

# TESTING REPORT

## GENERAL TESTING

A file `gen.trace` was used and the testcases thus performed are described below (line number of file)

- Eviction testing - #19 - pass

## MSI

A file `MSI.trace` was used and the testcases thus performed are described below (line number of file, e.g. #x)

	Write Hit	Write Miss	Read Hit	Read Miss	Bus Read Miss	Bus Write Miss	Invalid
Modified	#4 - Write data - pass	Not possible	#2 - Read data - pass	Not possible	#3 - service block - pass	#7 - invalidated data - pass	#7 - Invalidated - pass
Shared	#4 - Write and invalidate others - pass	Not possible	#15 - Read data - pass	Not possible	#11 - service block - pass	#9 - invalidate block - pass	#4 - Invalidated - pass
Invalid	Not possible	#7 - Write data and send invalidate - pass	Not Possible	#5 - Sent read miss on bus & get back data - pass	Ignored	Ignored	Ignored
Absent	Not Possible	\#14 - Wrote data - pass	Not Possible	#1 - Fetch from storage - pass, #3 - fetch from other cache - pass	Ignored	Ignored	Ignored

## Other cases checked

- Sharing with value in multiple caches - #11 - only one cache services - pass
- Multiple invalidation - #9 - pass

## MESI

A file `MESI.trace` was used and the testcases thus performed are described below (line number of file, e.g. #x)

	Modified	Exclusive	Shared	Invalid	Absent
Read hit	#5 - read data - pass	#2 - read data - pass	#7 - read data - pass	Not possible	Not possible
Read miss	Not possible	Not possible	Not possible	#12 - send bus request and receive block - pass	#1 - fetch from secondary storage - pass, #6 - fetch from other cache - pass
Write hit	#8 - wrote data (possible invalidate others) - pass	#4 - wrote data and changed to modified - pass	#9 - wrote data and invalidate others - pass	Not possible	Not possible
Write miss	Not possible	Not possible	Not possible	#14 - write data and invalidate others - pass	#3 - write data - pass
Bus Read miss	#7 - service block - pass	#5 - service block - pass	#16 - service block - pass	Ignored	Ignored
Bus Write miss	#20 - invalidated - pass	#18 - invalidated - pass	#19 - invalidated block - pass	Ignored	Ignored
Invalidate	#14 - invalidate - pass	#18 - invalidated - pass	#9 - invalidated - pass	Ignored	Ignored

## Other cases checked

- Sharing with value in multiple caches - #15 - only one cache services - pass
- Multiple invalidation - #18 - pass

# MOESI

A file `MOESI.trace` was used and the testcases thus performed are described below (line number of file, e.g. #x)

	Modified	Owned	Exclusive	Shared	Invalid	Absent
Read hit	#5 - read data - pass	#9 - read data - pass	#3 - read data - pass	#8 - read data - pass	Not possible	Not possible
Read miss	Not possible	Not possible	Not possible	Not possible	#11 - send read miss and get back block - pass	#1 - fetch from secondary storage - pass, #7 - read from other cache - pass
Write hit	#6 - wrote data and invalidate others - pass	#10 - change to modified, no write back, invalidate others - pass	#4 - write data and invalidate others - pass	#12 - write block, invalidate others - pass	Not possible	Not possible
Write miss	Not possible	Not possible	Not possible	Not possible	#19 - send write miss and write block - pass	#2 - fetch from secondary storage - pass
Bus Read miss	#11 - service block and change to owned	#14 - shared cache block - pass	#7 - service data, change to owned - pass	#14 - allow other (owned) cache to service request - pass	Ignored	Ignored
Bus Write miss	#15 - invalidate block - pass	#16 - invalidated block and wrote back - pass	#18 - invalidated cache block - pass	#16 - invalidate cache block - pass	Ignored	Ignored
Invalidate	#15 - invalidated - pass	#16 - invalidated - pass	#18 - invalidated - pass	#16 - invalidated - pass	Ignored	Ignored

## Other cases checked

- Sharing with value in multiple caches and one owned - #14 - only owned cache services - pass
- Multiple invalidation - #16 - pass

- Write back by owned state - #14 - pass