Coverage Report for FBFunctions

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Analysis Information

Model Information

Model version	1.74
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Harness information

Harness model(s)	FBFunctions_Harness_BNOT
Harness model owner	FBFunctions

Simulation Optimization Options

Default parameter behavior	tunable
Block reduction	forced off
Conditional branch optimization	on

Coverage Options

Analyzed model	FBFunctions_Harness_BNOT/BNOT_DUPLEX
Logic block short circuiting	off
MCDC mode	masking

Tests

Test#	Started execution	Ended execution
Test 1	05-Feb-2019 00:09:54	05-Feb-2019 00:12:59

Summary

Model Hierarchy/Complexity		Test 1 Decision	Condition	MCDC	Execution
1. BNOT_DUPLEX	16	93%	96%	88%	98%
2. . . . BNOT	7	100%	100%	100%	100%
3. . . . . . . 1_val_shift_register	2	NA	NA	NA	100%
4. . . . . Data 1	1	NA	NA	NA	100%
5. . . . . Unit Delay Enabled Resettable	1	NA	NA	NA	100%
6. . . . . Type 1	1	NA	NA	NA	100%
7. . . . . Unit Delay Enabled Resettable	1	NA	NA	NA	100%
8. . . . . . . TypeCheck1T1D	1	100%	100%	NA	100%
9. . . . . code_type_bit		NA	NA	NA	100%
10. . . . . cond_generate_error_code	1	100%	NA	NA	100%
11. . . . . code_no_error		NA	NA	NA	100%
12. . . . . isType		NA	100%	NA	100%
13. . . . . typeMask		NA	NA	NA	100%
14. . . . . . . Unit Delay Enabled Resettable Synchronous8	1	NA	NA	NA	100%
15. . . . . Unit Delay Enabled Resettable	1	NA	NA	NA	100%
16. . . . . . . Unit Delay Enabled Resettable Synchronous9	1	NA	NA	NA	100%
17. . . . . Unit Delay Enabled Resettable	1	NA	NA	NA	100%
18. . . . . . . int type		NA	NA	NA	100%
19. . . . BNOT1	7	100%	100%	100%	100%
20. . . . . . . 1_val_shift_register	2	NA	NA	NA	100%
21. . . . . Data 1	1	NA	NA	NA	100%
22. . . . . Unit Delay Enabled Resettable	1	NA	NA	NA	100%
23. . . . . Type 1	1	NA	NA	NA	100%
24. . . . . Unit Delay Enabled Resettable	1	NA	NA	NA	100%
25. . . . . . . TypeCheck1T1D	1	100%	100%	NA	100%
26. . . . . code_type_bit		NA	NA	NA	100%
27. . . . . cond_generate_error_code	1	100%	NA	NA	100%
28. . . . . code_no_error		NA	NA	NA	100%
29. . . . . isType		NA	100%	NA	100%
30. . . . . typeMask		NA	NA	NA	100%
31. . . . . . . Unit Delay Enabled Resettable Synchronous8	1	NA	NA	NA	100%
32. . . . . Unit Delay Enabled Resettable	1	NA	NA	NA	100%
33. . . . . . . Unit Delay Enabled Resettable Synchronous9	1	NA	NA	NA	100%
34. . . . . Unit Delay Enabled Resettable	1	NA	NA	NA	100%

35. . . . . . . int type		NA	NA	NA	100%	
36. . . . State Comparator	1	50%	100%	NA	80%	
37. . . . . . . Compare To Zero		NA	100%	NA	100%	
38. . . . combine_error_codes		NA	NA	NA	100%	

Details

1. SubSystem block "BNOT_DUPLEX"

Child Systems: BNOT, BNOT1, State Comparator, combine_error_codes

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	16
Condition	NA	96% (54/56) condition outcomes
Decision	NA	93% (13/14) decision outcomes
MCDC	NA	88% (14/16) conditions reversed the outcome
Execution	NA	98% (50/51) objective outcomes

Logic block "Logical Operator"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX
Uncovered Links: ➡

Metric	Coverage
Cyclomatic Complexity	0
Condition	50% (2/4) condition outcomes
MCDC	0% (0/2) conditions reversed the outcome
Execution	100% (1/1) objective outcomes

Conditions analyzed

Description	True	False
input port 1	56	0
input port 2	56	0

MC/DC analysis (combinations in parentheses did not occur)

Decision/Condition	True Out	False Out
expression for output		
input port 1	TT	(FT)

input port 2		T**T**	(T**F**)

Full Coverage

Model Object	Metric
RelationalOperator block "Relational Operator"	Condition, Execution
Constant block "Num Ins"	Execution
Constant block "Num Outs"	Execution
Constant block "fb_num_constant"	Execution

2. SubSystem block "BNOT"

Justify or Exclude

Parent:	FBFunctions_Harness_BNOT/BNOT_DUPLEX
Child Systems:	1_val_shift_register, TypeCheck1T1D, Unit Delay Enabled Resettable Synchronous8, Unit Delay Enabled Resettable Synchronous9, int type

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	7
Condition	NA	100% (20/20) condition outcomes
Decision	NA	100% (6/6) decision outcomes
MCDC	NA	100% (7/7) conditions reversed the outcome
Execution	NA	100% (20/20) objective outcomes

Logic block "Logical Operator3"

Justify or Exclude

Parent:	FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (4/4) condition outcomes
MCDC	see Logical Operator
Execution	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Logic block "Logical Operator"	Condition, MCDC, Execution
Logic block "Logical Operator1"	Condition, MCDC, Execution
Logic block "Logical Operator2"	Condition, MCDC, Execution
Switch block "Switch"	Decision, Execution
Switch block "Switch1"	Decision, Execution
S-Function block "Bitwise Operator"	Execution
Constant block "Constant"	Execution
Constant block "Constant1"	Execution

3. SubSystem block "1_val_shift_register"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT
Child Systems: Data 1, Type 1

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	2
Execution	NA	100% (2/2) objective outcomes

4. SubSystem block "Data 1"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/1_val_shift_register
Child Systems: Unit Delay Enabled Resettable

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Execution	NA	100% (1/1) objective outcomes

5. SubSystem block "Unit Delay Enabled Resettable"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/1_val_shift_register/Data 1

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	1
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Delay block "Enabled Resettable Delay"	Execution

6. SubSystem block "Type 1"

Justify or Exclude

Parent:	FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/1_val_shift_register
Child Systems:	Unit Delay Enabled Resettable

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Execution	NA	100% (1/1) objective outcomes

7. SubSystem block "Unit Delay Enabled Resettable"

Justify or Exclude

Parent:	FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/1_val_shift_register/Type 1

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	1
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Delay block "Enabled Resettable Delay"	Execution

8. SubSystem block "TypeCheck1T1D"

Justify or Exclude

Parent:	FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT
Child Systems:	code_type_bit, cond_generate_error_code, isType

Metric	Coverage (this object)	Coverage (inc. descendants)

Cyclomatic Complexity	0	1
Condition	NA	100% (4/4) condition outcomes
Decision	NA	100% (2/2) decision outcomes
Execution	NA	100% (6/6) objective outcomes

Full Coverage

Model Object	Metric
Logic block "Logical Operator"	Condition, Execution

9. SubSystem block "code_type_bit"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/TypeCheck1T1D

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Constant block "type1"	Execution

10. SubSystem block "cond_generate_error_code"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/TypeCheck1T1D
Child Systems: code_no_error

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Decision	NA	100% (2/2) decision outcomes
Execution	NA	100% (2/2) objective outcomes

Full Coverage

Model Object	Metric

Switch block "Switch"   Decision, Execution

11. SubSystem block "code_no_error"

Justify or Exclude
Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/TypeCheck1T1D/cond_generate_error_code

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Constant block "type1"	Execution

12. SubSystem block "isType"

Justify or Exclude
Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/TypeCheck1T1D
Child Systems: typeMask

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Condition	NA	100% (2/2) condition outcomes
Execution	NA	100% (2/2) objective outcomes

Full Coverage

Model Object	Metric
RelationalOperator block "Relational Operator1"	Condition, Execution

13. SubSystem block "typeMask"

Justify or Exclude
Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/TypeCheck1T1D/isType

Metric	Coverage (this object)	Coverage (inc. descendants)

| Cyclomatic Complexity | 0 | 0 |
| Execution | NA | 100% (1/1) objective outcomes |

Full Coverage

Model Object	Metric
S-Function block "Apply Type Mask"	Execution

14. SubSystem block "Unit Delay Enabled Resettable Synchronou..."

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT
Child Systems: Unit Delay Enabled Resettable

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Execution	NA	100% (1/1) objective outcomes

15. SubSystem block "Unit Delay Enabled Resettable"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/Unit Delay Enabled Resettable Synchronous8

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	1
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Delay block "Enabled Resettable Delay"	Execution

16. SubSystem block "Unit Delay Enabled Resettable Synchronou..."

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT
Child Systems: Unit Delay Enabled Resettable

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Execution	NA	100% (1/1) objective outcomes

17. SubSystem block "Unit Delay Enabled Resettable"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT/Unit Delay Enabled Resettable Synchronous9

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	1
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Delay block "Enabled Resettable Delay"	Execution

18. SubSystem block "int type"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Constant block "type1"	Execution

19. SubSystem block "BNOT1"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX

Child Systems:	[1_val_shift_register](), [TypeCheck1T1D](), [Unit Delay Enabled Resettable Synchronous8](), [Unit Delay Enabled Resettable Synchronous9](), [int type]()

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	7
Condition	NA	100% (20/20) condition outcomes
Decision	NA	100% (6/6) decision outcomes
MCDC	NA	100% (7/7) conditions reversed the outcome
Execution	NA	100% (20/20) objective outcomes

Logic block "[Logical Operator3]()"

[Justify or Exclude]()

Parent:	[FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1]()

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (4/4) condition outcomes
MCDC	[see Logical Operator]()
Execution	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Logic block "[Logical Operator]()"	Condition, MCDC, Execution
Logic block "[Logical Operator1]()"	Condition, MCDC, Execution
Logic block "[Logical Operator2]()"	Condition, MCDC, Execution
Switch block "[Switch]()"	Decision, Execution
Switch block "[Switch1]()"	Decision, Execution
S-Function block "[Bitwise Operator]()"	Execution
Constant block "[Constant]()"	Execution
Constant block "[Constant1]()"	Execution

20. SubSystem block "[1_val_shift_register]()"

[Justify or Exclude]()

Parent:	[FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1]()
Child Systems:	[Data 1](), [Type 1]()

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	2
Execution	NA	100% (2/2) objective outcomes

21. SubSystem block "Data 1"

Justify or Exclude

Parent:	FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/1_val_shift_register
Child Systems:	Unit Delay Enabled Resettable

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Execution	NA	100% (1/1) objective outcomes

22. SubSystem block "Unit Delay Enabled Resettable"

Justify or Exclude

Parent:	FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/1_val_shift_register/Data 1

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	1
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Delay block "Enabled Resettable Delay"	Execution

23. SubSystem block "Type 1"

Justify or Exclude

Parent:	FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/1_val_shift_register
Child Systems:	Unit Delay Enabled Resettable

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Execution	NA	100% (1/1) objective outcomes

24. SubSystem block "Unit Delay Enabled Resettable"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/1_val_shift_register/Type 1

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	1
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Delay block "Enabled Resettable Delay"	Execution

25. SubSystem block "TypeCheck1T1D"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1
Child Systems: code_type_bit, cond_generate_error_code, isType

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Condition	NA	100% (4/4) condition outcomes
Decision	NA	100% (2/2) decision outcomes
Execution	NA	100% (6/6) objective outcomes

Full Coverage

Model Object	Metric
Logic block "Logical Operator"	Condition, Execution

26. SubSystem block "code_type_bit"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/TypeCheck1T1D

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0

Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Constant block "type1"	Execution

27. SubSystem block "cond_generate_error_code"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/TypeCheck1T1D
Child Systems: code_no_error

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Decision	NA	100% (2/2) decision outcomes
Execution	NA	100% (2/2) objective outcomes

Full Coverage

Model Object	Metric
Switch block "Switch"	Decision, Execution

28. SubSystem block "code_no_error"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/TypeCheck1T1D/cond_generate_error_code

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Constant block "type1"	Execution

29. SubSystem block "isType"

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/TypeCheck1T1D
Child Systems: typeMask

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Condition	NA	100% (2/2) condition outcomes
Execution	NA	100% (2/2) objective outcomes

Full Coverage

Model Object	Metric
RelationalOperator block "Relational Operator1"	Condition, Execution

30. SubSystem block "typeMask"

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/TypeCheck1T1D/isType

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
S-Function block "Apply Type Mask"	Execution

31. SubSystem block "Unit Delay Enabled Resettable Synchronou..."

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1
Child Systems: Unit Delay Enabled Resettable

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Execution	NA	100% (1/1) objective outcomes

32. SubSystem block "Unit Delay Enabled Resettable"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/Unit Delay Enabled Resettable Synchronous8

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	1
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Delay block "Enabled Resettable Delay"	Execution

33. SubSystem block "Unit Delay Enabled Resettable Synchronou..."

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1
Child Systems: Unit Delay Enabled Resettable

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Execution	NA	100% (1/1) objective outcomes

34. SubSystem block "Unit Delay Enabled Resettable"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1/Unit Delay Enabled Resettable Synchronous9

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	1
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric

Delay block "Enabled Resettable Delay"   Execution

35. SubSystem block "int type"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/BNOT1

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
Constant block "type1"	Execution

36. SubSystem block "State Comparator"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX
Child Systems: Compare To Zero

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Condition	NA	100% (10/10) condition outcomes
Decision	NA	50% (1/2) decision outcomes
Execution	NA	80% (4/5) objective outcomes

Switch block "Switch1"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/State Comparator
Uncovered Links: ⬅➡

Metric	Coverage
Cyclomatic Complexity	1
Decision	50% (1/2) decision outcomes
Execution	100% (1/1) objective outcomes

Decisions analyzed

logical trigger input	50%
false (output is from 3rd input port)	0/56
true (output is from 1st input port)	56/56

Constant block "Constant1"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/State Comparator
Uncovered Links: ◄

Metric	Coverage
Cyclomatic Complexity	0
Execution	0% (0/1) objective outcomes

Full Coverage

Model Object	Metric
Sum block "Sum of Elements"	Execution
RelationalOperator block "Relational Operator"	Condition, Execution

37. SubSystem block "Compare To Zero"

Justify or Exclude

Parent: FBFunctions_Harness_BNOT/BNOT_DUPLEX/State Comparator

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Condition	NA	100% (2/2) condition outcomes
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
RelationalOperator block "Compare"	Condition, Execution

38. SubSystem block "combine_error_codes"

Parent: [FBFunctions_Harness_BNOT/BNOT_DUPLEX](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Execution	NA	100% (1/1) objective outcomes

Full Coverage

Model Object	Metric
S-Function block "[Bitwise Operator](#)"	Execution