

# Coverage Report for FBFunctions

## Table of Contents

1. [Analysis Information](#)
2. [Tests](#)
3. [Summary](#)
4. [Details](#)

## Analysis Information

### Model Information

Model version	1.62
Author	hiterd
Last saved	Fri Feb 01 04:12:32 2019

### Harness information

Harness model(s)	FBFunctions_Harness_AND
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_AND/AND_DUPLEX
Logic block short circuiting	off
MCDC mode	masking
Filter filename	<a href="#">slcov_output\FBFunctions_Harness_AND\FBFunctions_Harness_AND_covfilter</a>

### Objects Filtered from Coverage Analysis

## # Model Object

[J1.](#) SubSystem block "[State Comparator](#)"

### Rationale

[execComplete](#) is always True.

[J2.](#) Logic block "[Logical Operator](#)"

[execComplete](#) is always True. Therefore the AND has both inputs high always.

[J3.](#) Logic block "[Logical Operator1](#)"

[When DataType 1 and DataType2 are equal, the following combinations cannot occur](#) (1) Type 1 is not Bool/Safebool and Type2 is Bool (2) Type1 is not Bool/Safebool and Type2 is both Bool and SafeBool (3) Type1 is Bool and Type2 is neither Bool nor Safebool (4)Type1 is both Bool and Safebool and Type2 is neither Bool nor Safebool

[J4.](#) Logic block "[Logical Operator1](#)"

[When DataType 1 and DataType2 are equal, the following combinations cannot occur](#) (1) Type 1 is not Bool/Safebool and Type2 is Bool (2) Type1 is not Bool/Safebool and Type2 is both Bool and SafeBool (3) Type1 is Bool and Type2 is neither Bool nor Safebool (4)Type1 is both Bool and Safebool and Type2 is neither Bool nor Safebool

## Tests

Test#	Started execution	Ended execution
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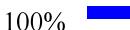
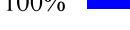
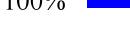
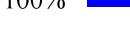
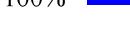
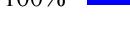
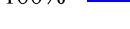
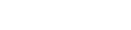
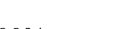
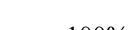
Test 1 01-Feb-2019 04:19:53 01-Feb-2019 04:23:31

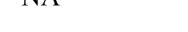
## Summary

### Model Hierarchy/Complexity

### Test 1

		Decision	Condition	MCDC	Execution
1. <a href="#">AND DUPLEX</a>	24	100%		100%	
2. .... <a href="#">AND</a>	11	100%		100%	
3. .... <a href="#">2_val_shift_register</a>	4	NA	NA	NA	
4. .... <a href="#">Data 1</a>	1	NA	NA	NA	
5. .... <a href="#">Unit Delay Enabled Resettable</a>	1	NA	NA	NA	
6. .... <a href="#">Data 2</a>	1	NA	NA	NA	
7. .... <a href="#">Unit Delay Enabled Resettable</a>	1	NA	NA	NA	
8. .... <a href="#">Type 1</a>	1	NA	NA	NA	
9. .... <a href="#">Unit Delay Enabled Resettable</a>	1	NA	NA	NA	
10. .... <a href="#">Type 2</a>	1	NA	NA	NA	
11. .... <a href="#">Unit Delay Enabled Resettable</a>	1	NA	NA	NA	

12.....	<a href="#">TypeCheck2T2D</a>	1	100%	 100%	 100%	 100%	 100%	 100%
13.....	<a href="#">code_type_bit</a>		NA		NA			100% 
14.....	<a href="#">cond_generate_error_code</a>	1	100%	 NA		NA		100% 
15.....	<a href="#">code_no_error</a>		NA		NA			100% 
16.....	<a href="#">isType1</a>		NA		100%  NA			100% 
17.....	<a href="#">isType</a>		NA		100%  NA			100% 
18.....	<a href="#">typeMask</a>		NA		NA			100% 
19.....	<a href="#">isType1</a>		NA		100%  NA			100% 
20.....	<a href="#">typeMask</a>		NA		NA			100% 
21.....	<a href="#">isType2</a>		NA		100%  NA			100% 
22.....	<a href="#">isType</a>		NA		100%  NA			100% 
23.....	<a href="#">typeMask</a>		NA		NA			100% 
24.....	<a href="#">isType1</a>		NA		100%  NA			100% 
25.....	<a href="#">typeMask</a>		NA		NA			100% 
26.....	<a href="#">isTypeMatch2</a>		NA		100%  NA			100% 
27.....	<a href="#">typeMask</a>		NA		NA			100% 
28.....	<a href="#">typeMask1</a>		NA		NA			100% 
29.....	<a href="#">Unit Delay Enabled Resettable Synchronous8</a>	1	NA		NA			100% 
30.....	<a href="#">Unit Delay Enabled Resettable</a>	1	NA		NA			100% 
31.....	<a href="#">Unit Delay Enabled Resettable Synchronous9</a>	1	NA		NA			100% 
32.....	<a href="#">Unit Delay Enabled Resettable</a>	1	NA		NA			100% 
33.....	<a href="#">bool type</a>		NA		NA			100% 
34.....	<a href="#">boolToSafebool</a>	1	100%	 NA		NA		100% 
35.....	<a href="#">safebool false</a>		NA		NA			100% 
36.....	<a href="#">safebool true</a>		NA		NA			100% 
37.....	<a href="#">isType</a>		NA		100%  NA			100% 
38.....	<a href="#">typeMask</a>		NA		NA			100% 
39.....	<a href="#">safebool type</a>		NA		NA			100% 
40.....	<a href="#">safebool type1</a>		NA		NA			100% 
41.....	<a href="#">safeboolToBool2</a>		NA		100%  NA			100% 
42.....	<a href="#">safebool true</a>		NA		NA			100% 
43.....	<a href="#">safeboolToBool3</a>		NA		100%  NA			100% 
44.....	<a href="#">safebool true</a>		NA		NA			100% 
45....	<a href="#">AND1</a>	11	100%	 100%	 100%	 100%	 100%	 100%
46.....	<a href="#">2_val_shift_register</a>	4	NA		NA			100% 
47.....	<a href="#">Data 1</a>	1	NA		NA			100% 
48.....	<a href="#">Unit Delay Enabled Resettable</a>	1	NA		NA			100% 

49.....	<a href="#">Data 2</a>	1	NA	NA	NA	100%	
50.....	<a href="#">Unit Delay Enabled Resettable</a>	1	NA	NA	NA	100%	
51.....	<a href="#">Type 1</a>	1	NA	NA	NA	100%	
52.....	<a href="#">Unit Delay Enabled Resettable</a>	1	NA	NA	NA	100%	
53.....	<a href="#">Type 2</a>	1	NA	NA	NA	100%	
54.....	<a href="#">Unit Delay Enabled Resettable</a>	1	NA	NA	NA	100%	
55.....	<a href="#">TypeCheck2T2D</a>	1	100%  100%  100%  100%				
56.....	<a href="#">code_type_bit</a>		NA	NA	NA	100%	
57.....	<a href="#">cond_generate_error_code</a>	1	100%  NA	NA	NA	100%	
58.....	<a href="#">code_no_error</a>		NA	NA	NA	100%	
59.....	<a href="#">isType1</a>		NA	100%  NA	NA	100%	
60.....	<a href="#">isType</a>		NA	100%  NA	NA	100%	
61.....	<a href="#">typeMask</a>		NA	NA	NA	100%	
62.....	<a href="#">isType1</a>		NA	100%  NA	NA	100%	
63.....	<a href="#">typeMask</a>		NA	NA	NA	100%	
64.....	<a href="#">isType2</a>		NA	100%  NA	NA	100%	
65.....	<a href="#">isType</a>		NA	100%  NA	NA	100%	
66.....	<a href="#">typeMask</a>		NA	NA	NA	100%	
67.....	<a href="#">isType1</a>		NA	100%  NA	NA	100%	
68.....	<a href="#">typeMask</a>		NA	NA	NA	100%	
69.....	<a href="#">isTypeMatch2</a>		NA	100%  NA	NA	100%	
70.....	<a href="#">typeMask</a>		NA	NA	NA	100%	
71.....	<a href="#">typeMask1</a>		NA	NA	NA	100%	
72.....	<a href="#">Unit Delay Enabled Resettable Synchronous8</a>	1	NA	NA	NA	100%	
73.....	<a href="#">Unit Delay Enabled Resettable</a>	1	NA	NA	NA	100%	
74.....	<a href="#">Unit Delay Enabled Resettable Synchronous9</a>	1	NA	NA	NA	100%	
75.....	<a href="#">Unit Delay Enabled Resettable</a>	1	NA	NA	NA	100%	
76.....	<a href="#">bool type</a>		NA	NA	NA	100%	
77.....	<a href="#">boolToSafebool</a>	1	100%  NA	NA	NA	100%	
78.....	<a href="#">safebool false</a>		NA	NA	NA	100%	
79.....	<a href="#">safebool true</a>		NA	NA	NA	100%	
80.....	<a href="#">isType</a>		NA	100%  NA	NA	100%	
81.....	<a href="#">typeMask</a>		NA	NA	NA	100%	
82.....	<a href="#">safebool type</a>		NA	NA	NA	100%	
83.....	<a href="#">safebool type1</a>		NA	NA	NA	100%	

84. .... <a href="#">safeboolToBool2</a>	NA	100%		NA	100%		
85. .... <a href="#">safebool true</a>	NA	NA		NA	100%		
86. .... <a href="#">safeboolToBool3</a>	NA	100%		NA	100%		
87. .... <a href="#">safebool true</a>	NA	NA		NA	100%		
88. .... <a href="#">State Comparator</a>	1	100%		100%		100%	
89. .... <a href="#">Compare To Zero</a>	NA	100%		NA	100%		
90. .... <a href="#">combine_error_codes</a>	NA	NA		NA	100%		

## Details

### 1. SubSystem block "[AND\\_DUPLEX](#)"

**Child Systems:** [AND](#), [AND1](#), [State Comparator](#), [combine\\_error\\_codes](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	24
Condition	NA	100% ((142+2)/144) condition outcomes
Decision	NA	100% ((21+1)/22) decision outcomes
MCDC	NA	100% ((24+10)/34) conditions reversed the outcome
Execution	NA	100% ((110+1)/111) objective outcomes

### Logic block "[Logical Operator](#)"

#### Justified J2.

execComplete is always True. Therefore the AND has both inputs high always.

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX](#)

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

#### Conditions analyzed

Description	True	False
input port 1	187	-
input port 2	187	-

## 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	TT	(TF)

## Full Coverage

Model Object	Metric
RelationalOperator block " <a href="#">Relational Operator</a> "	Condition, Execution
Constant block " <a href="#">Num Ins</a> "	Execution
Constant block " <a href="#">Num Outs</a> "	Execution
Constant block " <a href="#">fb_num_constant</a> "	Execution

## 2. SubSystem block "[AND](#)"

### Justify or Exclude

**Parent:**

[FBFunctions\\_Harness\\_AND/AND\\_DUPLEX](#)

**Child Systems:**

[2\\_val\\_shift\\_register](#), [TypeCheck2T2D](#), [Unit Delay Enabled Resettable Synchronous8](#), [Unit Delay Enabled Resettable Synchronous9](#), [bool type](#), [boolToSafebool](#), [isType](#), [safebool type](#), [safebool type1](#), [safeboolToBool2](#), [safeboolToBool3](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	11
Condition	NA	100% (62/62) condition outcomes
Decision	NA	100% (10/10) decision outcomes
MCDC	NA	100% ((12+4)/16) conditions reversed the outcome
Execution	NA	100% (50/50) objective outcomes

## Logic block "[Logical Operator3](#)"

### Justify or Exclude

**Parent:**

[FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (4/4) condition outcomes
MCDC	<a href="#">see Logical Operator</a>
Execution	100% (1/1) objective outcomes

## Full Coverage

Model Object	Metric
Logic block " <a href="#">Logical Operator</a> "	Condition, MCDC, Execution
Logic block " <a href="#">Logical Operator1</a> "	Condition, MCDC, Execution
Logic block " <a href="#">Logical Operator2</a> "	Condition, MCDC, Execution
Logic block " <a href="#">Logical Operator4</a> "	Condition, MCDC, Execution
Logic block " <a href="#">Logical Operator5</a> "	Condition, MCDC, Execution
Logic block " <a href="#">Logical Operator6</a> "	Condition, Execution
Switch block " <a href="#">Switch</a> "	Decision, Execution
Switch block " <a href="#">Switch1</a> "	Decision, Execution
Switch block " <a href="#">Switch2</a> "	Decision, Execution
Constant block " <a href="#">Constant</a> "	Execution
Constant block " <a href="#">Constant1</a> "	Execution

## 3. SubSystem block "[2\\_val\\_shift\\_register](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

**Child Systems:** [Data 1](#), [Data 2](#), [Type 1](#), [Type 2](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	4
Execution	NA	100% (4/4) objective outcomes

## 4. SubSystem block "[Data 1](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/2\\_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\\_AND/AND\\_DUPLEX/AND/2\\_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 " <a href="#"><u>Enabled Resettable Delay</u></a> "	Execution

## 6. SubSystem block "[Data 2](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/2\\_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\\_AND/AND\\_DUPLEX/AND/2\\_val\\_shift\\_register/Data 2](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	1

Execution	NA	100% (1/1) objective outcomes
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## Full Coverage

Model Object	Metric
Delay block " <a href="#">Enabled Resettable Delay</a> "	Execution

## 8. SubSystem block "[Type 1](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/2\\_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

## 9. SubSystem block "[Unit Delay Enabled Resettable](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/2\\_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 " <a href="#">Enabled Resettable Delay</a> "	Execution

## 10. SubSystem block "[Type 2](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/2\\_val\\_shift\\_register](#)

**Child Systems:** [Unit Delay Enabled Resettable](#)

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

## 11. SubSystem block "Unit Delay Enabled Resettable"

Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/2\\_val\\_shift\\_register/Type2](#)

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

### Full Coverage

<b>Model Object</b>	<b>Metric</b>
Delay block " <a href="#">Enabled Resettable Delay</a> "	Execution

## 12. SubSystem block "TypeCheck2T2D"

Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

**Child Systems:** [code\\_type\\_bit](#), [cond\\_generate\\_error\\_code](#), [isType1](#), [isType2](#), [isTypeMatch2](#)

<b>Metric</b>	<b>Coverage (this object)</b>	<b>Coverage (inc. descendants)</b>
Cyclomatic Complexity	0	1
Condition	NA	100% (30/30) condition outcomes
Decision	NA	100% (2/2) decision outcomes
MCDC	NA	100% ((1+4)/5) conditions reversed the outcome
Execution	NA	100% (20/20) objective outcomes

### Logic block "Logical Operator"

Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (2/2) condition outcomes
MCDC	<a href="#">see Logical Operator1</a>
Execution	100% (1/1) objective outcomes

## Logic block "[Logical Operator1](#)"

### Justified J3.

When DataType1 and DataType2 are equal, the following combinations cannot occur (1) Type1 is not Bool/Safebool and Type2 is Bool (2) Type1 is not Bool/Safebool and Type2 is both Bool and SafeBool (3) Type1 is Bool and Type2 is neither Bool nor Safebool (4) Type1 is both Bool and Safebool and Type2 is neither Bool nor Safebool

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (6/6) condition outcomes
MCDC	100% ((1+4)/5) conditions reversed the outcome
Execution	100% (1/1) objective outcomes

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

[Includes 6 blocks](#)

Decision/Condition	True Out	False Out
(~C1    ~C2    C3))    ~C4    C5)		
C1 (Logical Operator In1)	FTFFT	TTFTF
C2 (Logical Operator In1)	(TF <del>F</del> TF)	TT <del>F</del> TF
C3 (Logical Operator In2)	(T <del>F</del> FTT)	T <del>F</del> TFT
C4 (Logical Operator In1)	(TTFFF)	TT <del>F</del> TF
C5 (Logical Operator In2)	(TTTFF)	TFTFT

## Logic block "[Logical Operator2](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D](#)

Metric	Coverage
Cyclomatic Complexity	0

Condition	100% (2/2) condition outcomes
MCDC	<a href="#">see Logical Operator1</a>
Execution	100% (1/1) objective outcomes

### Logic block "[Logical Operator3](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (2/2) condition outcomes
MCDC	<a href="#">see Logical Operator1</a>
Execution	100% (1/1) objective outcomes

### 13. SubSystem block "[code\\_type\\_bit](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D](#)

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 " <a href="#">type1</a> "	Execution

### 14. SubSystem block "[cond\\_generate\\_error\\_code](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D](#)

**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
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## Full Coverage

**Model Object** **Metric**

Switch block "[Switch](#)" Decision, Execution

## 15. SubSystem block "[code\\_no\\_error](#)"

Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/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

## 16. SubSystem block "[isType1](#)"

Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D](#)

**Child Systems:** [isType](#), [isType1](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Condition	NA	100% (8/8) condition outcomes
Execution	NA	100% (5/5) objective outcomes

## Logic block "[Logical Operator](#)"

Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isType1](#)

<b>Metric</b>	<b>Coverage</b>
Cyclomatic Complexity	0
Condition	100% (4/4) condition outcomes
MCDC	<a href="#">see Logical Operator1</a>
Execution	100% (1/1) objective outcomes

## 17. SubSystem block "[isType](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isType1](#)  
**Child Systems:** [typeMask](#)

<b>Metric</b>	<b>Coverage (this object)</b>	<b>Coverage (inc. descendants)</b>
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

## 18. SubSystem block "[typeMask](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isType1/isType](#)

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

### Full Coverage

**Model Object** **Metric**

S-Function block "[Apply Type Mask](#)" Execution

## 19. SubSystem block "isType1"

Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isType1](#)  
**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

## 20. SubSystem block "typeMask"

Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isType1/isType1](#)

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

## 21. SubSystem block "isType2"

Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D](#)  
**Child Systems:** [isType, isType1](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
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Cyclomatic Complexity	0	0
Condition	NA	100% (8/8) condition outcomes
Execution	NA	100% (5/5) objective outcomes

## Logic block "[Logical Operator](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isType2](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (4/4) condition outcomes
MCDC	<a href="#">see Logical Operator1</a>
Execution	100% (1/1) objective outcomes

## 22. SubSystem block "[isType](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isType2](#)

**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

## 23. SubSystem block "[typeMask](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isType2/isType](#)

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

Execution	NA	100% (1/1) objective outcomes
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## Full Coverage

Model Object	Metric
S-Function block " <a href="#">Apply Type Mask</a> "	Execution

## 24. SubSystem block "[isType1](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isType2](#)  
**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 " <a href="#">Relational Operator1</a> "	Condition, Execution

## 25. SubSystem block "[typeMask](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isType2/isType1](#)

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 " <a href="#">Apply Type Mask</a> "	Execution

## 26. SubSystem block "[isTypeMatch2](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D](#)  
**Child Systems:** [typeMask](#), [typeMask1](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Condition	NA	100% (2/2) condition outcomes
Execution	NA	100% (3/3) objective outcomes

**Full Coverage**

**Model Object**

**Metric**

RelationalOperator block "[Relational Operator1](#)" Condition, Execution

## 27. SubSystem block "[typeMask](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isTypeMatch2](#)

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

## 28. SubSystem block "[typeMask1](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/TypeCheck2T2D/isTypeMatch2](#)

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

## Full Coverage

Model Object	Metric
S-Function block " <a href="#">Apply Type Mask</a> "	Execution

## 29. SubSystem block "[Unit Delay Enabled Resettable Synchronous](#)..."

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)  
**Child Systems:** [Unit Delay Enabled Resettable](#)

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

## 30. SubSystem block "[Unit Delay Enabled Resettable](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/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 " <a href="#">Enabled Resettable Delay</a> "	Execution

## 31. SubSystem block "[Unit Delay Enabled Resettable Synchronous](#)..."

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

**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\\_AND/AND\\_DUPLEX/AND/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 " <a href="#"><u>Enabled Resettable Delay</u></a> "	Execution

## 33. SubSystem block "[bool type](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

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 " <a href="#"><u>type1</u></a> "	Execution

## 34. SubSystem block "[boolToSafebool](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

**Child Systems:** [safebool false, safebool true](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Decision	NA	100% (2/2) decision outcomes
Execution	NA	100% (3/3) objective outcomes

### **Full Coverage**

#### **Model Object**

Switch block "[Switch](#)"

#### **Metric**

Decision, Execution

## **35. SubSystem block "[safebool false](#)"**

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/boolToSafebool](#)

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

### **Full Coverage**

#### **Model Object**

Constant block "[type1](#)"

#### **Metric**

Execution

## **36. SubSystem block "[safebool true](#)"**

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/boolToSafebool](#)

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 " <a href="#">type1</a> "	Execution

## 37. SubSystem block "[isType](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

**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 " <a href="#">Relational Operator1</a> "	Condition, Execution

## 38. SubSystem block "[typeMask](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/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 " <a href="#">Apply Type Mask</a> "	Execution

## 39. SubSystem block "[safebool type](#)"

## Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

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 " <a href="#">type1</a> "	Execution

## 40. SubSystem block "[safebool type1](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

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 " <a href="#">type1</a> "	Execution

## 41. SubSystem block "[safeboolToBool2](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

**Child Systems:** [safebool true](#)

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 " <a href="#">Relational Operator</a> "	Condition, Execution

## 42. SubSystem block "[safebool true](#)"

### [Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/safeboolToBool2](#)

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 " <a href="#">type1</a> "	Execution

## 43. SubSystem block "[safeboolToBool3](#)"

### [Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND](#)

**Child Systems:** [safebool true](#)

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 " <a href="#">Relational Operator</a> "	Condition, Execution

## 44. SubSystem block "[safebool true](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND/safeboolToBool3](#)

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 " <a href="#">type1</a> "	Execution

## 45. SubSystem block "[AND1](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX](#)

**Child Systems:** [2\\_val\\_shift\\_register](#), [TypeCheck2T2D](#), [Unit Delay Enabled Resettable Synchronous8](#), [Unit Delay Enabled Resettable Synchronous9](#), [bool type](#), [boolToSafebool](#), [isType](#), [safebool type](#), [safebool type1](#), [safeboolToBool2](#), [safeboolToBool3](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	11
Condition	NA	100% (62/62) condition outcomes
Decision	NA	100% (10/10) decision outcomes
MCDC	NA	100% ((12+4)/16) conditions reversed the outcome
Execution	NA	100% (50/50) objective outcomes

## Logic block "[Logical Operator3](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (4/4) condition outcomes
MCDC	<a href="#">see Logical Operator</a>
Execution	100% (1/1) objective outcomes

## Full Coverage

Model Object	Metric
Logic block " <a href="#">Logical Operator</a> "	Condition, MCDC, Execution
Logic block " <a href="#">Logical Operator1</a> "	Condition, MCDC, Execution
Logic block " <a href="#">Logical Operator2</a> "	Condition, MCDC, Execution
Logic block " <a href="#">Logical Operator4</a> "	Condition, MCDC, Execution
Logic block " <a href="#">Logical Operator5</a> "	Condition, MCDC, Execution
Logic block " <a href="#">Logical Operator6</a> "	Condition, Execution
Switch block " <a href="#">Switch</a> "	Decision, Execution
Switch block " <a href="#">Switch1</a> "	Decision, Execution
Switch block " <a href="#">Switch2</a> "	Decision, Execution
Constant block " <a href="#">Constant</a> "	Execution
Constant block " <a href="#">Constant1</a> "	Execution

## 46. SubSystem block "[2\\_val\\_shift\\_register](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)  
**Child Systems:** [Data 1](#), [Data 2](#), [Type 1](#), [Type 2](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	4
Execution	NA	100% (4/4) objective outcomes

## 47. SubSystem block "[Data 1](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/2\\_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

## 48. SubSystem block "[Unit Delay Enabled Resettable](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/2\\_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 " <u><a href="#">Enabled Resettable Delay</a></u> "	Execution

## 49. SubSystem block "[Data 2](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/2\\_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

## 50. SubSystem block "[Unit Delay Enabled Resettable](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/2\\_val\\_shift\\_register/Data](#)  
[2](#)

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

**Full Coverage**

Model Object	Metric
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Delay block "[Enabled Resettable Delay](#)" Execution

## 51. SubSystem block "[Type 1](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/2\\_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

## 52. SubSystem block "[Unit Delay Enabled Resettable](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/2\\_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

## 53. SubSystem block "[Type 2](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/2\\_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

## 54. SubSystem block "[Unit Delay Enabled Resettable](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/2\\_val\\_shift\\_register/Type2](#)

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 " <u><a href="#">Enabled Resettable Delay</a></u> "	Execution

## 55. SubSystem block "[TypeCheck2T2D](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

**Child Systems:** [code\\_type\\_bit](#), [cond\\_generate\\_error\\_code](#), [isType1](#), [isType2](#), [isTypeMatch2](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Condition	NA	100% (30/30) condition outcomes
Decision	NA	100% (2/2) decision outcomes
MCDC	NA	100% ((1+4)/5) conditions reversed the outcome
Execution	NA	100% (20/20) objective outcomes

**Logic block "[Logical Operator](#)"**

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (2/2) condition outcomes
MCDC	<u><a href="#">see Logical Operator1</a></u>
Execution	100% (1/1) objective outcomes

## Logic block "[Logical Operator1](#)"

### Justified J4.

When DataType1 and DataType2 are equal, the following combinations cannot occur (1) Type1 is not Bool/Safebool and Type2 is Bool (2) Type1 is not Bool/Safebool and Type2 is both Bool and SafeBool (3) Type1 is Bool and Type2 is neither Bool nor Safebool (4) Type1 is both Bool and Safebool and Type2 is neither Bool nor Safebool

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (6/6) condition outcomes
MCDC	100% ((1+4)/5) conditions reversed the outcome
Execution	100% (1/1) objective outcomes

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

Includes 6 blocks

Decision/Condition	True Out	False Out
(~C1    ~C2    C3))    ~C4    C5)		
C1 (Logical Operator In1)	FTFFT	<b>T</b> TFTF
C2 (Logical Operator In1)	(TFFTF)	<b>T</b> TFTF
C3 (Logical Operator In2)	(TF <del>F</del> TT)	TFT <b>T</b> F
C4 (Logical Operator In1)	(TTFFF)	TTFT <b>F</b>
C5 (Logical Operator In2)	(TTTFF)	TFTFT <b>T</b>

## Logic block "[Logical Operator2](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (2/2) condition outcomes
MCDC	<a href="#">see Logical Operator1</a>
Execution	100% (1/1) objective outcomes

## Logic block "[Logical Operator3](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (2/2) condition outcomes
MCDC	<a href="#"><u>see Logical Operator1</u></a>
Execution	100% (1/1) objective outcomes

## 56. SubSystem block "[code\\_type\\_bit](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D](#)

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 " <a href="#"><u>type1</u></a> "	Execution

## 57. SubSystem block "[cond\\_generate\\_error\\_code](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D](#)

**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

## 58. SubSystem block "[code\\_no\\_error](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D/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**

Constant block "[type1](#)"

**Metric**

Execution

## 59. SubSystem block "[isType1](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D](#)

**Child Systems:** [isType](#), [isType1](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Condition	NA	100% (8/8) condition outcomes
Execution	NA	100% (5/5) objective outcomes

**Logic block "[Logical Operator](#)"**

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D/isType1](#)

**Metric**

Cyclomatic Complexity

**Coverage**

0

Condition

100% (4/4) condition outcomes

MCDC

[see Logical Operator1](#)

Execution

100% (1/1) objective outcomes

## 60. SubSystem block "[isType](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D/isType1](#)  
**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

## 61. SubSystem block "[typeMask](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D/isType1/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

## 62. SubSystem block "[isType1](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D/isType1](#)  
**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 " <a href="#">Relational Operator1</a> "	Condition, Execution

## 63. SubSystem block "[typeMask](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D/isType1/isType1](#)

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 " <a href="#">Apply Type Mask</a> "	Execution

## 64. SubSystem block "[isType2](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D](#)  
**Child Systems:** [isType](#), [isType1](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Condition	NA	100% (8/8) condition outcomes
Execution	NA	100% (5/5) objective outcomes

## Logic block "[Logical Operator](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND DUPLEX/AND1/TypeCheck2T2D/isType2](#)

Metric	Coverage
Cyclomatic Complexity	0
Condition	100% (4/4) condition outcomes
MCDC	<a href="#">see Logical Operator1</a>
Execution	100% (1/1) objective outcomes

## 65. SubSystem block "[isType](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND DUPLEX/AND1/TypeCheck2T2D/isType2](#)

**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

## 66. SubSystem block "[typeMask](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND DUPLEX/AND1/TypeCheck2T2D/isType2/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

## 67. SubSystem block "[isType1](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D/isType2](#)  
**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

## 68. SubSystem block "[typeMask](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D/isType2/isType1](#)

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

## 69. SubSystem block "[isTypeMatch2](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D](#)  
**Child Systems:** [typeMask](#), [typeMask1](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	0
Condition	NA	100% (2/2) condition outcomes
Execution	NA	100% (3/3) objective outcomes

## Full Coverage

Model Object	Metric
RelationalOperator block " <a href="#">Relational Operator1</a> "	Condition, Execution

## 70. SubSystem block "[typeMask](#)"

[Justify or Exclude](#)

Parent: [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D/isTypeMatch2](#)

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 " <a href="#">Apply Type Mask</a> "	Execution

## 71. SubSystem block "[typeMask1](#)"

[Justify or Exclude](#)

Parent: [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/TypeCheck2T2D/isTypeMatch2](#)

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

## 72. SubSystem block "[Unit Delay Enabled Resettable Synchronou...](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

**Child Systems:** [Unit Delay Enabled Resettable](#)

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

## 73. SubSystem block "[Unit Delay Enabled Resettable](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/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

## 74. SubSystem block "[Unit Delay Enabled Resettable Synchronou...](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

**Child Systems:** [Unit Delay Enabled Resettable](#)

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

## 75. SubSystem block "[Unit Delay Enabled Resettable](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/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 " <u><a href="#">Enabled Resettable Delay</a></u> "	Execution

## 76. SubSystem block "[bool type](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

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 " <u><a href="#">type1</a></u> "	Execution

## 77. SubSystem block "[boolToSafebool](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

**Child Systems:** [safebool false](#), [safebool true](#)

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

Execution	NA	100% (3/3) objective outcomes
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## Full Coverage

Model Object	Metric
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Switch block " <a href="#">Switch</a> "	Decision, Execution
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## 78. SubSystem block "[safebool false](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/boolToSafebool](#)

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

## Full Coverage

Model Object	Metric
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Constant block " <a href="#">type1</a> "	Execution
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## 79. SubSystem block "[safebool true](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/boolToSafebool](#)

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

## Full Coverage

Model Object	Metric
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Constant block " <a href="#">type1</a> "	Execution
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## 80. SubSystem block "[isType](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

**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

## 81. SubSystem block "[typeMask](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/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

## 82. SubSystem block "[safebool type](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

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

Execution	NA	100% (1/1) objective outcomes
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## Full Coverage

Model Object	Metric
Constant block " <a href="#">type1</a> "	Execution

## 83. SubSystem block "[safebool type1](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

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 " <a href="#">type1</a> "	Execution

## 84. SubSystem block "[safeboolToBool2](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

**Child Systems:** [safebool true](#)

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 " <a href="#">Relational Operator</a> "	Condition, Execution

## 85. SubSystem block "[safebool true](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/safeboolToBool2](#)

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 " <a href="#">type1</a> "	Execution

## 86. SubSystem block "[safeboolToBool3](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1](#)

**Child Systems:** [safebool true](#)

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 " <a href="#">Relational Operator</a> "	Condition, Execution

## 87. SubSystem block "[safebool true](#)"

[Justify or Exclude](#)

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/AND1/safeboolToBool3](#)

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

## Full Coverage

Model Object	Metric
Constant block " <a href="#">type1</a> "	Execution

## 88. SubSystem block "[State Comparator](#)"

### Justified J1.

execComplete is always True.

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX](#)

**Child Systems:** [Compare To Zero](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	1
Condition	NA	100% (14/14) condition outcomes
Decision	NA	100% ((1+1)/2) decision outcomes
Execution	NA	100% ((4+1)/5) objective outcomes

## Switch block "[Switch1](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/State Comparator](#)

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

### **Decisions analyzed**

logical trigger input	100%
false (output is from 3rd input port)	-
true (output is from 1st input port)	187/187

## Constant block "[Constant1](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_DUPLEX/State Comparator](#)

Metric	Coverage
Cyclomatic Complexity	0
Execution	100% ((0+1)/1) objective outcomes

### Full Coverage

Model Object	Metric
Sum block " <a href="#">Sum of Elements</a> "	Execution
RelationalOperator block " <a href="#">Relational Operator</a> "	Condition, Execution

## 89. SubSystem block "[Compare To Zero](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_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 " <a href="#">Compare</a> "	Condition, Execution

## 90. SubSystem block "[combine\\_error\\_codes](#)"

### Justify or Exclude

**Parent:** [FBFunctions\\_Harness\\_AND/AND\\_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 " <a href="#">Bitwise Operator</a> "	Execution