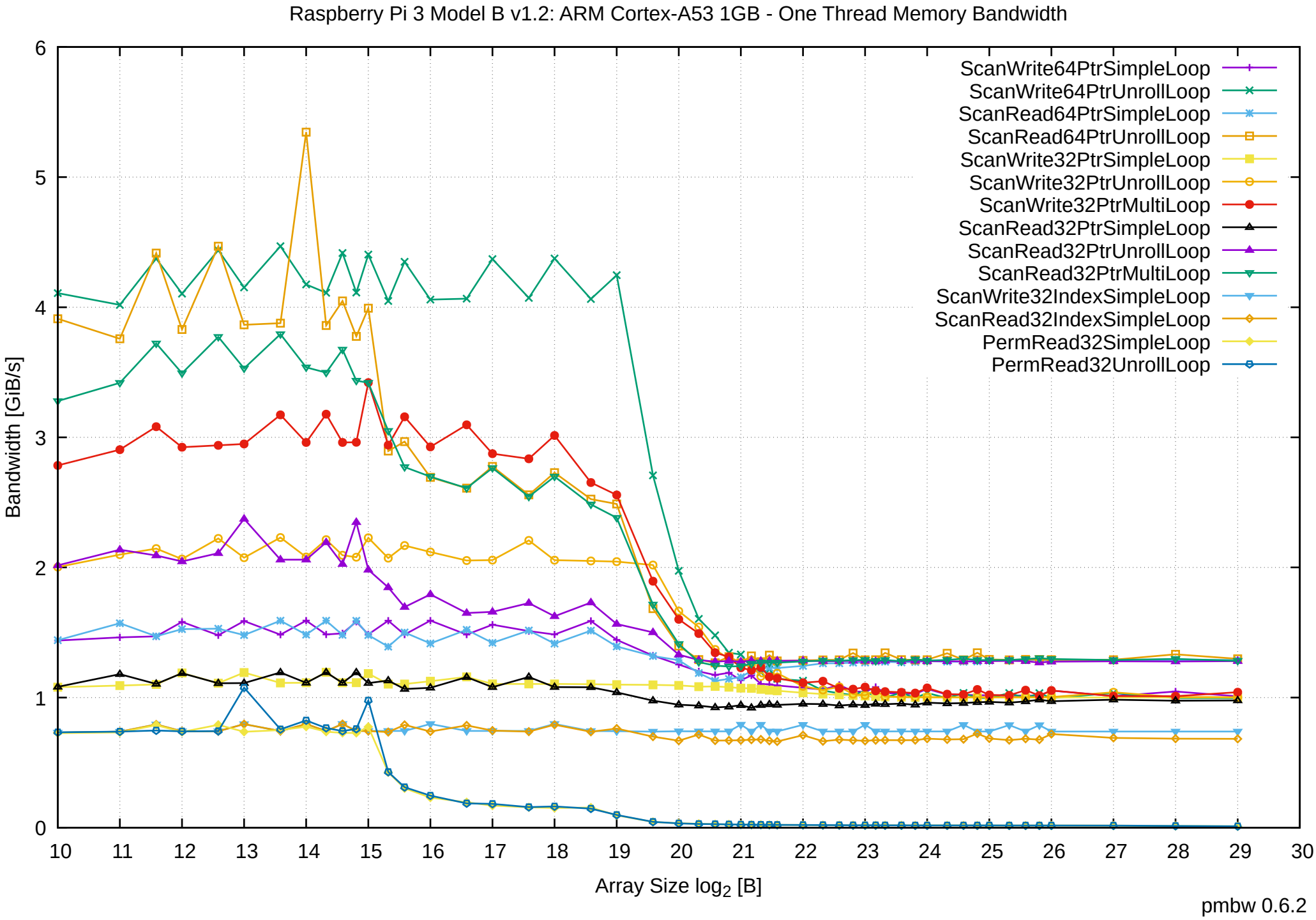
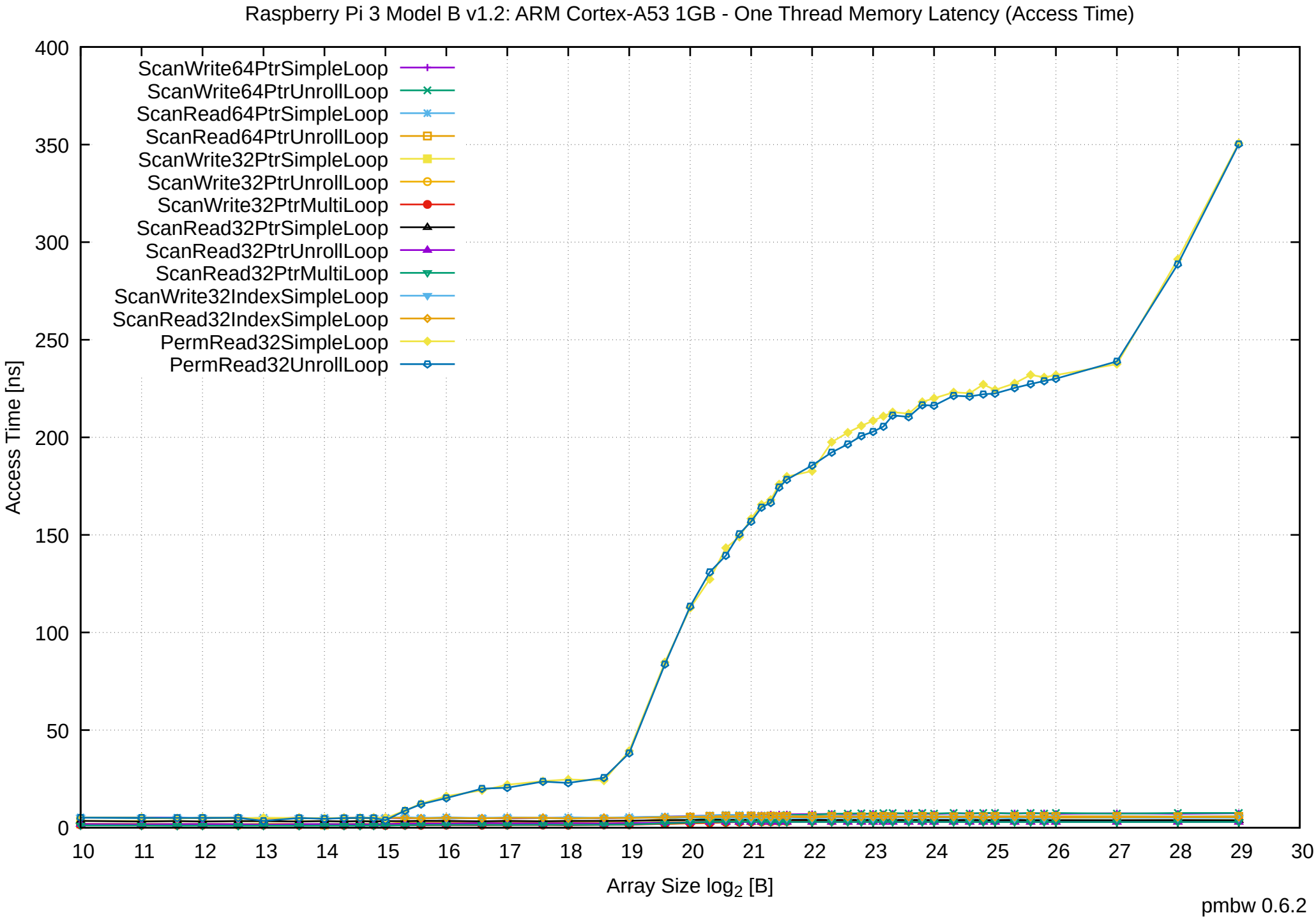
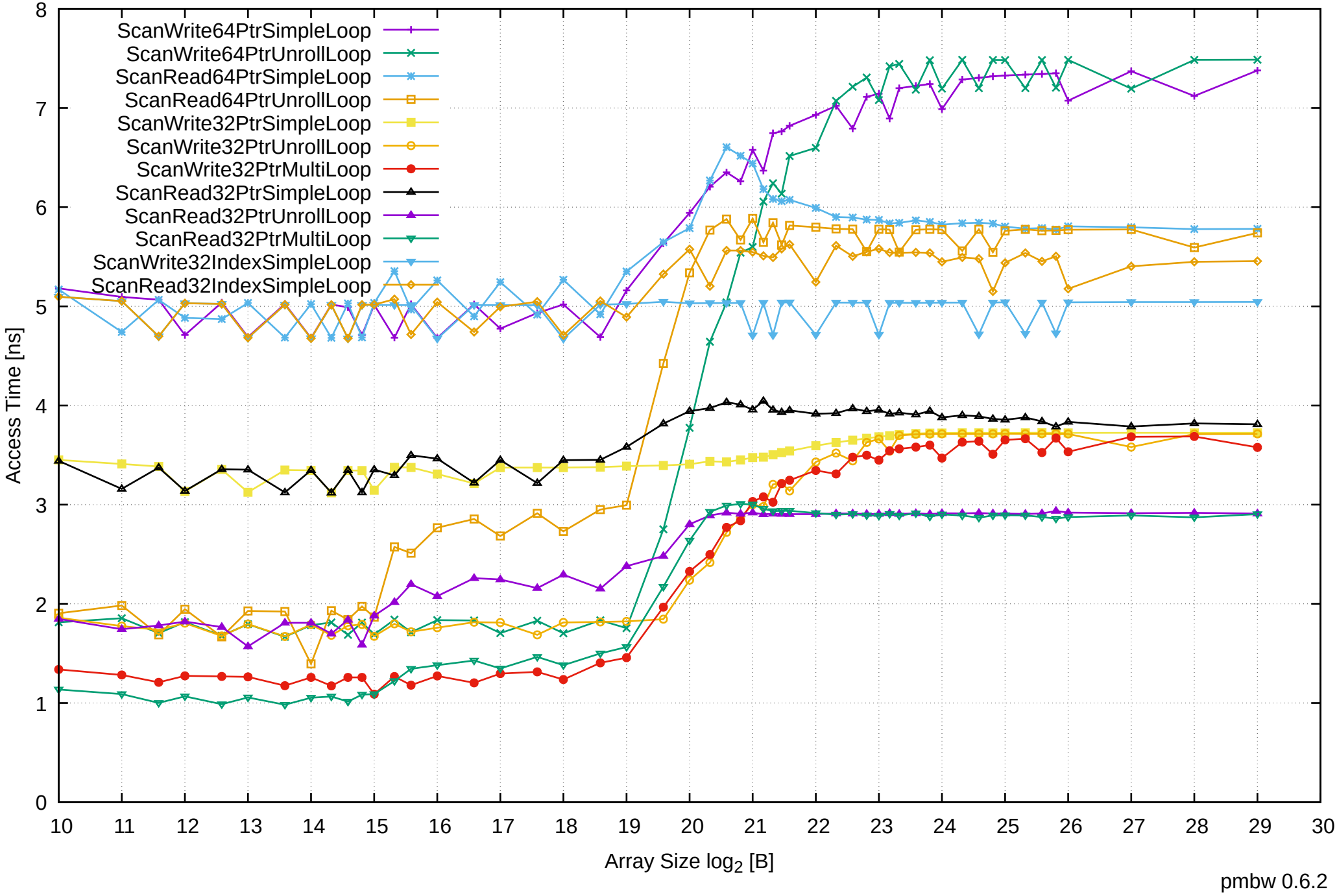
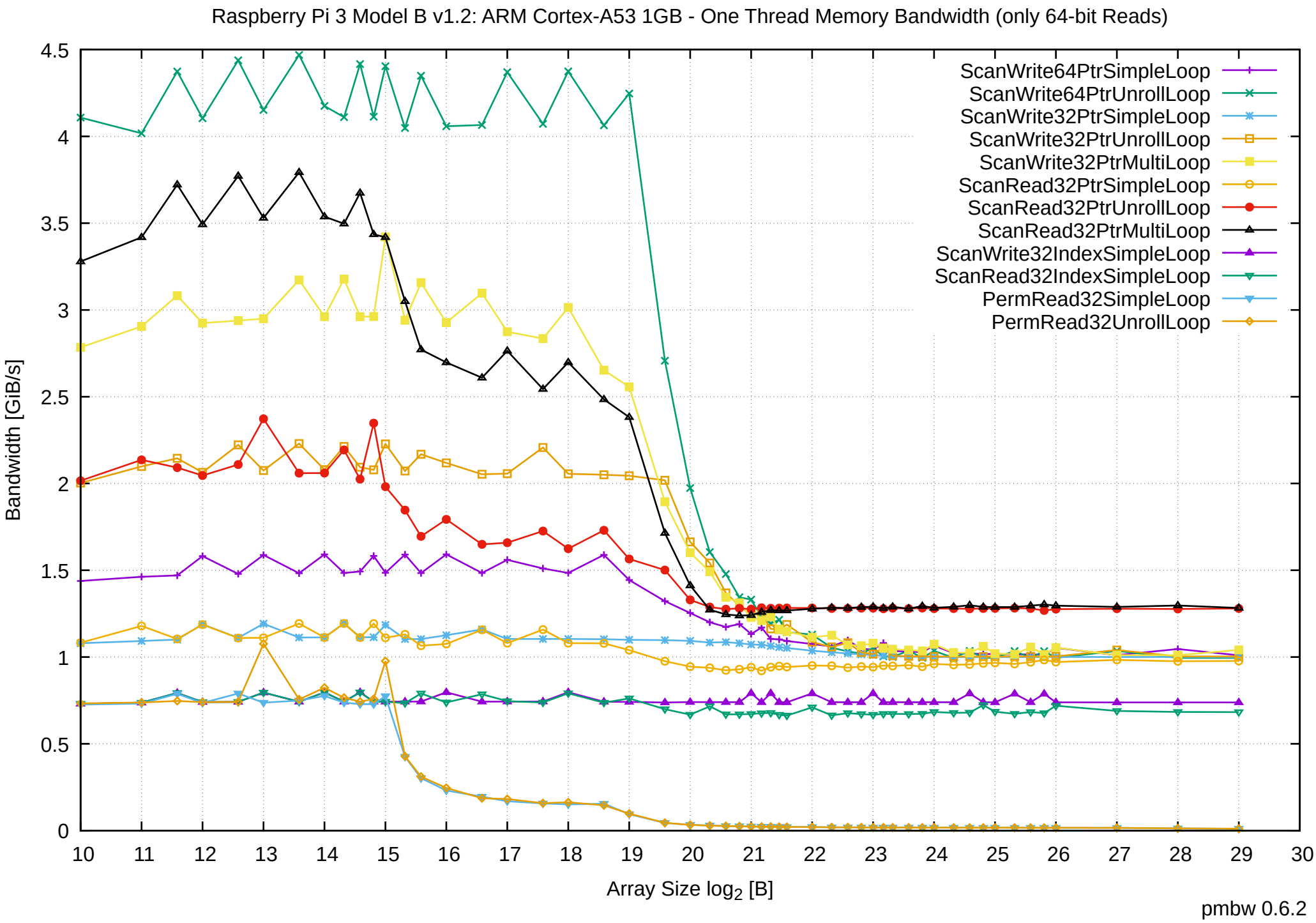
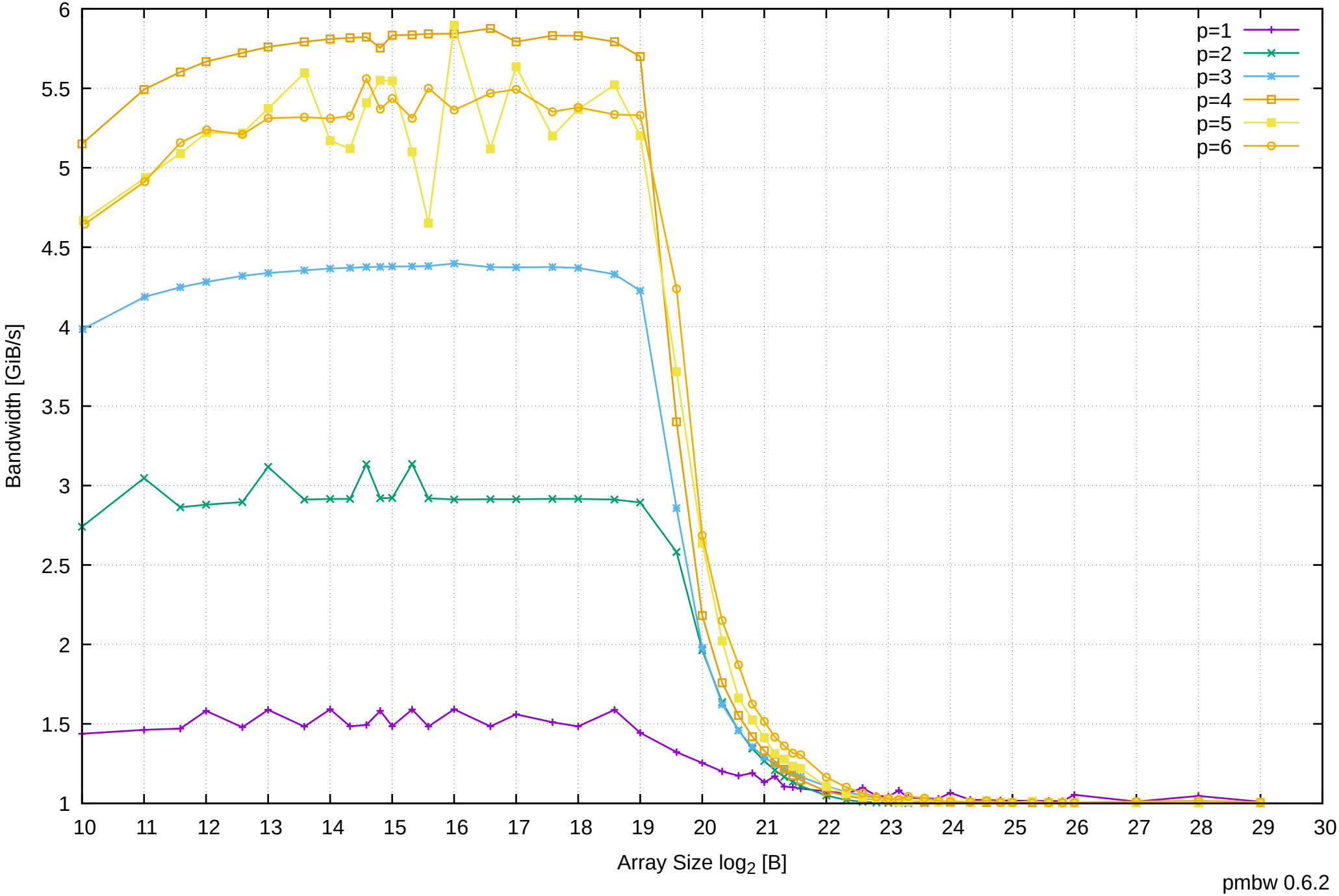
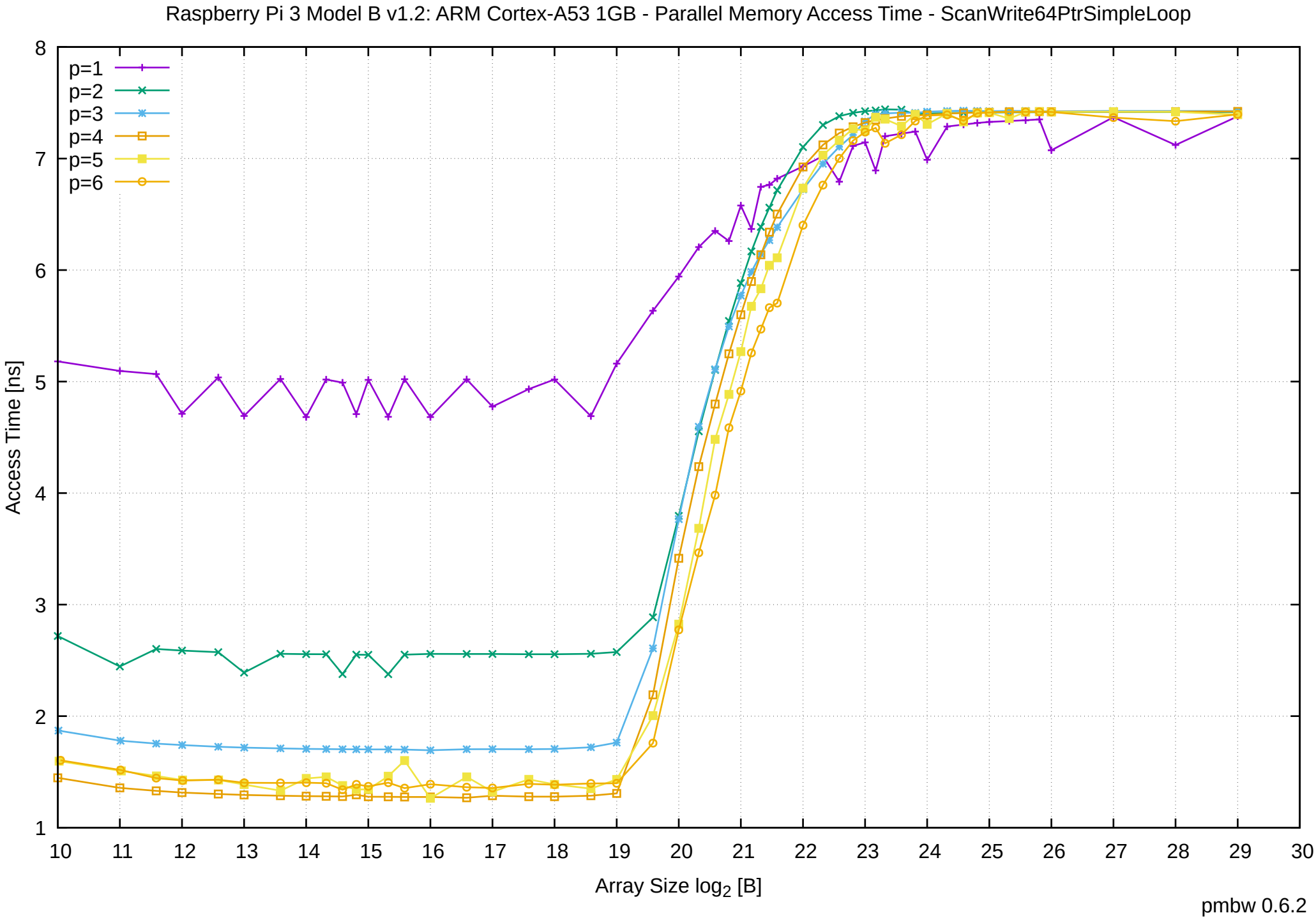

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - One Thread Memory Bandwidth
Bandwidth [GiB/s]
Array Size log2 [B]
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanWrite32PtrMultiLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
ScanRead32PtrMultiLoop
ScanWrite32IndexSimpleLoop
ScanRead32IndexSimpleLoop
PermRead32SimpleLoop
PermRead32UnrollLoop
pmbw 0.6.2

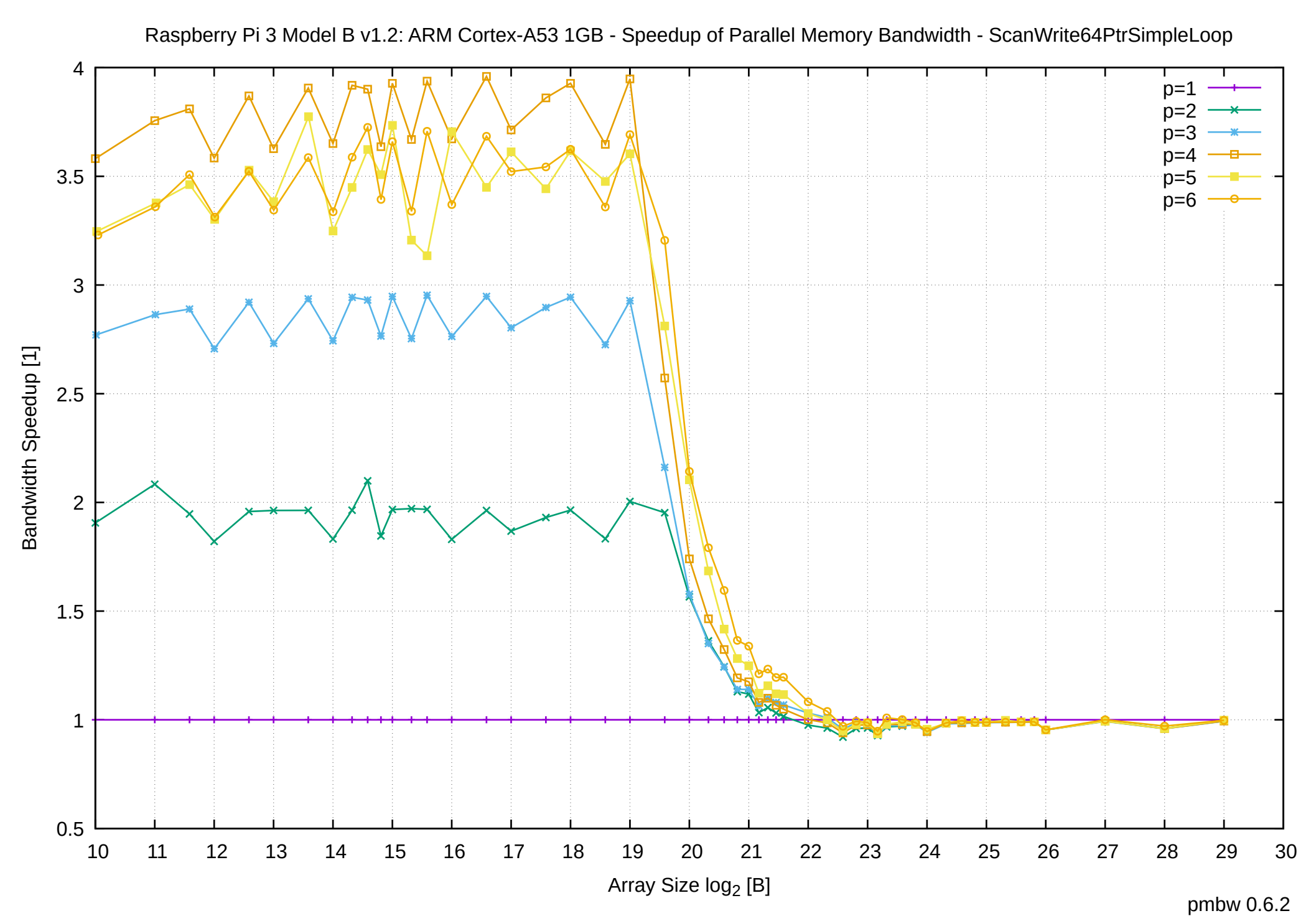

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - One Thread Memory Latency (Access Time)
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanWrite32PtrMultiLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
ScanRead32PtrMultiLoop
ScanWrite32IndexSimpleLoop
ScanRead32IndexSimpleLoop
PermRead32SimpleLoop
PermRead32UnrollLoop
Access Time [ns]
0
50
100
150
200
250
300
350
400
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
Array Size log2 [B]
pmbw 0.6.2

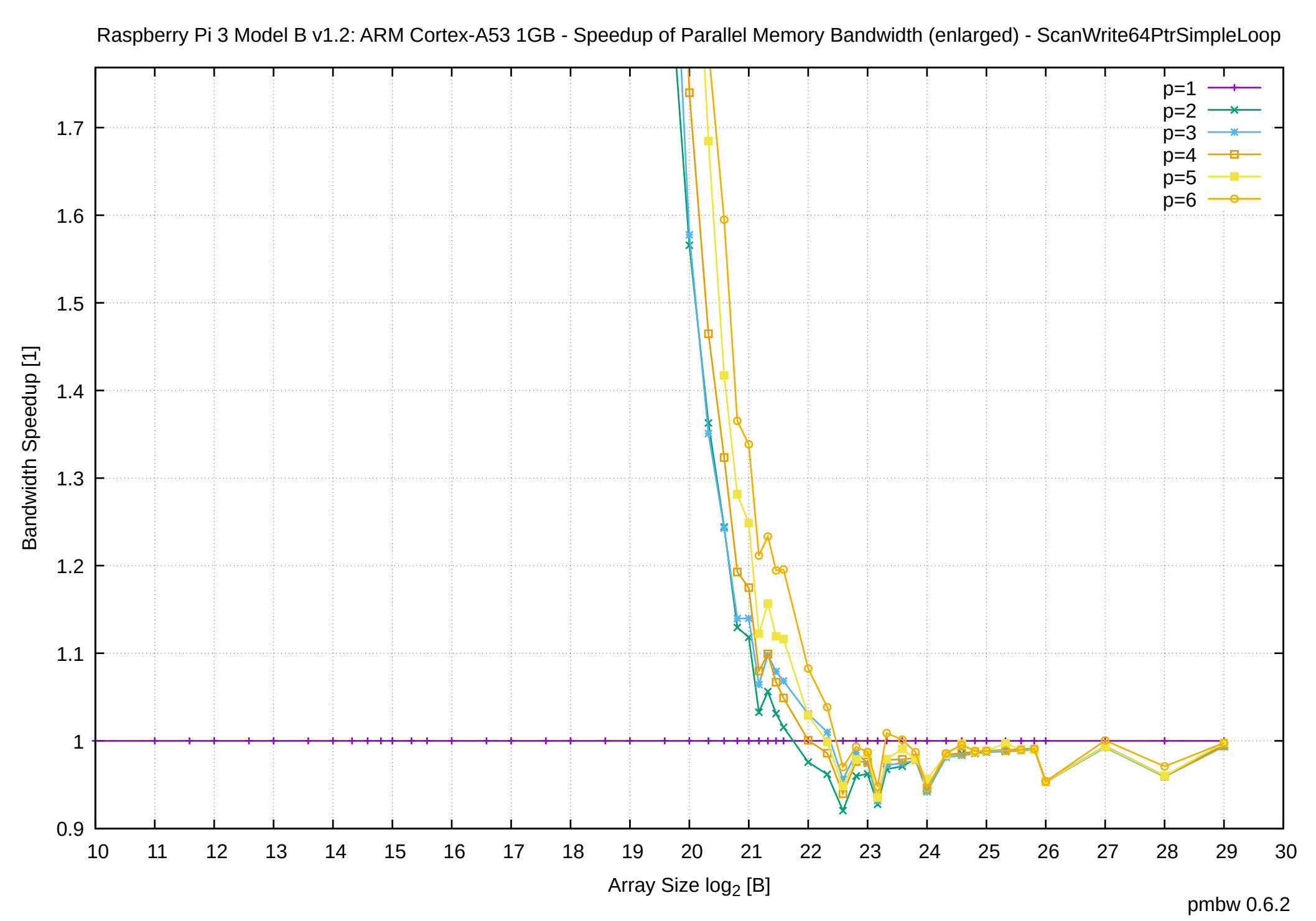

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - One Thread Memory Latency (excluding Permutation)
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanRead64PtrSimpleLoop
ScanRead64PtrUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanWrite32PtrMultiLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
ScanRead32PtrMultiLoop
ScanWrite32IndexSimpleLoop
ScanRead32IndexSimpleLoop
Access Time [ns]
Array Size log2 [B]
0
1
2
3
4
5
6
7
8
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

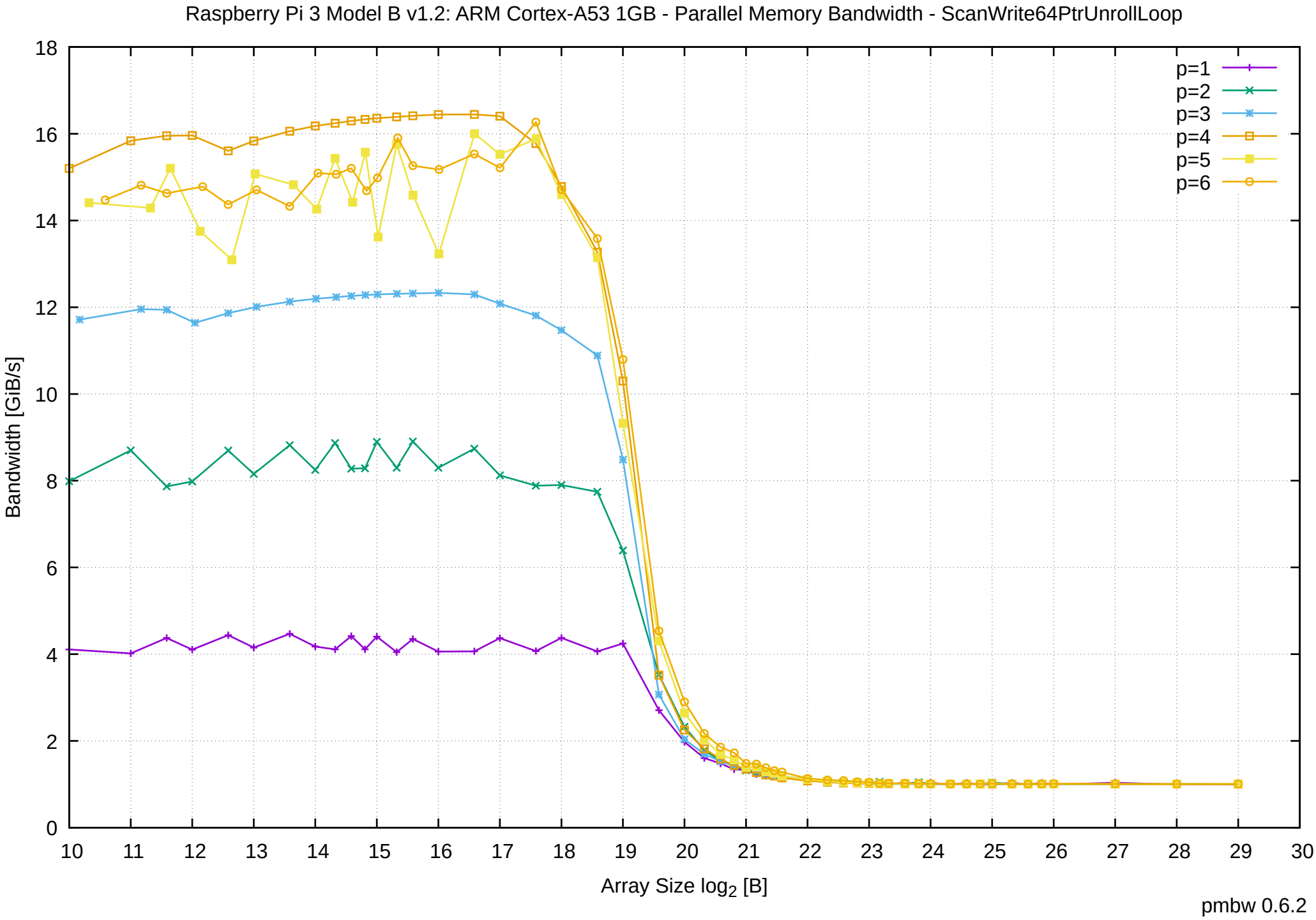

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - One Thread Memory Bandwidth (only 64-bit Reads)
ScanWrite64PtrSimpleLoop
ScanWrite64PtrUnrollLoop
ScanWrite32PtrSimpleLoop
ScanWrite32PtrUnrollLoop
ScanWrite32PtrMultiLoop
ScanRead32PtrSimpleLoop
ScanRead32PtrUnrollLoop
ScanRead32PtrMultiLoop
ScanWrite32IndexSimpleLoop
ScanRead32IndexSimpleLoop
PermRead32SimpleLoop
PermRead32UnrollLoop
Bandwidth [GiB/s]
Array Size log2 [B]
pmbw 0.6.2

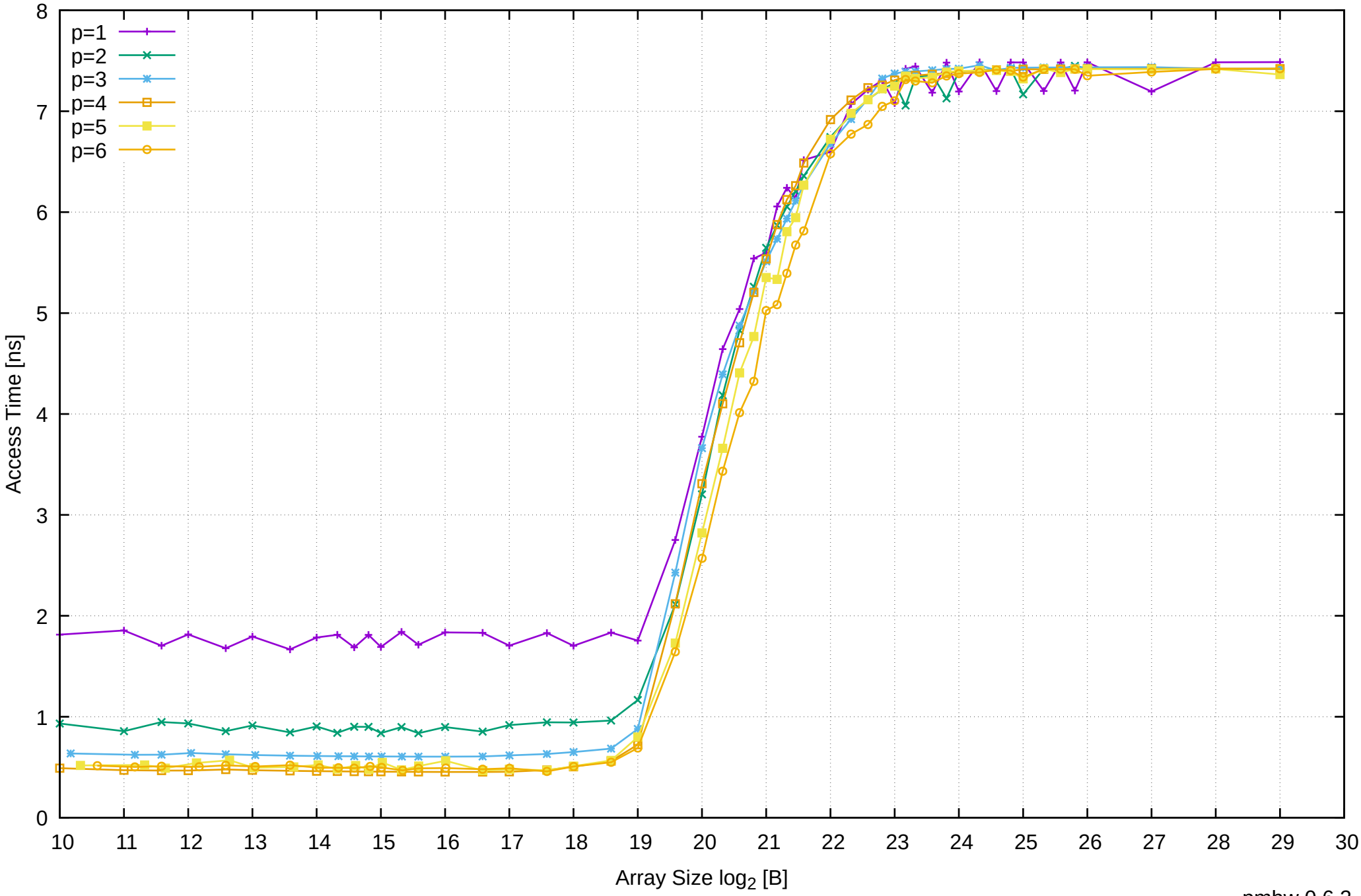

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanWrite64PtrSimpleLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

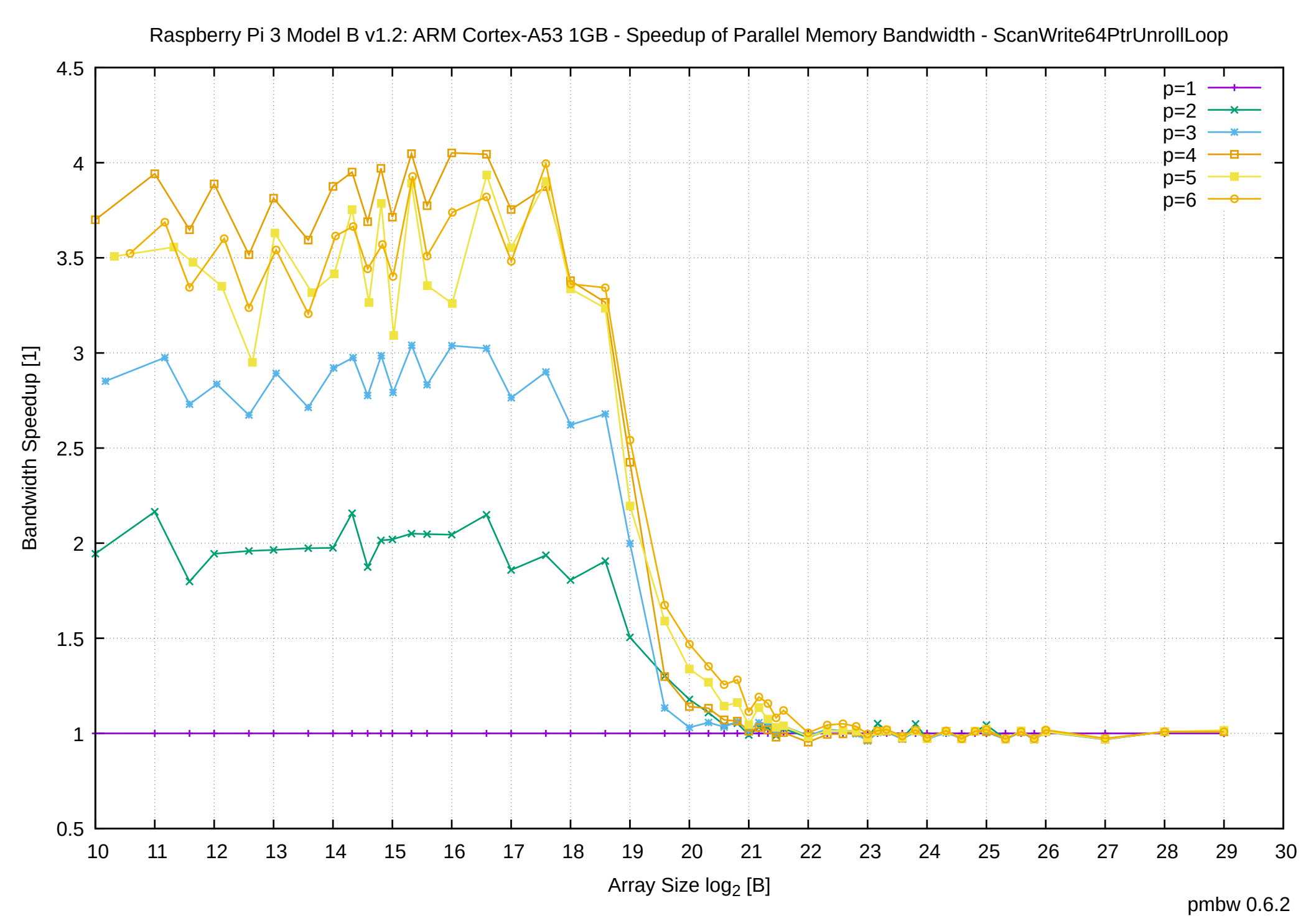

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanWrite64PtrSimpleLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
1
2
3
4
5
6
7
8
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

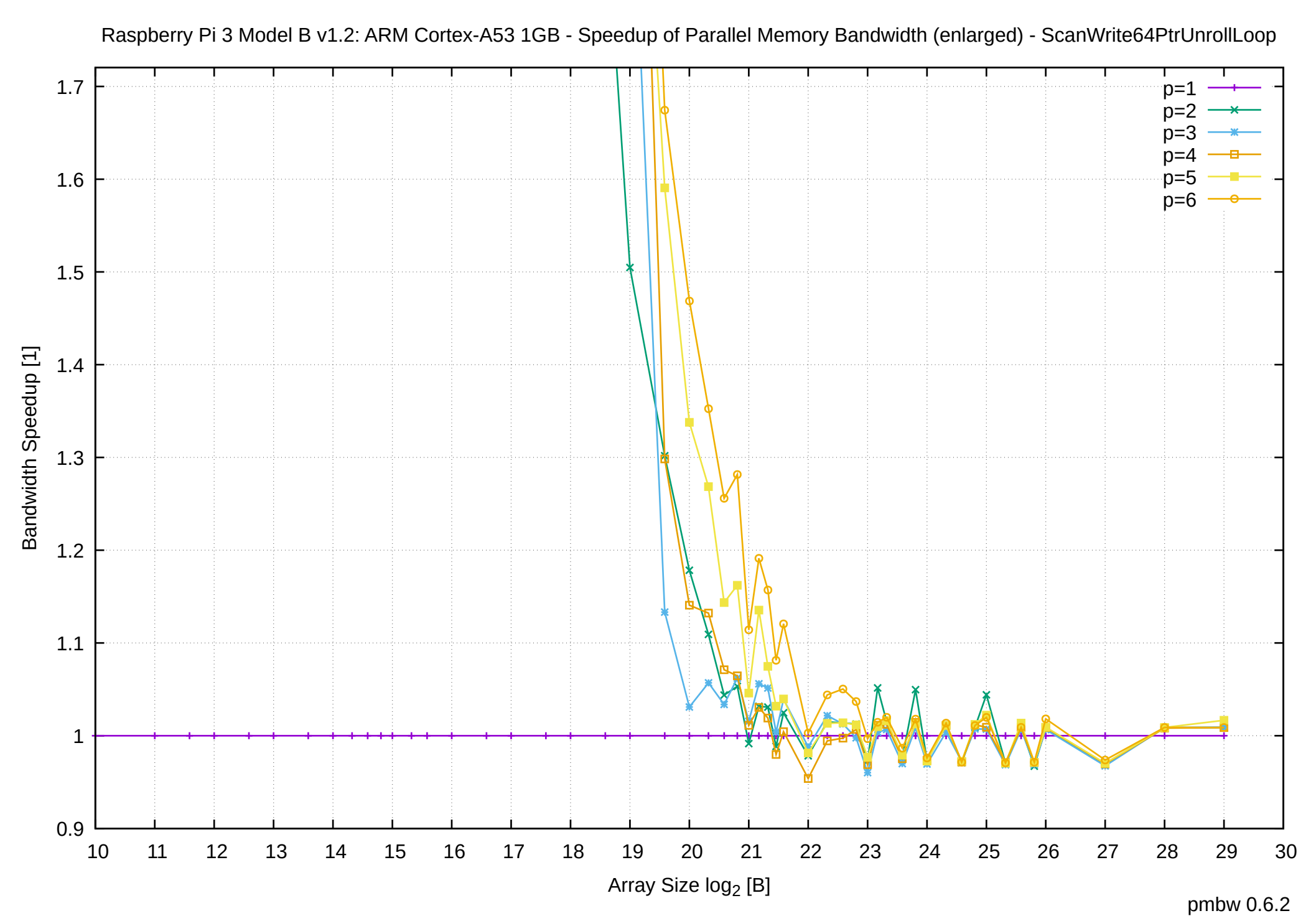

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanWrite64PtrSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4
3.5
3
2.5
2
1.5
1
0.5
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

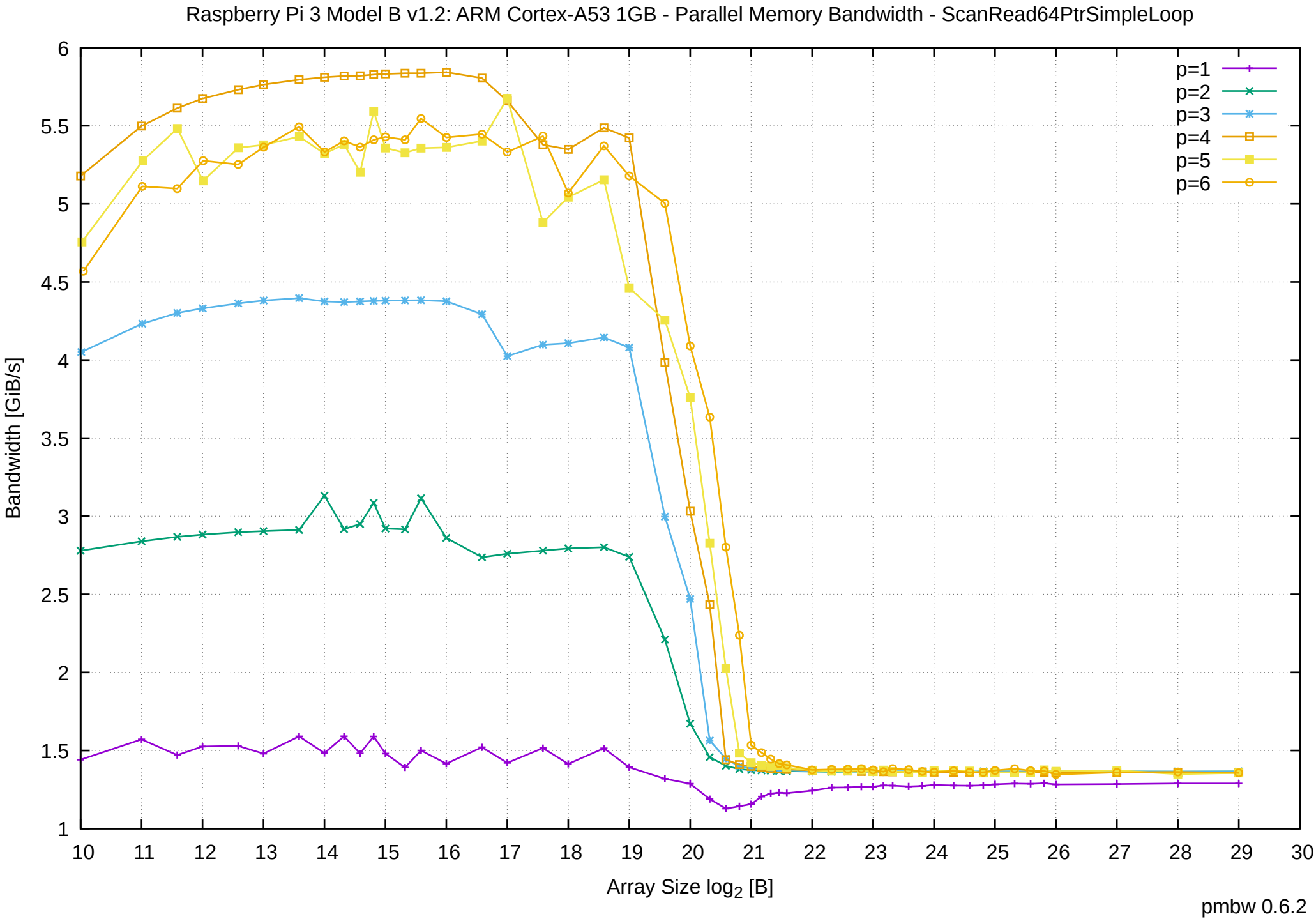

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite64PtrSimpleLoop
p=1
p=2
p=3
p=4
p=5
p=6
Bandwidth Speedup [1]
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
Array Size log2 [B]
pmbw 0.6.2

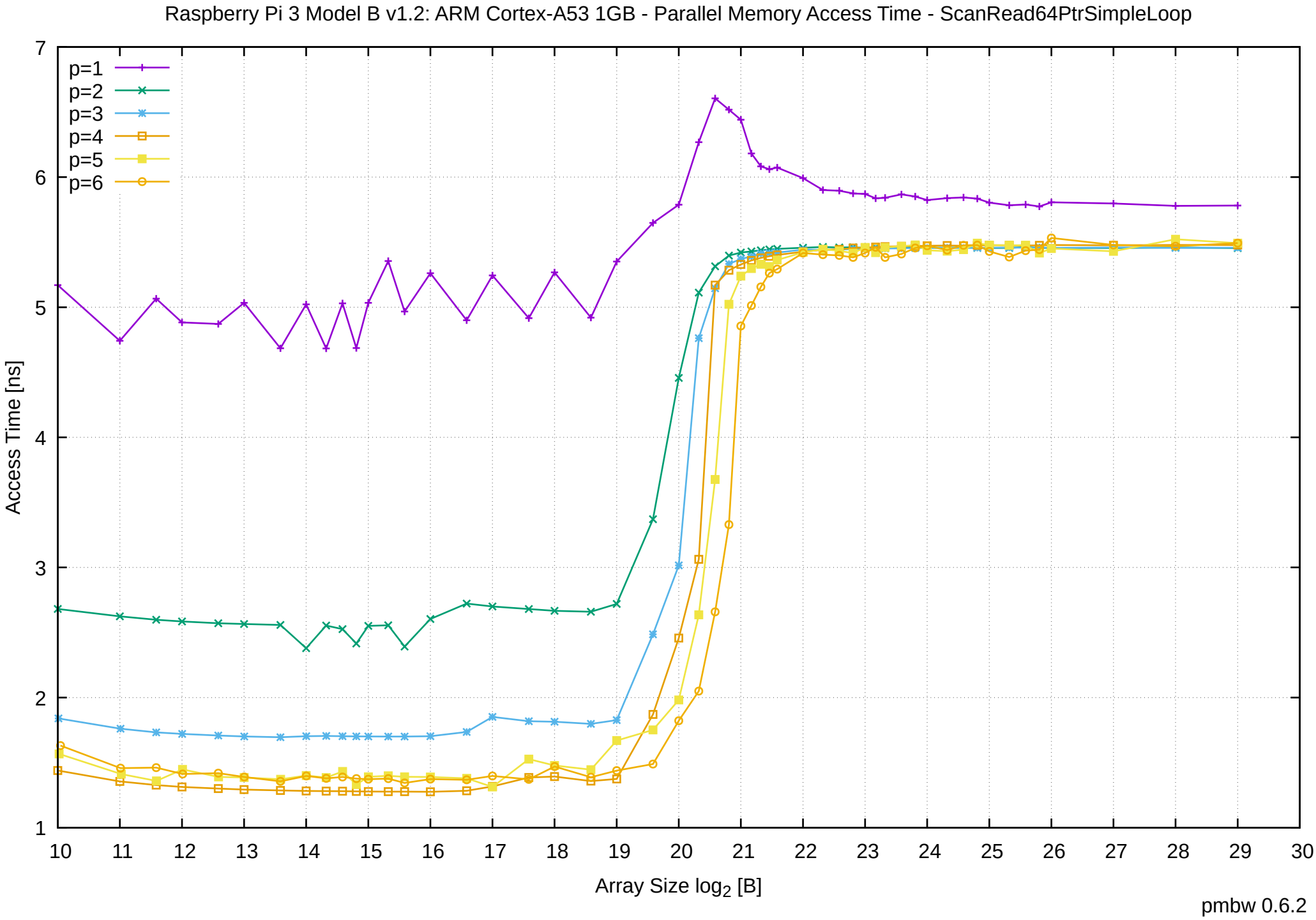

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanWrite64PtrUnrollLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
0
2
4
6
8
10
12
14
16
18
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

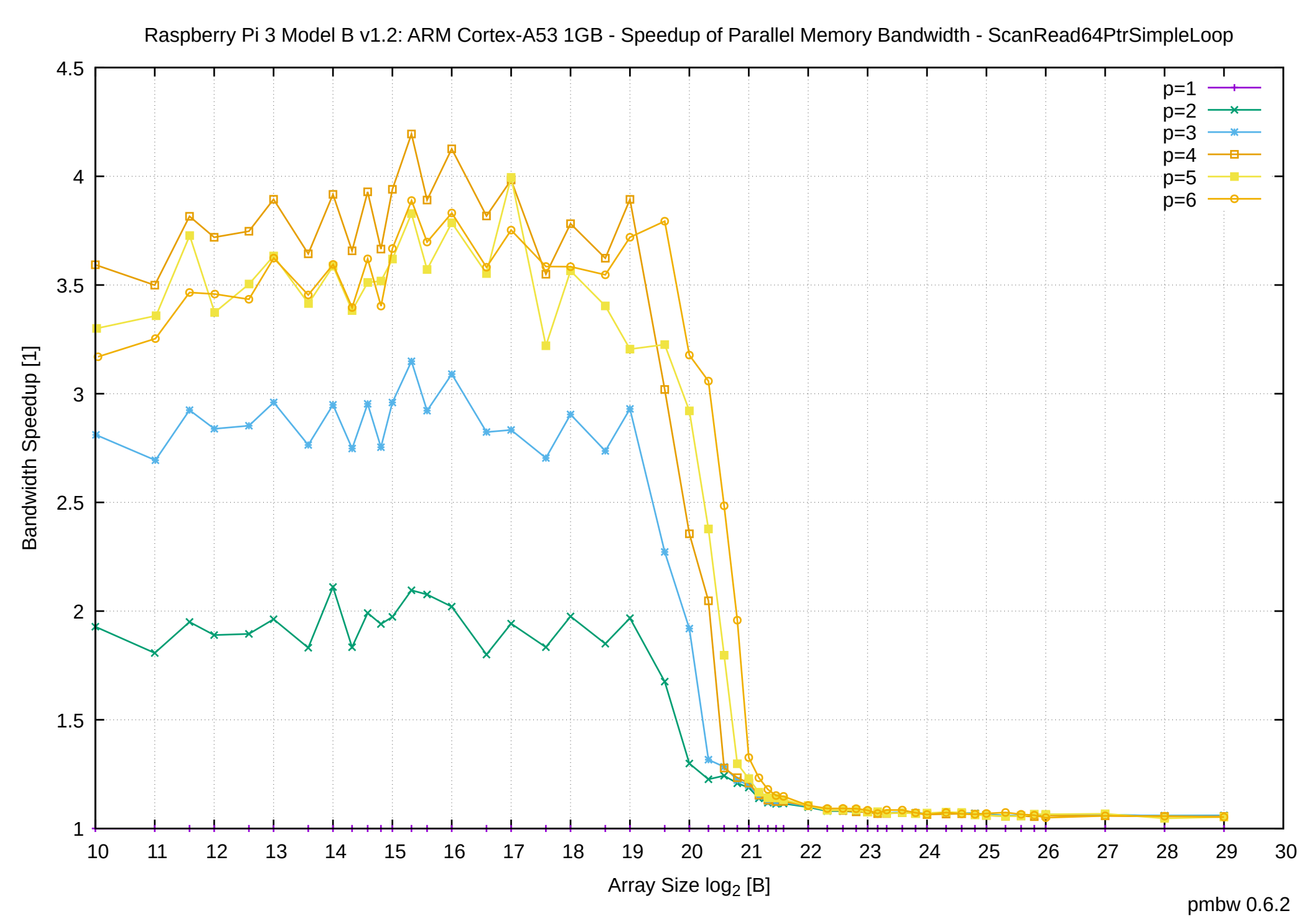

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanWrite64PtrUnrollLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
0
1
2
3
4
5
6
7
8
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

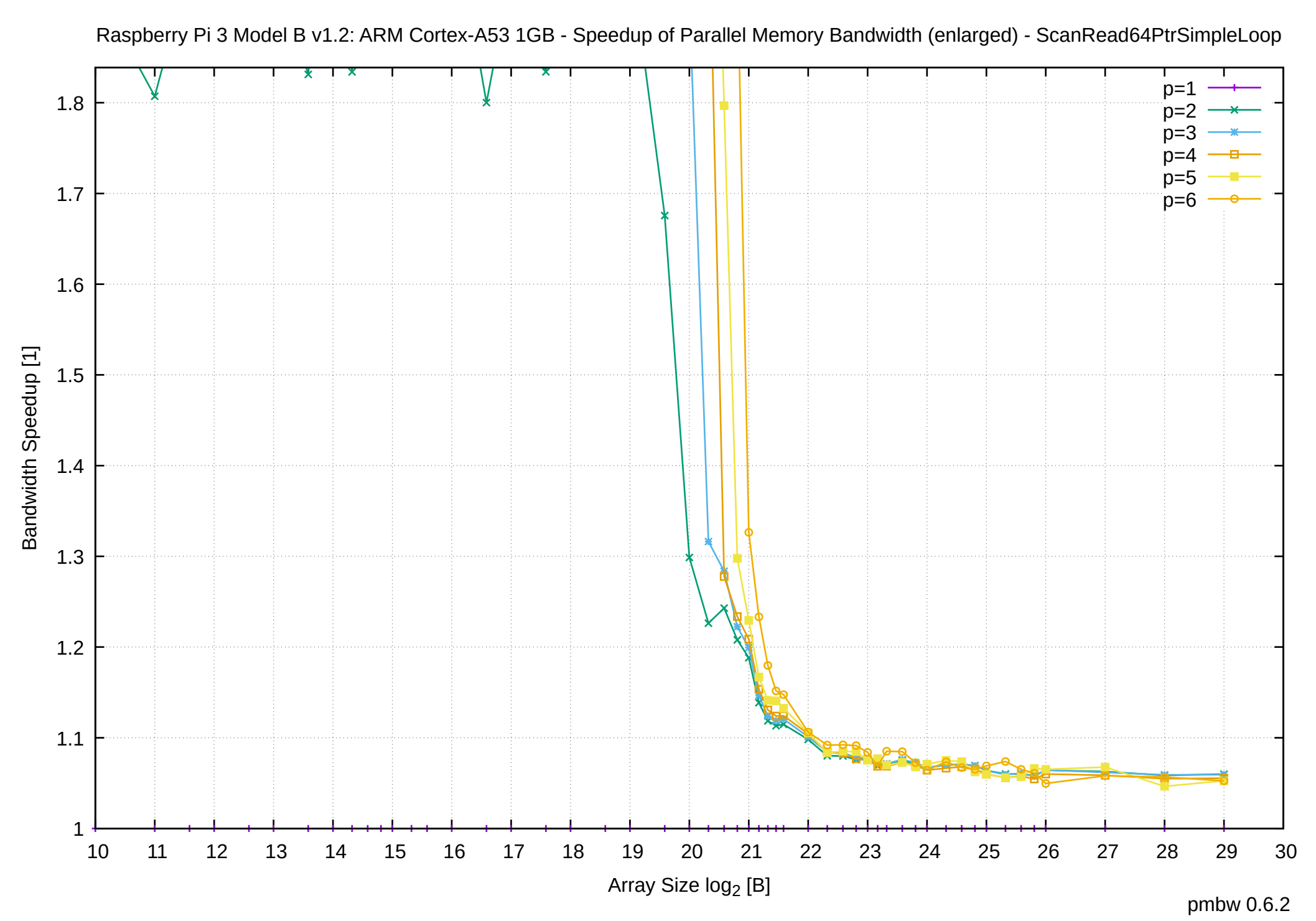

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanWrite64PtrUnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4.5
4
3.5
3
2.5
2
1.5
1
0.5
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

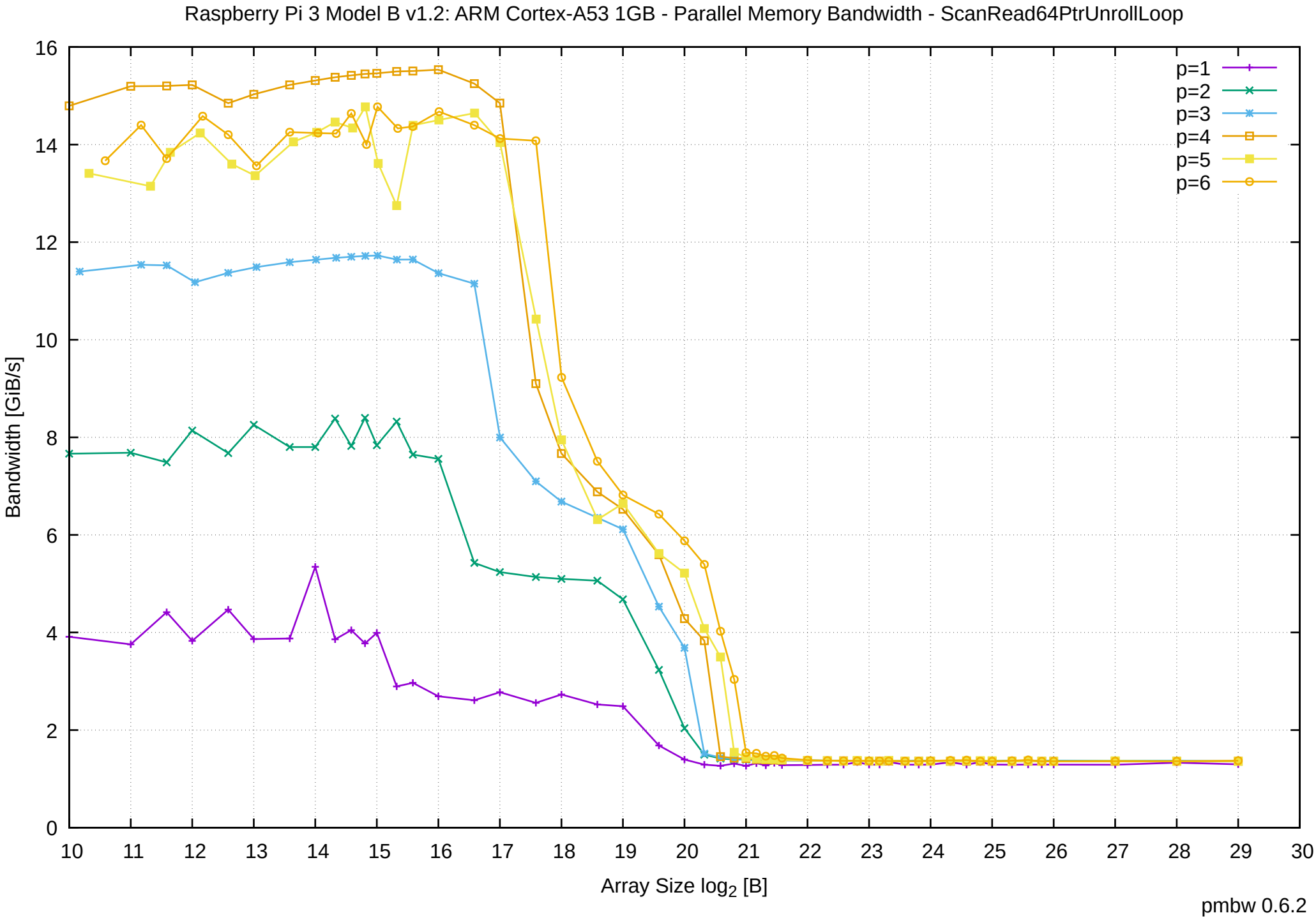

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite64PtrUnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

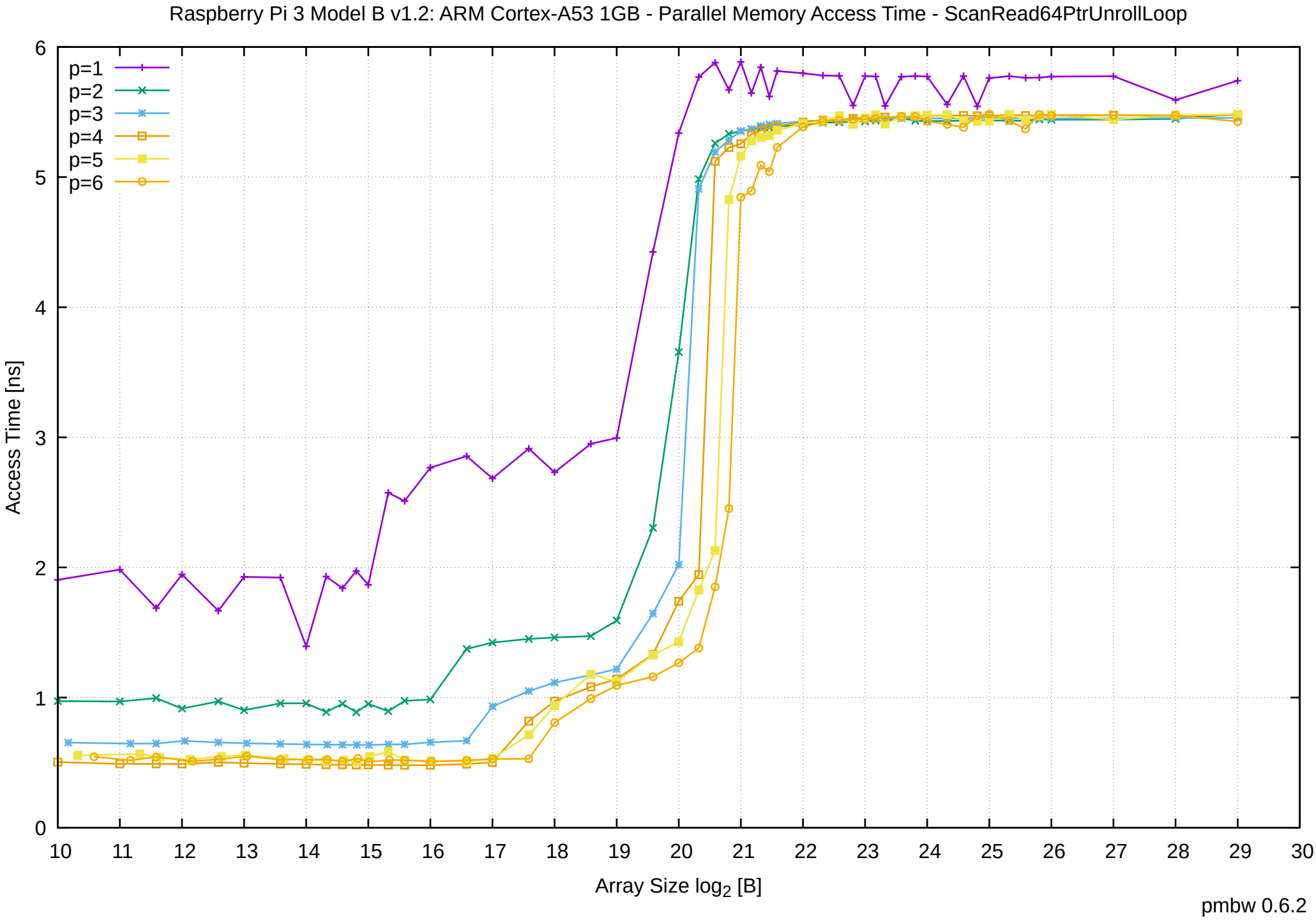

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanRead64PtrSimpleLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

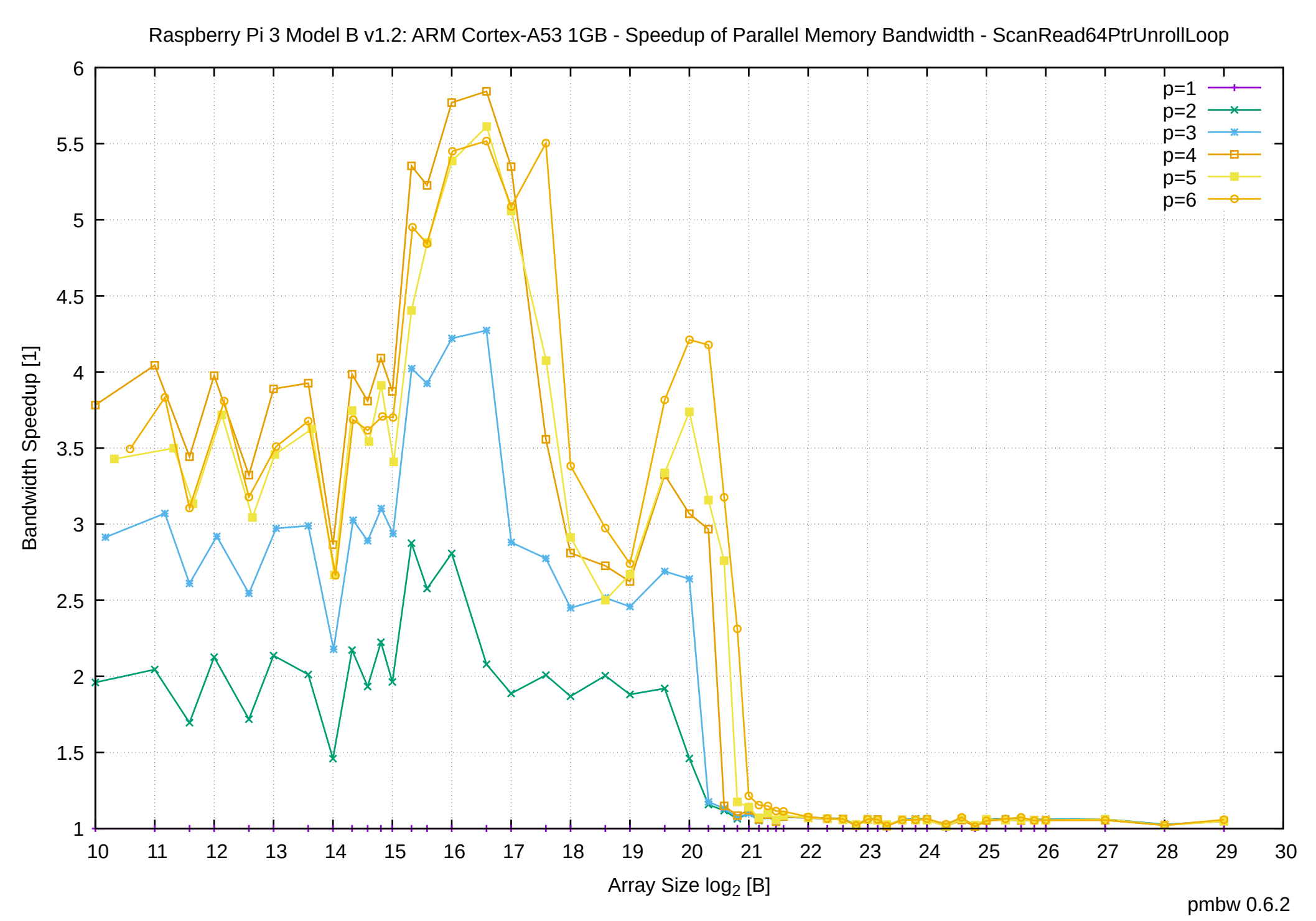

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanRead64PtrSimpleLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
1
2
3
4
5
6
7
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

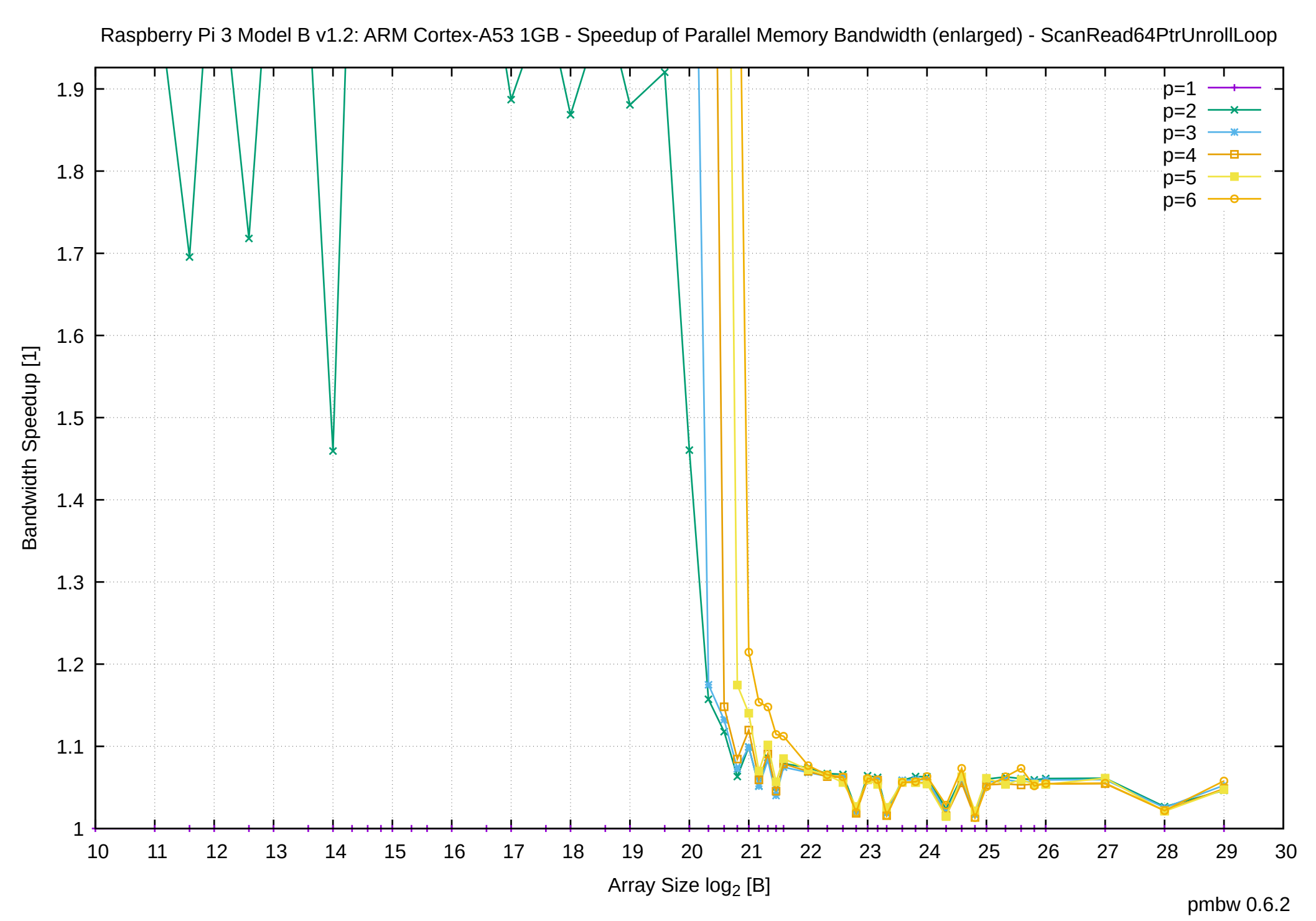

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanRead64PtrSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4.5
4
3.5
3
2.5
2
1.5
1
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

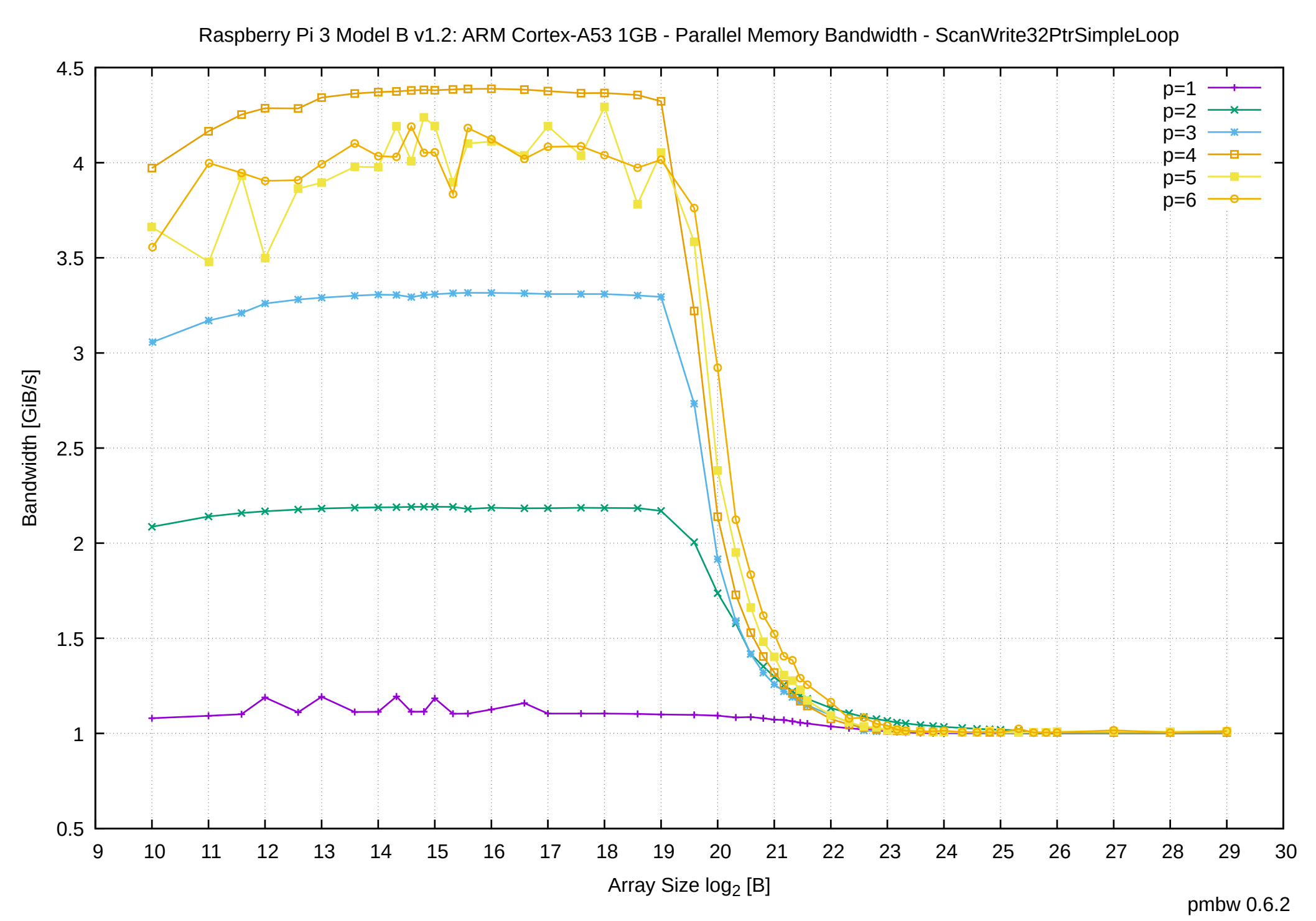

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead64PtrSimpleLoop
p=1
p=2
p=3
p=4
p=5
p=6
Bandwidth Speedup [1]
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
Array Size log2 [B]
pmbw 0.6.2

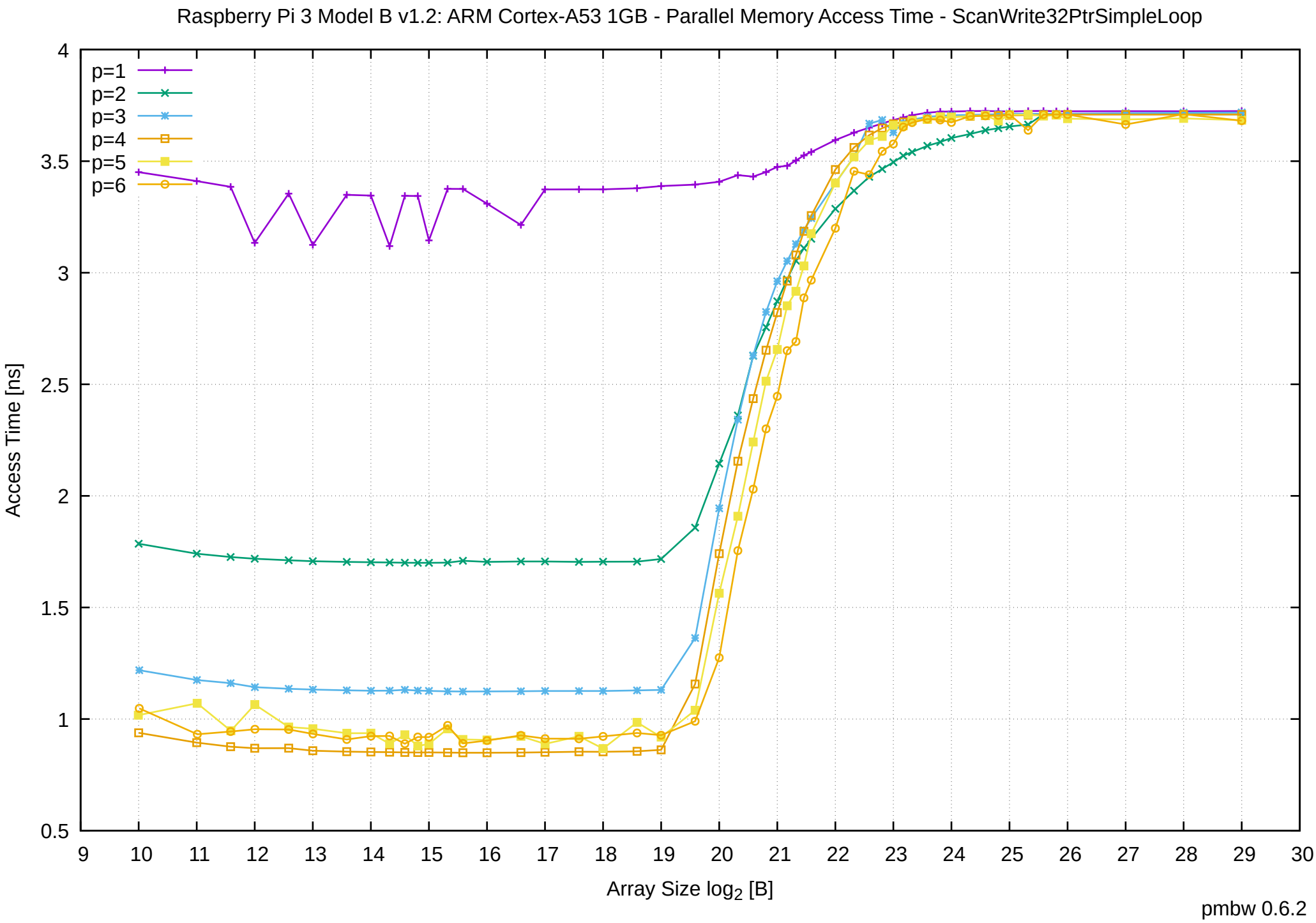

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanRead64PtrUnrollLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
0
2
4
6
8
10
12
14
16
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

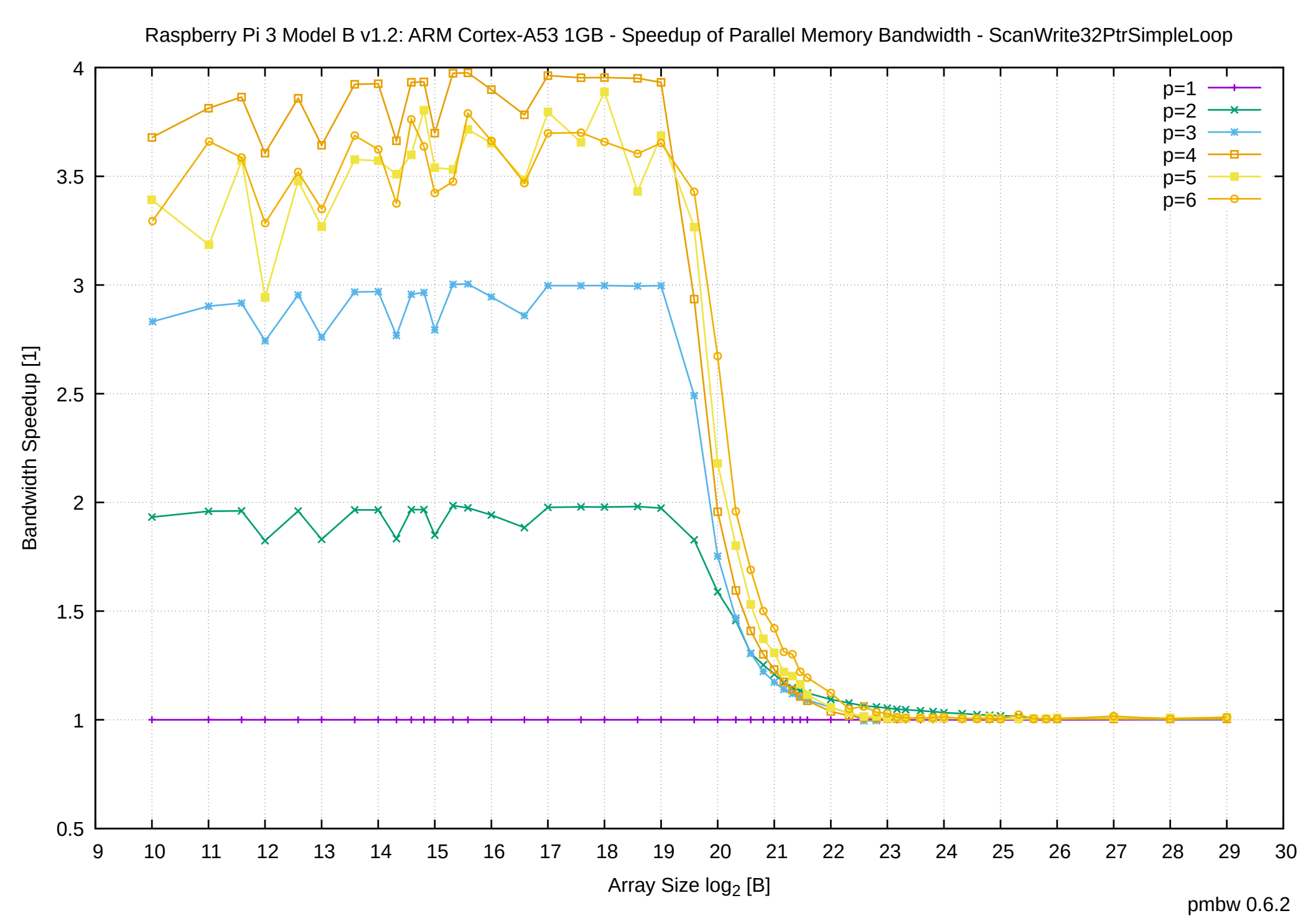

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanRead64PtrUnrollLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
0
1
2
3
4
5
6
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

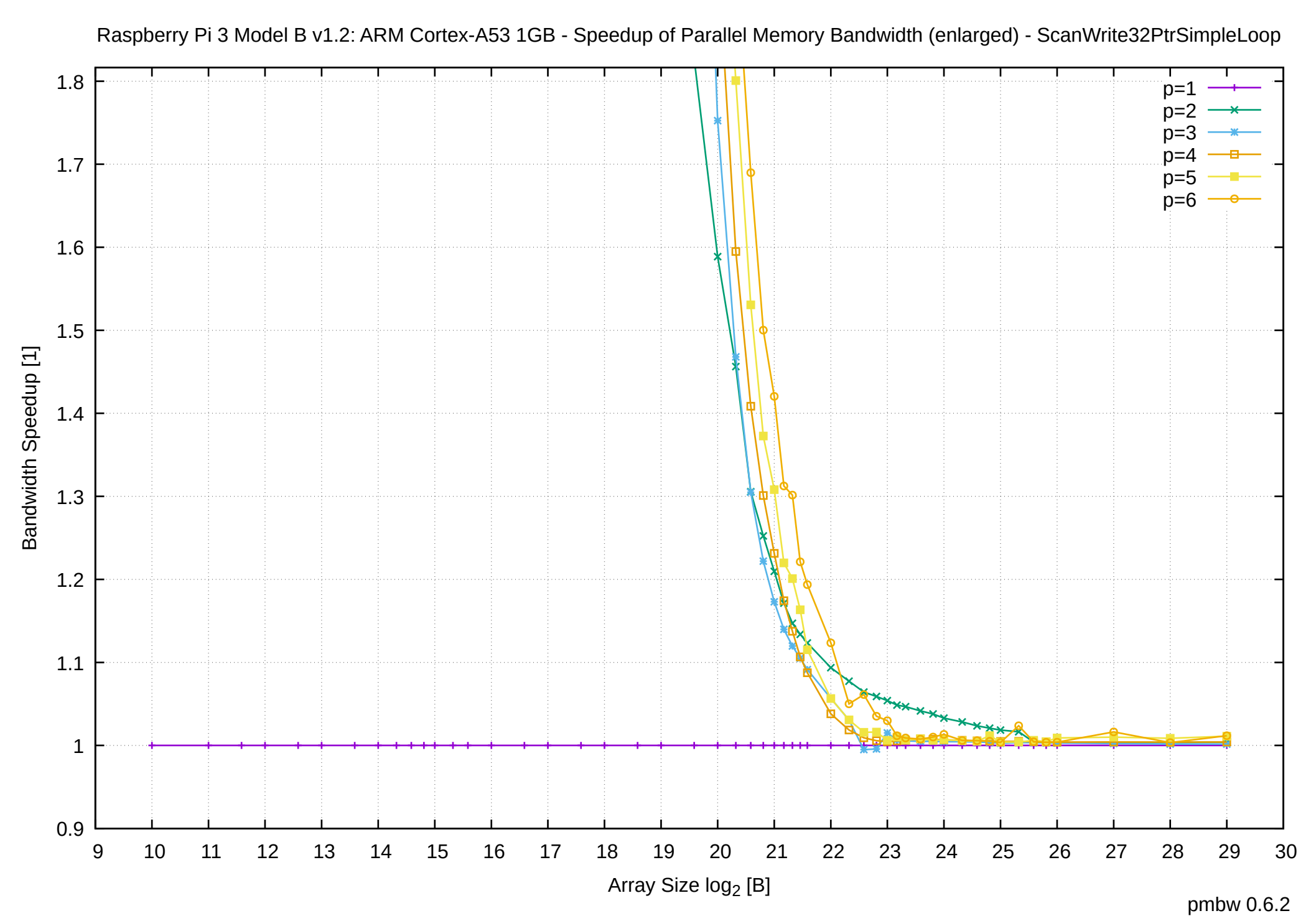

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanRead64PtrUnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

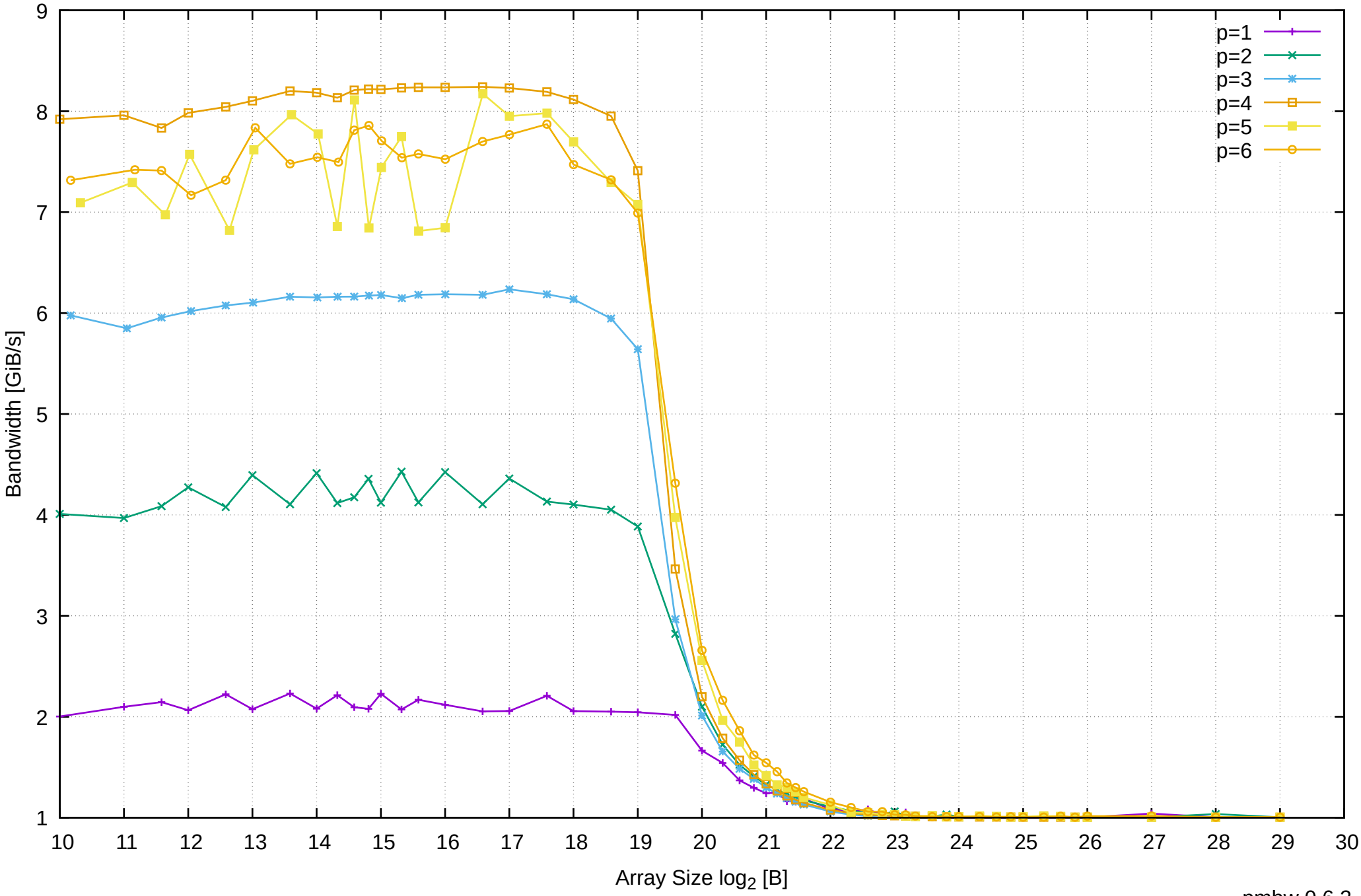

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead64PtrUnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

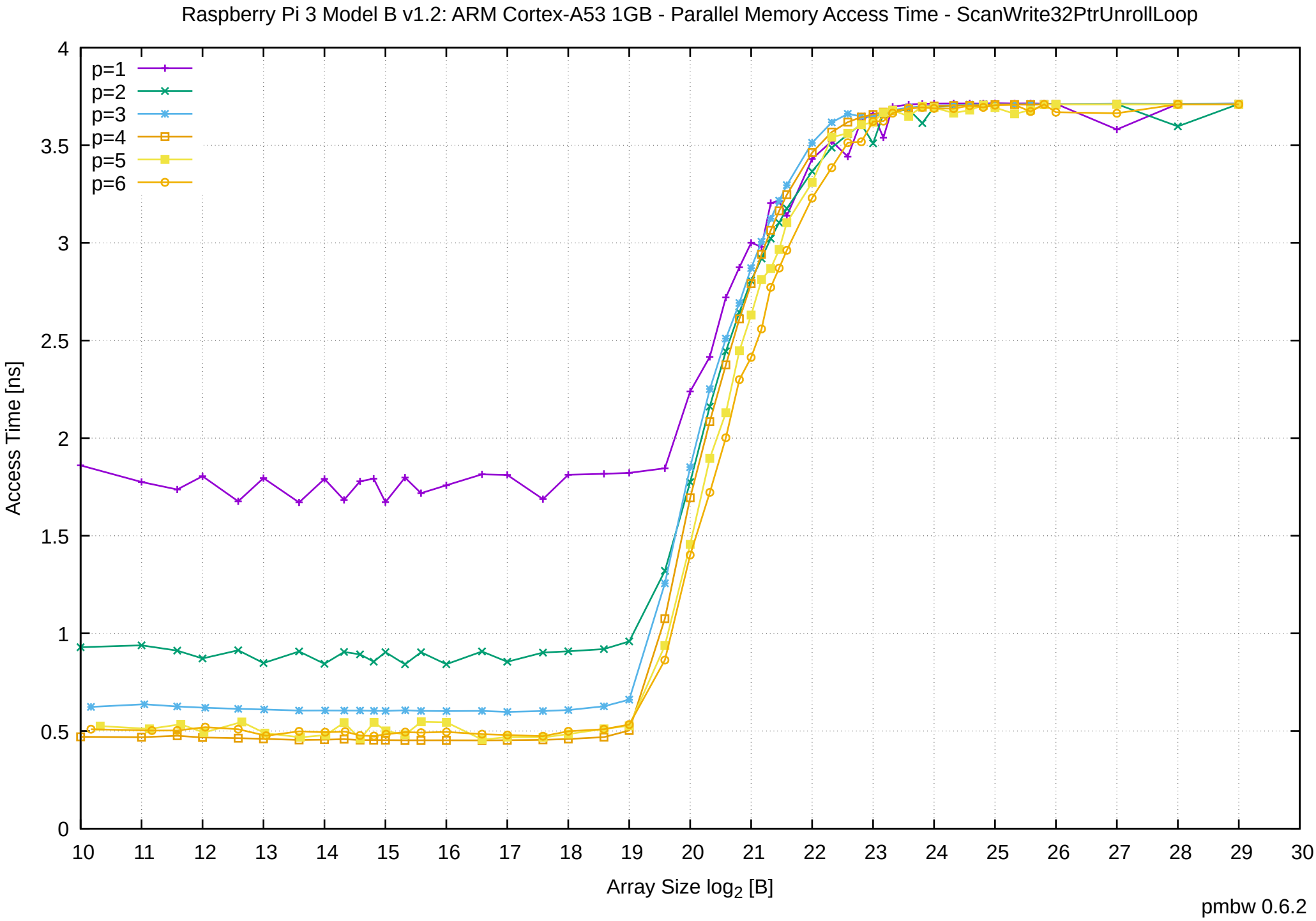

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanWrite32PtrSimpleLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4.5
4
3.5
3
2.5
2
1.5
1
0.5
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

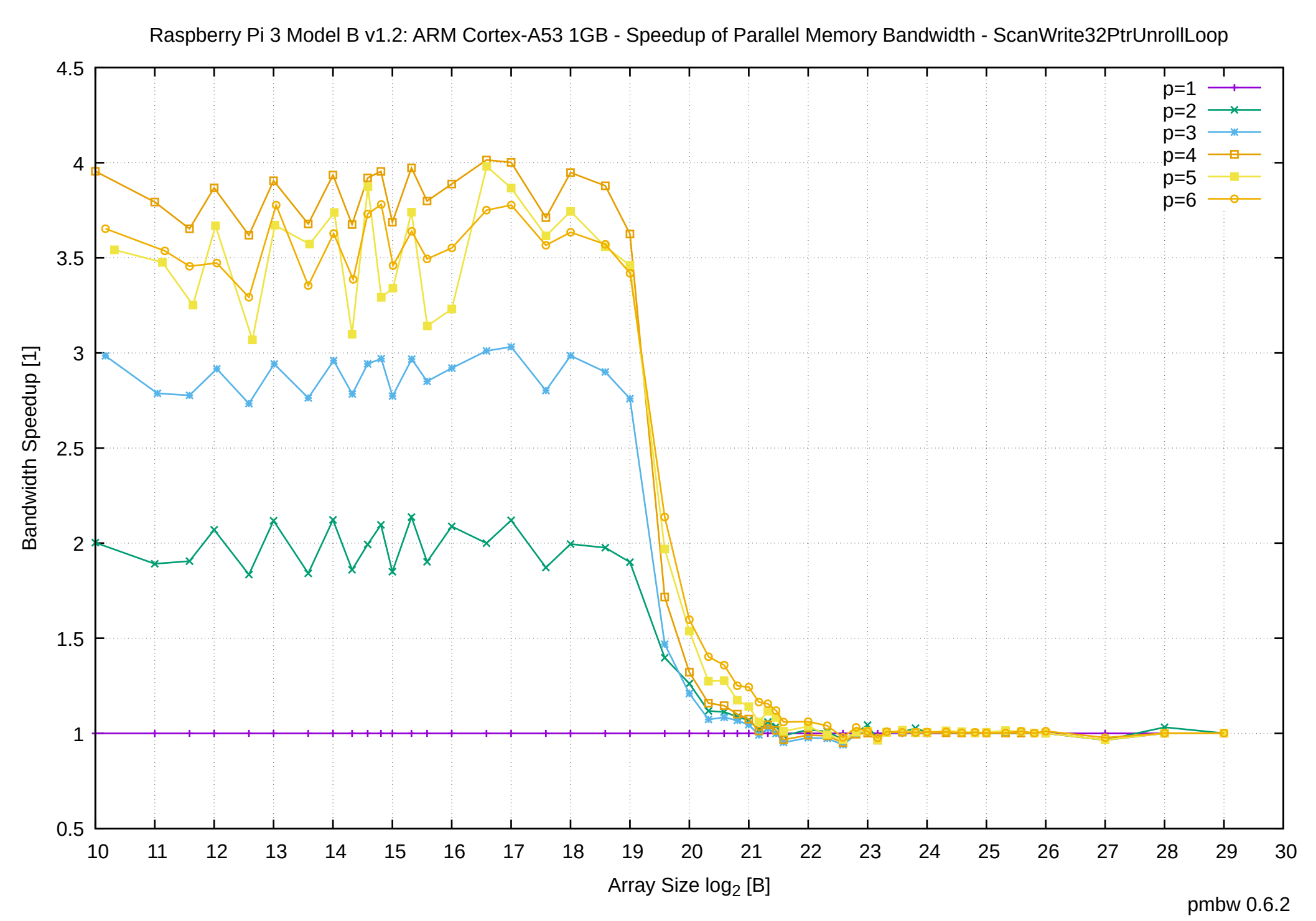

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanWrite32PtrSimpleLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

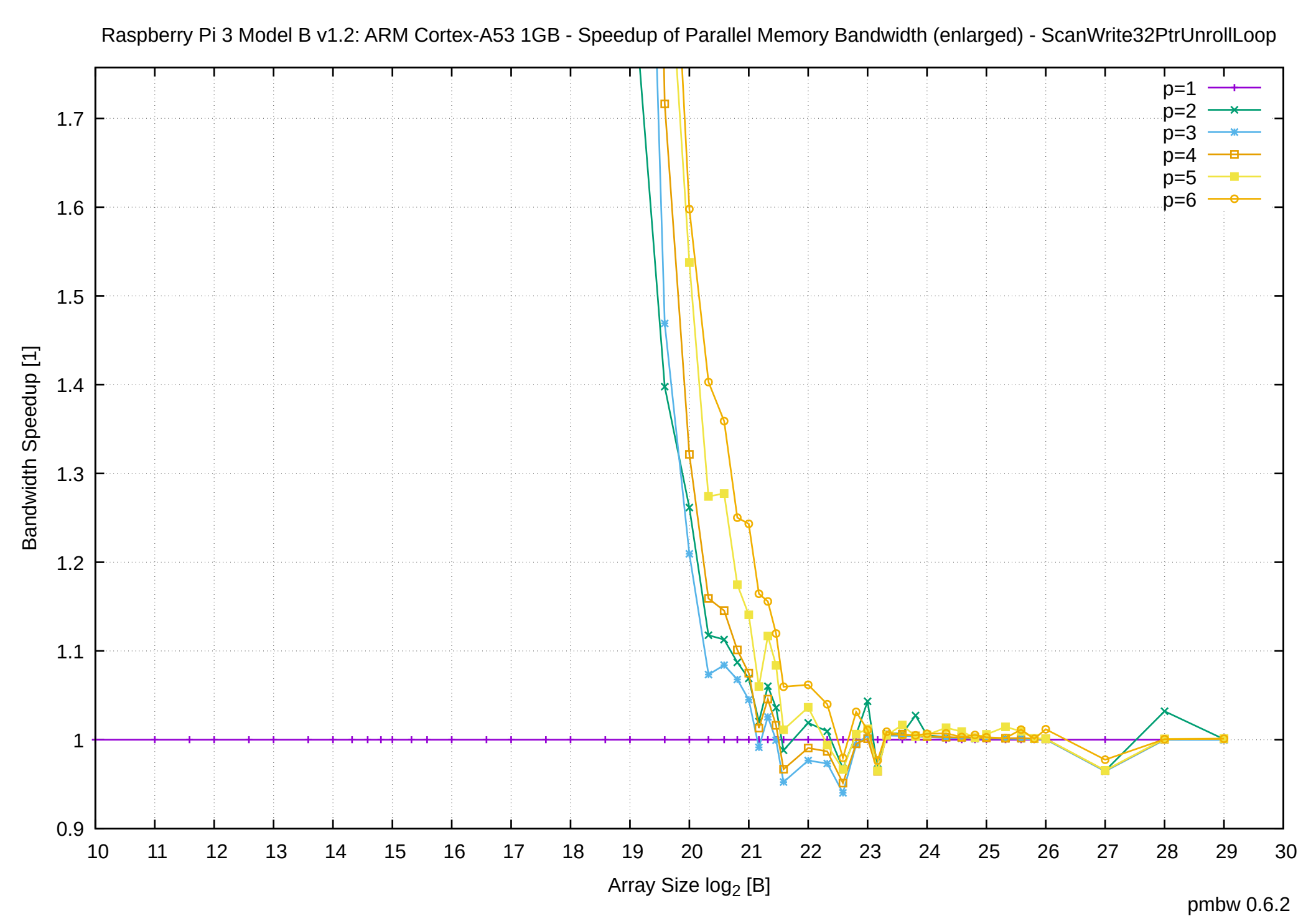

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanWrite32PtrSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4
3.5
3
2.5
2
1.5
1
0.5
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

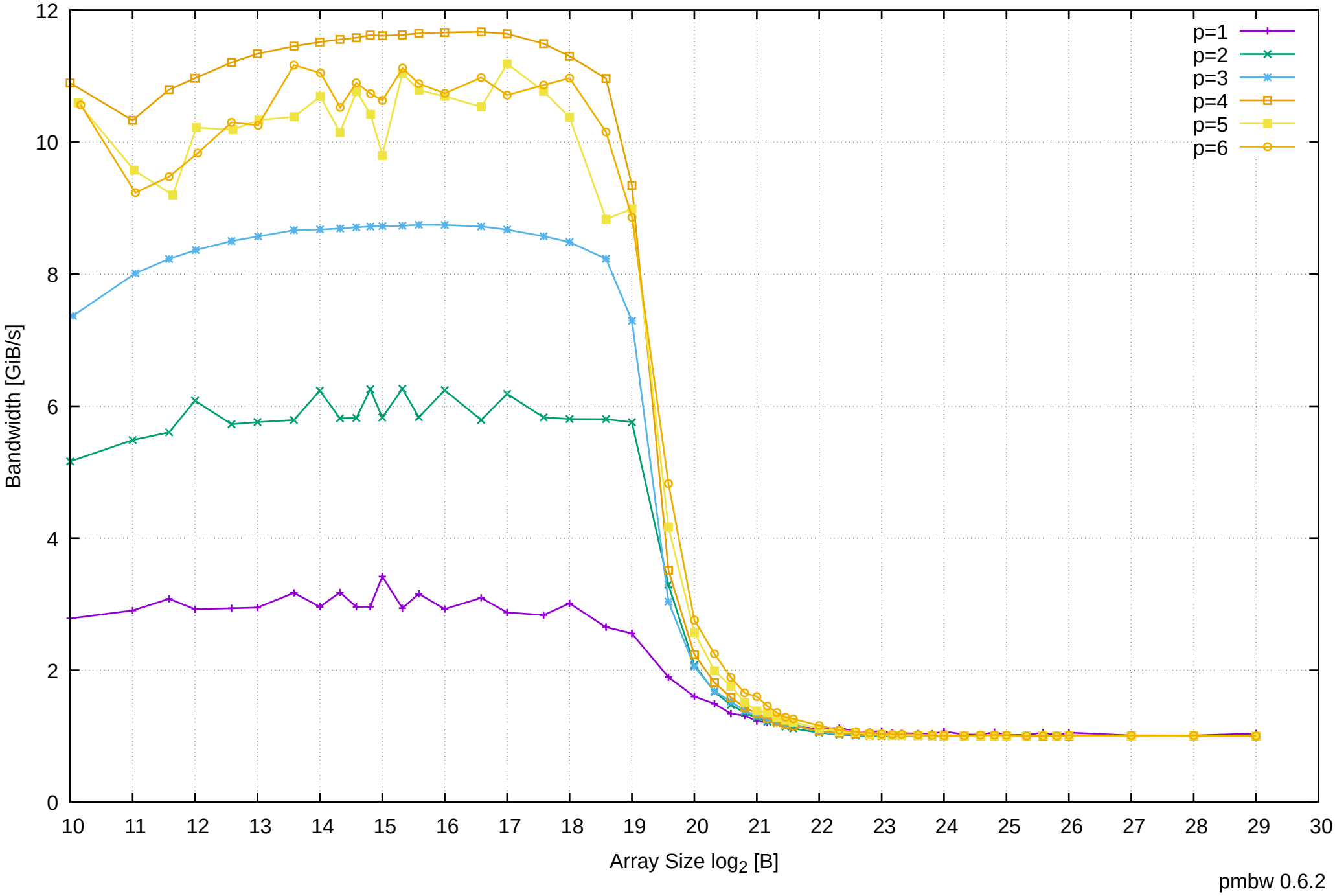

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite32PtrSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

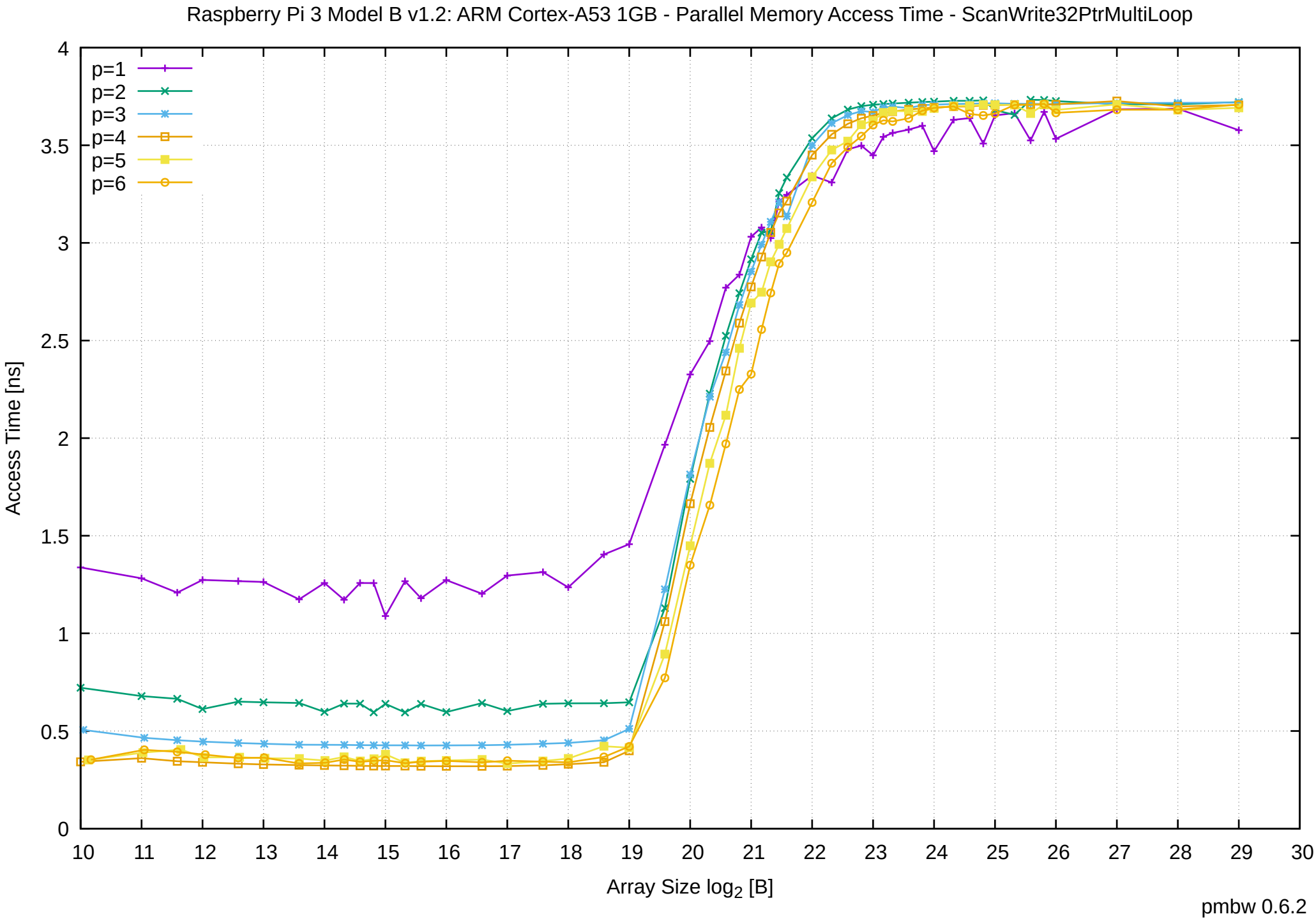

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanWrite32PtrUnrollLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
pmbw 0.6.2

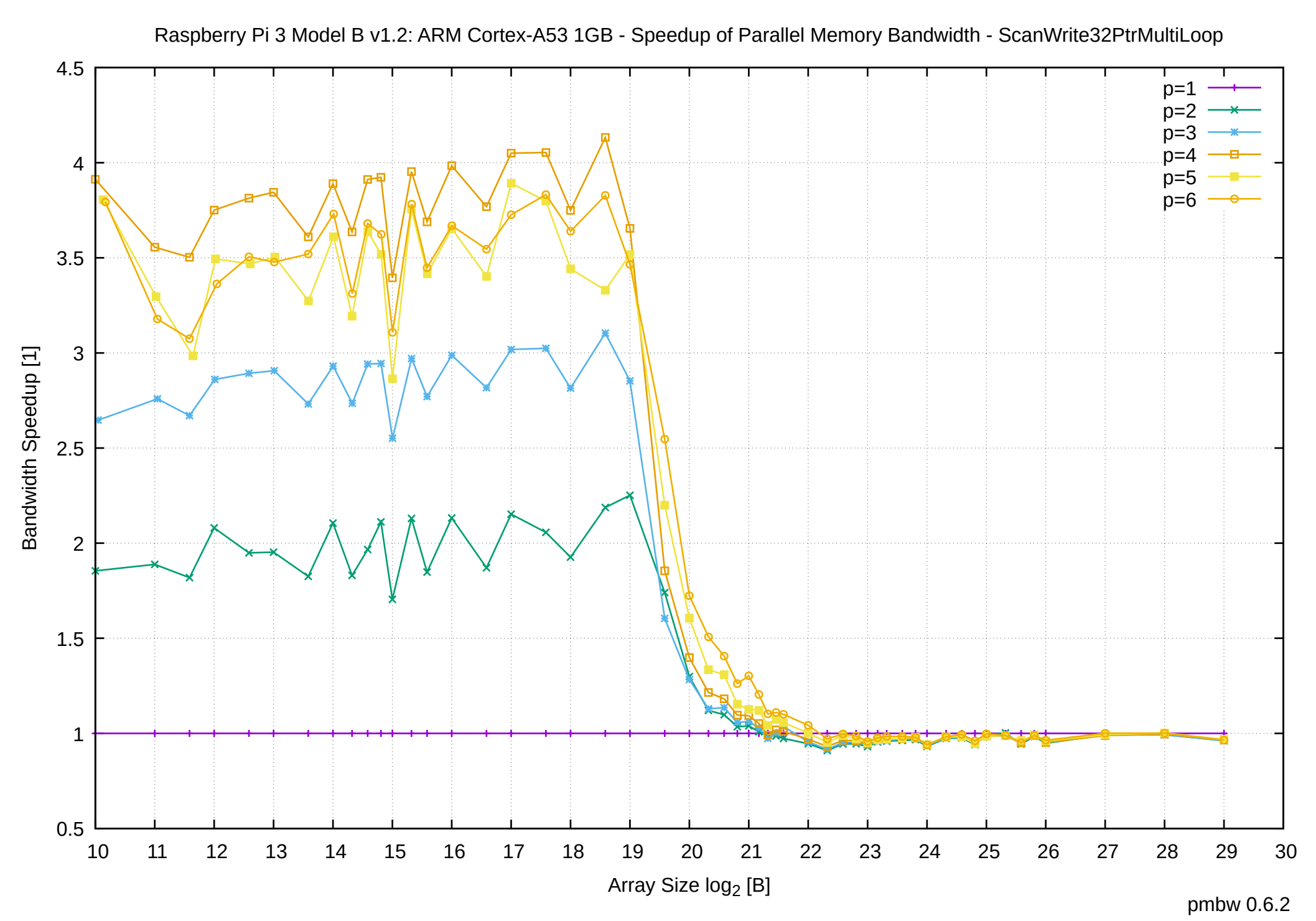

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanWrite32PtrUnrollLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
0
0.5
1
1.5
2
2.5
3
3.5
4
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

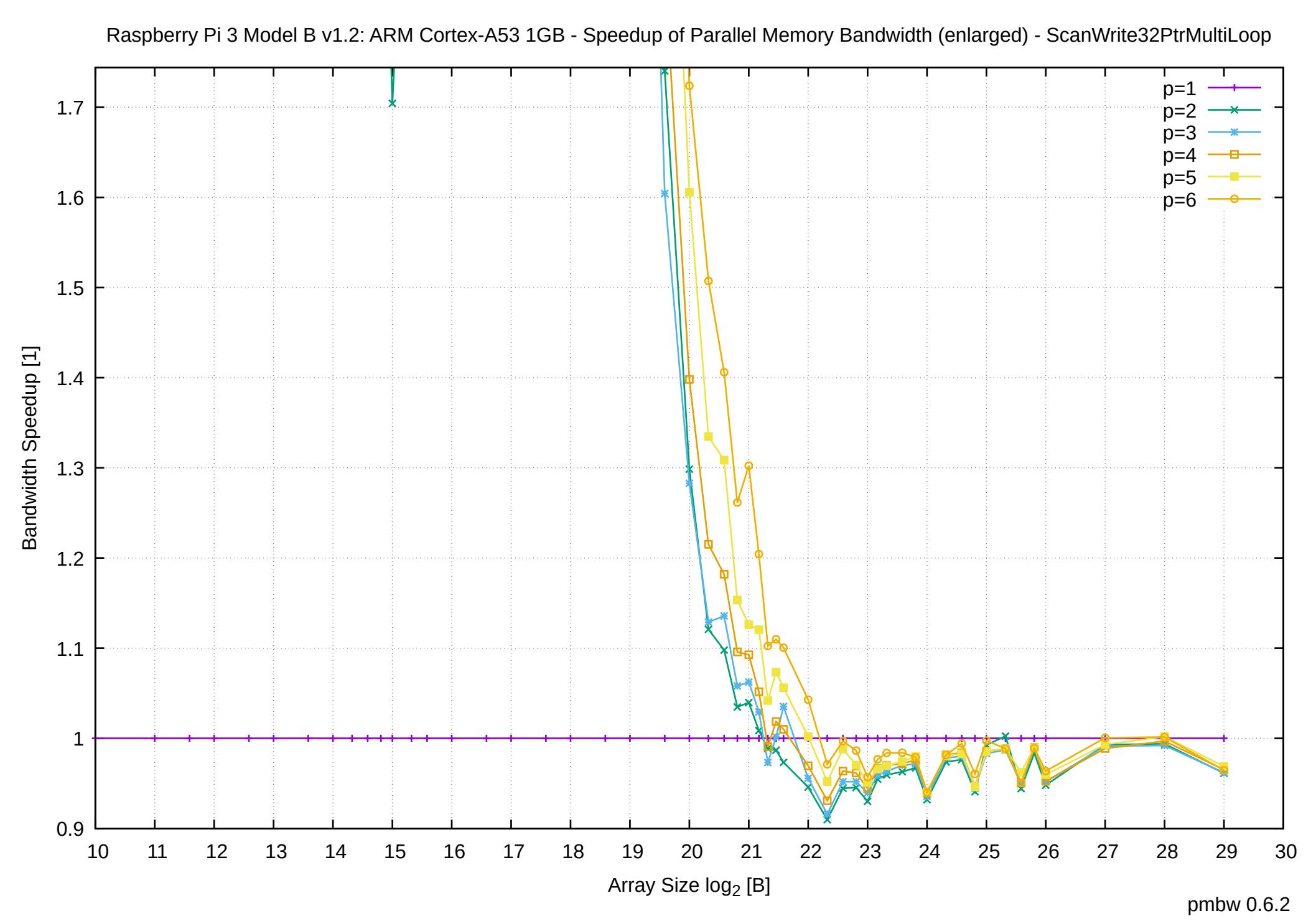

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanWrite32PtrUnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4.5
4
3.5
3
2.5
2
1.5
1
0.5
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

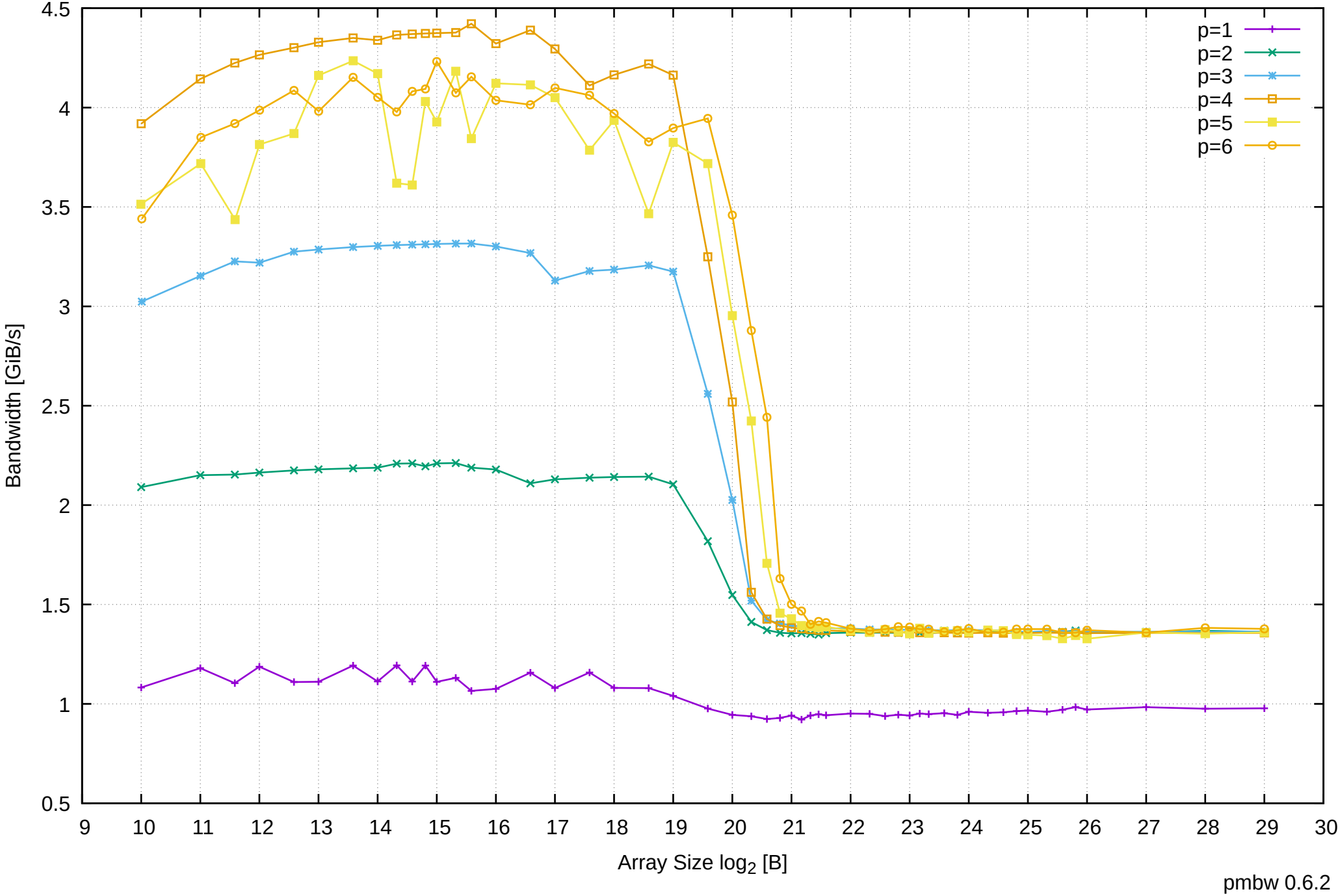

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite32PtrUnrollLoop
p=1
p=2
p=3
p=4
p=5
p=6
Bandwidth Speedup [1]
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
Array Size log2 [B]
pmbw 0.6.2

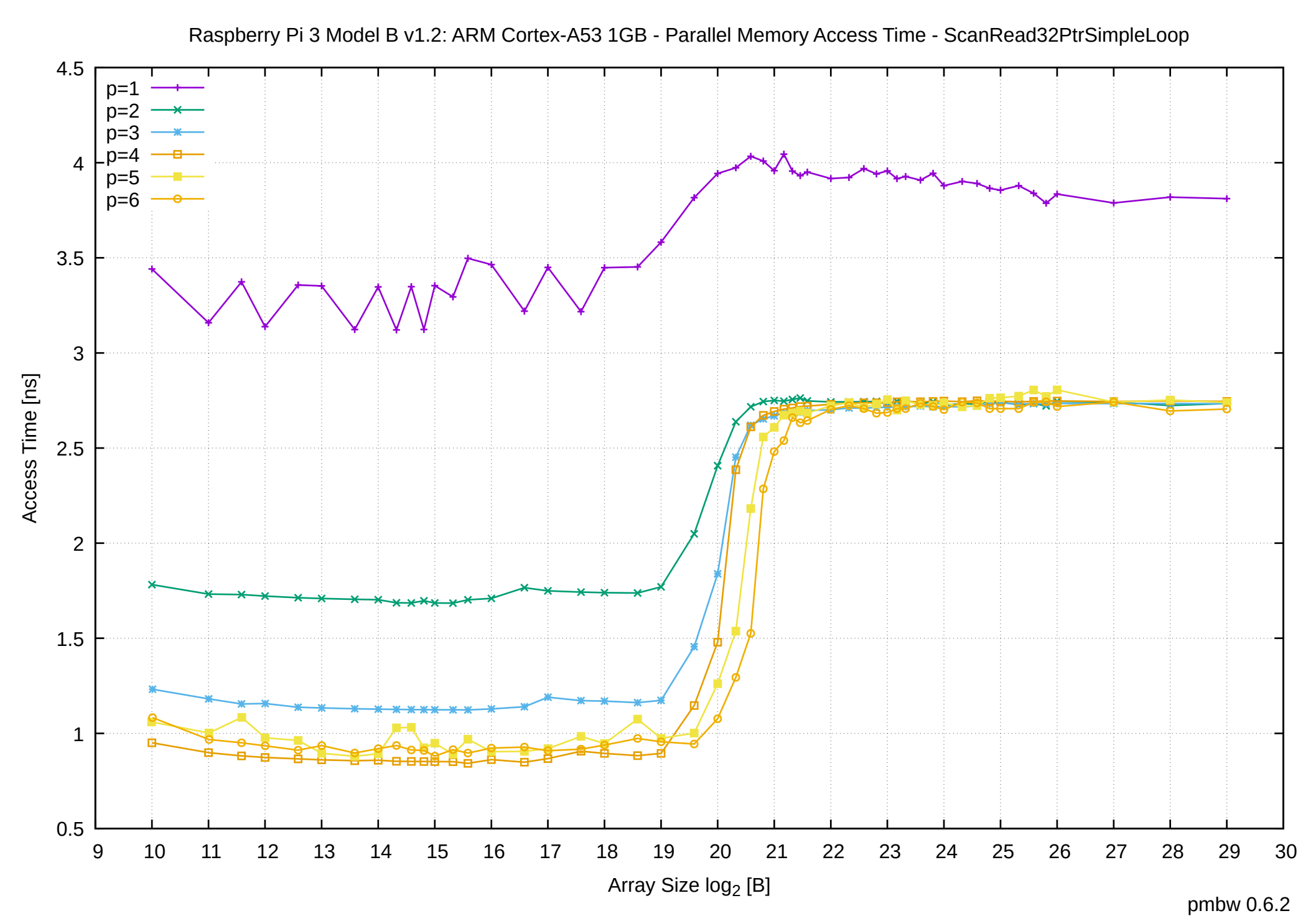

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanWrite32PtrMultiLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
0
2
4
6
8
10
12
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

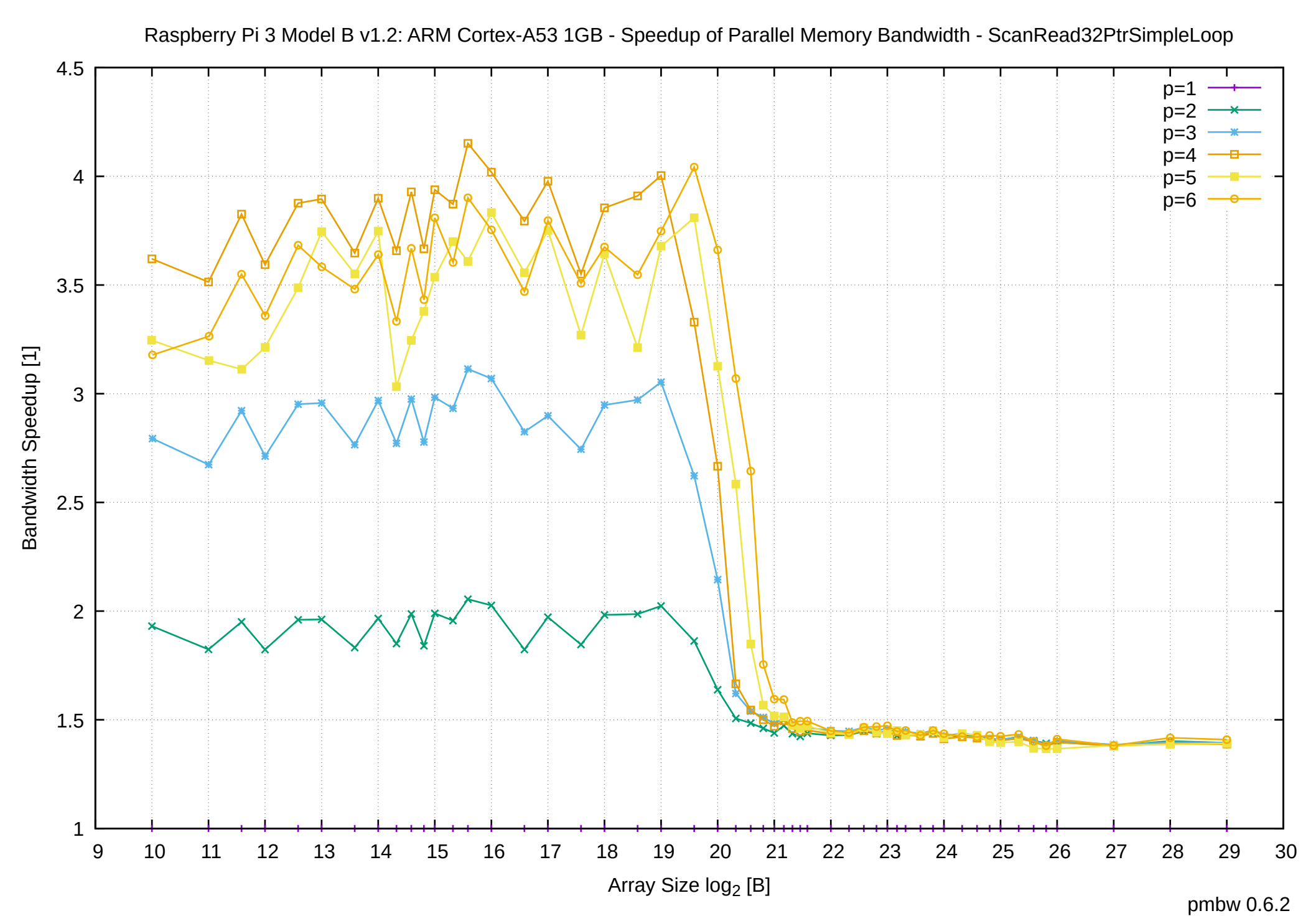

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanWrite32PtrMultiLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
0
0.5
1
1.5
2
2.5
3
3.5
4
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

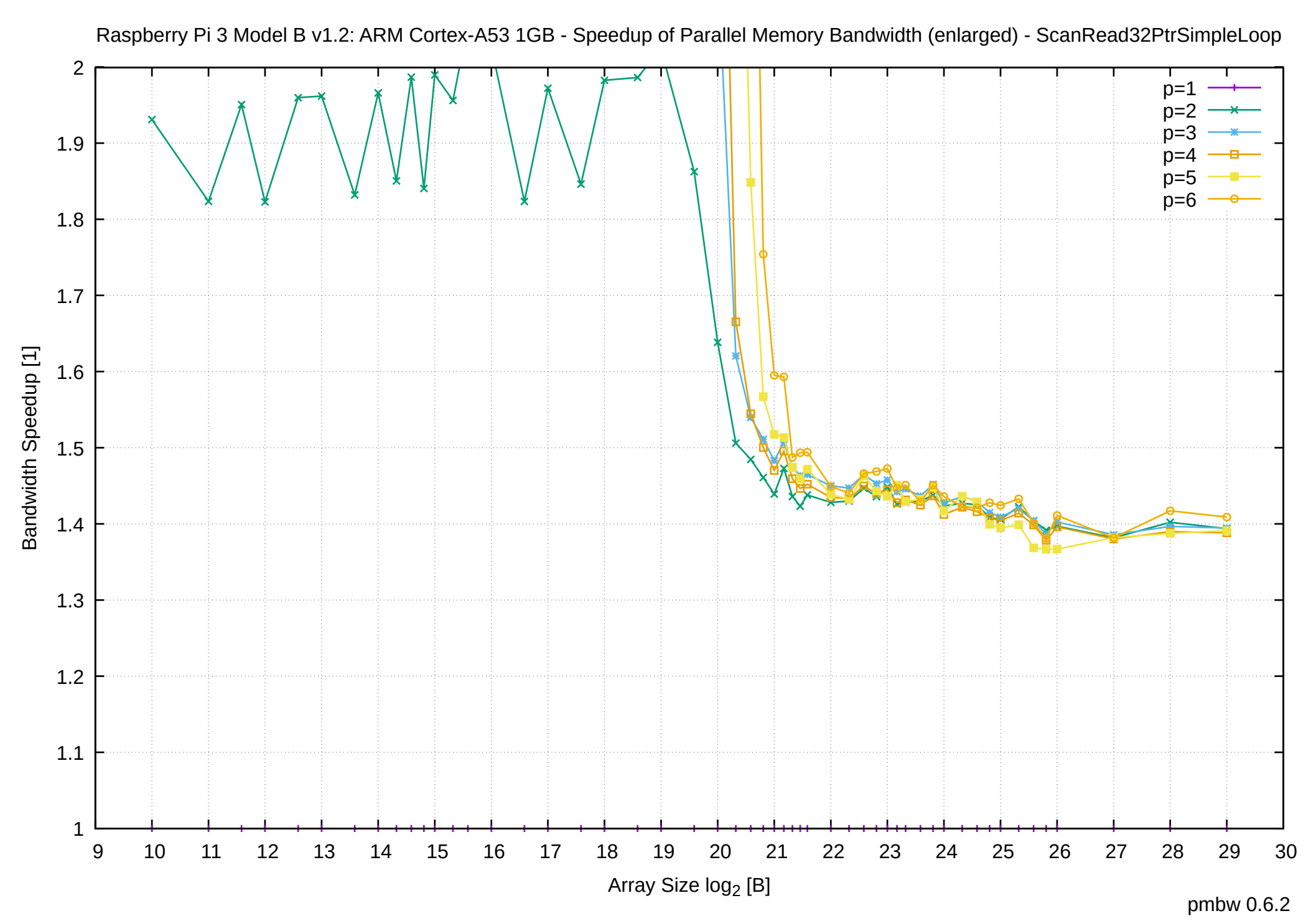

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanWrite32PtrMultiLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4.5
4
3.5
3
2.5
2
1.5
1
0.5
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

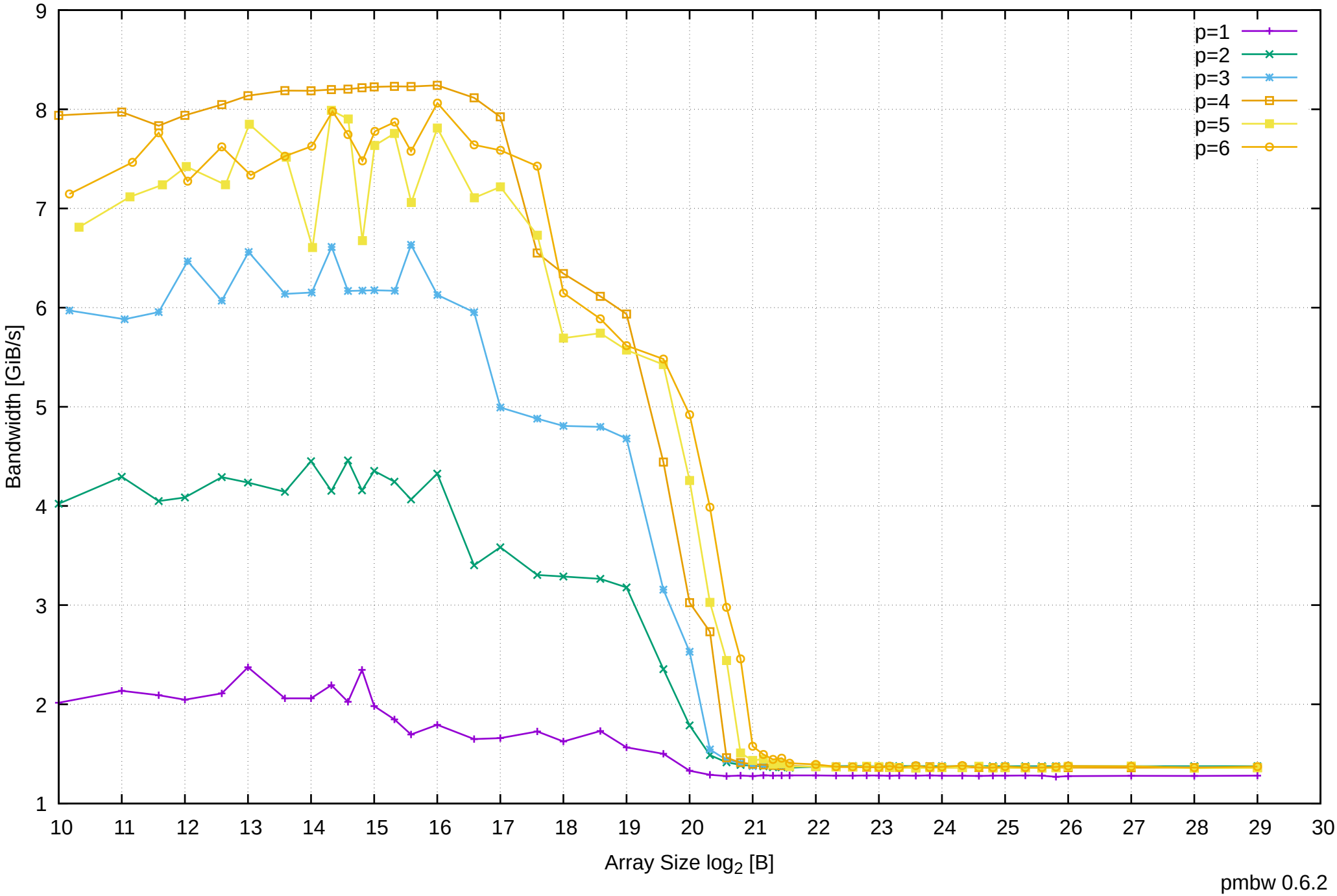

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite32PtrMultiLoop
p=1
p=2
p=3
p=4
p=5
p=6
Bandwidth Speedup [1]
Array Size log2 [B]
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

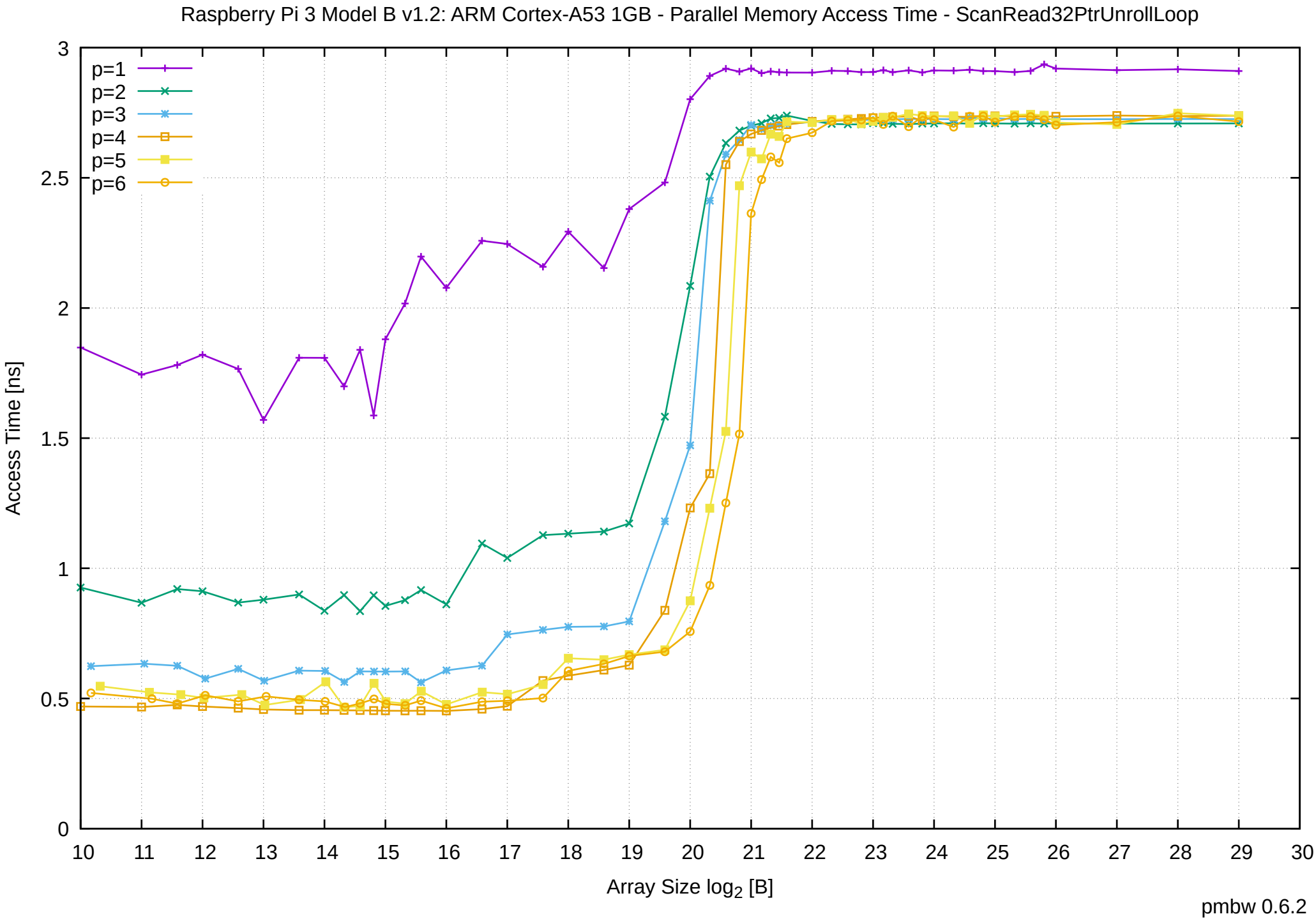

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanRead32PtrSimpleLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4.5
4
3.5
3
2.5
2
1.5
1
0.5
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

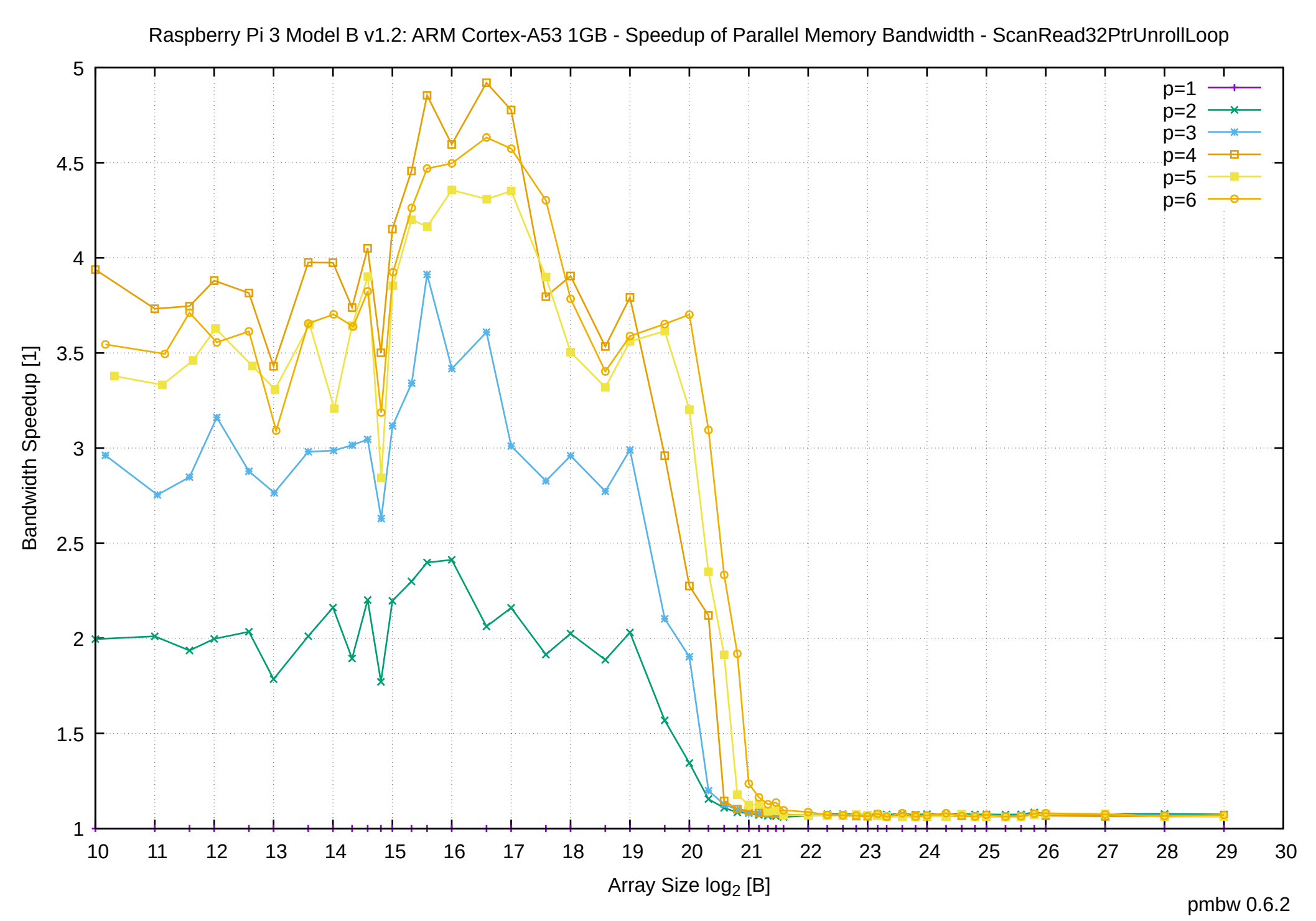

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanRead32PtrSimpleLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

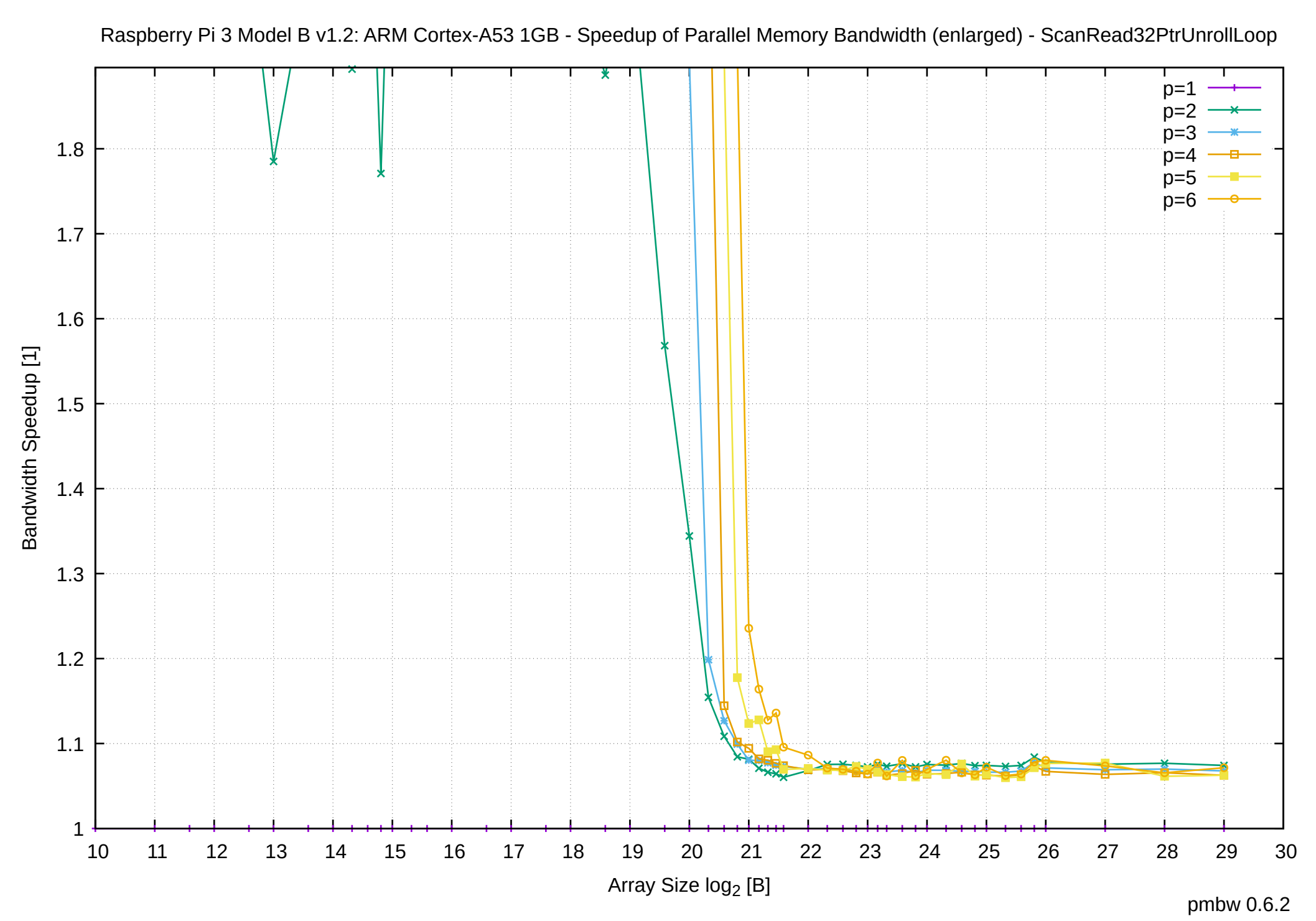

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanRead32PtrSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4.5
4
3.5
3
2.5
2
1.5
1
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

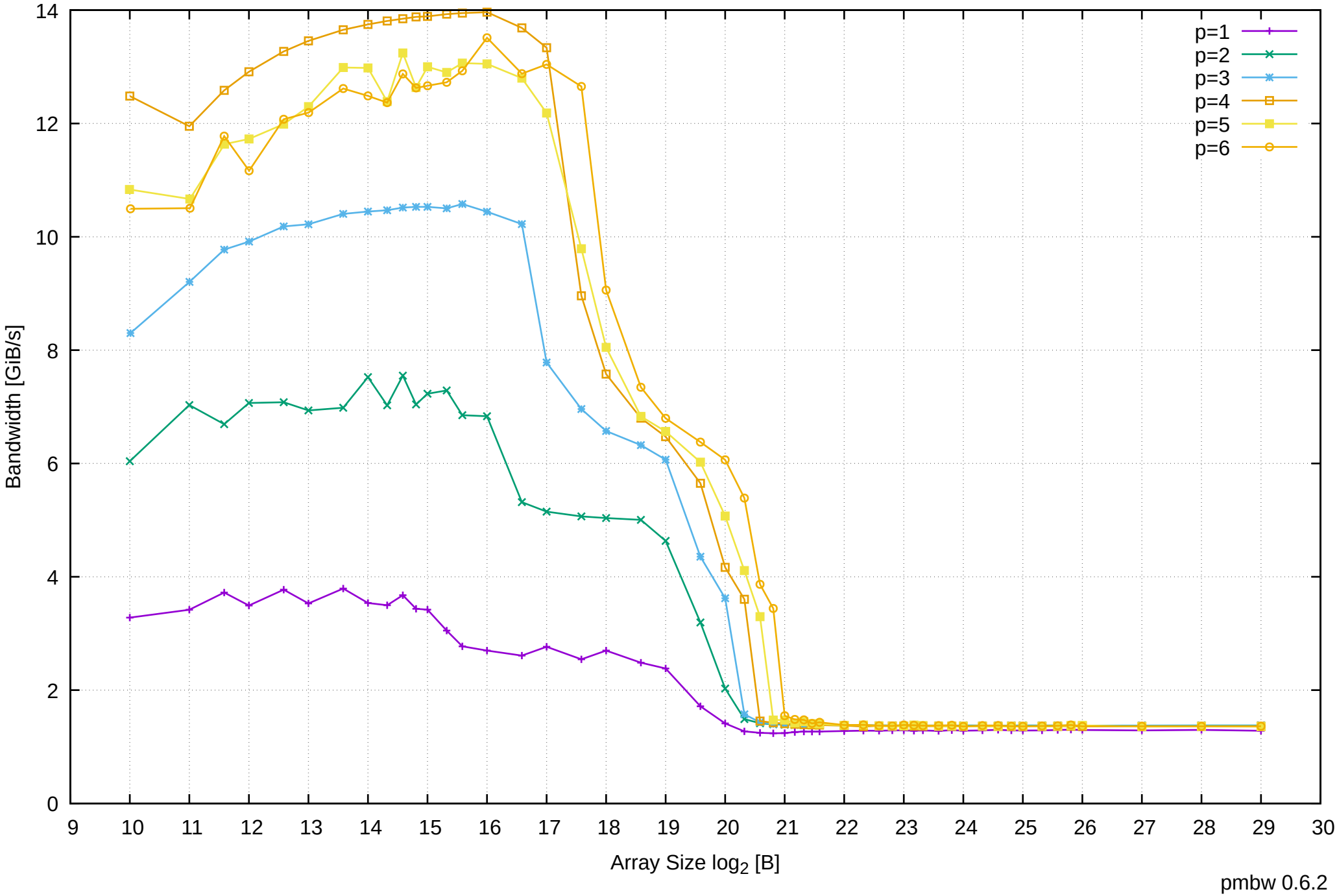

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead32PtrSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

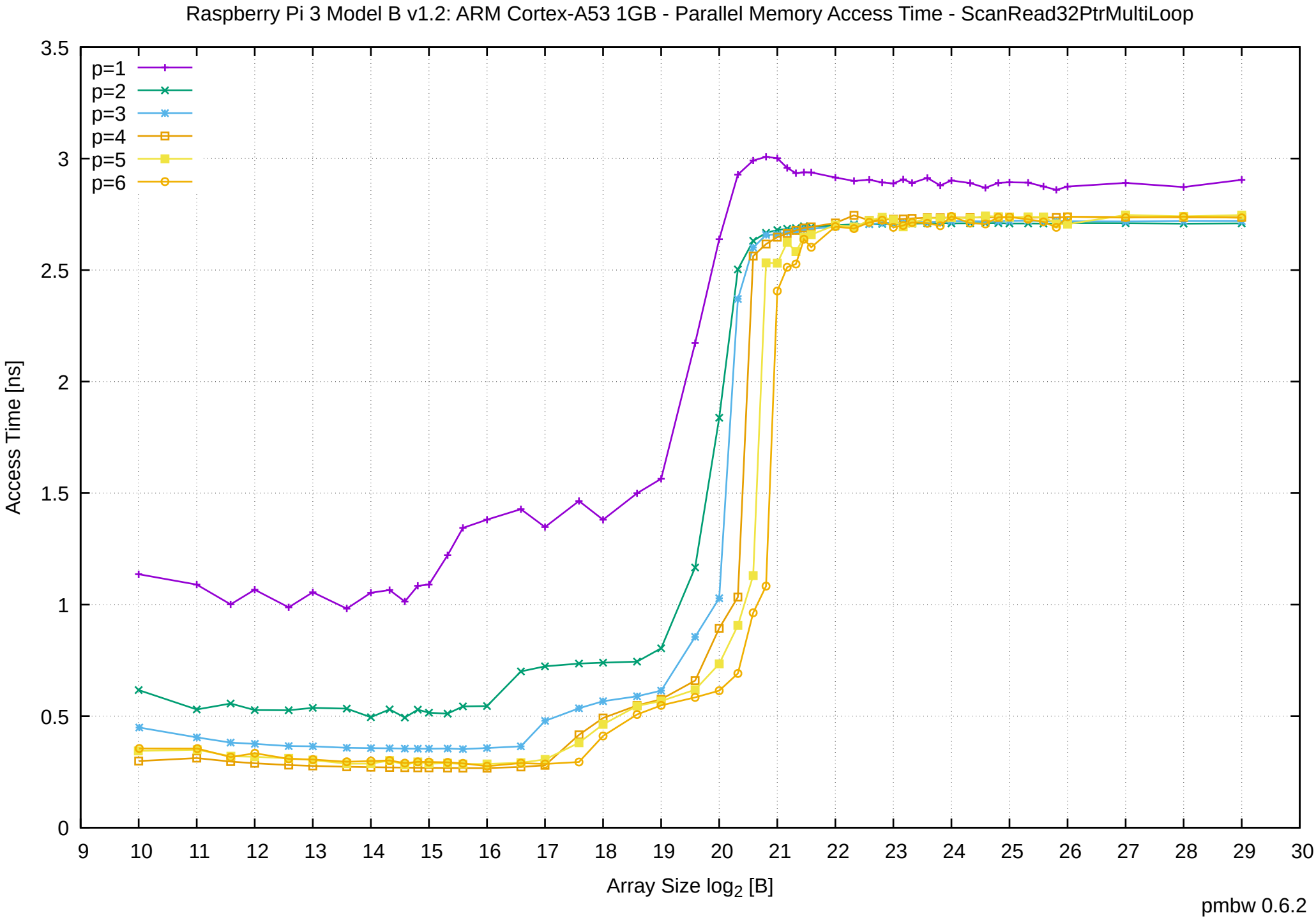

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanRead32PtrUnrollLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
pmbw 0.6.2

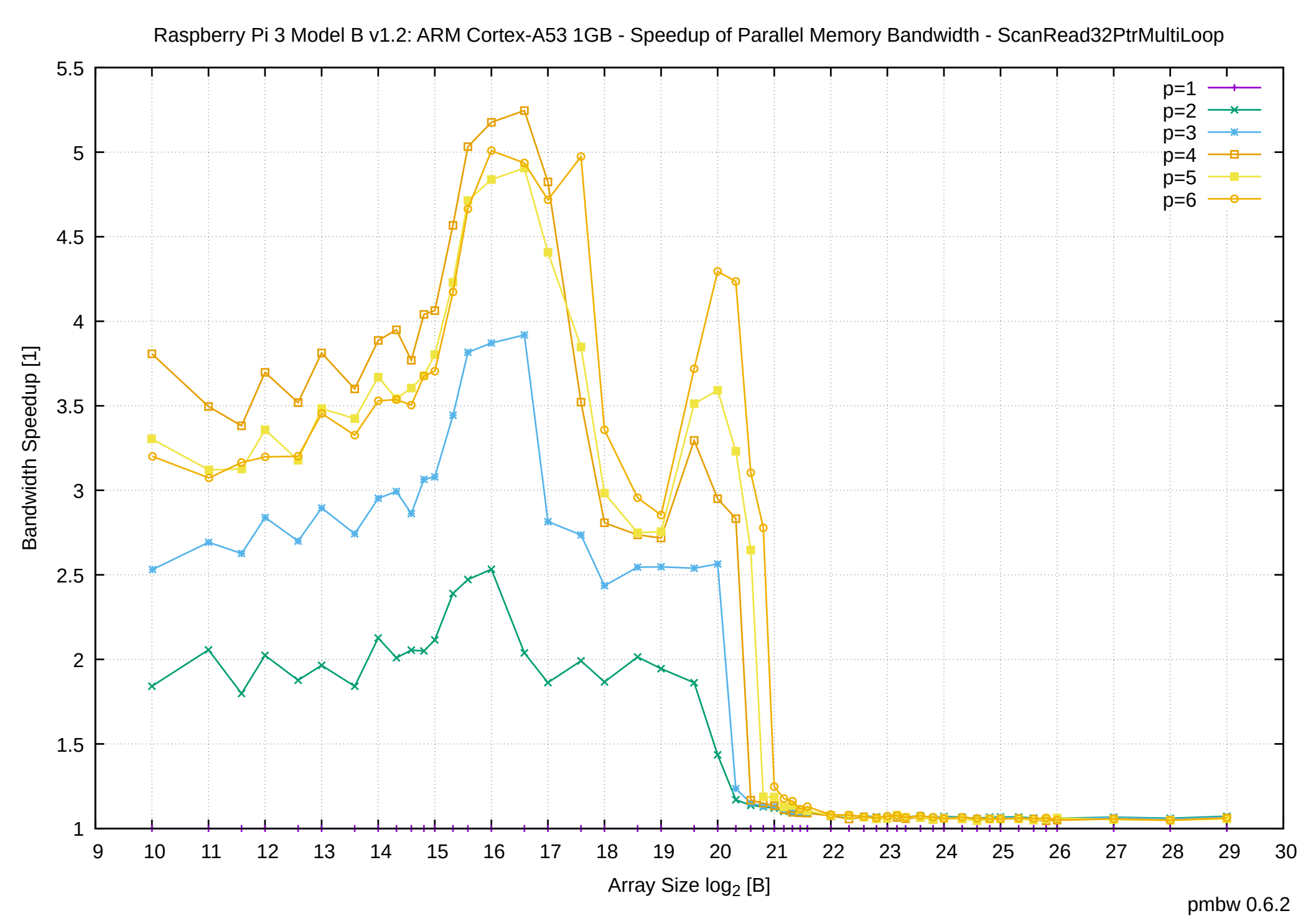

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanRead32PtrUnrollLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
0
0.5
1
1.5
2
2.5
3
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

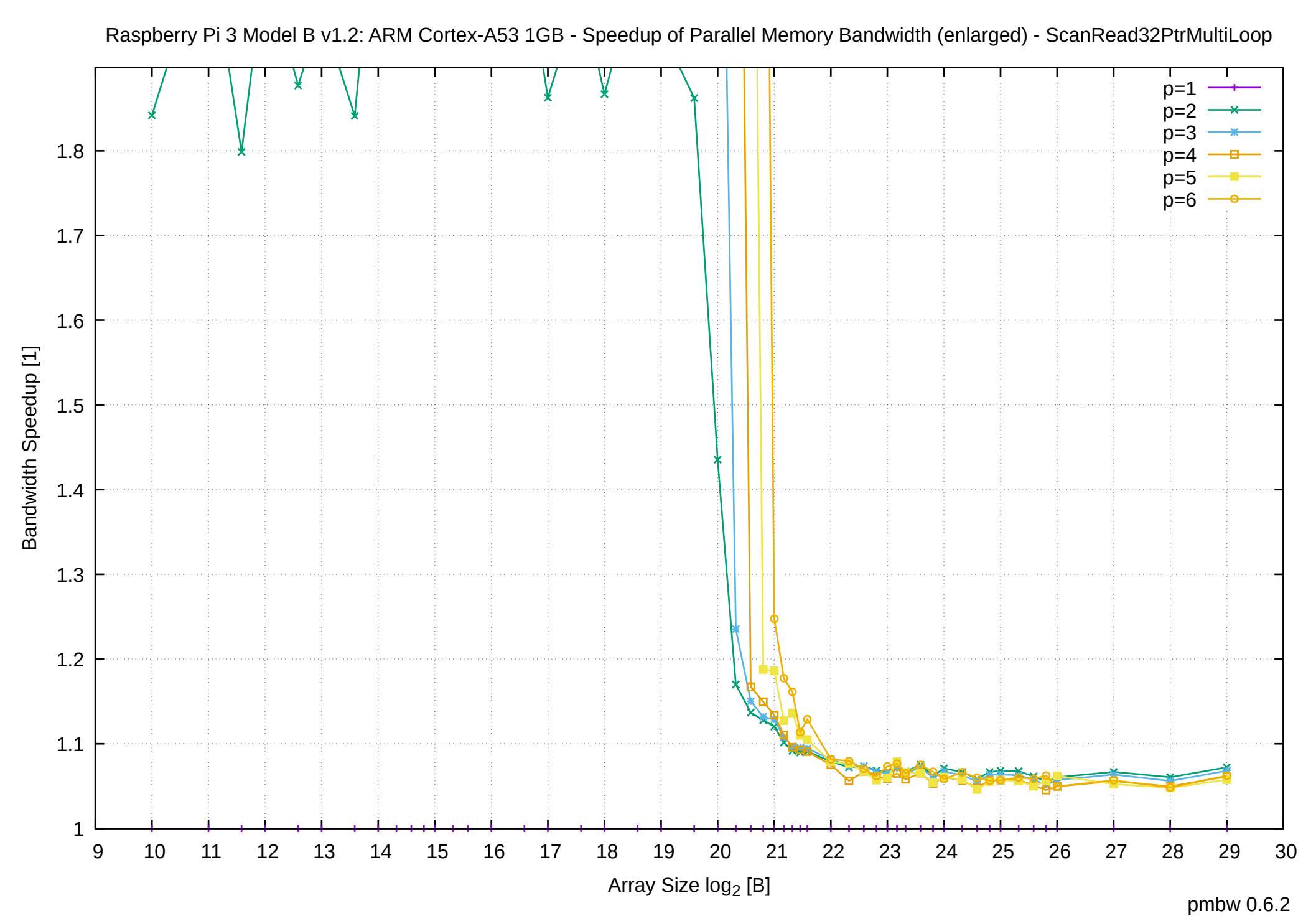

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanRead32PtrUnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
pmbw 0.6.2

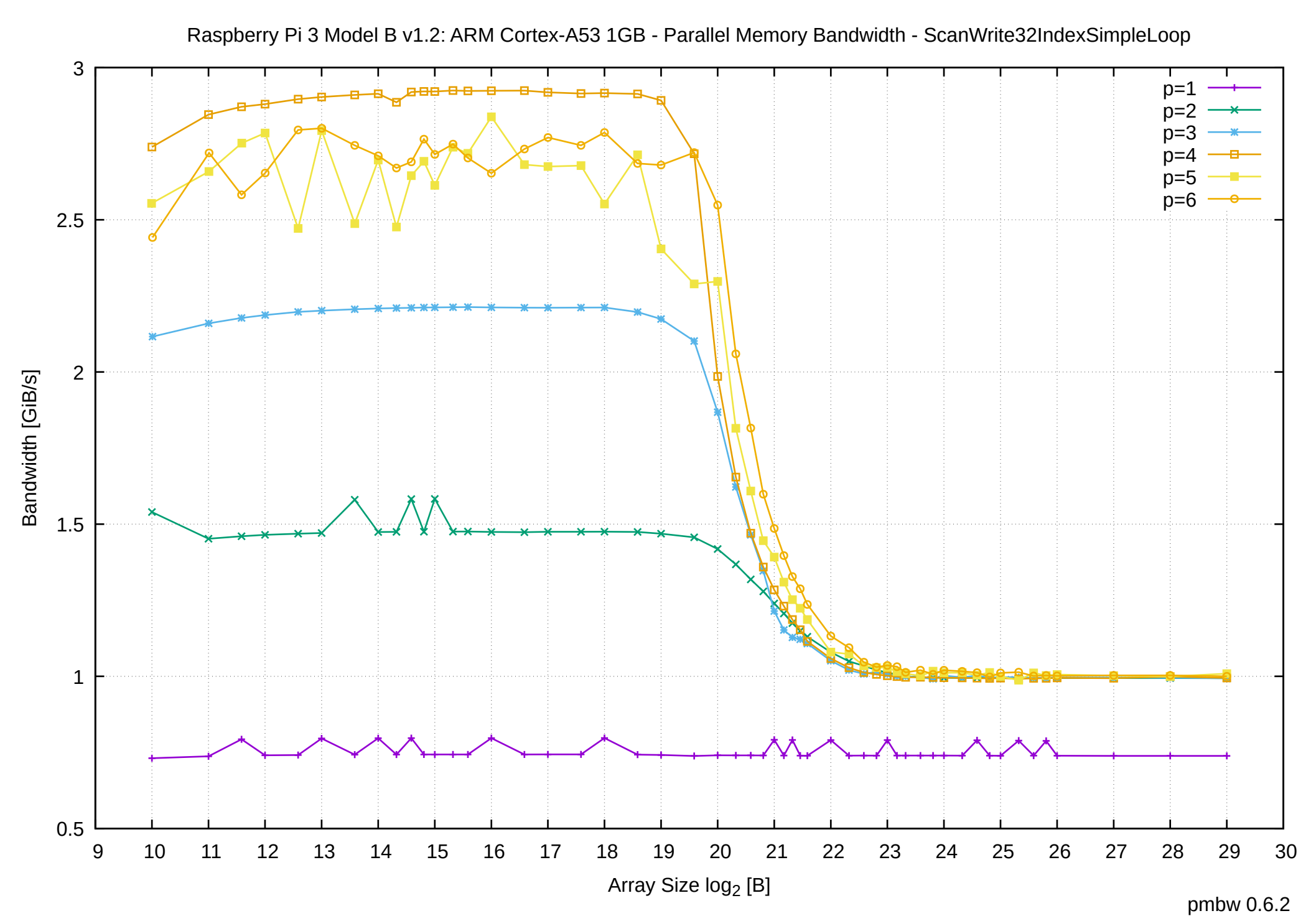

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead32PtrUnrollLoop
p=1
p=2
p=3
p=4
p=5
p=6
Bandwidth Speedup [1]
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
Array Size log2 [B]
pmbw 0.6.2

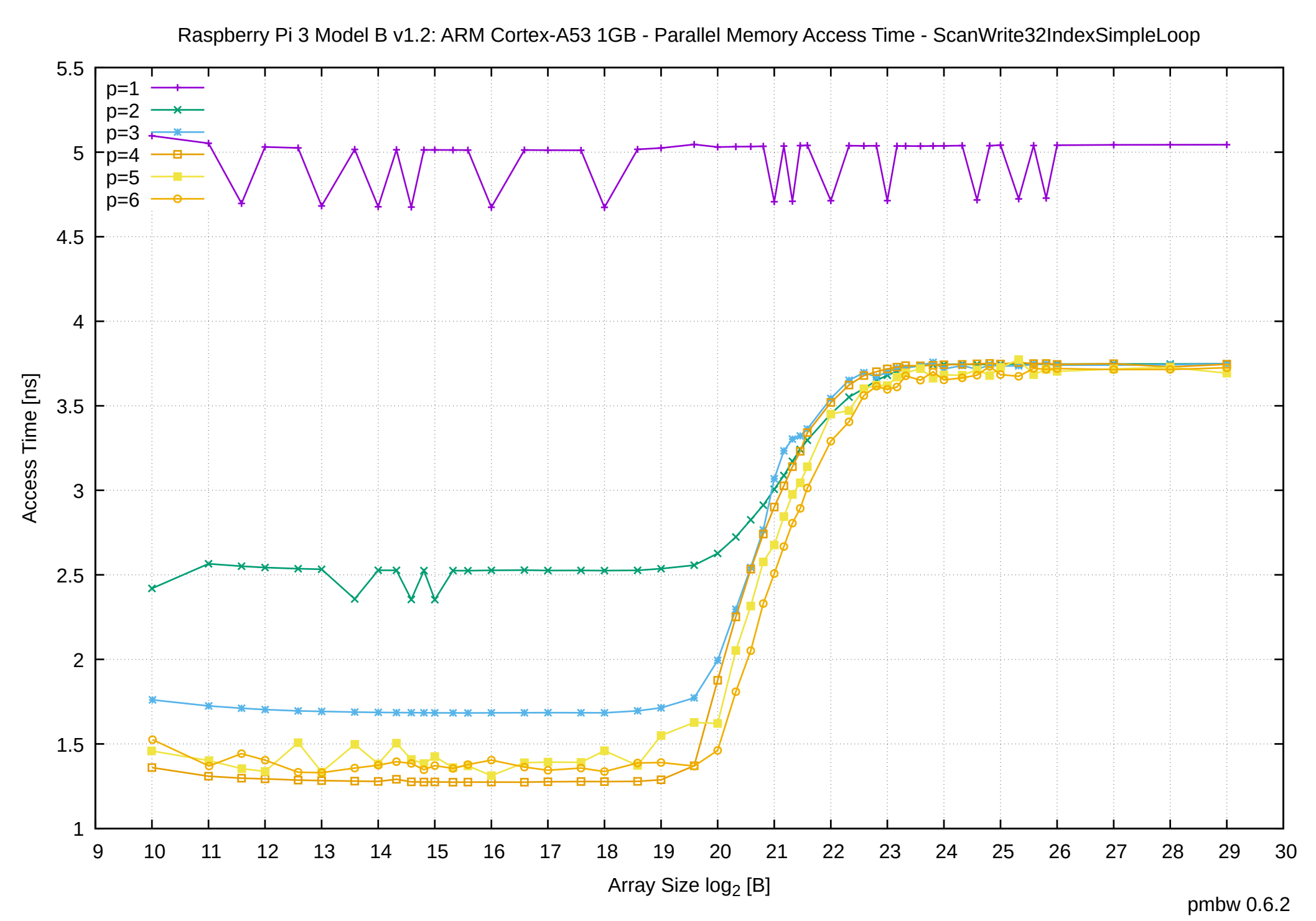

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanRead32PtrMultiLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
0
2
4
6
8
10
12
14
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

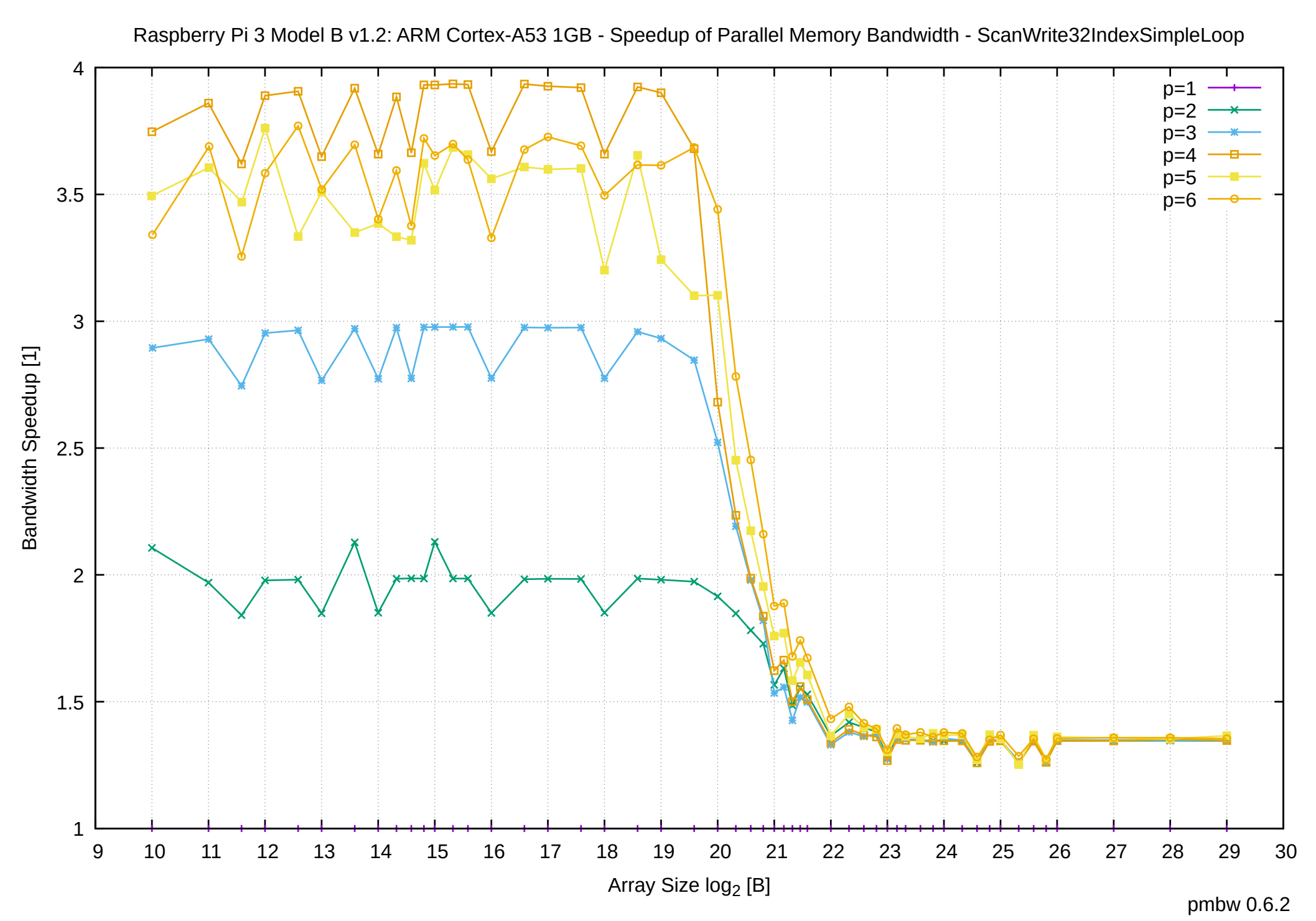

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanRead32PtrMultiLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
0
0.5
1
1.5
2
2.5
3
3.5
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2


Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanRead32PtrMultiLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2


Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead32PtrMultiLoop
p=1
p=2
p=3
p=4
p=5
p=6
Bandwidth Speedup [1]
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
Array Size log2 [B]
pmbw 0.6.2


Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanWrite32IndexSimpleLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
3
2.5
2
1.5
1
0.5
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2


Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanWrite32IndexSimpleLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2


Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanWrite32IndexSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4
3.5
3
2.5
2
1.5
1
9
10
11
12
13
14
15
16
17
18
19
20
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24
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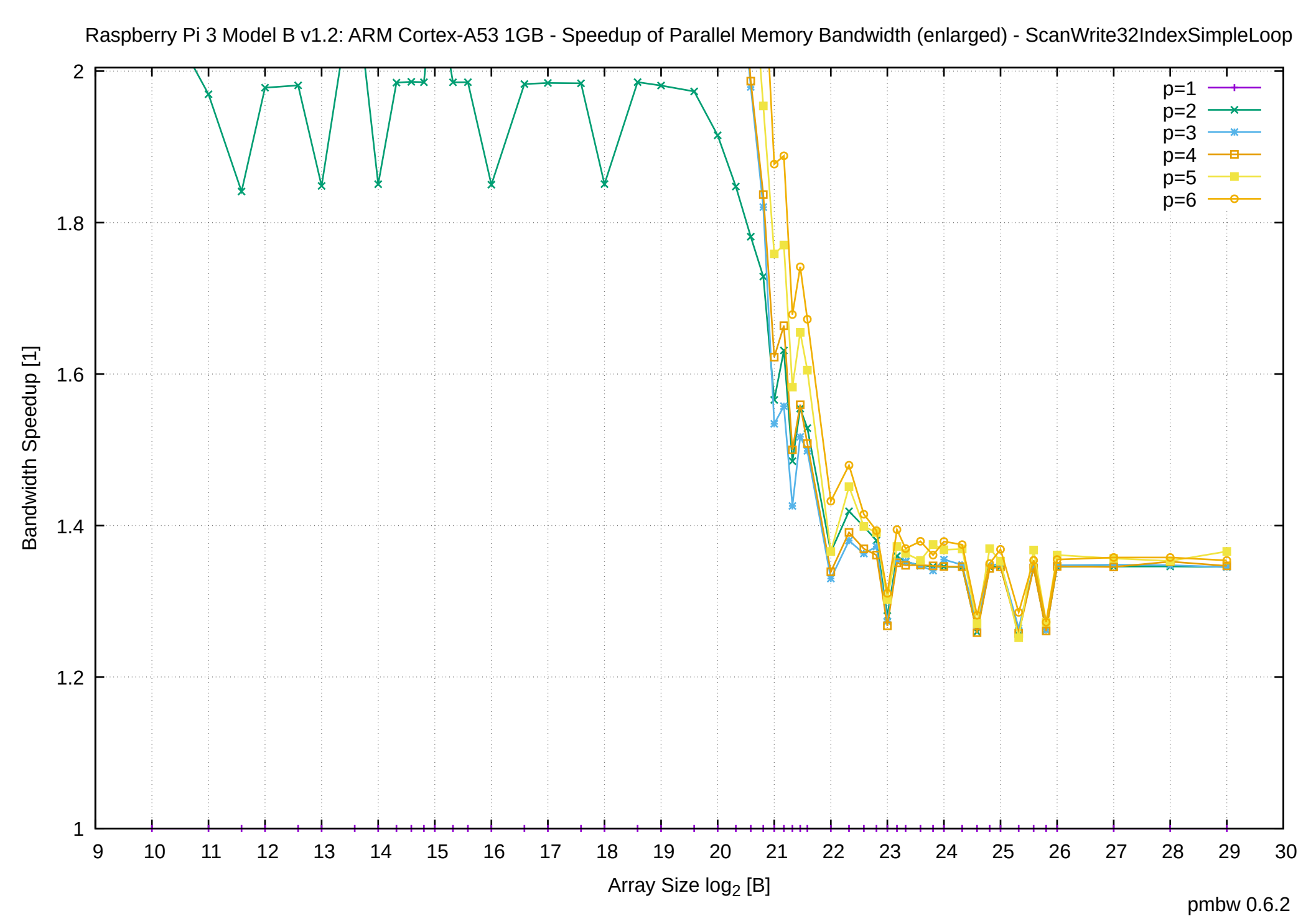
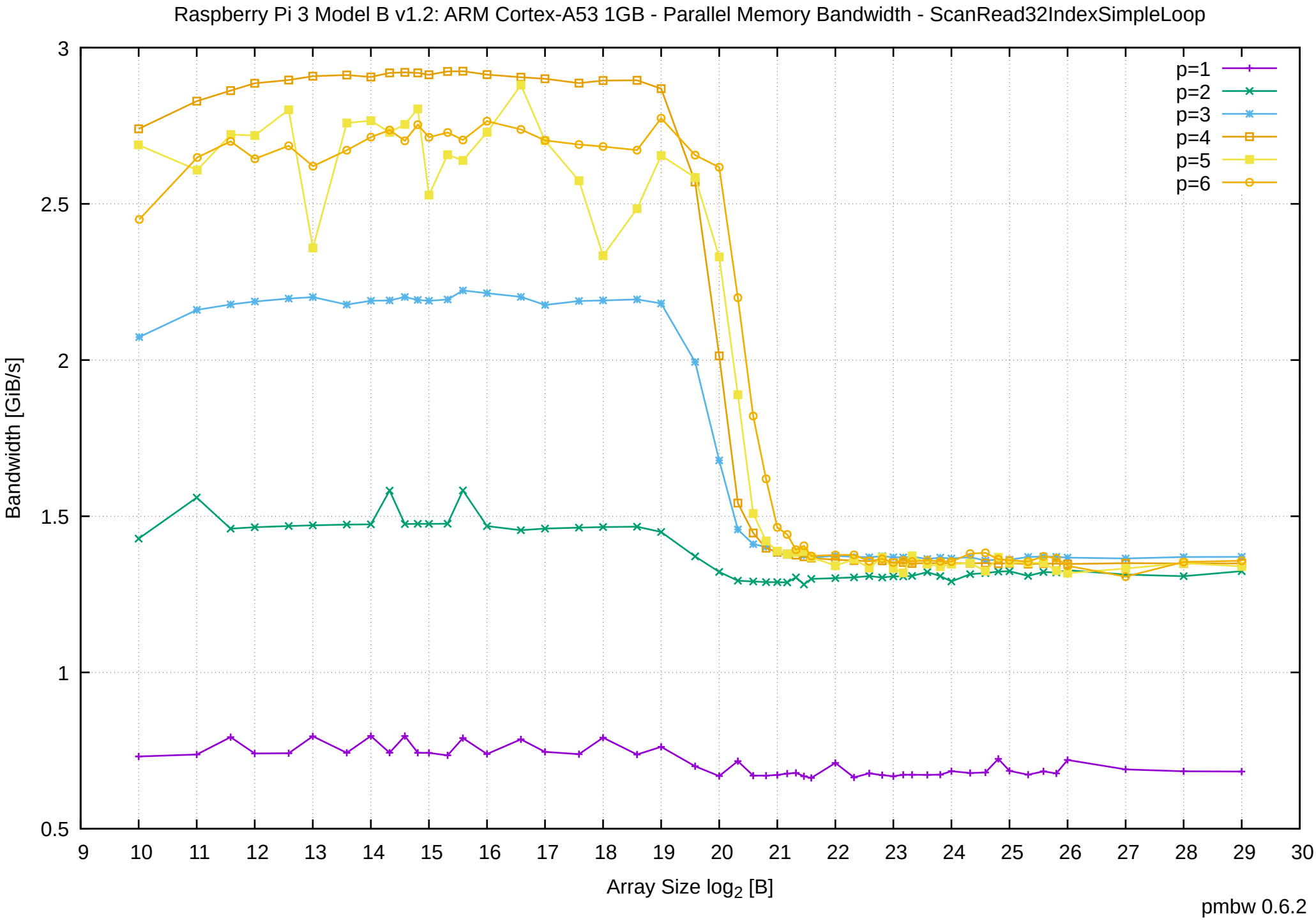
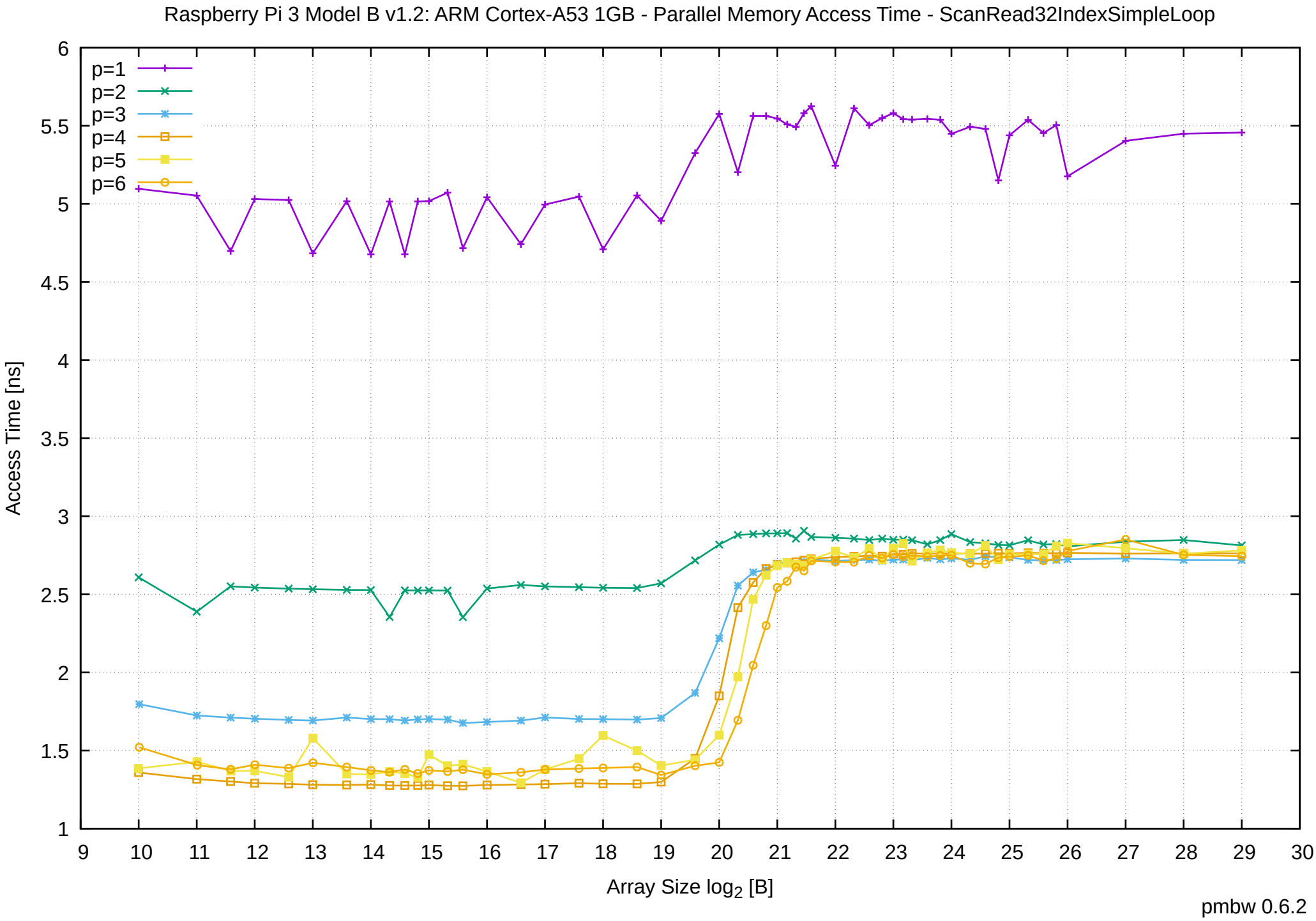
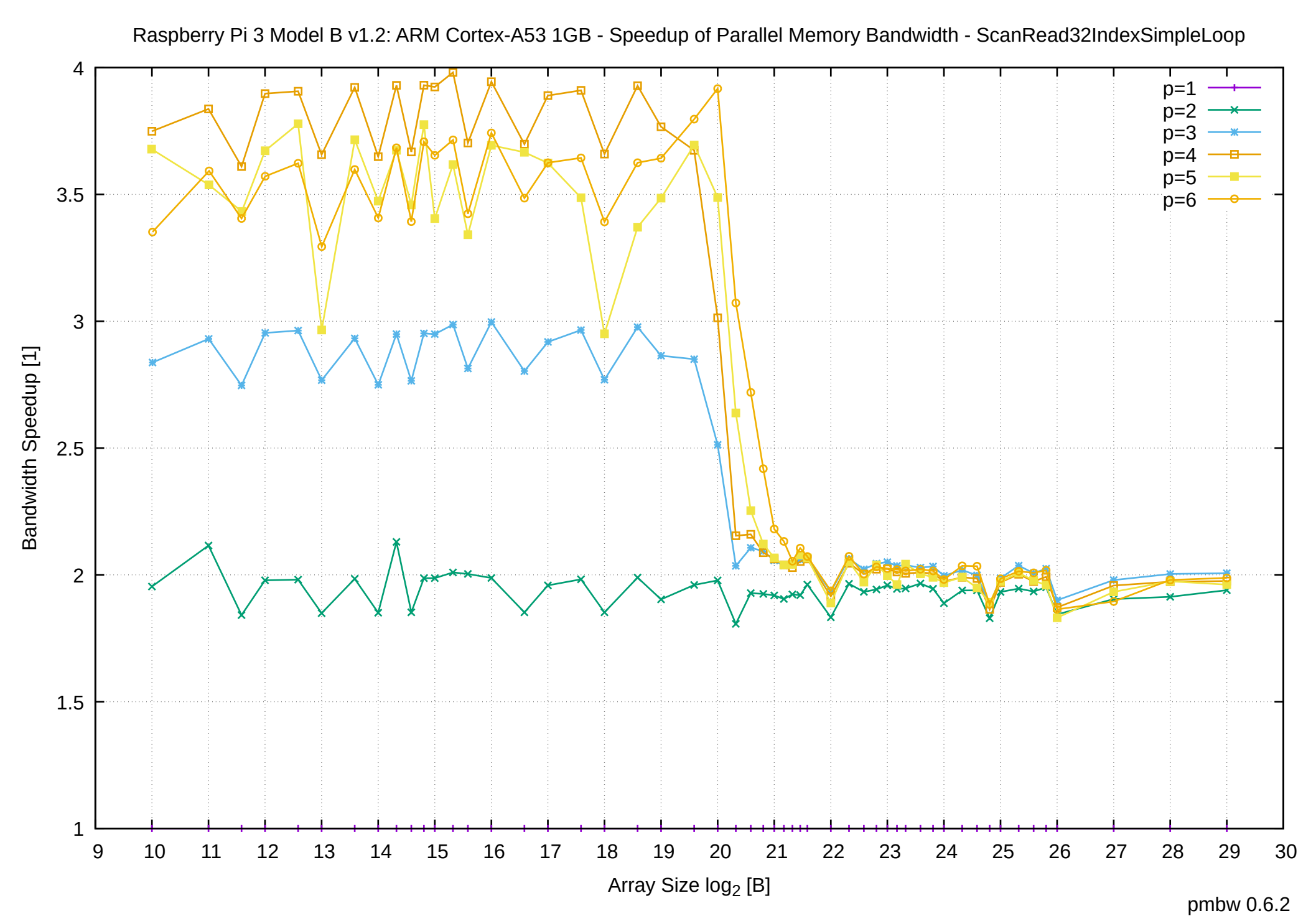
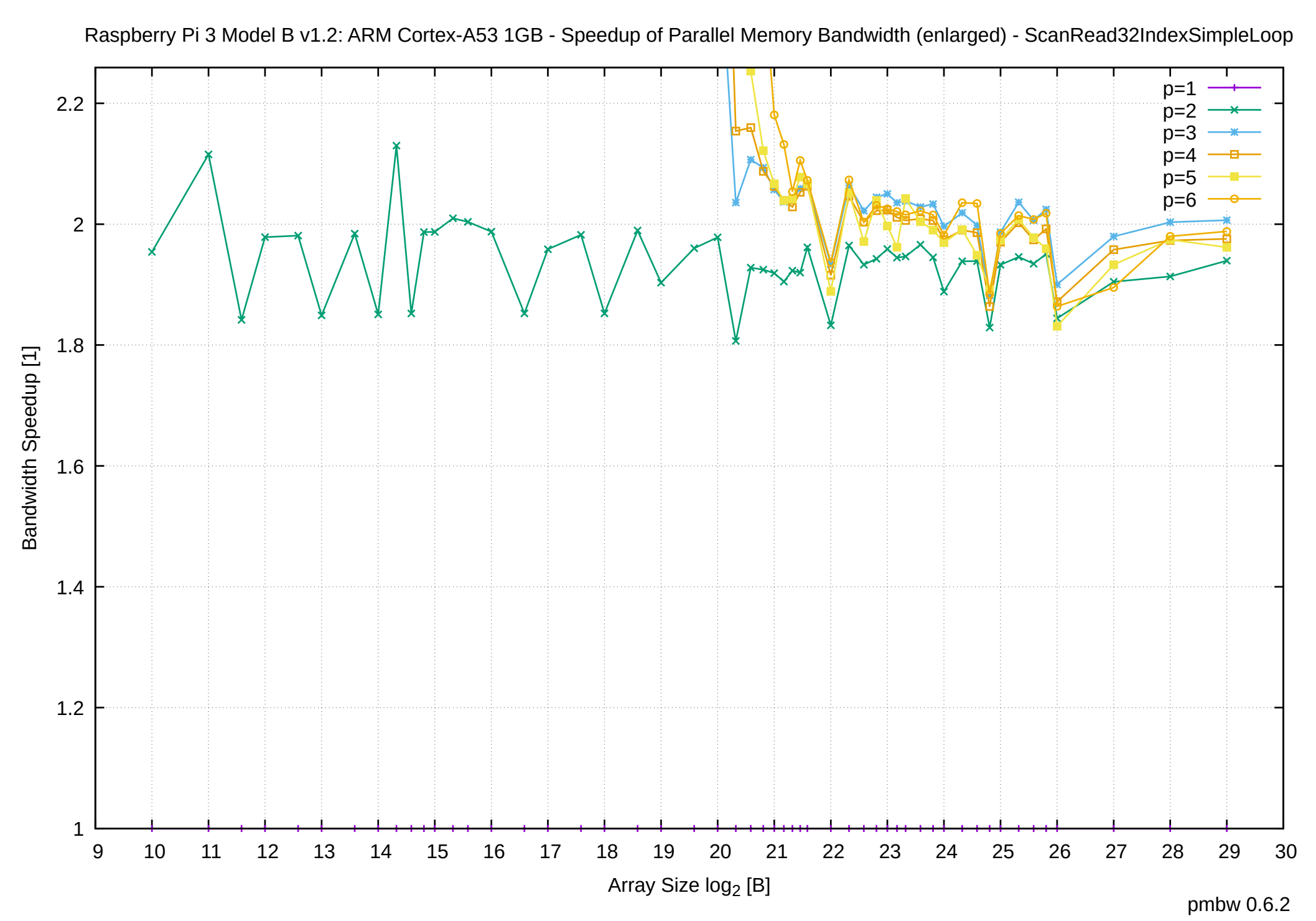
29
30
pmbw 0.6.2

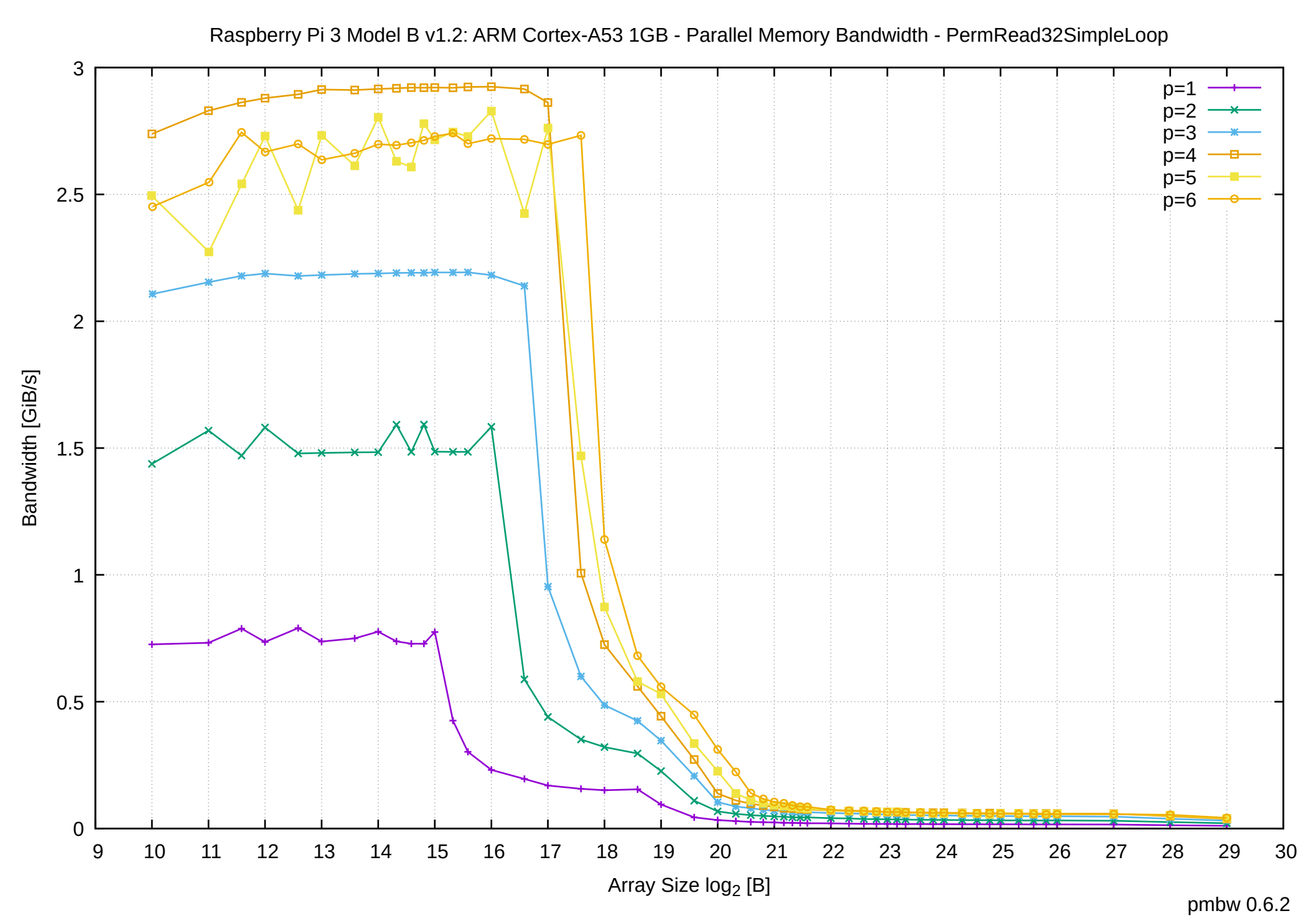

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanWrite32IndexSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
2
1.8
1.6
1.4
1.2
1
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

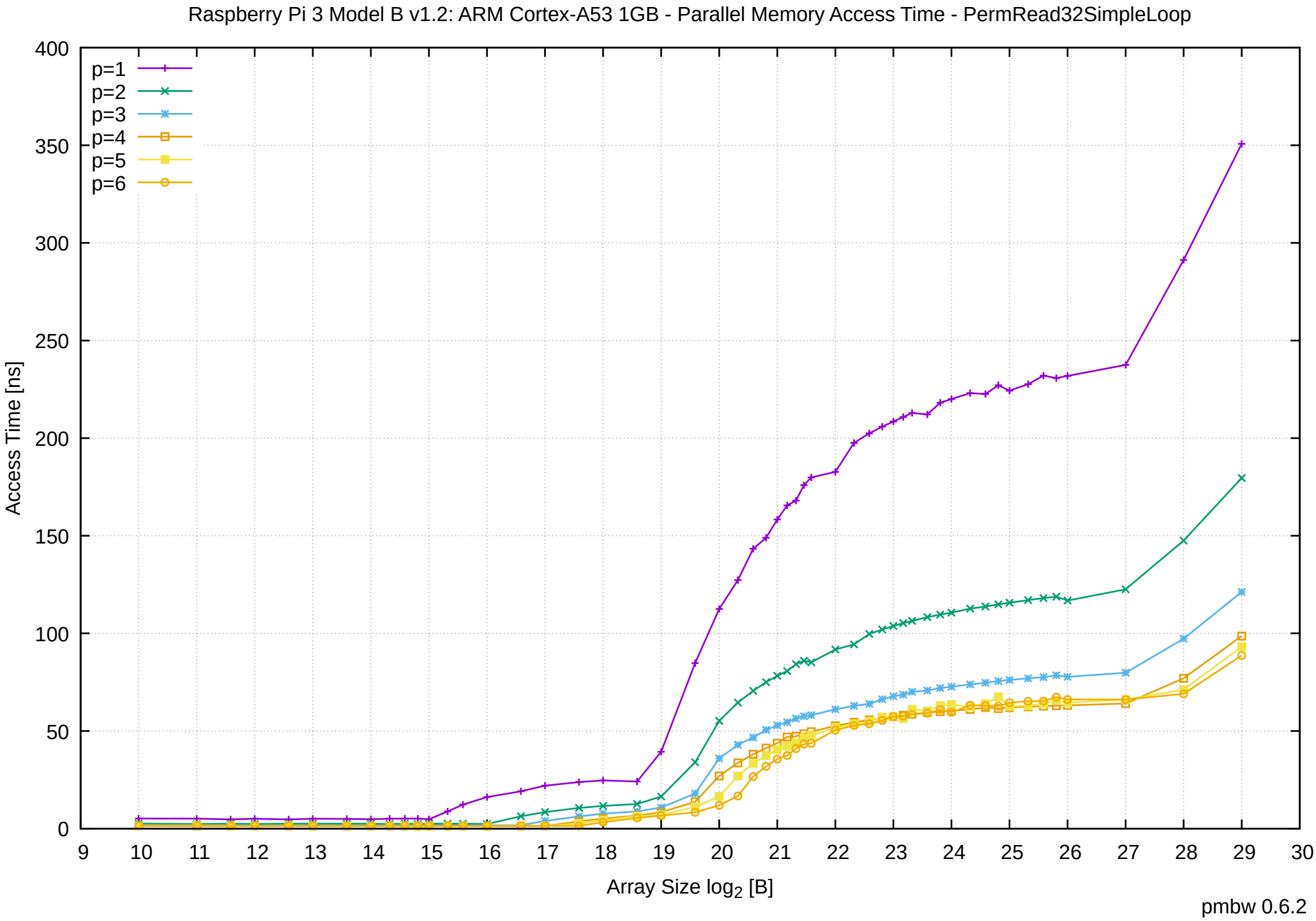

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - ScanRead32IndexSimpleLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
pmbw 0.6.2

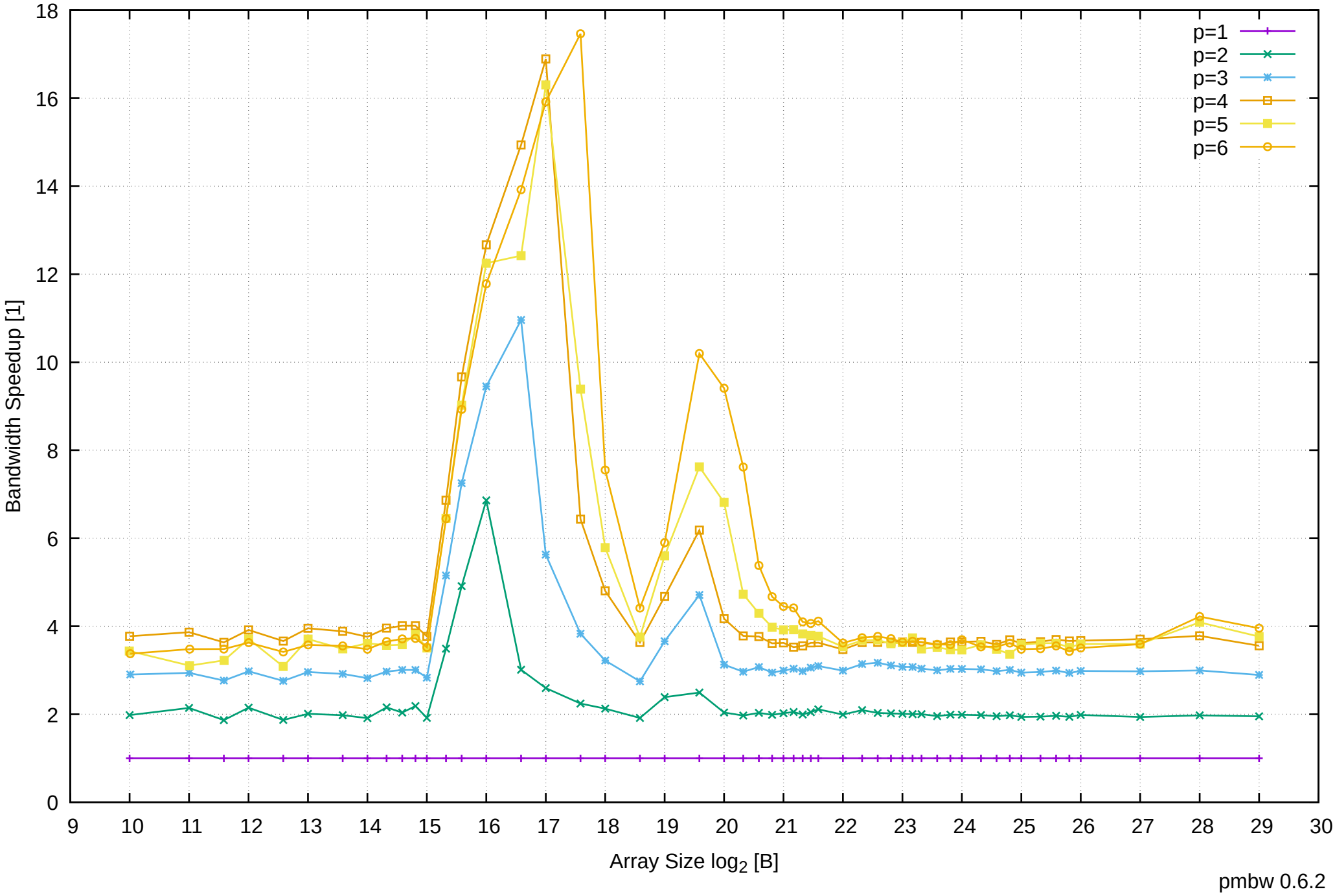

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - ScanRead32IndexSimpleLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
pmbw 0.6.2

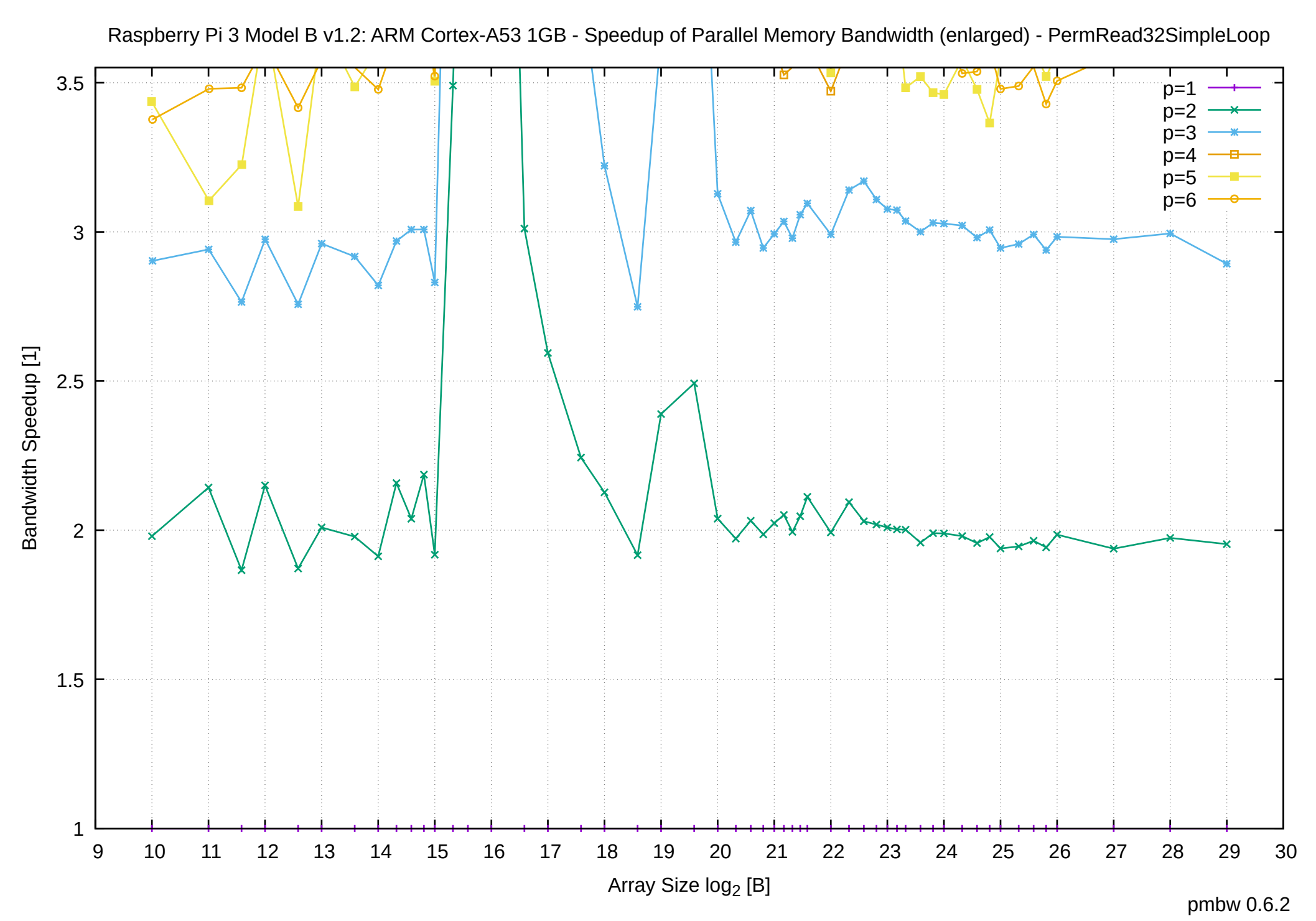

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - ScanRead32IndexSimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
4
3.5
3
2.5
2
1.5
1
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

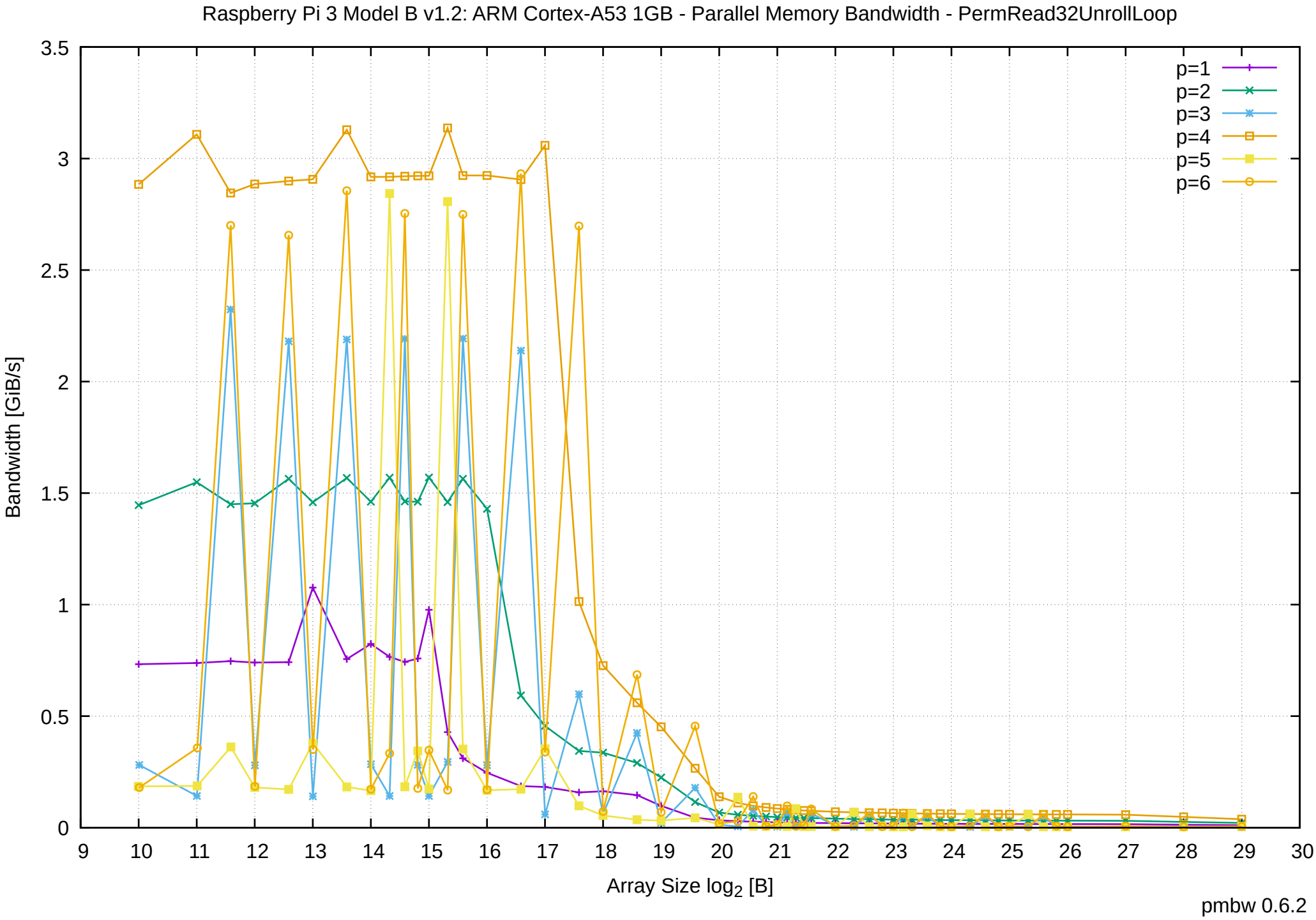

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - ScanRead32IndexSimpleLoop
p=1
p=2
p=3
p=4
p=5
p=6
Bandwidth Speedup [1]
2.2
2
1.8
1.6
1.4
1.2
1
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
Array Size log2 [B]
pmbw 0.6.2

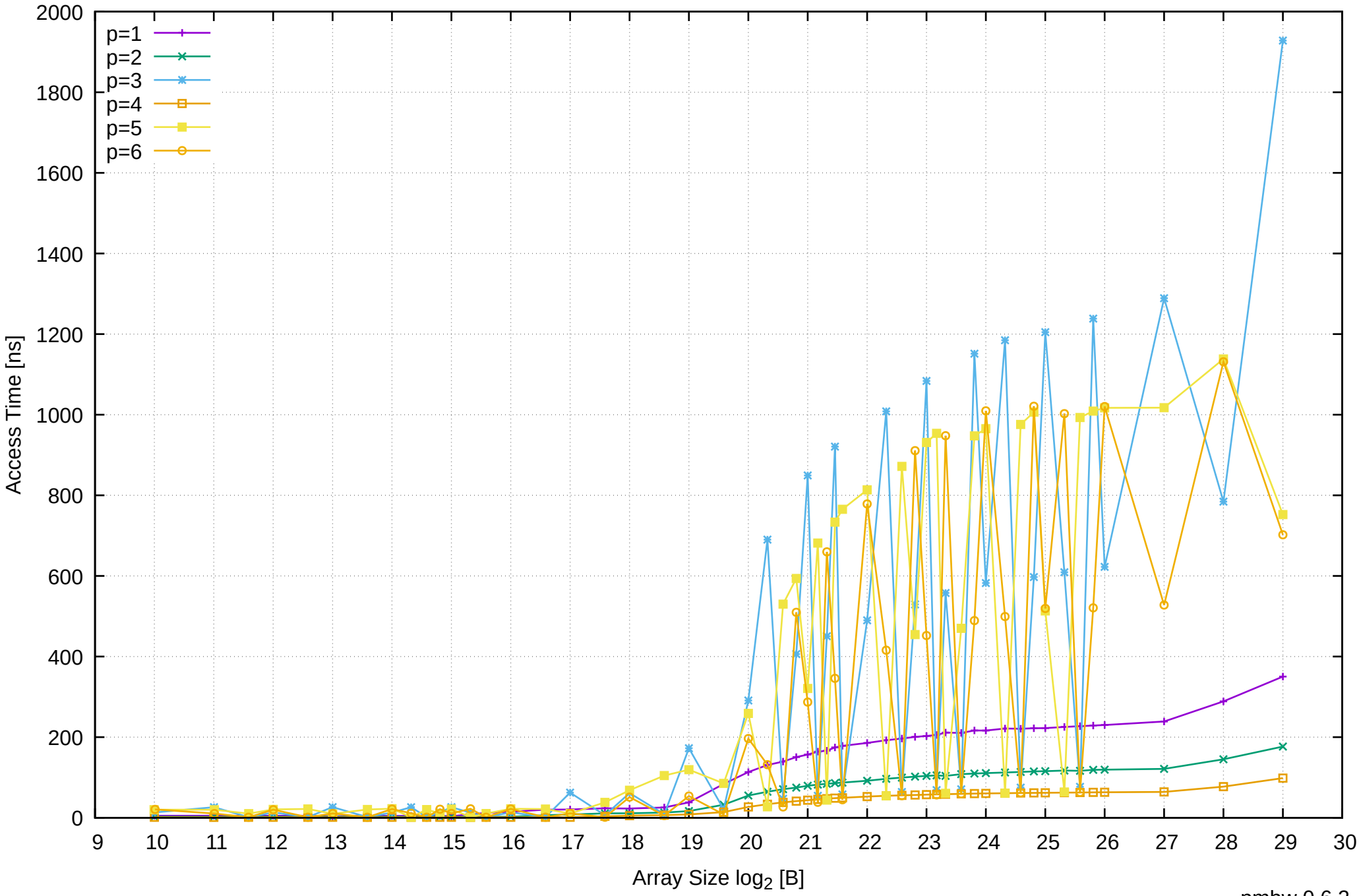

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - PermRead32SimpleLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
0
0.5
1
1.5
2
2.5
3
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

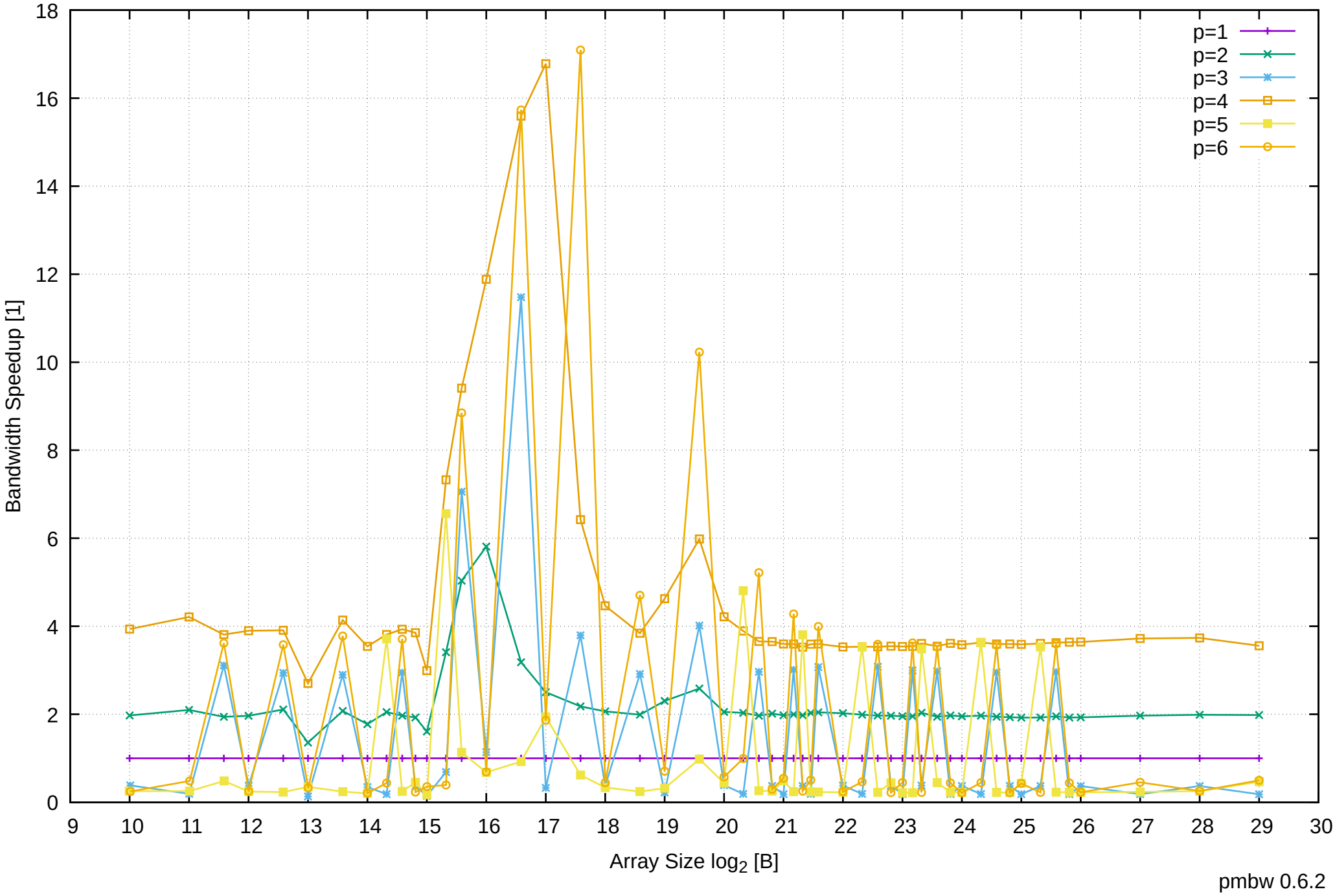

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - PermRead32SimpleLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
0
50
100
150
200
250
300
350
400
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2

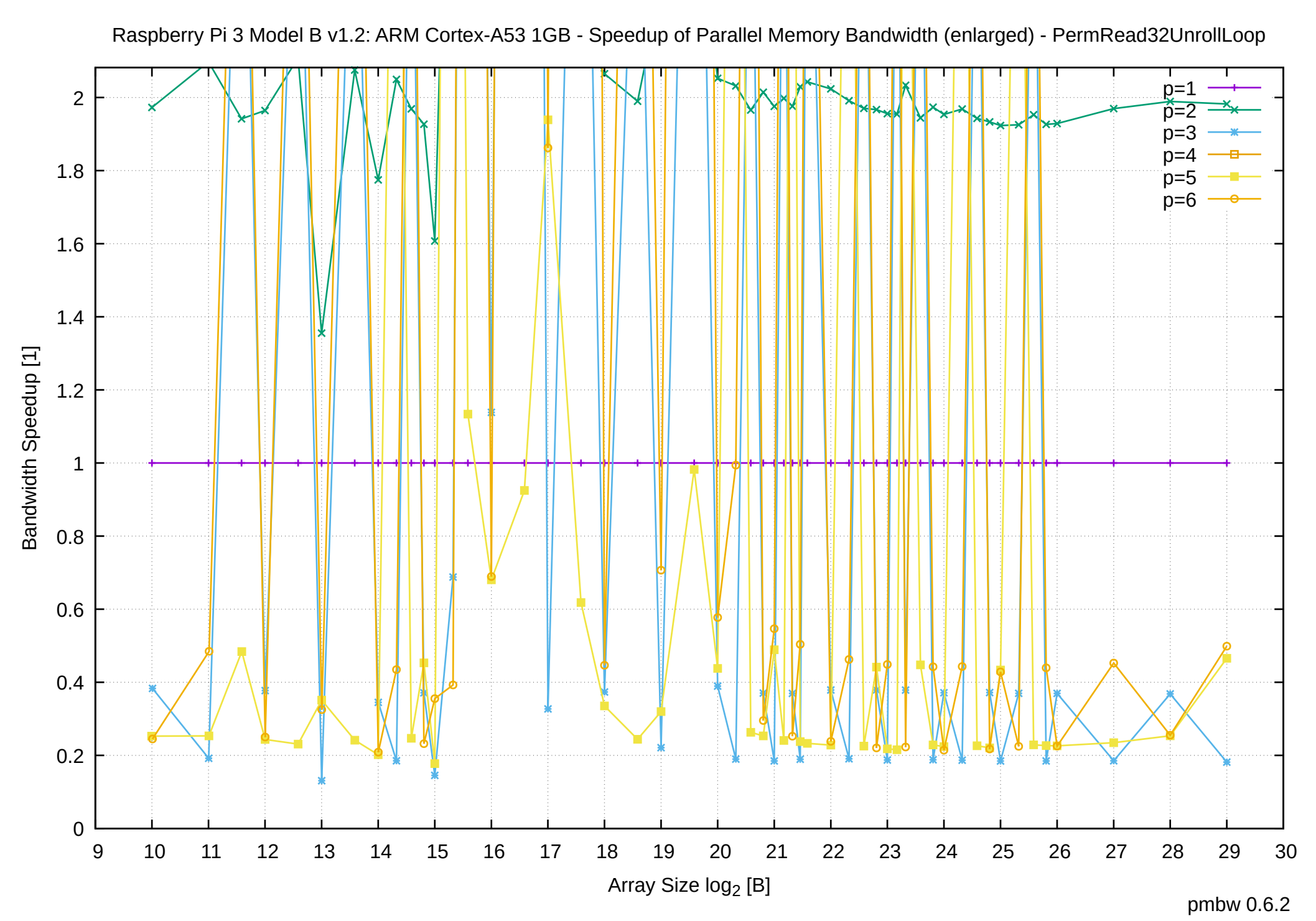

Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - PermRead32SimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
0
2
4
6
8
10
12
14
16
18
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2


Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - PermRead32SimpleLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
3.5
3
2.5
2
1.5
1
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2


Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Bandwidth - PermRead32UnrollLoop
Bandwidth [GiB/s]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
0
0.5
1
1.5
2
2.5
3
3.5
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2


Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Parallel Memory Access Time - PermRead32UnrollLoop
p=1
p=2
p=3
p=4
p=5
p=6
Access Time [ns]
Array Size log2 [B]
0
200
400
600
800
1000
1200
1400
1600
1800
2000
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2


Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth - PermRead32UnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
0
2
4
6
8
10
12
14
16
18
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2


Raspberry Pi 3 Model B v1.2: ARM Cortex-A53 1GB - Speedup of Parallel Memory Bandwidth (enlarged) - PermRead32UnrollLoop
Bandwidth Speedup [1]
Array Size log2 [B]
p=1
p=2
p=3
p=4
p=5
p=6
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
pmbw 0.6.2