### Model Advisor Report - Automated\_BCM\_Integrated\_2020b.slx

Simulink version: 10.2 Model version: 3.31
System: Automated\_BCM\_Integrated\_2020b/BCM\_Controller\_and\_Plant Current run: 26-Mar-2021 18:17:08

# **Run Summary**

 Pass
 Fail
 Warning
 Not Run
 Total

 ✓ 29
 ☒ 0
 ☒ 14
 ☒ 0
 ☒ 43

## **□** By Task

# Check consistency of block parameter units

Identify Simscape blocks with ambiguous setting of parameter units. For example, a block parameter expected in 'Hz' may be specified in the dialog with unit of 'rad/s'. Such settings could lead to unexpected conversion factors applied to the numerical value.

#### **Passed**

No Simscape blocks with ambiguous unit setting found in the model.

# Check for dry hydraulic nodes

### **Warning**

This check is only supported at the model level.

### **Recommended Action**

To run this analysis, please open the model advisor from the top level of the model instead of the subsystem level and start the analysis.

Check for non-continuous signals driving derivative ports

**Passed** 

- Runtime diagnostics for S-functions

Passed

Check if Read/Write diagnostics are enabled for Data Store blocks

**Passed** 



# 🔔 Check Data Store Memory blocks for multitasking, strong typing, and shadowing issues

Duplicate data store names checking is not set to 'error'. Duplicate usage of data store names can lead to unintended shadowing of data stores of higher model scope. Consider changing the Duplicate data store names setting to 'error'.

Check data store block sample times for modeling errors

Passed

Check for potential ordering issues involving data store access

Passed

Check for relative execution order change for Data Store Read and Data Store Write blocks

The system does not have any Data Store Read or Data Store Write blocks.

**■ 5 Simulink Model File Integrity** 



Check model for foreign characters

Check that the characters in the model can be represented in the current encoding.

#### **Passed**

All the characters in the model can be represented in the current encoding.

Check Model History properties

#### **Check models for edited Model History property values**

Check that parameters in the Model Properties dialog History pane use the default tags. In the MDL file format vou can configure some model properties to make use of source control tool keyword substitution. If you save your model in SLX format, source control tools cannot perform keyword substitution. Any information in the model file from such keyword substitution is cached when you first save the MDL file as SLX, and is never updated again. The Model Properties History pane and any Model Info blocks in your model show stale information from then on.

#### **Passed**

This model uses the default value for property ModifiedByFormat.

This model uses the default value for property ModifiedDateFormat.

#### **Passed**

This model uses the default value for property ModelVersionFormat.

**□** 6 S-function Checks



## Check S-functions in the model

There are no user-defined S-functions in the model.

## ☐ 7 Units Inconsistencies







# Identify unit mismatches in the model

Check for unit mismatches in the model.

#### **Passed**

No unit mismatches found.

# Identify automatic unit conversions in the model

Check for automatic unit conversions.

#### **Passed**

No automatic unit conversions found.

# Identify disallowed unit systems in the model

Check for disallowed unit systems.

#### **Passed**

No disallowed unit systems were found.

# Identify undefined units in the model

Check for undefined units.

## **Passed**

No undefined units were found.

# Identify ambiguous units in the model

Check for ambiguous units.

### **Passed**

No ambiguous units were found.

# **□** 8 Modeling Signals and Parameters using Buses









# Check for optimal bus virtuality

Passed

# Check structure parameter usage with bus signals

This test is skipped because it requires an activated Simulink Coder product

# Check bus signals treated as vectors

## Bus signal treated as vector

Identify bus signals in the model that are treated as vectors by the Simulink software.

## Warning

The 'Bus Usage' check works only from top-level models.

#### **Recommended Action**

Run the Model Advisor from the top-level model to perform this check.

# □ 9 Modeling Single-Precision Systems









🔼 Identify questionable operations for strict single-precision design NOTE: This check can only be run from root level of a model.

## Check model settings related to single-precision design

This check verifies the status of model settings that will help you achieve a strict single-precision design.

## **Warning**

The following model settings are non-optimal to a single-precision design:

Model Name	Configuration Parameter	Current Value	Recommended Value
Automated_BCM_Integrated_2020b	<u>Default for underspecified data</u> <u>type</u>	double	single

## Check for double precision operations

This check identifies blocks that introduce double-precision operations. For each block that the check identifies, make sure that its port data types and intermediate settings are set correctly.

#### Warning

The following blocks use double-precision floating-point operations:

- ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
- ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Add
- ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Out1
- ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
- ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Out1
- ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem/In1 ..../BCM\_Controller\_and\_Plant/BCM\_Cruise\_Control/If Action Subsystem/Out1
- ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem
- ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem/Out1
- ..../BCM Controller and Plant/BCM Cruise Control/Constant2
- ..../BCM Controller and Plant/BCM Cruise Control/Constant4
- ..../BCM Controller and Plant/BCM Cruise Control/Product
- ..../BCM Controller and Plant/BCM Cruise Control/Product1
- ..../BCM Controller and Plant/BCM Cruise Control/OR
- ..../BCM Controller and Plant/BCM HO Controller/BCM HO DRIVER OUT ..../BCM Controller and Plant/BCM Cruise Control/Product2
- ..../BCM Controller and Plant/BCM Cruise Control/Product2
- ..../BCM Controller and Plant/BCM Cruise Control/Product3
- ..../BCM Controller and Plant/BCM Cruise Control/XOR
- ..../BCM Controller and Plant/BCM Cruise Control/Product4
- ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main ..../BCM\_Controller\_and\_Plant/BCM\_Cruise\_Control/If Action Subsystem1/Chart/main
  - ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart
  - ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1

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..../BCM Controller and Plant/BCM Cruise Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
  ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port
• ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
  ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
  ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
  ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
  ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
  ..../BCM_Controller_and_Plant/BCM_Cruise_Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
  ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM_Controller_and_Plant/BCM_Cruise_Control/If Action Subsystem1/Chart
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
  ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart/main
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Chart
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
  ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Add
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1/Add
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
  ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
  ..../BCM Cruise Control/If Action Subsystem1/Action Port

    ..../BCM Controller and Plant/BCM Cruise Control/Product5

  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem/In1
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• ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem/In1
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem
  ..../BCM Controller and Plant/BCM Cruise Control/Condition 2
  ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem/Action Port
  ..../BCM Controller and Plant/BCM Wiper Control System/Low Speed
  ..../BCM Controller and Plant/BCM Wiper Control System/Medium Speed
  ..../BCM Controller and Plant/BCM Wiper Control System/High Speed
  ..../BCM Controller and Plant/BCM Wiper Control System/Mist
  ..../BCM Controller and Plant/BCM Wiper Control System/Off
  ..../BCM Controller and Plant/BCM Wiper Control System/Constant
  ..../BCM Controller and Plant/BCM HO Controller/BCM HO DRIVER OUT
  ..../BCM Wiper Control System/Multiport Switch for input conditions
  ..../BCM_Wiper_Control_System/Multiport Switch for input conditions
  ..../BCM Controller and Plant/BCM HO Controller/XOR
  ..../BCM Controller and Plant/BCM HO Controller/BCM HO DRIVER OUT
  ..../BCM Controller and Plant/BCM HO Controller/BCM HO SEBU/Constant1
  ..../BCM Controller and Plant/BCM HO Controller/BCM HO SEBU/Constant2
  ..../BCM Controller and Plant/BCM HO Controller/BCM HO BACK OUT
  ..../BCM Controller and Plant/BCM HO Controller/XOR1
  ..../BCM Controller and Plant/BCM HO Controller/BCM HO SENSOR OUT
  ..../BCM Controller and Plant/BCM HO Controller/Out Buttons
  ..../BCM Controller and Plant/BCM HO Controller/Condition Stop
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun:25-31
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun:82-88
  ..../BCM_Controller_and_Plant/BCM_Sunroof/Function_Sun
 ..../BCM Controller and Plant/BCM Sunroof/Function Sun:139-145
  ..../BCM_Controller_and_Plant/BCM_Sunroof/Function_Sun
 ..../BCM Controller and Plant/BCM Sunroof/Function Sun:198-203
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
 ..../BCM Controller and Plant/BCM Sunroof/Function Sun:170-179
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
 ..../BCM Controller and Plant/BCM Sunroof/Function Sun:174-179
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun:158-161
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
 ..../BCM Controller and Plant/BCM Sunroof/Function Sun:113-122
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
 ..../BCM Controller and Plant/BCM Sunroof/Function Sun:117-122
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
 ..../BCM Controller and Plant/BCM Sunroof/Function Sun:101-104
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
 ..../BCM Controller and Plant/BCM Sunroof/Function Sun:56-65
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun:60-65
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
 ..../BCM_Controller_and_Plant/BCM_Sunroof/Function_Sun:44-47
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
 ..../BCM Controller and Plant/BCM Sunroof/Function Sun:212-218
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
 ..../BCM Controller and Plant/BCM Sunroof/Function Sun
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun:222-228
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun:232-238
  ..../BCM Controller and Plant/BCM Sunroof/Function Sun
 ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart

    ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON

  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
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..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart
 ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/AC_ON/transition(#42)
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart
• ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#42)
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#45)
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1 ..../BCM Controller and Plant/Subsystem/AC control chart

    ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#45)

  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#46)
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart

    ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)

  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#47)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#47)
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#44)
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart

    ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#44)

  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#109)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/Recirculation1
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/transition(#117)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#117)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart
• ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#117)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
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..../BCM Controller and Plant/Subsystem/AC control chart
• ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#117)
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/AC_ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#113)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#113)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#113)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart

    ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#113)

  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#118) ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
• ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#118)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
• ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/transition(#118)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#118)
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/AC_ON
  ..../BCM Controller and Plant/Subsystem/AC control chart

    ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)

  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
• ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart

    ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)

  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
• ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/AC_ON
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/transition(#121)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#111)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart

    ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#111)

  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
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..../BCM Controller and Plant/Subsystem/AC control chart
• ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#111)
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/AC_ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#111)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#110)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#110)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart

    ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#110)

  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#110) ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
• ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#110)
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#110)
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation1
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/AC_ON
  ..../BCM Controller and Plant/Subsystem/AC control chart

    ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#111)

  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
• ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#111)
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../Subsystem/AC control chart/Auto cond/transition(#64)
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)
  ..../BCM Controller and Plant/Subsystem/AC control chart/Auto cond
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../Subsystem/AC control chart/Auto cond/transition(#64)
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)
  ..../BCM Controller and Plant/Subsystem/AC control chart/Auto cond
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart

    ..../Subsystem/AC control chart/Auto cond/transition(#67)

  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#121)
  ..../BCM Controller and Plant/Subsystem/AC control chart/Auto cond
  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/AC_ON
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  ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/transition(#112)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/AC_ON/transition(#46)
  ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#112)
  ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
```

```
Model Advisor Report for 'Automated BCM Integrated 2020b/BCM Controller and Plant'
  ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation
 ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/transition(#112)_
 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
 ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation
 ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#47)
 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#47)
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#112)
 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
 ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation
 ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/transition(#112)_
 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
 ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation
  ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/AC_ON/transition(#44)

    ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#112)

 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
 ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation
 ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON/transition(#44)
 ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/transition(#112)
 ..../BCM Controller and Plant/Subsystem/AC control chart/AC ON
 ..../BCM Controller and Plant/Subsystem/AC control chart/Recirculation
 ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM_Controller_and_Plant/Subsystem/AC_control_chart/HVAC_OFF
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#114)
 ..../BCM Controller and Plant/Subsystem/AC control chart/HVAC OFF
 ..../BCM Controller and Plant/Subsystem/AC control chart
 ..../BCM Controller and Plant/Subsystem/AC control chart/HVAC OFF
 ..../BCM Controller and Plant/Subsystem/AC control chart/transition(#114)
 ..../BCM Controller and Plant/Subsystem/AC control chart/HVAC OFF
 ..../BCM Controller and Plant/Subsystem/AC control chart
  ..../BCM Controller and Plant/BCM Cruise Control/Switch
 ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
 ..../BCM Cruise Control/If Action Subsystem1/Signal Builder/FromWs
 ..../BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
 ..../BCM Controller and Plant/BCM Cruise Control/Condition 1
 ..../BCM Cruise Control/If Action Subsystem1/Action Port
 ..../BCM Controller and Plant/BCM Cruise Control/Condition 2
 ..../BCM Controller and Plant/BCM HO Controller/BCM HO SEBU/Saturation
 ..../BCM Controller and Plant/BCM HO Controller/BCM HO SEBU/Switch
 ..../BCM Controller and Plant/Subsystem/AC control chart
  ..../BCM Cruise Control/If Action Subsystem1/Signal Builder/FromWs
   ./BCM Controller and Plant/BCM Cruise Control/If Action Subsystem1
```

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# □ 10 Migrating to Simplified Initialization mode









# Check usage of Merge blocks

This check works only from top-level models. Therefore, run the Model Advisor from the top-level model to perform this check.

# Check usage of Outport blocks

This check works only from top-level models. Therefore, run the Model Advisor from the top-level model to perform this check.

# ▲ Check usage of Discrete-Time Integrator blocks

This check works only from top-level models. Therefore, run the Model Advisor from the top-level model to perform this check.

# Check model settings for migration to simplified initialization mode

This check works only from top-level models. Therefore, run the Model Advisor from the top-level model to perform this check.

# □ 11 Model Referencing



Check diagnostic settings ignored during accelerated model reference simulation

The configuration parameter settings passed the check.

Check for parameter tunability information ignored for referenced models

Passed

Check for implicit signal resolution

Passed

# ⚠ Check bus signals treated as vectors

#### Bus signal treated as vector

Identify bus signals in the model that are treated as vectors by the Simulink software.

## Warning

The 'Bus Usage' check works only from top-level models.

# **Recommended Action**

Run the Model Advisor from the top-level model to perform this check.

# Check root model Inport block specifications

This check is only supported at the model level. To run this analysis, please open the model advisor from the top level of the model instead of the subsystem level and start the analysis.

# Check for large number of function arguments from virtual bus across model reference boundary

This check works only from top-level models. Therefore, run the Model Advisor from the top-level model to perform this check.

## □ 12 Managing Library Links And Variants



Identify disabled library links

**Passed** 

Identify parameterized library links

Passed

Identify unresolved library links

Passed

Identify configurable subsystem template blocks having the instances in the model for converting to variant subsystem blocks.

Identify and upgrade Configurable Subsystem template blocks having instances in the model or subsystem level.

#### **Passed**

No configurable subsystem blocks found.

- **□** 13 Data Transfer Efficiency
- 21 \(\overline{\Omega}\)0 \(\overline{\Dm}\)0
- Check Delay, Unit Delay and Zero-Order Hold blocks for rate transition

#### **Passed**

The model does not contain Delay, Unit Delay or Zero-Order Hold blocks that perform rate transition.

☐ 14 Modeling Standards for Secure Coding (CERT C, CWE, ISO/IEC TS 17961)

- **②**0 **③**0 **▲**1 **□**0
- Check configuration parameters for secure coding standards

Identify configuration parameters that might impact secure coding standards compliant code generation.

# Warning

The model configuration parameters are not set to the recommended values specified in the data file.

Status	Parameter	Current Value	Recommended Values	Prerequisites
Warning	Model Verification block enabling (AssertControl)	UseLocalSettings	DisableAll	
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	
Warning	SupportContinuousTime	Prerequisite constraint not met.	off	SystemTargetFile
Warning	SupportNonInlinedSFcns	Prerequisite constraint not met.	off	SystemTargetFile
Warning	MatFileLogging	on	off	
Warning	EnableSignedLeftShifts	Prerequisite constraint not	off	SystemTargetFile

		met.		
Warning	EnableSignedRightShifts	Prerequisite constraint not met.	off	SystemTargetFile
Warning	Inf or NaN block output (SignalInfNanChecking)	none	warning	
Warning	<u>Dynamic memory allocation in</u> <u>MATLAB functions</u> ( <u>MATLABDynamicMemAlloc</u> )	on	off	
Warning	<u>Undirected event broadcasts</u> ( <u>SFUndirectedBroadcastEventsDiag</u> )	warning	error	
Warning	Compile-time recursion limit for MATLAB functions (CompileTimeRecursionLimit)	50	0	
Warning	Enable run-time recursion for MATLAB functions (EnableRuntimeRecursion)	on	off	
Warning	MATLABFcnDesc	Prerequisite constraint not met.	on	GenerateComments, SystemTargetFile

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#### **Recommended Action**

Modify the configuration parameters listed above to the recommended values.

## ☐ 15 Upgrading to the Current Simulink Version









# Open the Upgrade Advisor

#### **Warning**

To check for upgrade issues, open the Upgrade Advisor.

### **Recommended Action**

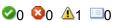
Click the link below to close the Model Advisor and open the Upgrade Advisor for Automated BCM Integrated 2020b.

Open the Upgrade Advisor

## □ 16 Frequency Response Estimation







## Identify time-varying source blocks interfering with frequency response estimation

This check finds and reports all the time-varying source blocks which are connected to linearization output points currently marked on the model and not specified to be held constant in the options object entered in the input parameter. Such time-varying source blocks might potentially interfere with the frequency response estimation process and lead to inaccurate results.

#### Warning

There are currently no linearization output points marked on the model. Check Simulink Control Design documentation for information on how to set linearization output points.

## Input Parameters Selection

Name	Value
FRESTIMATE options object to compare results against:	<none></none>

□ 1	7 Requirements Consistency Checking    ✓ 4   ✓ 4   ✓ 0   △ 0   □ 0
<b>②</b>	Identify requirement links with missing documents
	Passed
<b>②</b>	Identify requirement links that specify invalid locations within documents
	Passed
<b>⊘</b> do	Identify selection-based links having description fields that do not match their requirements ocument text
	Passed
<b>②</b>	Identify requirement links with path type inconsistent with preferences
	Passed