

# Coverage Report for NEWCKT

## Table of Contents

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

## Analysis Information

### Coverage Data Information

Collected in version (R2022a)

### Model Information

Model version	1.4
Author	Admin
Last saved	Sat Mar 26 16:13:25 2022

### Harness information

Harness model(s)	NEWCKT_Harness1
Harness model owner	NEWCKT

### Simulation Optimization Options

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

### Coverage Options

Analyzed model	NEWCKT
Logic block short circuiting	off

### Blocks Eliminated from Coverage Analysis

# Model Object	Rationale
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<a href="#">NEWCKT/Battery/Model/current</a>	Block reduction eliminated
<a href="#">NEWCKT/Battery/Model/current1</a>	Block reduction eliminated
<a href="#">NEWCKT/Battery/Model/current2</a>	Block reduction eliminated
<a href="#">NEWCKT/Battery/Model/current3</a>	Block reduction eliminated
<a href="#">NEWCKT/Battery1/Model/current</a>	Block reduction eliminated
<a href="#">NEWCKT/Battery1/Model/current1</a>	Block reduction eliminated
<a href="#">NEWCKT/Battery1/Model/current2</a>	Block reduction eliminated
<a href="#">NEWCKT/Battery1/Model/current3</a>	Block reduction eliminated

## Tests

Test	Started execution	Ended execution
<a href="#">Run 1</a>	26-Mar-2022 19:41:07	26-Mar-2022 19:42:09

## Summary

Model Hierarchy/Complexity	<a href="#">Run 1</a>					
		Decision	TBL	Execution		
1. <a href="#">NEWCKT</a>	48	55%	■	NA	93%	
2.... <a href="#">Battery</a>	21	50%	■	NA	91%	
3..... <a href="#">Current Measurement</a>		NA		NA	100%	
4..... <a href="#">Model</a>	21	50%	■	NA	91%	
5..... <a href="#">Compare To Zero</a>		NA		NA	100%	
6..... <a href="#">Compare To Zero2</a>		NA		NA	100%	
7..... <a href="#">E_dyn_Charge</a>	3	25%	■	NA	57%	■
8..... <a href="#">Exp</a>	6	50%	■	NA	100%	
9..... <a href="#">Compare To Zero2</a>		NA		NA	100%	
10..... <a href="#">Saturation Dynamic</a>	2	50%	■	NA	100%	
11..... <a href="#">Saturation Dynamic1</a>	2	50%	■	NA	100%	
12..... <a href="#">Saturation Dynamic2</a>	2	50%	■	NA	100%	
13.... <a href="#">Battery1</a>	21	47%		NA	91%	
14..... <a href="#">Current Measurement</a>		NA		NA	100%	
15..... <a href="#">Model</a>	21	47%		NA	91%	
16..... <a href="#">Compare To Zero</a>		NA		NA	100%	
17..... <a href="#">Compare To Zero2</a>		NA		NA	100%	
18..... <a href="#">E_dyn_Charge</a>	3	25%	■	NA	57%	■
19..... <a href="#">Exp</a>	6	40%	■	NA	100%	
20..... <a href="#">Compare To Zero2</a>		NA		NA	100%	

21.....	<a href="#">Saturation Dynamic</a>	2	50%	NA 100%
22.....	<a href="#">Saturation Dynamic1</a>	2	50%	NA 100%
23.....	<a href="#">Saturation Dynamic2</a>	2	50%	NA 100%
24....	<a href="#">Ideal Switch</a>	1	100%	NA 100%
25.....	<a href="#">Model</a>	1	100%	NA 100%
26....	<a href="#">Ideal Switch1</a>	1	100%	NA 100%
27.....	<a href="#">Model</a>	1	100%	NA 100%
28....	<a href="#">Ideal Switch2</a>	1	100%	NA 100%
29.....	<a href="#">Model</a>	1	100%	NA 100%
30....	<a href="#">powergui</a>		NA	NA 100%
31.....	<a href="#">EquivalentModel1</a>		NA	NA 100%
32.....	<a href="#">Sources</a>		NA	NA 100%

## Details

### 1. Model "NEWCKT"

**Child Systems:** [Battery](#), [Battery1](#), [Ideal Switch](#), [Ideal Switch1](#), [Ideal Switch2](#), [powergui](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	1	48
Decision	NA	55% (47/86) decision outcomes
Lookup Table	NA	NA
Execution	NA	93% (148/160) objective outcomes

### Full Coverage

Model Object	Metric
Switch block " <a href="#">Switch case for OFF Case</a> "	Decision, Execution
Switch block " <a href="#">Switch case for ON Case</a> "	Decision, Execution
Constant block " <a href="#">Constant</a> "	Execution
Constant block " <a href="#">Constant1</a> "	Execution
Constant block " <a href="#">Constant2</a> "	Execution
Constant block " <a href="#">Constant3</a> "	Execution
Step block " <a href="#">Step input</a> "	Execution
Step block " <a href="#">Step input</a> "	Execution

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

### Justify or Exclude

**Parent:** [/NEWCKT](#)

**Child Systems:** [Current Measurement](#), [Model](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	21
Decision	NA	50% (19/38) decision outcomes
Execution	NA	91% (63/69) objective outcomes

### **Full Coverage**

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

## **3. SubSystem block "[Current Measurement](#)"**

### Justify or Exclude

**Parent:** [NEWCKT/Battery](#)

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

### **Full Coverage**

Model Object	Metric
Gain block " <a href="#">do not delete this gain</a> "	Execution

## **4. SubSystem block "[Model](#)"**

### Justify or Exclude

**Parent:** [NEWCKT/Battery](#)

**Child Systems:** [Compare To Zero](#), [Compare To Zero2](#), [E\\_dyn Charge](#), [Exp](#), [Saturation Dynamic](#), [Saturation Dynamic1](#), [Saturation Dynamic2](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	21
Decision	NA	50% (19/38) decision outcomes
Execution	NA	91% (61/67) objective outcomes

## DiscreteIntegrator block "[int\(i\)](#)"

### [Justify or Exclude](#)

**Parent:** [NEWCKT/Battery/Model](#)

**Uncovered Links:** 

Metric	Coverage
Cyclomatic Complexity	3
Decision	67% (4/6) decision outcomes
Execution	100% (1/1) objective outcomes

### **Decisions analyzed**

Reset	100%
false	200000/200001
true	1/200001
integration result <= lower limit	50%
false	400003/400003
true	0/400003 
integration result >= upper limit	50%
false	400003/400003
true	0/400003 

## Saturate block "[Saturation](#)"

### [Justify or Exclude](#)

**Parent:** [NEWCKT/Battery/Model](#)

**Uncovered Links:** 

Metric	Coverage
Cyclomatic Complexity	2
Decision	50% (2/4) decision outcomes
Execution	100% (1/1) objective outcomes

### **Decisions analyzed**

input >= lower limit	50%
false	0/200003 

true	200003/200003
input > upper limit	50%
false	200003/200003
true	0/200003 

## Switch block "[Switch7](#)"

[Justify or Exclude](#)

Parent: [NEWCKT/Battery/Model](#)

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)	200003/200003
true (output is from 1st input port)	0/200003 

## Full Coverage

Model Object	Metric
Fcn block " <a href="#">E_NL</a> "	Execution
Fcn block " <a href="#">E_dyn_Discharge</a> "	Execution
Fcn block " <a href="#">Fcn1</a> "	Execution
Fcn block " <a href="#">Fcn5</a> "	Execution
Fcn block " <a href="#">Fcn6</a> "	Execution
Fcn block " <a href="#">Fcn9</a> "	Execution
DataTypeConversion block " <a href="#">Data_Type_Conversion1</a> "	Execution
DataTypeConversion block " <a href="#">Data_Type_Conversion2</a> "	Execution
DiscreteTransferFcn block " <a href="#">Current filter</a> "	Execution
Gain block " <a href="#">Gain</a> "	Execution
Gain block " <a href="#">Gain2</a> "	Execution

Gain block " <a href="#">R</a> "	Execution
Gain block " <a href="#">R1</a> "	Execution
Gain block " <a href="#">R2</a> "	Execution
Gain block " <a href="#">R3</a> "	Execution
Gain block " <a href="#">R4</a> "	Execution
Sum block " <a href="#">Add</a> "	Execution
Sum block " <a href="#">Add2</a> "	Execution
Sum block " <a href="#">Add3</a> "	Execution
RelationalOperator block " <a href="#">Relational Operator</a> "	Execution
Constant block " <a href="#">Constant</a> "	Execution
Constant block " <a href="#">Constant1</a> "	Execution
Constant block " <a href="#">Constant12</a> "	Execution
Constant block " <a href="#">Constant9</a> "	Execution
Memory block " <a href="#">Memory2</a> "	Execution
Memory block " <a href="#">it init</a> "	Execution
Memory block " <a href="#">it init1</a> "	Execution

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

### Justify or Exclude

Parent: [NEWCKT/Battery/Model](#)

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

### Full Coverage

Model Object	Metric
RelationalOperator block " <a href="#">Compare</a> "	Execution

## 6. SubSystem block "[Compare To Zero2](#)"

### Justify or Exclude

Parent: [NEWCKT/Battery/Model](#)

<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

<b>Model Object</b>	<b>Metric</b>
RelationalOperator block " <a href="#">Compare</a> "	Execution

## 7. SubSystem block "[E\\_dyn Charge](#)"

[Justify or Exclude](#)

**Parent:** [NEWCKT/Battery/Model](#)

<b>Metric</b>	<b>Coverage (this object)</b>	<b>Coverage (inc. descendants)</b>
Cyclomatic Complexity	0	3
Decision	NA	25% (1/4) decision outcomes
Execution	NA	57% (8/14) objective outcomes

## Fcn block "[Charge Lead-Acid](#)"

[Justify or Exclude](#)

**Parent:** [NEWCKT/Battery/Model/E\\_dyn Charge](#)

**Uncovered Links:** 

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

## Fcn block "[Charge NiCD](#)"

[Justify or Exclude](#)

**Parent:** [NEWCKT/Battery/Model/E\\_dyn Charge](#)

**Uncovered Links:** 

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

## Fcn block "[Charge NiMH](#)"

### [Justify or Exclude](#)

Parent: [NEWCKT/Battery/Model/E\\_dyn Charge](#)

Uncovered Links:

#### Metric [Coverage](#)

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

## MultiPortSwitch block "[Multiport Switch1](#)"

### [Justify or Exclude](#)

Parent: [NEWCKT/Battery/Model/E\\_dyn Charge](#)

Uncovered Links:

#### Metric [Coverage](#)

Cyclomatic Complexity	3
Decision	25% (1/4) decision outcomes
Execution	100% (1/1) objective outcomes

#### Decisions analyzed

truncated input value	25%
= 1 (output is from input port 1)	0/200003 
= 2 (output is from input port 2)	200003/200003
= 3 (output is from input port 3)	0/200003 
= *,4 (output is from input port 4)	0/200003 

## Product block "[Product1](#)"

### [Justify or Exclude](#)

Parent: [NEWCKT/Battery/Model/E\\_dyn Charge](#)

Uncovered Links:

#### Metric [Coverage](#)

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

## Product block "[Product2](#)"

[Justify or Exclude](#)

**Parent:** [NEWCKT/Battery/Model/E\\_dyn Charge](#)

**Uncovered Links:**

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

## Product block "[Product3](#)"

[Justify or Exclude](#)

**Parent:** [NEWCKT/Battery/Model/E\\_dyn Charge](#)

**Uncovered Links:**

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

## Full Coverage

Model Object	Metric
Fcn block " <a href="#">Charge Li-Ion</a> "	Execution
Product block " <a href="#">Product</a> "	Execution
Constant block " <a href="#">Constant</a> "	Execution
Constant block " <a href="#">Constant1</a> "	Execution
Constant block " <a href="#">Constant2</a> "	Execution
Constant block " <a href="#">Constant3</a> "	Execution
Constant block " <a href="#">Constant4</a> "	Execution

## 8. SubSystem block "[Exp](#)"

[Justify or Exclude](#)

**Parent:** [NEWCKT/Battery/Model](#)

**Child Systems:** [Compare To Zero2](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	6

Decision	NA	50% (5/10) decision outcomes
Execution	NA	100% (12/12) objective outcomes

### MultiPortSwitch block "[Multiport Switch1](#)"

[Justify or Exclude](#)

**Parent:** [NEWCKT/Battery/Model/Exp](#)

**Uncovered Links:**

Metric	Coverage
Cyclomatic Complexity	3
Decision	25% (1/4) decision outcomes
Execution	100% (1/1) objective outcomes

**Decisions analyzed**

truncated input value	25%
= 1 (output is from input port 1)	0/200003 
= 2 (output is from input port 2)	200003/200003
= 3 (output is from input port 3)	0/200003 
= *,4 (output is from input port 4)	0/200003 

### Saturate block "[Saturation](#)"

[Justify or Exclude](#)

**Parent:** [NEWCKT/Battery/Model/Exp](#)

**Uncovered Links:**

Metric	Coverage
Cyclomatic Complexity	2
Decision	50% (2/4) decision outcomes
Execution	100% (1/1) objective outcomes

**Decisions analyzed**

input >= lower limit	50%
false	0/200003 
true	200003/200003
input > upper limit	50%

false	200003/200003
true	0/200003 

## Full Coverage

Model Object	Metric
Abs block " <a href="#">Abs</a> "	Decision, Execution
DiscreteIntegrator block " <a href="#">Discrete-Time Integrator</a> "	Execution
Fcn block " <a href="#">Li-Ion</a> "	Execution
DataTypeConversion block " <a href="#">Data Type Conversion1</a> "	Execution
Gain block " <a href="#">Gain1</a> "	Execution
Gain block " <a href="#">Gain4</a> "	Execution
Product block " <a href="#">Divide</a> "	Execution
Sum block " <a href="#">Add3</a> "	Execution
Constant block " <a href="#">Constant</a> "	Execution

## 9. SubSystem block "[Compare To Zero2](#)"

### Justify or Exclude

Parent: [NEWCKT/Battery/Model/Exp](#)

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

## Full Coverage

Model Object	Metric
RelationalOperator block " <a href="#">Compare</a> "	Execution

## 10. SubSystem block "[Saturation Dynamic](#)"

### Justify or Exclude

Parent: [NEWCKT/Battery/Model](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	2
Decision	NA	50% (2/4) decision outcomes
Execution	NA	100% (3/3) objective outcomes

## Switch block "Switch"

Justify or Exclude

Parent: [NEWCKT/Battery/Model/Saturation Dynamic](#)

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)	200003/200003
true (output is from 1st input port)	0/200003 

## Switch block "Switch2"

Justify or Exclude

Parent: [NEWCKT/Battery/Model/Saturation Dynamic](#)

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)	200003/200003
true (output is from 1st input port)	0/200003 

## Full Coverage

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

## 11. SubSystem block "[Saturation Dynamic1](#)"

[Justify or Exclude](#)

Parent: [NEWCKT/Battery/Model](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	2
Decision	NA	50% (2/4) decision outcomes
Execution	NA	100% (3/3) objective outcomes

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

[Justify or Exclude](#)

Parent: [NEWCKT/Battery/Model/Saturation Dynamic1](#)

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)	200001/200001
true (output is from 1st input port)	0/200001 

### Switch block "[Switch2](#)"

[Justify or Exclude](#)

Parent: [NEWCKT/Battery/Model/Saturation Dynamic1](#)

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)	200003/200003
true (output is from 1st input port)	0/200003 

## Full Coverage

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

## 12. SubSystem block "[Saturation Dynamic2](#)"

### [Justify or Exclude](#)

Parent: [NEWCKT/Battery/Model](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	2
Decision	NA	50% (2/4) decision outcomes
Execution	NA	100% (3/3) objective outcomes

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

### [Justify or Exclude](#)

Parent: [NEWCKT/Battery/Model/Saturation Dynamic2](#)

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)	200003/200003
true (output is from 1st input port)	0/200003 

## Switch block "[Switch2](#)"

### Justify or Exclude

**Parent:** [NEWCKT/Battery/Model/Saturation Dynamic2](#)

**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)	200003/200003
true (output is from 1st input port)	0/200003 

### **Full Coverage**

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

## **13. SubSystem block "[Battery1](#)"**

### Justify or Exclude

**Parent:** [/NEWCKT](#)

**Child Systems:** [Current Measurement](#), [Model](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	21
Decision	NA	47% (18/38) decision outcomes
Execution	NA	91% (63/69) objective outcomes

### **Full Coverage**

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

## **14. SubSystem block "[Current Measurement](#)"**

### Justify or Exclude

**Parent:** [NEWCKT/Battery1](#)

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

## Full Coverage

Model Object	Metric
Gain block " <a href="#">do not delete this gain</a> "	Execution

## 15. SubSystem block "[Model](#)"

[Justify or Exclude](#)

**Parent:** [NEWCKT/Battery1](#)

**Child Systems:** [Compare To Zero](#), [Compare To Zero2](#), [E\\_dyn Charge](#), [Exp](#), [Saturation Dynamic](#), [Saturation Dynamic1](#), [Saturation Dynamic2](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	21
Decision	NA	47% (18/38) decision outcomes
Execution	NA	91% (61/67) objective outcomes

## DiscreteIntegrator block "[int\(i\)](#)"

[Justify or Exclude](#)

**Parent:** [NEWCKT/Battery1/Model](#)

**Uncovered Links:**

Metric	Coverage
Cyclomatic Complexity	3
Decision	67% (4/6) decision outcomes
Execution	100% (1/1) objective outcomes

### Decisions analyzed

Reset	100%
false	200000/200001
true	1/200001
integration result <= lower limit	50%
false	400003/400003

true	0/400003 
integration result >= upper limit	50%
false	400003/400003
true	0/400003 

## Saturate block "[Saturation](#)"

### [Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model](#)

Uncovered Links: 

Metric	Coverage
Cyclomatic Complexity	2
Decision	50% (2/4) decision outcomes
Execution	100% (1/1) objective outcomes

### Decisions analyzed

input >= lower limit	50%
false	0/200003 
true	200003/200003
input > upper limit	50%
false	200003/200003
true	0/200003 

## Switch block "[Switch7](#)"

### [Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model](#)

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%
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false (output is from 3rd input port)	200003/200003
true (output is from 1st input port)	0/200003 

## Full Coverage

Model Object	Metric
Fcn block " <a href="#">E_NL</a> "	Execution
Fcn block " <a href="#">E_dyn Discharge</a> "	Execution
Fcn block " <a href="#">Fcn1</a> "	Execution
Fcn block " <a href="#">Fcn5</a> "	Execution
Fcn block " <a href="#">Fcn6</a> "	Execution
Fcn block " <a href="#">Fcn9</a> "	Execution
DataTypeConversion block " <a href="#">Data Type Conversion1</a> "	Execution
DataTypeConversion block " <a href="#">Data Type Conversion2</a> "	Execution
DiscreteTransferFcn block " <a href="#">Current filter</a> "	Execution
Gain block " <a href="#">Gain</a> "	Execution
Gain block " <a href="#">Gain2</a> "	Execution
Gain block " <a href="#">R</a> "	Execution
Gain block " <a href="#">R1</a> "	Execution
Gain block " <a href="#">R2</a> "	Execution
Gain block " <a href="#">R3</a> "	Execution
Gain block " <a href="#">R4</a> "	Execution
Sum block " <a href="#">Add</a> "	Execution
Sum block " <a href="#">Add2</a> "	Execution
Sum block " <a href="#">Add3</a> "	Execution
RelationalOperator block " <a href="#">Relational Operator</a> "	Execution
Constant block " <a href="#">Constant</a> "	Execution
Constant block " <a href="#">Constant1</a> "	Execution
Constant block " <a href="#">Constant12</a> "	Execution
Constant block " <a href="#">Constant9</a> "	Execution
Memory block " <a href="#">Memory2</a> "	Execution
Memory block " <a href="#">it init</a> "	Execution

Memory block "[it\\_init1](#)"

Execution

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

[Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model](#)

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

Full Coverage

**Model Object**

**Metric**

RelationalOperator block "[Compare](#)" Execution

## 17. SubSystem block "[Compare To Zero2](#)"

[Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model](#)

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

Full Coverage

**Model Object**

**Metric**

RelationalOperator block "[Compare](#)" Execution

## 18. SubSystem block "[E\\_dyn\\_Charge](#)"

[Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	3
Decision	NA	25% (1/4) decision outcomes

Execution	NA	57% (8/14) objective outcomes
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### Fcn block "Charge Lead-Acid"

Justify or Exclude

**Parent:** [NEWCKT/Battery1/Model/E\\_dyn Charge](#)

**Uncovered Links:** 

Metric	Coverage
--------	----------

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

### Fcn block "Charge NiCD"

Justify or Exclude

**Parent:** [NEWCKT/Battery1/Model/E\\_dyn Charge](#)

**Uncovered Links:** 

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

### Fcn block "Charge NiMH"

Justify or Exclude

**Parent:** [NEWCKT/Battery1/Model/E\\_dyn Charge](#)

**Uncovered Links:** 

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

### MultiPortSwitch block "Multiport Switch1"

Justify or Exclude

**Parent:** [NEWCKT/Battery1/Model/E\\_dyn Charge](#)

**Uncovered Links:** 

Metric	Coverage
--------	----------

Cyclomatic Complexity	3
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Decision	25% (1/4) decision outcomes
Execution	100% (1/1) objective outcomes

### Decisions analyzed

truncated input value	25%
= 1 (output is from input port 1)	0/200003 
= 2 (output is from input port 2)	200003/200003
= 3 (output is from input port 3)	0/200003 
= *,4 (output is from input port 4)	0/200003 

### Product block "[Product1](#)"

#### [Justify or Exclude](#)

**Parent:** [NEWCKT/Battery1/Model/E\\_dyn Charge](#)

**Uncovered Links:** 

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

### Product block "[Product2](#)"

#### [Justify or Exclude](#)

**Parent:** [NEWCKT/Battery1/Model/E\\_dyn Charge](#)

**Uncovered Links:** 

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

### Product block "[Product3](#)"

#### [Justify or Exclude](#)

**Parent:** [NEWCKT/Battery1/Model/E\\_dyn Charge](#)

**Uncovered Links:** 

Metric	Coverage
Cyclomatic Complexity	0

Execution 0% (0/1) objective outcomes

## Full Coverage

Model Object	Metric
Fcn block " <a href="#">Charge Li-Ion</a> "	Execution
Product block " <a href="#">Product</a> "	Execution
Constant block " <a href="#">Constant</a> "	Execution
Constant block " <a href="#">Constant1</a> "	Execution
Constant block " <a href="#">Constant2</a> "	Execution
Constant block " <a href="#">Constant3</a> "	Execution
Constant block " <a href="#">Constant4</a> "	Execution

## 19. SubSystem block "[Exp](#)"

### Justify or Exclude

Parent: [NEWCKT/Battery1/Model](#)

Child Systems: [Compare To Zero2](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	6
Decision	NA	40% (4/10) decision outcomes
Execution	NA	100% (12/12) objective outcomes

## Abs block "[Abs](#)"

### Justify or Exclude

Parent: [NEWCKT/Battery1/Model/Exp](#)

Uncovered Links:

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

### Decisions analyzed

input < 0	50%
false	200001/200001

true	0/200001 
------	---

## MultiPortSwitch block "[Multiport Switch1](#)"

[Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model/Exp](#)

Uncovered Links: 

Metric	Coverage
Cyclomatic Complexity	3
Decision	25% (1/4) decision outcomes
Execution	100% (1/1) objective outcomes

### Decisions analyzed

truncated input value	25%
= 1 (output is from input port 1)	0/200003 
= 2 (output is from input port 2)	200003/200003
= 3 (output is from input port 3)	0/200003 
= *,4 (output is from input port 4)	0/200003 

## Saturate block "[Saturation](#)"

[Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model/Exp](#)

Uncovered Links: 

Metric	Coverage
Cyclomatic Complexity	2
Decision	50% (2/4) decision outcomes
Execution	100% (1/1) objective outcomes

### Decisions analyzed

input >= lower limit	50%
false	0/200003 
true	200003/200003
input > upper limit	50%

false	200003/200003
true	0/200003 

## Full Coverage

Model Object	Metric
DiscreteIntegrator block " <a href="#">Discrete-Time Integrator</a> "	Execution
Fcn block " <a href="#">Li-Ion</a> "	Execution
DataTypeConversion block " <a href="#">Data Type Conversion1</a> "	Execution
Gain block " <a href="#">Gain1</a> "	Execution
Gain block " <a href="#">Gain4</a> "	Execution
Product block " <a href="#">Divide</a> "	Execution
Sum block " <a href="#">Add3</a> "	Execution
Constant block " <a href="#">Constant</a> "	Execution

## 20. SubSystem block "[Compare To Zero2](#)"

### Justify or Exclude

Parent: [NEWCKT/Battery1/Model/Exp](#)

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

## Full Coverage

Model Object	Metric
RelationalOperator block " <a href="#">Compare</a> "	Execution

## 21. SubSystem block "[Saturation Dynamic](#)"

### Justify or Exclude

Parent: [NEWCKT/Battery1/Model](#)

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

Cyclomatic Complexity	0	2
Decision	NA	50% (2/4) decision outcomes
Execution	NA	100% (3/3) objective outcomes

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

### [Justify or Exclude](#)

**Parent:** [NEWCKT/Battery1/Model/Saturation Dynamic](#)

**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)	200003/200003
true (output is from 1st input port)	0/200003 

## Switch block "[Switch2](#)"

### [Justify or Exclude](#)

**Parent:** [NEWCKT/Battery1/Model/Saturation Dynamic](#)

**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)	200003/200003
true (output is from 1st input port)	0/200003 

## Full Coverage

### Model Object

### Metric

## 22. SubSystem block "[Saturation Dynamic1](#)"

[Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	2
Decision	NA	50% (2/4) decision outcomes
Execution	NA	100% (3/3) objective outcomes

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

[Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model/Saturation Dynamic1](#)

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)	200001/200001
true (output is from 1st input port)	0/200001 

### Switch block "[Switch2](#)"

[Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model/Saturation Dynamic1](#)

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)	200003/200003
true (output is from 1st input port)	0/200003 

## Full Coverage

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

## 23. SubSystem block "[Saturation Dynamic2](#)"

### [Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model](#)

Metric	Coverage (this object)	Coverage (inc. descendants)
Cyclomatic Complexity	0	2
Decision	NA	50% (2/4) decision outcomes
Execution	NA	100% (3/3) objective outcomes

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

### [Justify or Exclude](#)

Parent: [NEWCKT/Battery1/Model/Saturation Dynamic2](#)

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)	200003/200003
true (output is from 1st input port)	0/200003 

## Switch block "[Switch2](#)"

### [Justify or Exclude](#)

**Parent:** [NEWCKT/Battery1/Model/Saturation Dynamic2](#)

**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)	200003/200003
true (output is from 1st input port)	0/200003 

**Full Coverage**

**Model Object** **Metric**

S-Function block " <a href="#">Data Type Propagation</a> "	Execution
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## 24. SubSystem block "[Ideal Switch](#)"

[Justify or Exclude](#)

**Parent:** [/NEWCKT](#)

**Child Systems:** [Model](#)

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

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

[Justify or Exclude](#)

**Parent:** [NEWCKT/Ideal Switch](#)

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

## Full Coverage

Model Object	Metric
Switch block " <a href="#">Switch</a> "	Decision, Execution
DataTypeConversion block " <a href="#">Data Type Conversion</a> "	Execution
Gain block " <a href="#">1/Rsw</a> "	Execution
Constant block " <a href="#">0_1</a> "	Execution

## 26. SubSystem block "[Ideal Switch1](#)"

### [Justify or Exclude](#)

Parent: [/NEWCKT](#)  
Child Systems: [Model](#)

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

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

### [Justify or Exclude](#)

Parent: [NEWCKT/Ideal Switch1](#)

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

## Full Coverage

Model Object	Metric
Switch block " <a href="#">Switch</a> "	Decision, Execution
DataTypeConversion block " <a href="#">Data Type Conversion</a> "	Execution
Gain block " <a href="#">1/Rsw</a> "	Execution
Constant block " <a href="#">0_1</a> "	Execution

## 28. SubSystem block "[Ideal Switch2](#)"

[Justify or Exclude](#)

Parent: [/NEWCKT](#)

Child Systems: [Model](#)

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

## 29. SubSystem block "[Model](#)"

[Justify or Exclude](#)

Parent: [/NEWCKT/Ideal Switch2](#)

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

### Full Coverage

#### Model Object

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

DataTypeConversion block "[Data Type Conversion](#)" Execution

Gain block "[1/Rsw](#)" Execution

Constant block "[0\\_1](#)" Execution

#### Metric

## 30. SubSystem block "[powergui](#)"

[Justify or Exclude](#)

Parent: [/NEWCKT](#)

Child Systems: [EquivalentModel1](#)

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

## 31. SubSystem block "EquivalentModel1"

[Justify or Exclude](#)

**Parent:** [NEWCKT/powergui](#)

**Child Systems:** [Sources](#)

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

**Full Coverage**

Model Object	Metric
S-Function block " <a href="#">State-Space</a> "	Execution

## 32. SubSystem block "Sources"

[Justify or Exclude](#)

**Parent:** [NEWCKT/powergui/EquivalentModel1](#)

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="#">SwitchCurrents</a> "	Execution