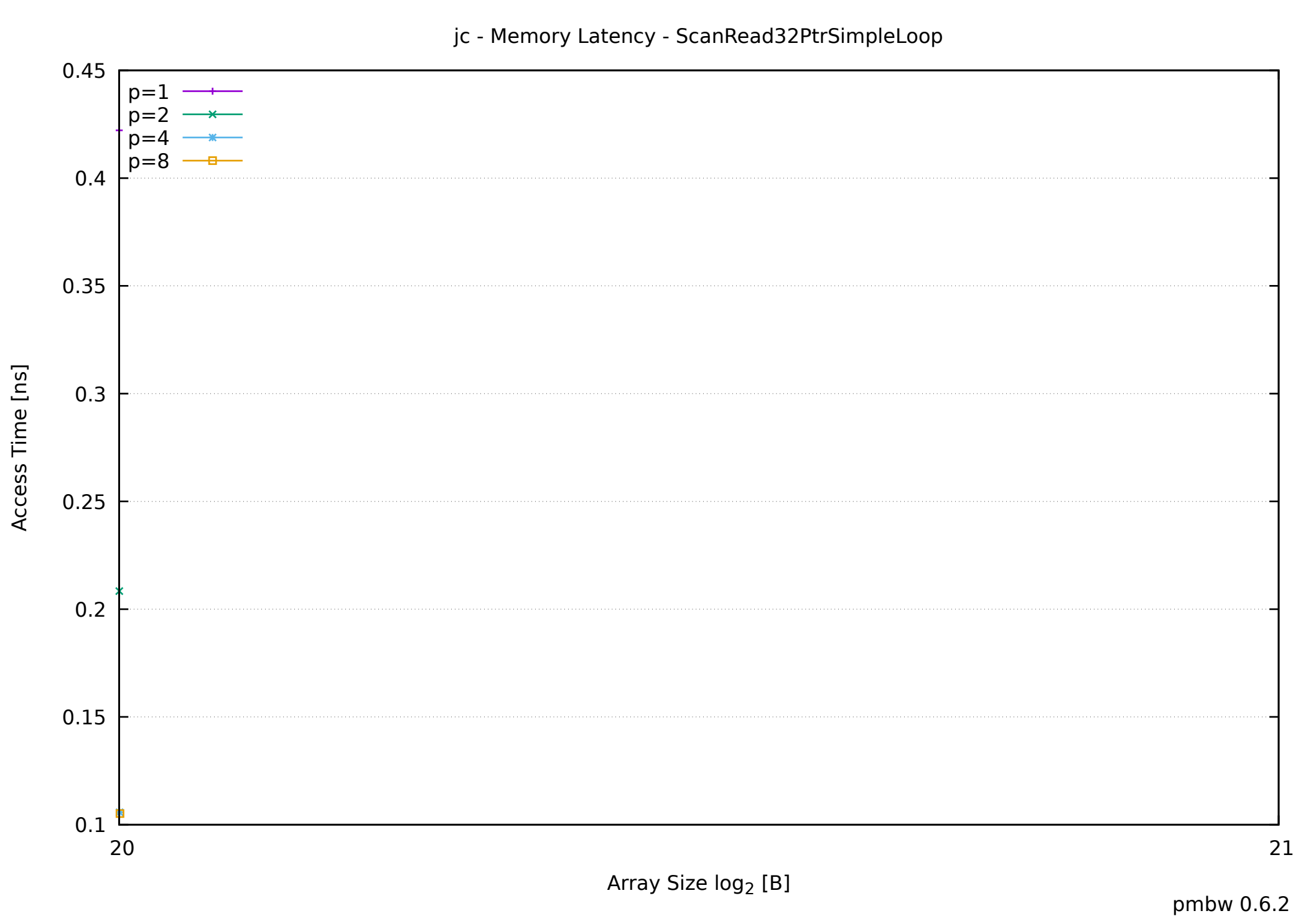

jc - Memory Bandwidth - ScanWrite32PtrUnrollLoop
Bandwidth [GiB/s]
35
30
25
20
15
10
5
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

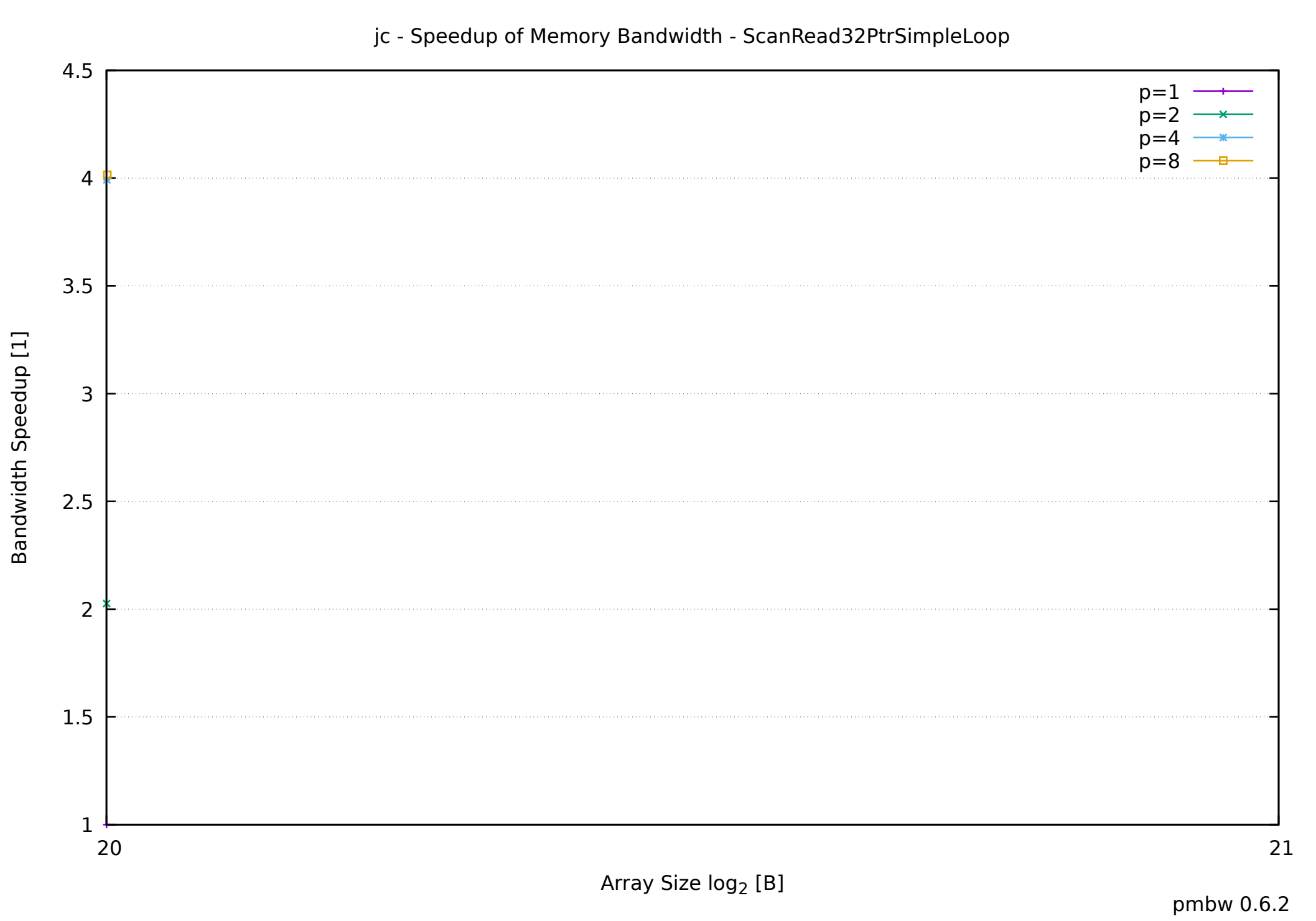

jc - Memory Latency - ScanWrite32PtrUnrollLoop
p=1
p=2
p=4
p=8
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

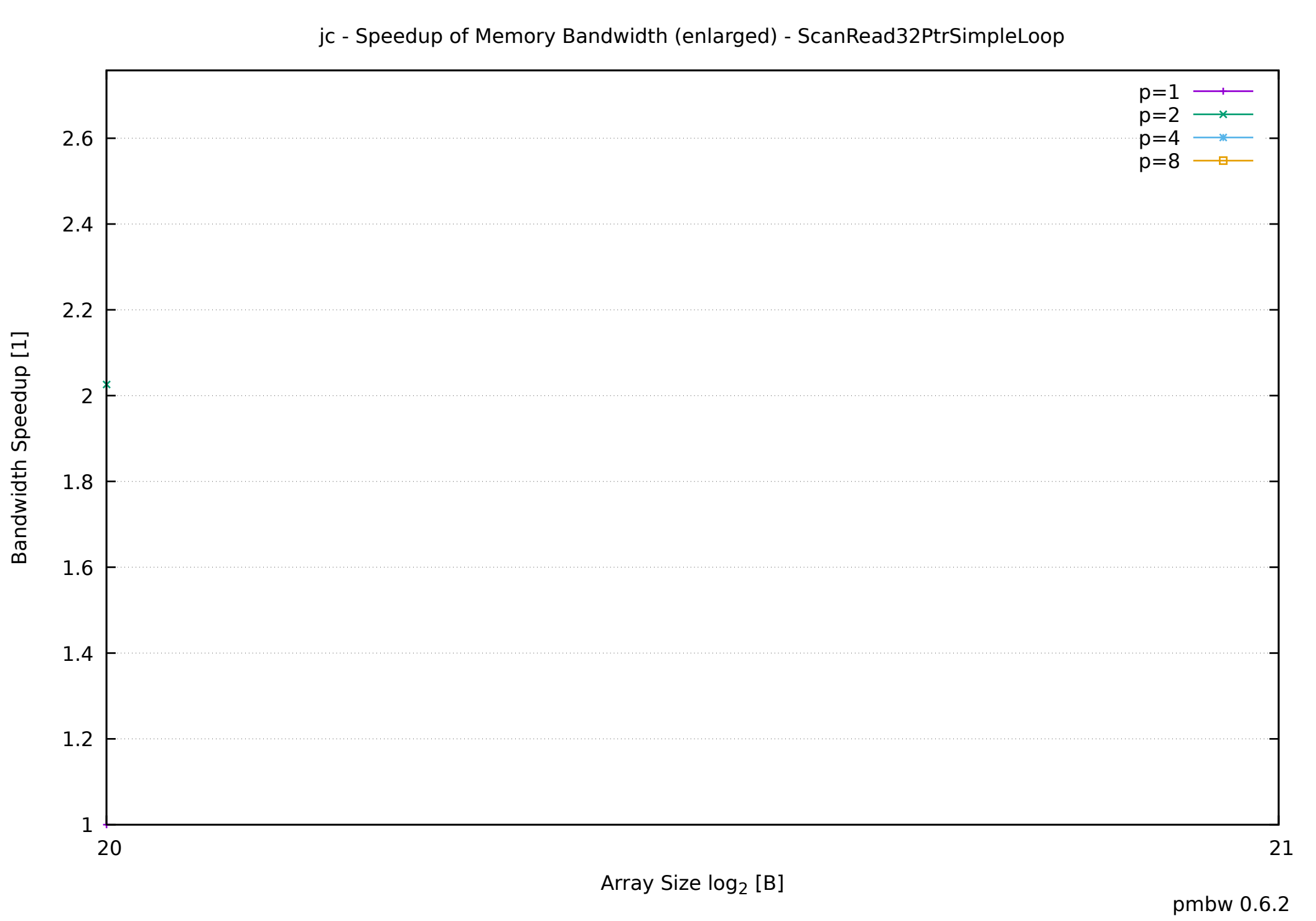

jc - Speedup of Memory Bandwidth - ScanWrite32PtrUnrollLoop
Bandwidth Speedup [1]
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

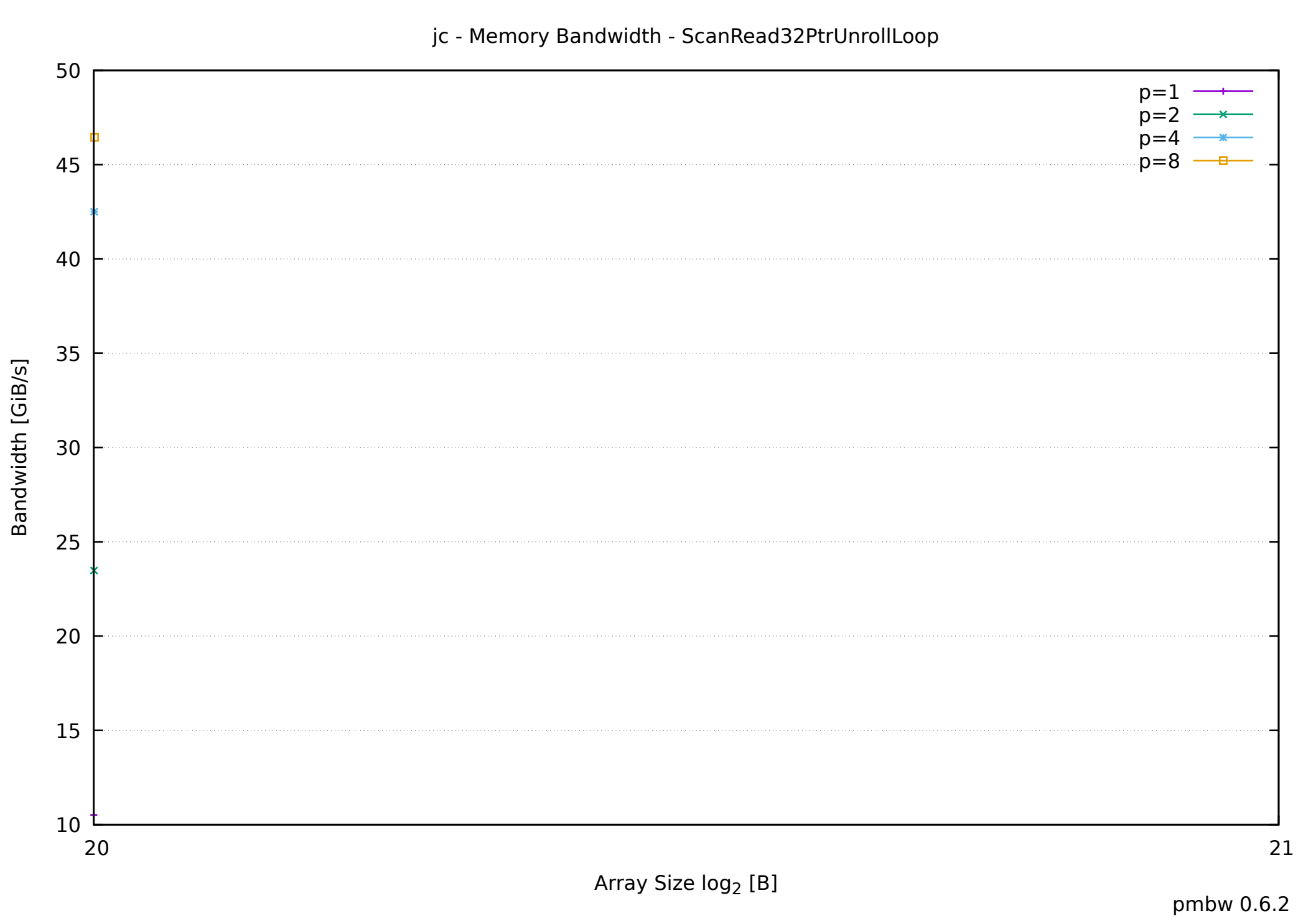

jc - Speedup of Memory Bandwidth (enlarged) - ScanWrite32PtrUnrollLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

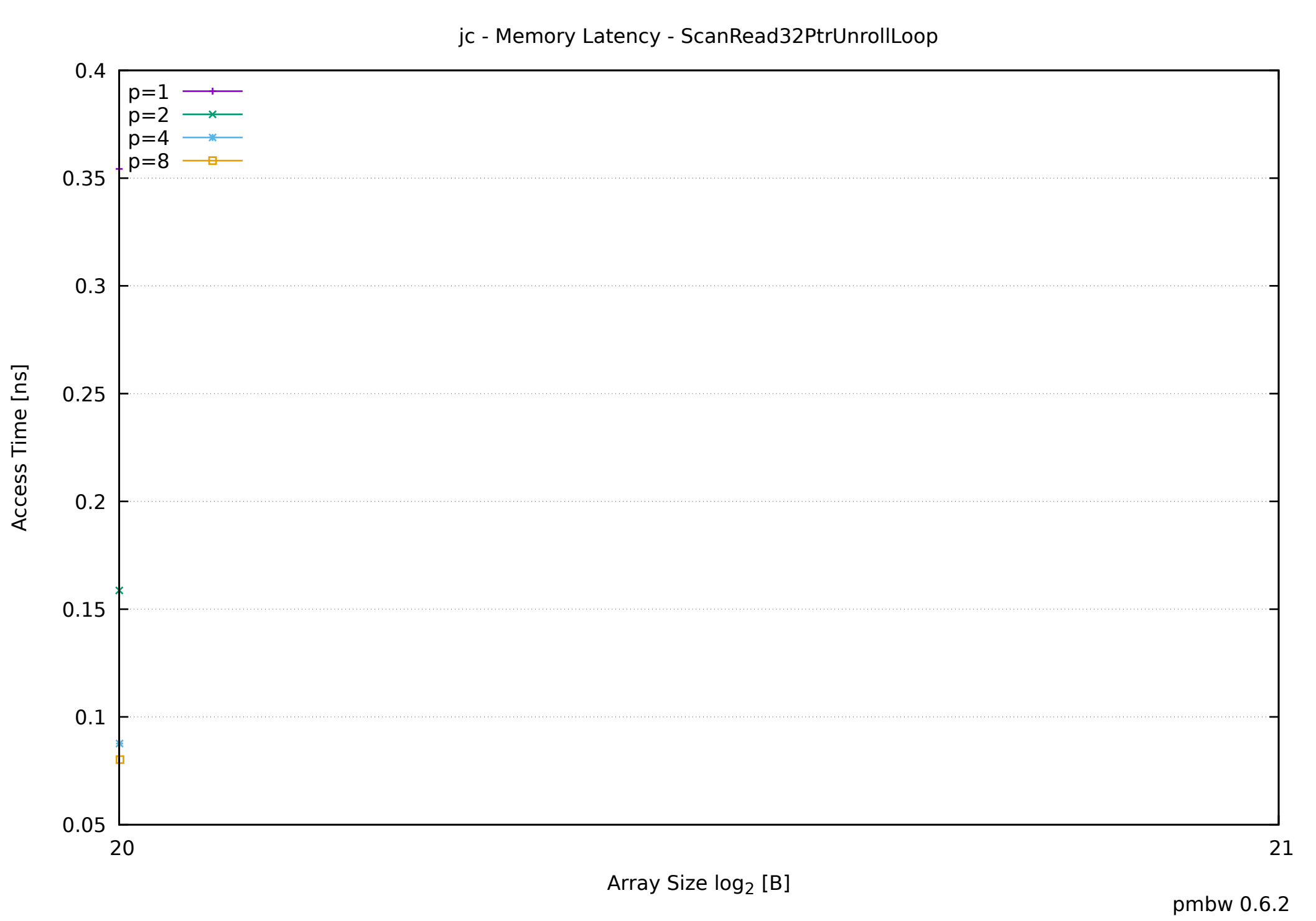

jc - Memory Bandwidth - ScanRead32PtrSimpleLoop
p=1
p=2
p=4
p=8
40
35
30
25
20
15
10
5
Bandwidth [GiB/s]
20
21
Array Size log2 [B]
pmbw 0.6.2

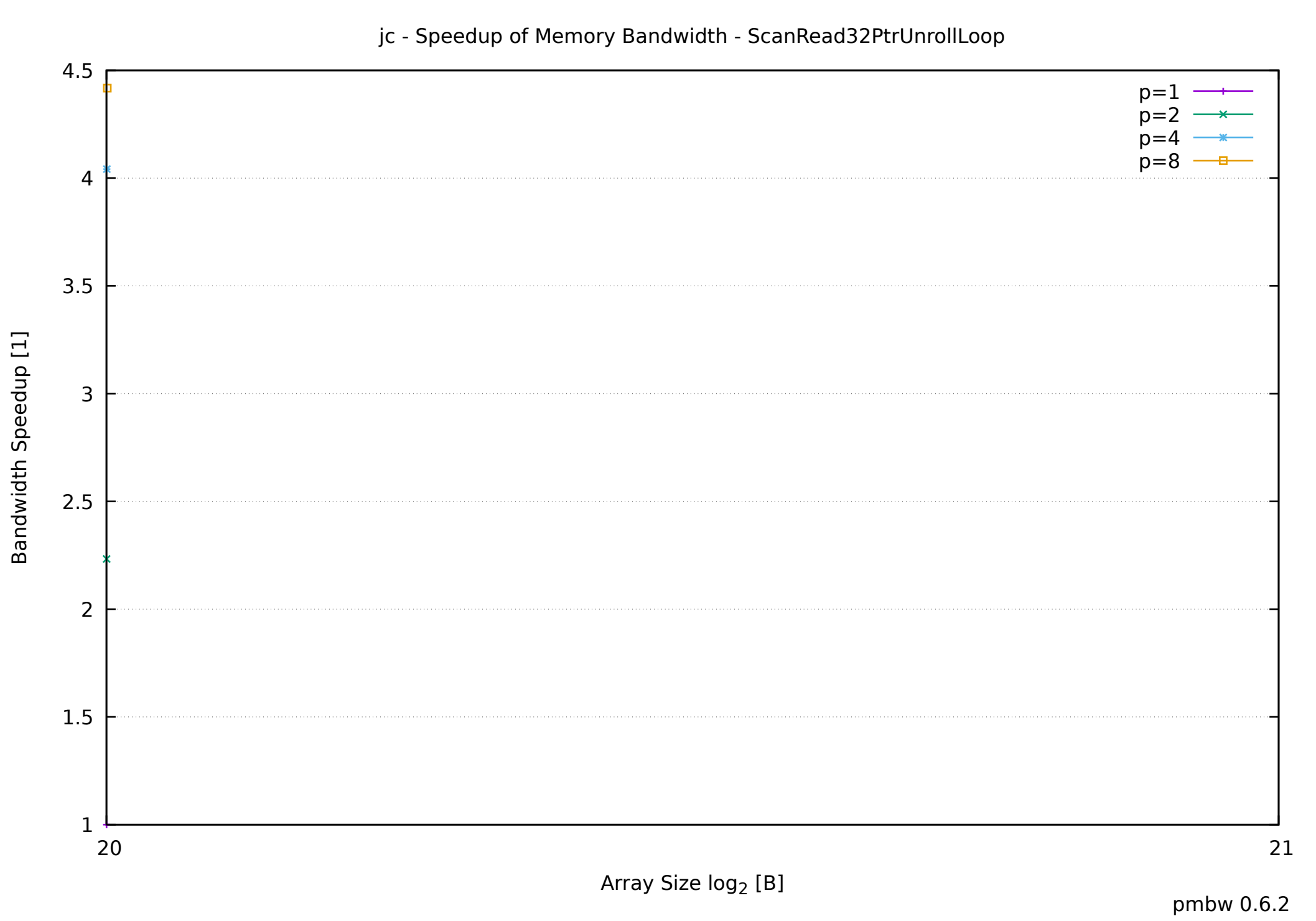

jc - Memory Latency - ScanRead32PtrSimpleLoop
p=1
p=2
p=4
p=8
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

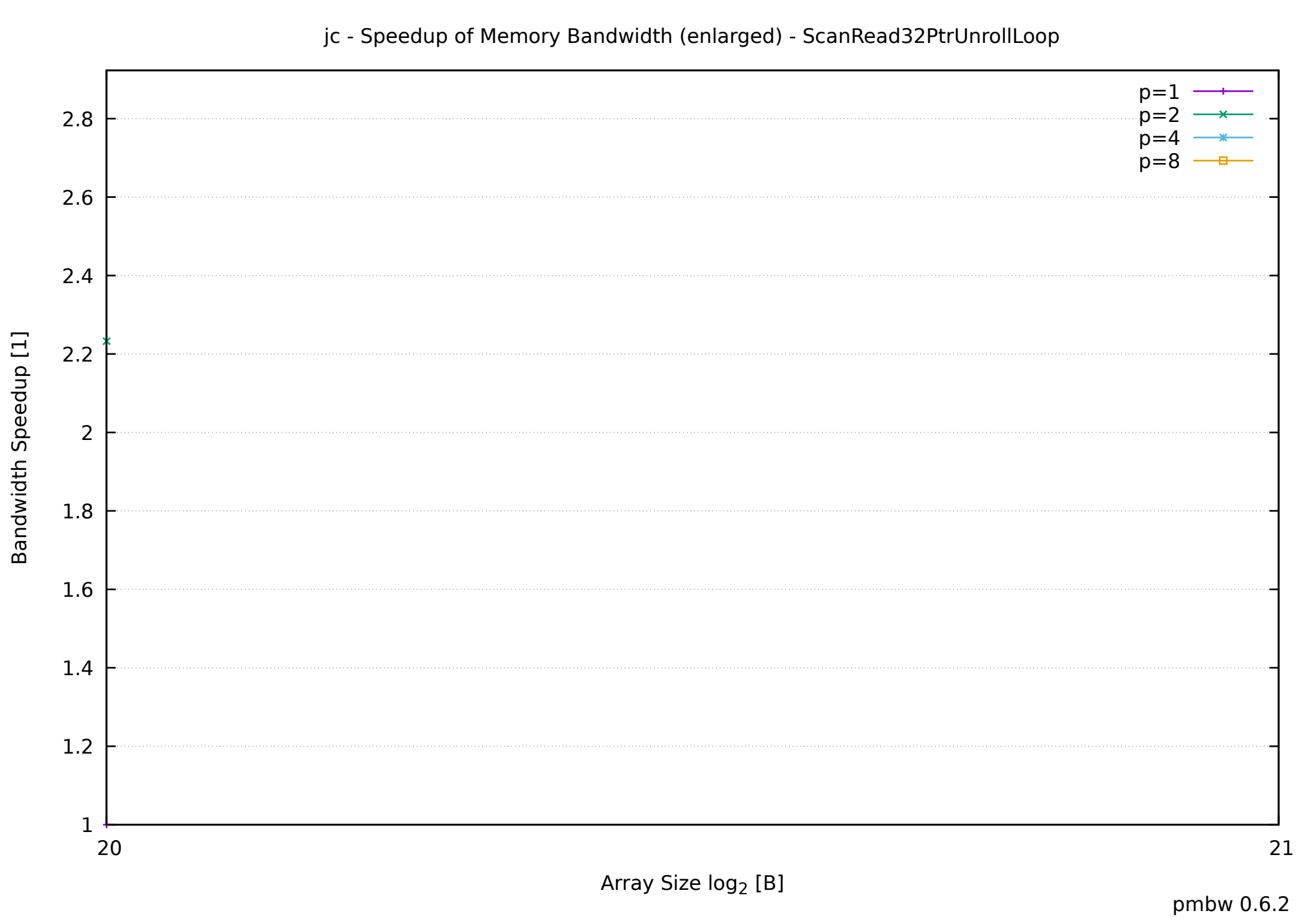

jc - Speedup of Memory Bandwidth - ScanRead32PtrSimpleLoop
p=1
p=2
p=4
p=8
4.5
4
3.5
3
2.5
2
1.5
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

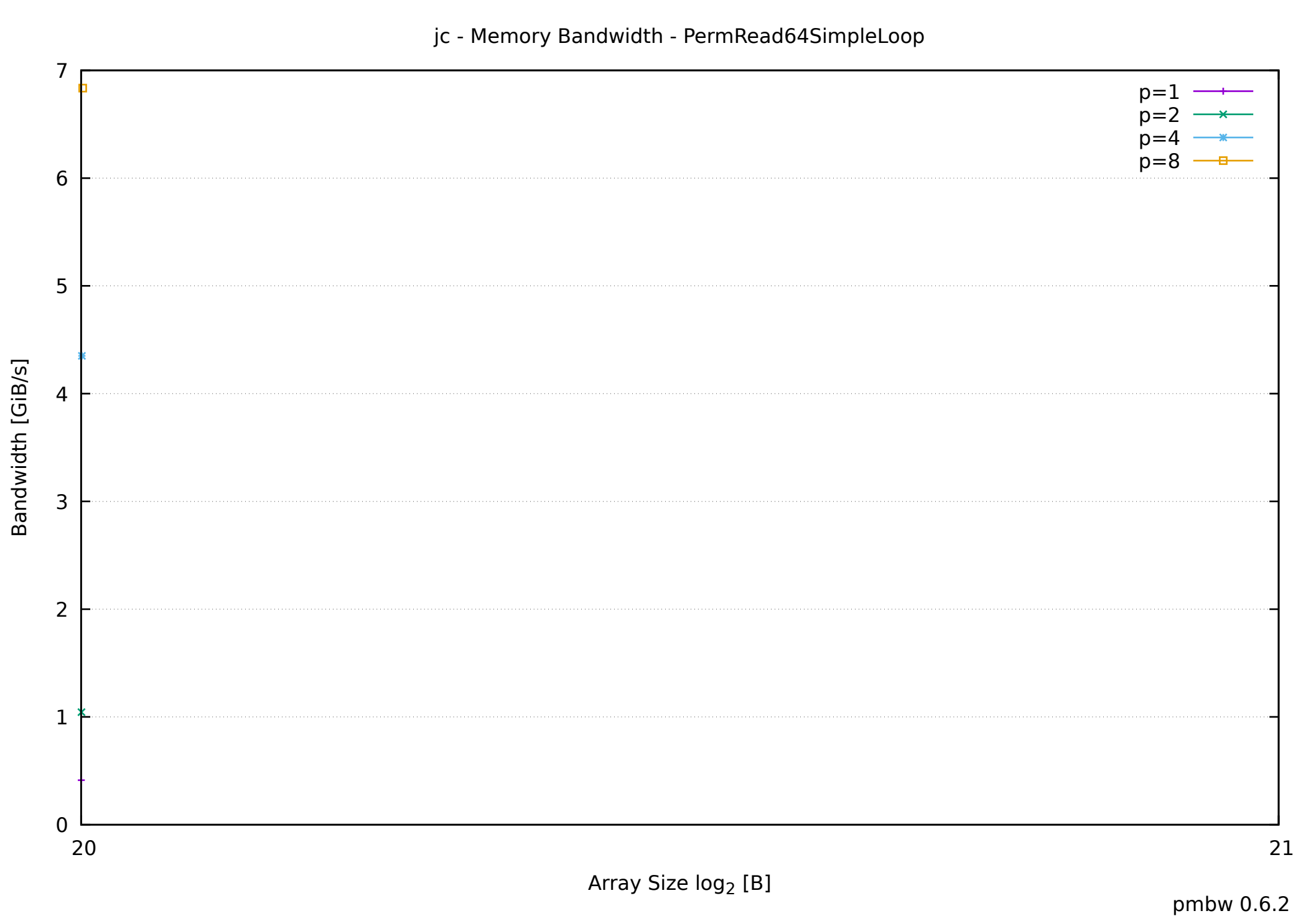

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead32PtrSimpleLoop
p=1
p=2
p=4
p=8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

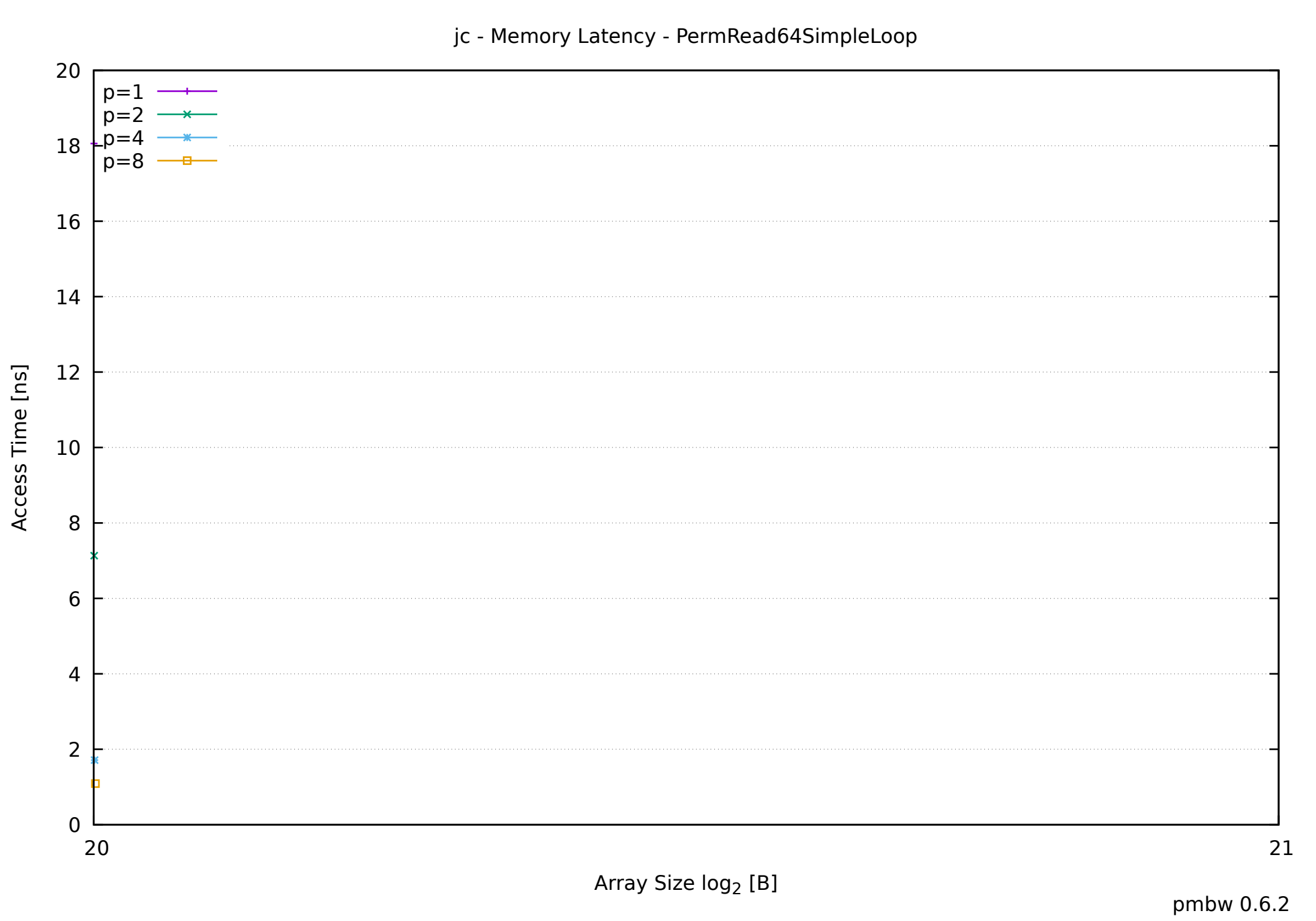

jc - Memory Bandwidth - ScanRead32PtrUnrollLoop
p=1
p=2
p=4
p=8
50
45
40
35
30
25
20
15
10
Bandwidth [GiB/s]
20
21
Array Size log2 [B]
pmbw 0.6.2

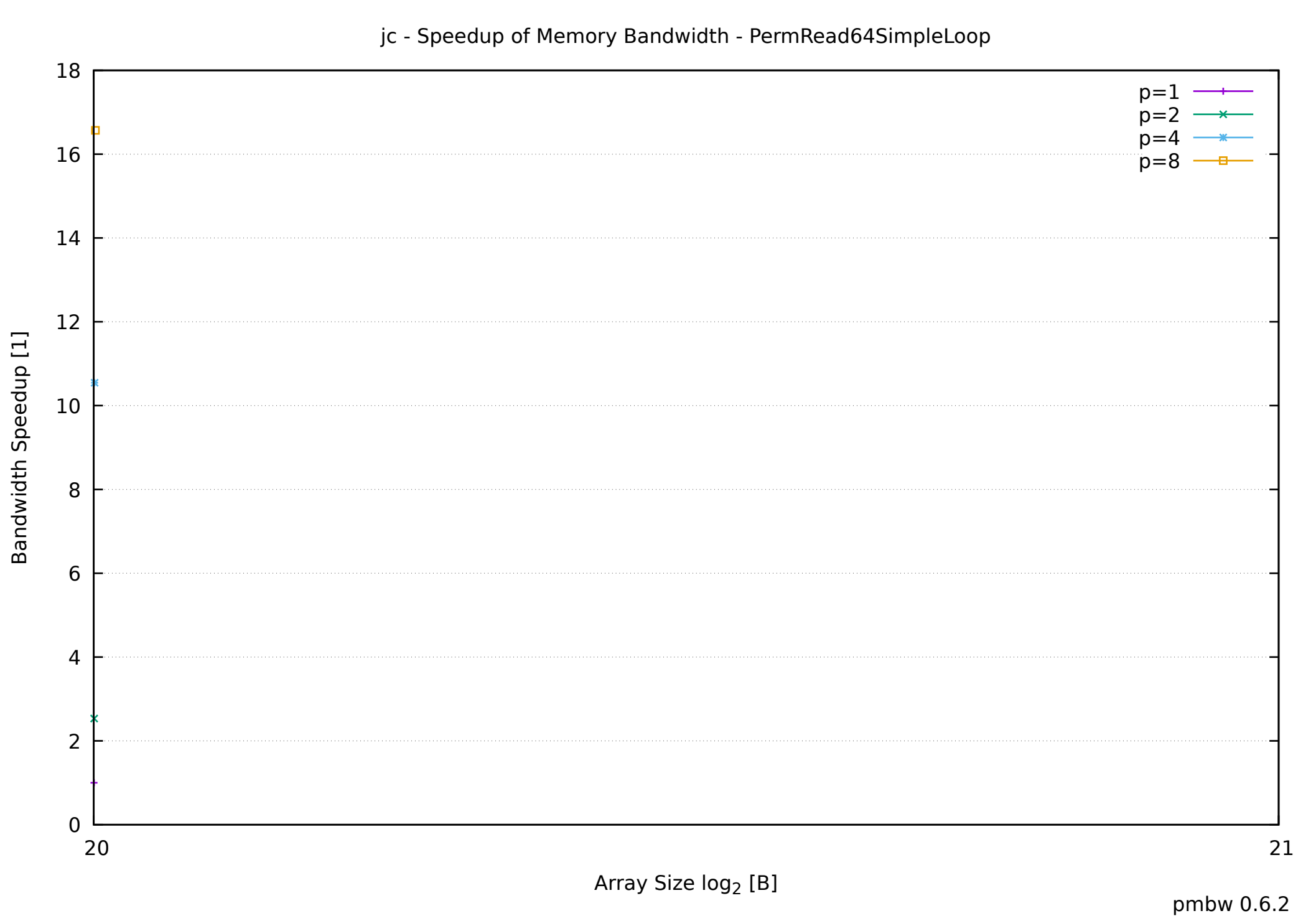

jc - Memory Latency - ScanRead32PtrUnrollLoop
p=1
p=2
p=4
p=8
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2

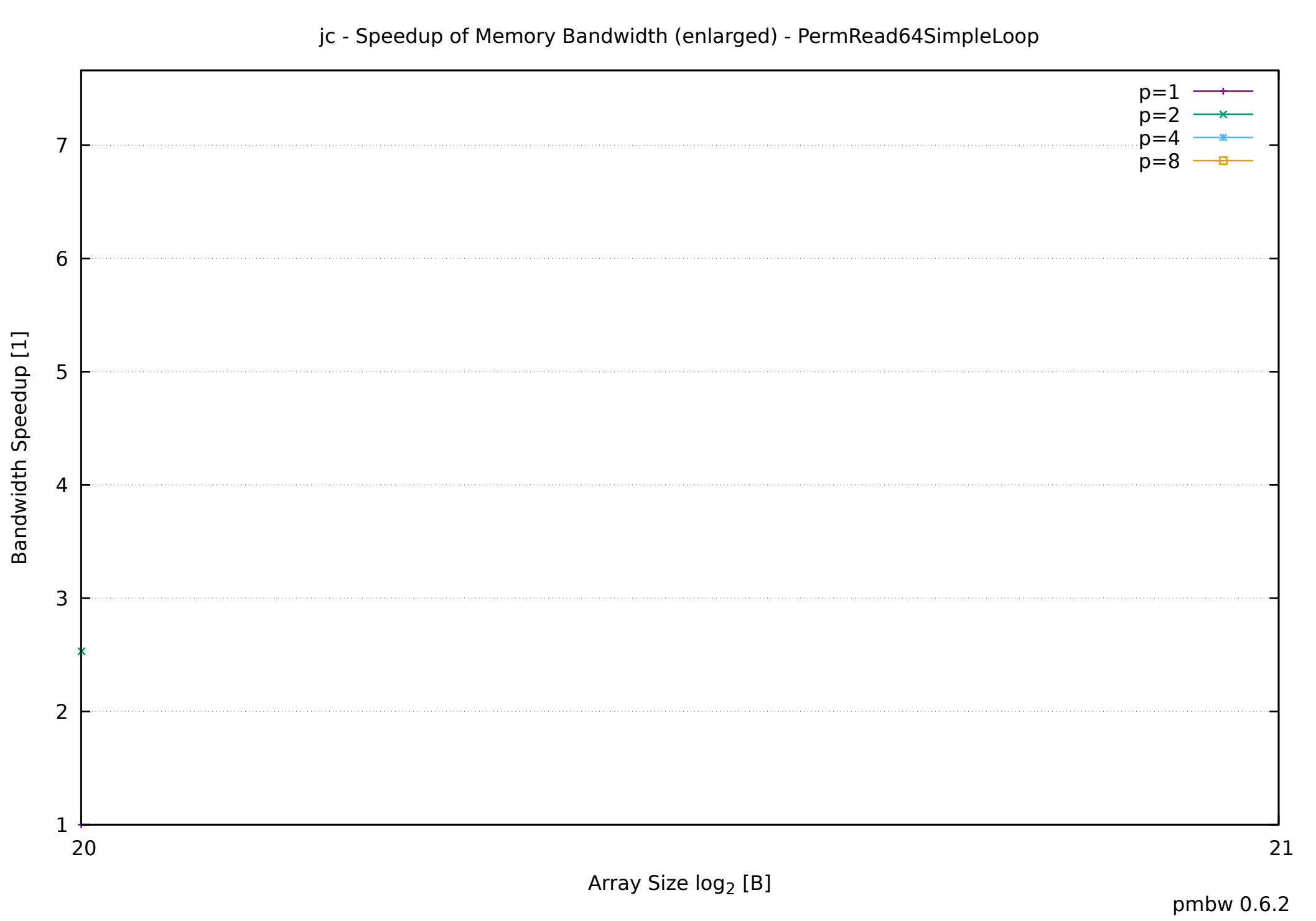

jc - Speedup of Memory Bandwidth - ScanRead32PtrUnrollLoop
Bandwidth Speedup [1]
4.5
4
3.5
3
2.5
2
1.5
1
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

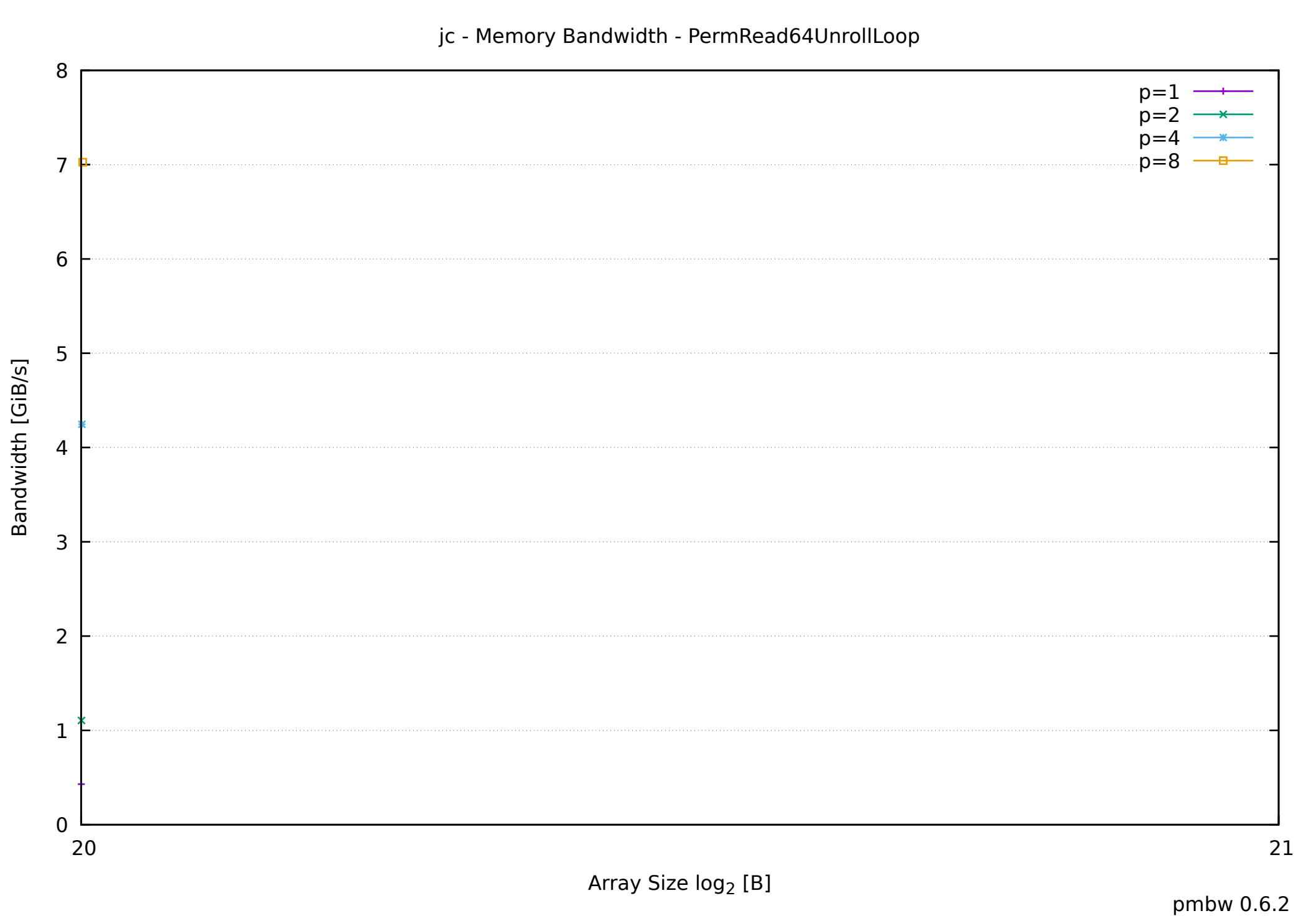

jc - Speedup of Memory Bandwidth (enlarged) - ScanRead32PtrUnrollLoop
p=1
p=2
p=4
p=8
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Bandwidth Speedup [1]
20
21
Array Size log2 [B]
pmbw 0.6.2

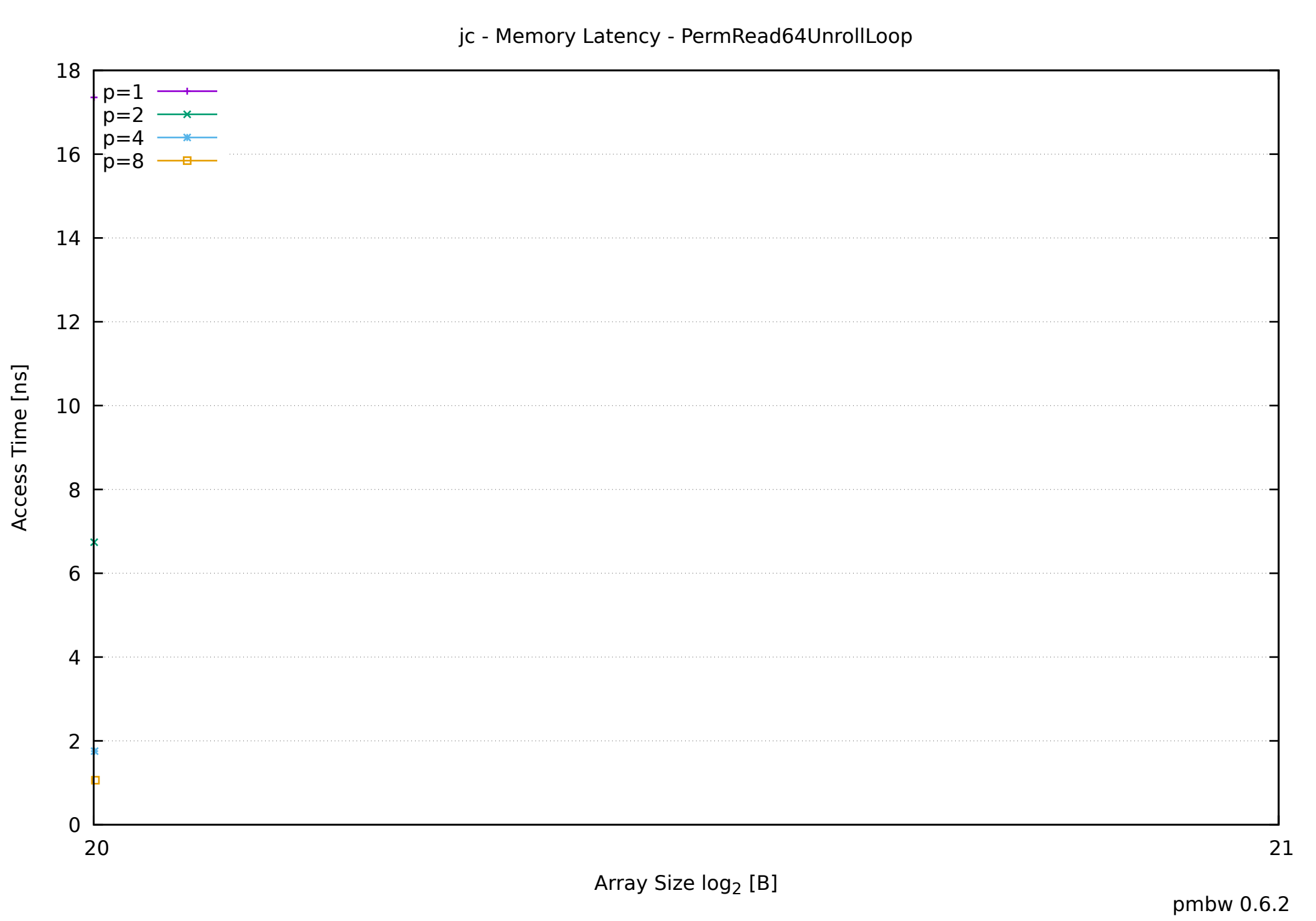

jc - Memory Bandwidth - PermRead64SimpleLoop
Bandwidth [GiB/s]
0
1
2
3
4
5
6
7
20
21
Array Size log2 [B]
p=1
p=2
p=4
p=8
pmbw 0.6.2

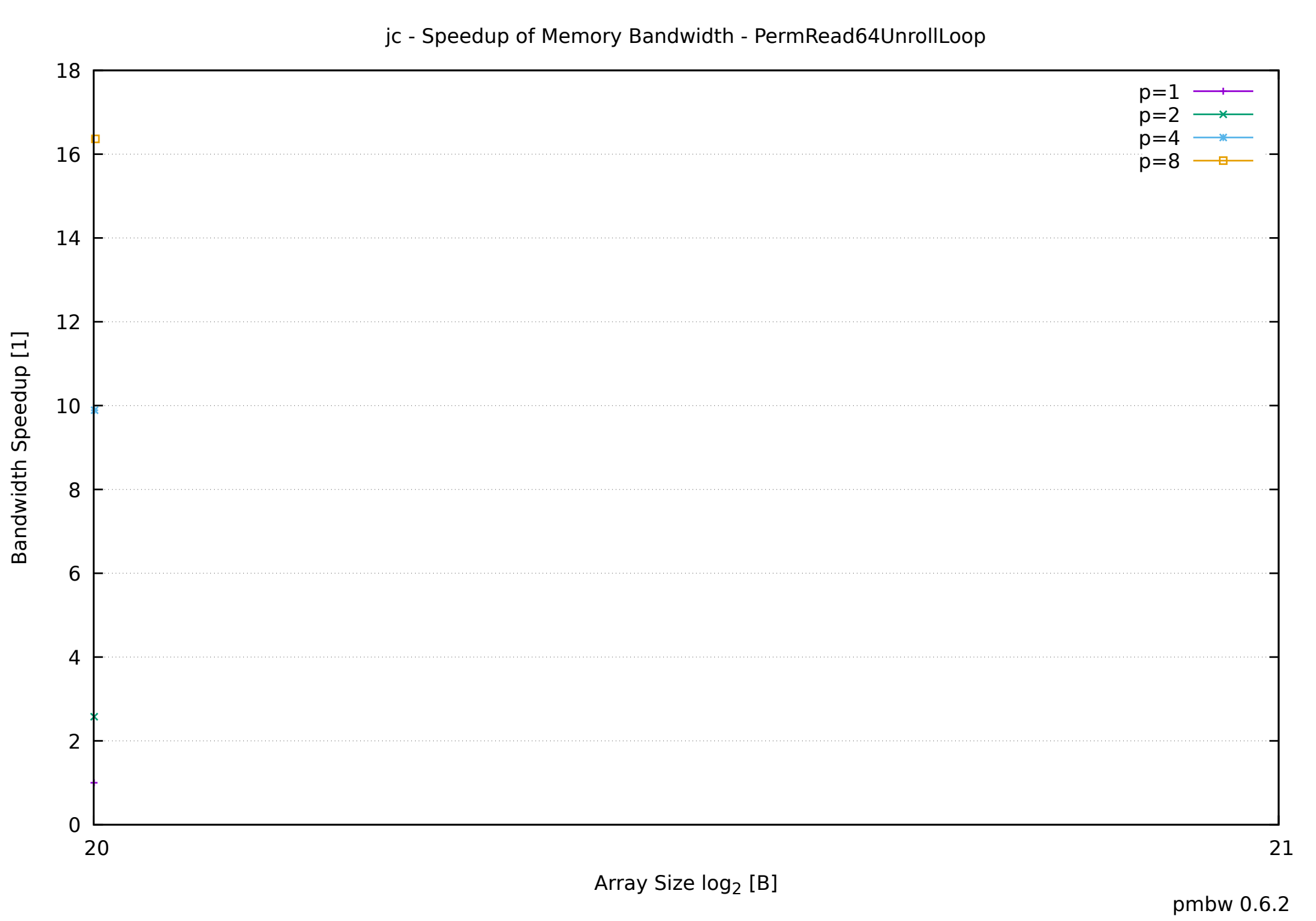

jc - Memory Latency - PermRead64SimpleLoop
p=1
p=2
p=4
p=8
Access Time [ns]
0
2
4
6
8
10
12
14
16
18
20
20
21
Array Size log2 [B]
pmbw 0.6.2

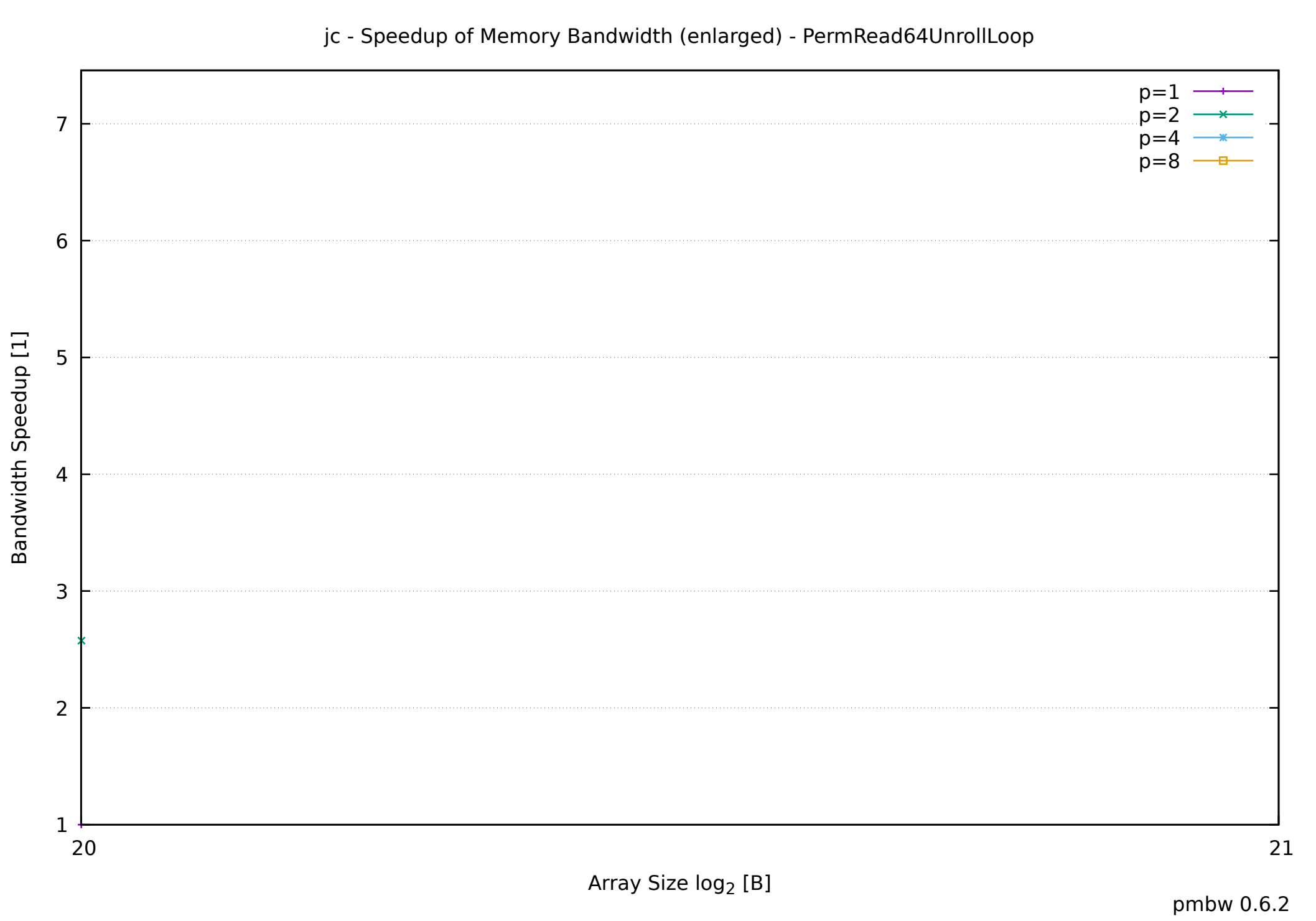

jc - Speedup of Memory Bandwidth - PermRead64SimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=4
p=8
0
2
4
6
8
10
12
14
16
18
20
21
pmbw 0.6.2


jc - Speedup of Memory Bandwidth (enlarged) - PermRead64SimpleLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
7
6
5
4
3
2
1
20
21
Array Size log2 [B]
pmbw 0.6.2


jc - Memory Bandwidth - PermRead64UnrollLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=4
p=8
0
1
2
3
4
5
6
7
8
20
21
pmbw 0.6.2


jc - Memory Latency - PermRead64UnrollLoop
p=1
p=2
p=4
p=8
18
16
14
12
10
8
6
4
2
0
Access Time [ns]
20
21
Array Size log2 [B]
pmbw 0.6.2


jc - Speedup of Memory Bandwidth - PermRead64UnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=4
p=8
0
2
4
6
8
10
12
14
16
18
20
21
pmbw 0.6.2


jc - Speedup of Memory Bandwidth (enlarged) - PermRead64UnrollLoop
p=1
p=2
p=4
p=8
Bandwidth Speedup [1]
7
6
5
4
3
2
1
20
21
Array Size log2 [B]
pmbw 0.6.2