

# SPI Wrapper Report

## Test plan

- 1) Inserting random input to be written in a random address in the SPI Wrapper then check for the data in that address to see if they are identical with the input
- 2) Inserting all 1's input to be written in a random address in the SPI Wrapper then check for the data in that address to see if they are identical with the input
- 3) Inserting all 0's input to be written in a random address in the SPI Wrapper then check for the data in that address to see if they are identical with the input

## Code Coverage

Coverage Type ↑	Bins	Hits	Misses	Coverage
Search... ▼	Search... ▼	Search... ▼	Search... ▼	Search... ▼
Assertions	7	7	0	100%
Branches	30	30	0	100%
Conditions	36	36	0	100%
Directives	4	4	0	100%
Statements	240	240	0	100%
Toggles	58	42	16	72.41%

# Coverage Report Summary Data by instance

#

# =====

# === Instance: /spiwrappertb/uut

# === Design Unit: work.spi\_wrapper

# =====

#	Enabled Coverage		Bins	Hits	Misses	Coverage
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#	Toggles		10	9	1	90.00%
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# =====

# === Instance: /spiwrappertb

# === Design Unit: work.spiwrappertb

# =====

#	Enabled Coverage		Bins	Hits	Misses	Coverage
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#	Assertions		7	7	0	100.00%
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#	Branches		30	30	0	100.00%
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#	Conditions		36	36	0	100.00%
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#	Directives		4	4	0	100.00%
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#	Statements		240	240	0	100.00%
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#	Toggles		58	42	16	72.41%
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#

#

# TOTAL DIRECTIVE COVERAGE: 100.00% COVERS: 4

#

# TOTAL ASSERTION COVERAGE: 100.00% ASSERTIONS: 7

#

# Total Coverage By Instance (filtered view): 95.83%

#

# End time: 21:12:32 on May 04,2023, Elapsed time: 0:00:00

# Errors: 0, Warnings: 0

## Sequential Domain Coverage report

Cover Directives												
Name	Language	Enabled	Log	Count	AtLeast	Limit	Weight	Cmplt %	Cmplt graph	Included	Memory	Pe
/spiwrappertb/aWriteAddress	SVA	✓	Off	3	1	Unlimited	1	100%	✓	✓	0	
/spiwrappertb/aWriteData	SVA	✓	Off	3	1	Unlimited	1	100%	✓	✓	0	
/spiwrappertb/aReadAddress	SVA	✓	Off	3	1	Unlimited	1	100%	✓	✓	0	
/spiwrappertb/aReadData	SVA	✓	Off	3	1	Unlimited	1	100%	✓	✓	0	

## Directed testing was applied to cover corner cases :

Input FF to spi wrapper

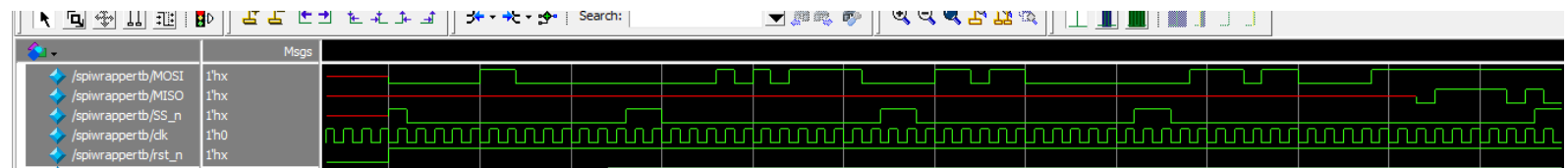
Input 00 to spi wrapper

## Bug Report

- First two Bits in the output isn't as expected
- Unexpected output on MISO in unexpected time

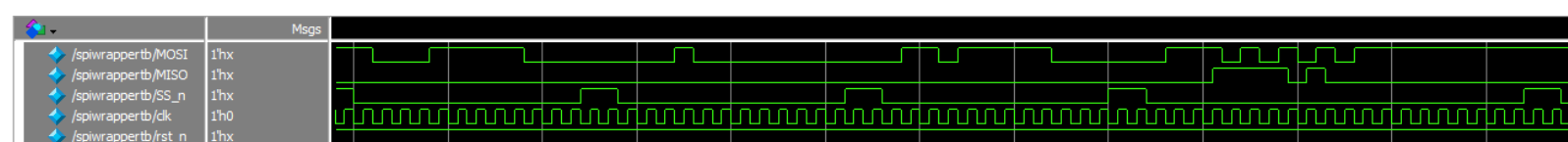
## QuestaSim snippets

### Random input



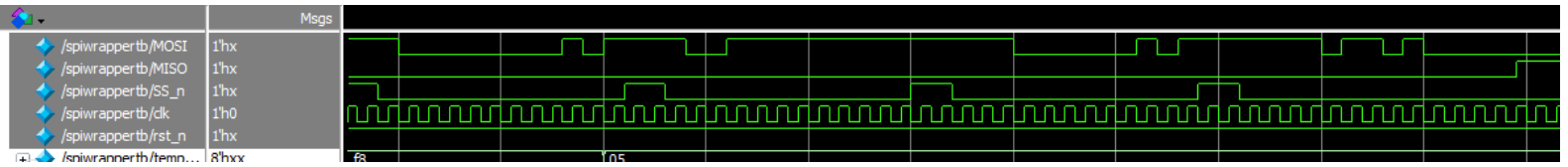
```
//////////writing Random Data//////////  
this is the address:11000000  
this is the data:01011110  
this is read address 1 1 0 0 0 0 0 0  
this is the Read Data : xx011110
```

### Writing Zeros



```
//////////writing Zeros Data//////////  
this is the address:11111000  
this is the data:00000000  
this is read address 1 1 1 1 1 0 0 0  
this is the Read Data : 00000000
```

## Writing ONEs



```
//////////writing ONEs Data//////////  
this is the address:00000101  
this is the data:11111111  
this is read address 0 0 0 0 1 0 1  
this is the Read Data : 00111111  
.....
```