Coverage Report for ACC_System

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Analysis Information

Coverage Data Information

Collected in version	(R2022a)

Model Information

Model version	1.36
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Simulation Optimization Options

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

Coverage Options

Analyzed model	ACC_System
Logic block short circuiting	off

Tests

Test	Started execution	Ended execution
Run 31	02-Apr-2023 13:09:02	02-Apr-2023 13:09:12

Summary

Model Hierarchy/Complexity		Run 31	
		Saturation on integer overflow	Execution
1. ACC_System	52	0%	100%
2. . . . Subsystem	51	0%	100%
3. . . . . Control Algorithm	51	0%	NA
4. . . . . SF: Subsystem/Control Algorithm	50	0%	NA
5. . . . . SF: ACC_ON_Mode	43	0%	NA
6. . . . . Subsystem		NA	100%
7. . . . . Subsystem1		NA	100%

Details

1. Model "ACC_System"

Child Systems: Subsystem

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	52
Saturation on integer overflow	NA	0% (0/10) objective outcomes
Execution	NA	100% (4/4) objective outcomes

2. SubSystem block "Subsystem"

Justify or Exclude

Parent: /ACC_System
Child Systems: Control Algorithm, Subsystem, Subsystem1

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	51
Execution	NA	100% (4/4) objective outcomes
Saturation on integer overflow	NA	0% (0/10) objective outcomes

Full Coverage

Model Object	Metric
UnitDelay block "Unit Delay"	Execution

3. SubSystem block "Control Algorithm"

Justify or Exclude
Parent: ACC_System/Subsystem
Child Systems: Subsystem/Control Algorithm

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	51
Saturation on integer overflow	NA	0% (0/10) objective outcomes

4. Chart "Subsystem/Control Algorithm"

Justify or Exclude
Parent: ACC_System/Subsystem/Control Algorithm
Child Systems: ACC_ON_Mode

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	2	50
Saturation on integer overflow	NA	0% (0/10) objective outcomes

5. State "ACC_ON_Mode"

Justify or Exclude
Parent: ACC_System/Subsystem/Control Algorithm

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	10	43
Saturation on integer overflow	NA	0% (0/10) objective outcomes

Transition "[(LeadVehicle_Speed<Set_Speed) && (LeadV..." from "LeadVehicle_Speed_equal_Set_Speed" to "LeadVehicle_Speed_lessthan_Set_Speed"

Justify or Exclude
Parent: ACC_System/Subsystem/Control Algorithm.ACC_ON_Mode
Uncovered Links:

Metric	Coverage
Cyclomatic Complexity	3
Saturation on integer overflow	0% (0/2) objective outcomes

```
1  [(LeadVehicle_Speed<Set_Speed) && (LeadVehicle_Speed<DriveVehicle_Speed) || (Time_Gap == 0.75*Set_Gap)]
```

#1: [(LeadVehicle_Speed<Set_Speed) && (LeadVehicle_Speed<DriveVehicle_Speed) || ...

Saturation on integer overflow analyzed

0.75*Set_Gap	0%
false	--
true	--

Transition "[((LeadVehicle_Speed*1.25>=DriveVehicle_...]" from "LeadVehicle_Speed_lessthan_Set_Speed" to "LeadVehicle_Speed_equal_Set_Speed"

Justify or Exclude

Parent: ACC_System/Subsystem/Control Algorithm.ACC_ON_Mode

Uncovered Links:

Metric	Coverage
Cyclomatic Complexity	5
Saturation on integer overflow	0% (0/8) objective outcomes

```
1  [((LeadVehicle_Speed*1.25>=DriveVehicle_Speed) && (LeadVehicle_Speed * 0.75<=DriveVehicle_Speed)) && (DriveVehicle_Speed < Set_Speed)
```

#1: [((LeadVehicle_Speed*1.25>=DriveVehicle_Speed) && (LeadVehicle_Speed * 0.75<...

Saturation on integer overflow analyzed

1.25*Set_Gap	0%
false	--
true	--
0.75*Set_Gap	0%
false	--
true	--
LeadVehicle_Speed*1.25	0%
false	--
true	--
LeadVehicle_Speed * 0.75	0%
false	--
true	--

6. SubSystem block "Subsystem"

Justify or Exclude

Parent: ACC_System/Subsystem

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

Full Coverage

Model Object	Metric
Sum block "Add"	Execution

7. SubSystem block "Subsystem1"

Justify or Exclude

Parent: ACC_System/Subsystem

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

Full Coverage

Model Object	Metric
Sum block "Add"	Execution

Signal Ranges

Hierarchy	Min	Max
ACC_System		
. . . Subsystem		
. . . . . . Unit Delay	0	0
. . . . . . Control Algorithm	0	0
. . . . Subsystem/Control Algorithm		
. . . . CruiseSwitch	0	0
. . . . Time_Gap	0	0
. . . . Set_Gap	0	0
. . . . Set_Speed	0	0
. . . . LeadVehicle_Speed	0	0
. . . . DriveVehicle_Speed	0	0
. . . . LeadVehicle_Detected	0	0
. . . . SetSwitch	0	0
. . . . Acceleration_Mode	0	0
. . . . . . Subsystem		
. . . . Add	0	0
. . . . . . Subsystem1		
. . . . Add	0	0
. . . . Signal Conversion	0	0