Model Advisor Report - FM_Modulation_Demodulation_03.slx

Simulink version: 10.4 **Model version:** 1.3
System: FM_Modulation_Demodulation_03 **Current run:** 26-Mar-2022 23:32:06

Run Summary

Pass	Fail	Warning	Not Run	Total
401	0	106	0	507

By Product

1 Simulink 36 0 5 0

Identify unconnected lines, input ports, and output ports

Identify unconnected lines, input ports, and output ports in the model

Passed
There are no unconnected lines, input ports, and output ports in this model.

Check root model Inport block specifications

Passed

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 for optimal bus virtuality

Passed

Check for calls to slDataTypeAndScale()

Search for blocks that have data type parameters specified by using slDataTypeAndScale().

Required Replacement Cases
Identify calls to slDataTypeAndScale() that are no longer supported and thus should be replaced. Such calls always can be automatically replaced.

See Also

- slRemoveDataTypeAndScale() automatic replacement cases

Passed
No calls to slDataTypeAndScale() require replacement.

Recommended Replacement Cases
Identify unnecessary calls to slDataTypeAndScale() that the model advisor can automatically replace.

See Also

- slRemoveDataTypeAndScale() automatic replacement cases

Passed
No calls to slDataTypeAndScale() can be automatically replaced.

Manual Inspection Cases
Identify calls to slDataTypeAndScale() that might be unnecessary.

See Also

- slRemoveDataTypeAndScale() manual inspection cases

Passed
No calls to slDataTypeAndScale() require manual inspection.

Check for Discrete-Time Integrator blocks with initial condition uncertainty

Passed

Identify disabled library links

Passed

Identify parameterized library links

Passed

Identify unresolved library links

Passed

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

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

Passed
No configurable subsystem blocks found.

Check usage of function-call connections

Check 'Context-dependent inputs' setting
Verify that the **Context-dependent inputs** diagnostic is set to error.

Passed
Diagnostics > Connectivity > Context-dependent inputs is set to error.

Recommended Action

Check and update mask image display commands with unnecessary imread() function calls

Identify masks using an image display commands with unnecessary calls to imread(). Since 2013a, a performance and memory optimization is available for mask images specified via image path instead of RGB triple matrix.

Passed
No masked block found with unnecessary imread() calls in image display commands.

Check and update mask to affirm icon drawing commands dependency on mask workspace

Sets 'RunInitForIconRedraw' to 'on' if mask icon drawing commands have mask workspace dependency otherwise sets it to 'off'. Setting 'RunInitForIconRedraw' to 'off' optimizes the performance by not running the mask initialization code before drawing the block icon.

Passed
No masked block found to set 'RunInitForIconRedraw'.

Identify Environment Controller blocks to be replaced with Variant Source blocks

Passed
The model does not contain any Environment Controller blocks.

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 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 you 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.

Passed
This model uses the default value for property ModifiedDateFormat.

Passed
This model uses the default value for property ModelVersionFormat.

Check S-functions in the model

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

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 FM_Modulation_Demodulation_03.
Open the Upgrade Advisor

Check structure parameter usage with bus signals

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

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

No referenced models found.

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.

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 model uses bus signals properly. However, the model is not configured to detect future changes that might result in improper bus signal usage.

Recommended Action

To detect these changes, in the Configuration Parameters dialog box, set the **Bus signal treated as vector** diagnostic to error.
Buses - Bus signal treated as vector

Check for potentially delayed function-call block return values

Passed

Identify block output signals with continuous sample time and non-floating point data type

Passed

Check usage of Merge blocks

Check usage of Merge blocks
This check finds and reports issues related to merge blocks for migrating to simplified initialization mode.

See Also

- Check usage of Merge blocks
- Underspecified initialization detection

Passed

Check usage of Outport blocks

Check usage of Outport blocks
This check finds and reports issues related to Outport blocks and Conditional Subsystems for migrating to simplified initialization mode.

See Also

- Check usage of Outport blocks
- Underspecified initialization detection

Passed

Check usage of Discrete-Time Integrator blocks

Check usage of Discrete-Time Integrator blocks
This check finds and reports issues related to Discrete-Time Integrator blocks for migrating to simplified initialization mode

See Also

- Check usage of Discrete-Time Integrator blocks
- Underspecified initialization detection

Passed

Check model settings for migration to simplified initialization mode

Check for model level messages
This check finds and reports model level messages for migrating to simplified initialization mode.

See Also

- Check model settings for migration to simplified initialization mode
- Underspecified initialization detection

Passed

Check for non-continuous signals driving derivative ports

The following non-continuous signals drive derivative ports. Solver needs reset every time when these signal values change to ensure accurate simulation results. If any of these non-continuous signals drive derivative ports is not necessary from modeling perspective, simulation speed can be further improved.

Block	Port	Start Index	Width

FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Gain2	1	0	1

For unnecessary non-continuous signals drive derivative ports, consider one of the following changes

- Making the signal(s) continuous.
- Replacing the continuous block(s) receiving these signals with discrete state versions of the block(s).

Check data store block sample times for modeling errors

Passed

Check for potential ordering issues involving data store access

Passed

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.

Identify questionable operations for strict single-precision design

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
FM_Modulation_Demodulation_03	Default for underspecified data type	double	single

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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:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Gain2
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Trignometric Function
- ..../FM Demodulator Passband /Time and Sample time/Time
- ..../FM Demodulator Passband /Analytic Signal/Digital Filter
- ..../FM Demodulator Passband /Subsystem1/Complex to Magnitude-Angle
- FM_Modulation_Demodulation_03/FM Demodulator Passband /Product
- FM_Modulation_Demodulation_03/FM Demodulator Passband /Product
  FM_Modulation_Demodulation_03/FM Demodulator Passband /Subsystem/Delay
- FM_Modulation_Demodulation_03/FM Demodulator Passband /Analytic Signal/Join
- FM_Modulation_Demodulation_03/FM Demodulator Passband /Subsystem1/Unwrap
- FM_Modulation_Demodulation_03/FM Demodulator Passband /Product3
  ..../Output zeros until signal is available (Ho)/Switch
- FM_Modulation_Demodulation_03/FM Demodulator Passband /Product1
  ..../Output zeros until signal is available (Ho)/Switch
- ..../FM Demodulator Passband /Time and Sample time/Difference/Diff
  ..../Output zeros until signal is available (Ho)/Switch
- ..../FM Demodulator Passband /Subsystem1/Difference/Diff
  ..../Output zeros until signal is available (Ho)/Switch
- FM_Modulation_Demodulation_03/FM Demodulator Passband /Product3
  ..../Output zeros until signal is available (Ho)/Switch
  FM_Modulation_Demodulation_03/FM Demodulator Passband /Constant
- ..../Output zeros until signal is available (Ho)/Switch
- ..../ FM Demodulation (Discriminator)
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Gain3
- FM_Modulation_Demodulation_03/FM Demodulation using PLL
- FM_Modulation_Demodulation_03/Frequency Modulation
- FM_Modulation_Demodulation_03/FM Demodulator Passband /Subsystem/Gain
- ..../FM Demodulator Passband /Subsystem/Complex Exponential
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Sum
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Kf Gain
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /fc constant
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Gain1
- ..../Subsystem(Phase lock loop) /Continuous-Time VCO /Carrier frequency1
- ..../Subsystem(Phase lock loop) /Continuous-Time VCO /sin
- ..../Subsystem(Phase lock loop) /Continuous-Time VCO /Sensitivity
- ..../Subsystem(Phase lock loop) /Continuous-Time VCO /Sum
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /MatrixMultiply
- FM_Modulation_Demodulation_03/Sin Wave
- ..../Subsystem(Indirect FM) /Discrete-Time Integrator
- ..../FM Demodulator Passband /Time and Sample time/Difference/UD
- FM_Modulation_Demodulation_03/FM Demodulator Passband /Subsystem/Delay
- FM_Modulation_Demodulation_03/FM Demodulator Passband /Subsystem/Delay
  ..../FM Demodulator Passband /Subsystem/Complex Exponential
- ..../FM Demodulator Passband /Analytic Signal/Delay
- ..../FM Demodulator Passband /Subsystem1/Difference/UD
- ..../Continuous-Time VCO /Modulo Integrator/Modulo Integrator
- ..../Subsystem(Phase lock loop) /Analog Filter Design

∧ **Less**

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Check for blocks not recommended for C/C++ production code deployment

Identify blocks not supported by code generation or not recommended for C/C++ production code deployment.

Warning
The following blocks are not supported or not recommended for C/C++ production code deployment:

Block	Block Type	Code generation support	Recommendation for C/C++ production code deployment
FM_Modulation_Demodulation_03/Sin Wave	Sin	Yes[1]	Yes
..../Analog Filter Design	StateSpace	Yes[2]	No
..../Continuous-Time VCO	Continuous-Time		

	VCO	Yes[3]	No

Recommended Action
Although Embedded Coder supports these blocks, they are not recommended for C/C++ production code deployment. Review the support notes for these blocks and follow the given advice.

Support notes:

1. These blocks do not reference absolute time when configured for sample-based operation. In time-based operation they depend on absolute time.
2. Consider using the Model Discretizer to map these continuous blocks into discrete equivalents that support code generation. From a model, select **APPS > CONTROL SYSTEMS > Model Discretizer** to access the Model Discretizer.
3. Cannot be used inside a triggered subsystem, and with asynchronous signals.

⚠ Check configuration parameters for MISRA C:2012

Identify configuration parameters that might impact MISRA C:2012 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	UtilityFuncGeneration	Auto	Shared location	
Warning	GenerateSharedConstants	*Prerequisite constraint not met.*	off	UtilityFuncGeneration
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	ParenthesesLevel	*Prerequisite constraint not met.*	Maximum	SystemTargetFile
Warning	CastingMode	*Prerequisite constraint not met.*	Standards	SystemTargetFile
Warning	InternalIdentifier	*Prerequisite constraint not met.*	Shortened	SystemTargetFile
Warning	Use division for fixed-point net slope computation (UseDivisionForNetSlopeComputation)	off	on, UseDivisionForReciprocalsOfIntegersOnly	
Warning	EnableSignedLeftShifts	*Prerequisite constraint not met.*	off	SystemTargetFile
Warning	EnableSignedRightShifts	*Prerequisite constraint not met.*	off	SystemTargetFile
Warning	Inf or NaN block output (SignalInfNanChecking)	none	warning	
Warning	Dynamic memory allocation in MATLAB functions (MATLABDynamicMemAlloc)	on	off	
Warning	Undirected event broadcasts (SFUndirectedBroadcastEventsDiag)	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*	on	GenerateComments,

		constraint not met.		SystemTargetFile
Warning	InstructionSetExtensions	SSE2	None	

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Recommended Action
Modify the configuration parameters listed above to the recommended values.

Check for blocks not recommended for MISRA C:2012

Identify blocks that are not recommended for MISRA C:2012 compliant code generation.

Passed
None of the blocks are defined as "not recommended" for MISRA C:2012 compliant code generation.

Check for unsupported block names

Identify block names containing "/".

Passed
No unsupported block names found.

Check usage of Assignment blocks

Identify Assignment blocks with possibly incomplete array initialization that do not have the simulation run-time diagnostic **Action if any output element is not assigned** set to:

- Warning, if Assignment block is in an iterator subsystem
- Error, if Assignment block is not in an iterator subsystem

Passed
All Assignment blocks are configured with block parameter **Action if any output element is not assigned** set to Warning or Error.

Check for switch case expressions without a default case

Identify switch case expressions that do not have a default case.

Passed
All switch case expressions have default cases.

Check for missing error ports in AUTOSAR receiver interfaces

Identify AUTOSAR receiver interface ports that do not have a matching error port.

Passed
Model is not configured as an AUTOSAR target.

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*	off	SystemTargetFile

		constraint not met.		
Warning	EnableSignedRightShifts	*Prerequisite constraint not met.*	off	SystemTargetFile
Warning	Inf or NaN block output (SignalInfNanChecking)	none	warning	
Warning	Dynamic memory allocation in MATLAB functions (MATLABDynamicMemAlloc)	on	off	
Warning	Undirected event broadcasts (SFUndirectedBroadcastEventsDiag)	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

∧ **Less**

Recommended Action
Modify the configuration parameters listed above to the recommended values.

Check for blocks not recommended for secure coding standards

Identify blocks that are not recommended for secure coding standards.

Passed
None of the blocks are defined as "not recommended" for secure coding standards compliant code generation.

Check for missing const qualifiers in model functions

Identify missing const qualifiers in model functions.

Passed
Model does not use customized model functions.

Check bus object names that are used as bus element names

Identify bus object names that are used as bus element names.

Passed
No bus object names are used as bus element names.

Check for bitwise operations on signed integers

Identify bitwise operations on signed integers.

Passed
No bitwise operations on signed integers found.

Check for recursive function calls

Identify function calls that are recursive.

Passed
No recursive function calls found.

Check for equality and inequality operations on floating-point values

Identify equality and inequality operations on floating-point values.

Warning
The following model objects have equality or inequality operations on floating-point values.

Location
..../Subsystem1/Unwrap

Recommended Action
Consider using non-floating-point values for equality or inequality operations.

Check integer word lengths

Identify integer word length that are not compliant with hardware implementation settings.

Passed
All used integer word length are compliant with hardware implementation settings.

3 Simscape 3 0 0 0

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 outdated AC source blocks

Check model for AC source blocks that should be updated to the current version of the product.

Passed
No outdated AC source blocks found in the model.

Check for dry hydraulic nodes

This check identifies connections of Simscape hydraulic blocks in a model that are considered dry. Dry nodes physically represent a hydraulic segment modeled as an incompressible fluid.

Passed
Check has passed. No dry hydraulic nodes found.

4 Simulink Check 350 0 97 0

4.1 Modeling Standards 340 0 97 0

4.1.1 DO-178C/DO-331 Checks 60 0 29 0

Check usage of standardized MATLAB function headers

Identify usage of standardized function headers in MATLAB function.

Passed
No MATLAB function blocks found without standardized function headers.

Check for MATLAB Function interfaces with inherited properties

Identify MATLAB Functions that have inputs, outputs, or parameters with inherited complexity or data type properties.

Passed
No MATLAB Function interfaces with inherited complexity or data type properties found.

Check MATLAB Function metrics

Identify MATLAB Functions that violate code and complexity metrics.

Passed
No MATLAB Function blocks found that violate code and complexity metrics.

Check MATLAB Code Analyzer messages

Check MATLAB functions for %#codegen directive, MATLAB Code Analyzer messages, and justification message IDs.

Passed
No MATLAB Function blocks found with Code Analyzer messages, missing %#codegen directive or inappropriate usage of justification message IDs.

Check if/elseif/else patterns in MATLAB Function blocks

Identify if/elseif/else patterns without appropriate else conditions in embedded MATLAB code.

Passed
No inappropriate if/elseif/else patterns found.

Check switch statements in MATLAB Function blocks

Identify inappropriately used switch statements in embedded MATLAB code.

Passed
No inappropriately used switch statements found.

Check MATLAB functions not supported for code generation

Identify MATLAB functions that are not supported for code generation.

Passed
All identified MATLAB functions are supported for code generation.

Check state machine type of Stateflow charts

Identify Stateflow Charts whose State Machine Type differs from the type set in the Model Advisor Configuration Editor.

Passed
No Stateflow Charts found that deviate from recommended state machine type.

Check Stateflow charts for ordering of states and transitions

Identify Stateflow charts that do not use explicit ordering of parallel states and transitions.

Passed
No Stateflow Charts found that deviate from recommended state/transition execution order settings.

Check for Strong Data Typing with Simulink I/O

Verify configuration settings for strong data typing on the boundaries between Simulink and Stateflow.

Passed
No Stateflow charts found that set 'Use Strong Data Typing with Simulink I/O' to off.

⚠ Check Stateflow debugging options

Identify whether Stateflow debugging options are set appropriately.

Warning
The following Stateflow debugging options are not set appropriately:

Parameter	Current Value	Recommended Values
Wrap on overflow (IntegerOverflowMsg)	warning	error
Simulation range checking (SignalRangeChecking)	none	error

Recommended Action
Change the Stateflow debugging options to the recommended value.

Check Stateflow charts for transition paths that cross parallel state boundaries

Identify transition paths that cross parallel state boundaries in Stateflow charts.

Passed
No transition paths crossing parallel state boundaries were found in Stateflow charts.

Check for inappropriate use of transition paths

Identify transition paths that go into and out of a state without ending on a substate.

Passed
No transition paths found that go into and out of a state without ending on a substate.

Check naming of ports in Stateflow charts

Identify mismatches between names of Stateflow ports and associated signals.

Passed
There are no name mismatches between Stateflow ports and associated signals

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Check scoping of Stateflow data objects

Identify Stateflow data objects with local scope that are not scoped at the chart level or below.

Passed
All Stateflow data objects are properly scoped.

Check usage of While Iterator blocks

Identify While Iterator blocks that do not have a positive value for the maximum number of iterations.

Passed
No While Iterator blocks found that might cause infinite loops

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Check usage of For and While Iterator subsystems

Identify sample time-dependent blocks in While and For Iterator subsystems.

Passed
No sample time-dependent blocks in For or While Iterator subsystems.

Check for blocks not recommended for C/C++ production code deployment

Identify blocks not supported by code generation or not recommended for C/C++ production code deployment.

Warning
The following blocks are not recommended for C/C++ production code generation:

- FM_Modulation_Demodulation_03/Sin Wave

Recommended Action
Although Embedded Coder supports these blocks, they are not recommended for C/C++ production code deployment.
1. These blocks do not reference absolute time when configured for sample-based operation. In time-based operation they depend on absolute time.

Identify blocks not supported by code generation or not recommended for C/C++ production code deployment.

Warning
The following blocks are not recommended for C/C++ production code generation:

- .../Subsystem(Phase lock loop) /Analog Filter Design

Recommended Action
Although Embedded Coder supports these blocks, they are not recommended for C/C++ production code deployment.
1. Consider using the Model Discretizer to map these continuous blocks into discrete equivalents that support code generation. From a model, select Model Discretizer to access the Model Discretizer.

Identify blocks not supported by code generation or not recommended for C/C++ production code deployment.

Warning
The following blocks are not recommended for C/C++ production code generation:

- ..../Subsystem(Phase lock loop) /Continuous-Time VCO

Recommended Action
Although Embedded Coder supports these blocks, they are not recommended for C/C++ production code deployment.
1. Cannot be used inside a triggered subsystem, and with asynchronous signals.

Check for inconsistent vector indexing methods

Identify inconsistent usage of vector indexing methods across the model or subsystem.

Passed
No blocks found using inconsistent indexing modes.

Check usage of variant blocks

Check variant block settings that might result in code that doesn't trace back to requirements.

Passed
No variant blocks have "VariantActivationTime" set to 'code compile'.

Check for root Inports with missing properties

Identify Inport blocks in the top-level of the model with missing or inherited sample times, data types, or port dimensions. Inport block properties are specified with block parameters or Simulink signal data objects that explicitly resolve to the connected signal lines.

Passed
There are no Inport blocks in the top-level of the model with missing or inherited sample times, data types, or port dimensions

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Check model file name

Identify inappropriate characters and length issues in model file name.

Passed
No issues found with model file name.

Check usage of lookup table blocks

Check for Lookup Table blocks, Prelookup blocks and Interpolation blocks that do not generate out-of-range checking code.

Passed
No lookup table blocks found to not generate out-of-range checking code.

Check safety-related solver settings for simulation time

Identify if the model Start time is set to 0 and Stop time is less than the Application Life Span.

Passed
No issues found with solver settings for simulation time.

Check Stateflow charts for uniquely defined data objects

Identify local data identifiers that are defined in multiple scopes within a chart.

Passed
No Stateflow data identifiers found to be defined in multiple scopes.

Check global variables in graphical functions

Identify expressions that both read and write to the same global data.

Passed
No expressions found that both read and write to the same global data.

⚠ Check usage of Gain blocks

Identify Gain blocks with value which resolves to 1.

Warning
The following Gain blocks have value which resolves to 1.

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Gain2

Recommended Action
Consider remodeling to remove the Gain blocks with values that resolve to 1

✔ Check safety-related settings for hardware implementation

Check 'Byte ordering' and 'Signed integer division rounds to' parameters
Identify inconsistencies or underspecification of hardware attributes that can lead to incorrect and inefficient generated code.

Passed
Target specification is consistent.

Check whether 'Production hardware' and 'Test hardware' match
Search for 'Test hardware is the same as production hardware' in the Configuration Parameters dialog box and check if it is selected. If it is cleared, identify whether target specifications match.

Passed
'Test hardware is the same as production hardware' is selected or is cleared and the target specifications match.

✔ Check for parameter tunability ignored for referenced models

Check for models parameter tunability information specified using Model Parameter Configuration dialog boxes.

Passed
No parameters found that lose the tunability defined in the referenced models.

⚠ Check safety-related diagnostic settings for data store memory

Check diagnostic settings in the model configuration that apply to data store memory and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Detect read before write (ReadBeforeWriteMsg)	UseLocalSettings	EnableAllAsError
Warning	Detect write after read (WriteAfterReadMsg)	UseLocalSettings	EnableAllAsError
Warning	Detect write after write (WriteAfterWriteMsg)	UseLocalSettings	EnableAllAsError
Warning	Duplicate data store names (UniqueDataStoreMsg)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for saving

Check diagnostic settings in the model configuration that apply to saving model files.

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

Status	Parameter	Current Value	Recommended Values
Warning	Block diagram contains disabled library links (SaveWithDisabledLinksMsg)	warning	error
Warning	Block diagram contains parameterized library links (SaveWithParameterizedLinksMsg)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check safety-related model referencing settings

Check model referencing settings in the model configuration that might impact safety.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Rebuild (UpdateModelReferenceTargets)	IfOutOfDateOrStructuralChange	AssumeUpToDate, IfOutOfDateOrStructuralChange
Pass	Pass fixed-size scalar root inputs by value for code generation (ModelReferencePassRootInputsByReference) *	on	on
Pass	Minimize algebraic loop occurrences (ModelReferenceMinAlgLoopOccurrences)	off	off

Recommended Action

* The Command-Line values provided in the table are reverse of the settings in the Configuration Parameters Dialog. Therefore, 'on' in the Command-Line corresponds to an "Off" setting in the dialog, and 'off' in the Command-Line corresponds to an "On" setting in the dialog.

Check safety-related solver settings for solver options

Check solver settings in the model configuration that apply to solvers and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Type (SolverType)	Variable-step	Fixed-step
Warning	Solver (SolverName)	VariableStepAuto	FixedStepDiscrete

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check safety-related solver settings for tasking and sample-time

Check solver settings in the model configuration that apply to tasking and sample-time constraints and might impact safety.

Passed
All constraints on model configuration parameters have been met.

Check safety-related diagnostic settings for solvers

Check diagnostic settings in the model configuration that apply to solvers and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Algebraic loop (AlgebraicLoopMsg)	warning	error
Warning	Minimize algebraic loop (ArtificialAlgebraicLoopMsg)	warning	error
Warning	Block priority violation (BlockPriorityViolationMsg)	warning	error
Warning	Automatic solver parameter selection (SolverPrmCheckMsg)	none	error
Warning	State name clash (StateNameClashWarn)	none	warning

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check safety-related diagnostic settings for sample time

Check diagnostic settings in the model configuration that apply to sample time and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Source block specifies -1 sample time (InheritedTsInSrcMsg)	warning	error
Warning	Enforce sample times specified by Signal Specification blocks (SigSpecEnsureSampleTimeMsg)	warning	error
Warning	Single task data transfer (SingleTaskRateTransMsg)	none	error
Warning	Tasks with equal priority (TasksWithSamePriorityMsg)	warning	error
Warning	Unspecified inheritability of sample time (UnknownTsInhSupMsg)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check safety-related optimization settings for logic signals

Check optimization settings in the model configuration that apply to logic signals and might impact safety.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Implement logic signals as Boolean data (vs. double) (BooleanDataType)	on	on

---

Check safety-related block reduction optimization settings

Check block reduction optimization settings in the model configuration that might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Block reduction (BlockReduction)	on	off

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check safety-related optimization settings for application lifespan

Check optimization settings in the model configuration that apply to application lifespan and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Application lifespan (days) (LifeSpan)	auto	inf

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check safety-related optimization settings for data initialization

Check optimization settings in the model configuration that apply to data initialization and might impact safety.

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

Status	Parameter	Current Value	Recommended	Prerequisites

			Values	
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	
Warning	ZeroExternalMemoryAtStartup*	*Prerequisite constraint not met.*	on	SystemTargetFile, CodeInterfacePackaging
Warning	ZeroInternalMemoryAtStartup*	*Prerequisite constraint not met.*	on	SystemTargetFile, CodeInterfacePackaging

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

* The Command-Line values provided in the table are reverse of the settings in the Configuration Parameters Dialog. Therefore, 'on' in the Command-Line corresponds to an "Off" setting in the dialog, and 'off' in the Command-Line corresponds to an "On" setting in the dialog.

⚠ Check safety-related optimization settings for data type conversions

Check optimization settings in the model configuration that apply to data type conversions and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	EfficientFloat2IntCast	off	on

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related optimization settings for division arithmetic exceptions

Check optimization settings in the model configuration that apply to division arithmetic exceptions and might impact safety.

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

Status	Parameter	Current Value	Recommended Values	Prerequisites
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	
Warning	NoFixptDivByZeroProtection	*Prerequisite constraint not met.*	off	SystemTargetFile

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related optimization settings for specified minimum and maximum values

Check optimization settings in the model configuration that apply to specified minimum and maximum values and might impact safety.

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	UseSpecifiedMinMax	*Prerequisite constraint not met.*	off	SystemTargetFile
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related code generation settings for comments

Check code generation settings in the model configuration that apply comments and might impact safety.

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	ShowEliminatedStatement	off	on	GenerateComments
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	
Warning	ForceParamTrailComments	off	on	GenerateComments
Warning	ReqsInCode	*Prerequisite constraint not met.*	on	SystemTargetFile, GenerateComments

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related code generation interface settings

Check code generation interface settings in the model configuration that might impact safety.

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	SupportNonFinite	on	off	
Warning	SupportAbsoluteTime	*Prerequisite constraint not met.*	off	SystemTargetFile
Warning	SupportContinuousTime	*Prerequisite constraint not met.*	off	SystemTargetFile
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	
Warning	SupportNonInlinedSFcns	*Prerequisite constraint not met.*	off	SystemTargetFile
Warning	IncludeMdlTerminateFcn	*Prerequisite constraint not met.*	off	SystemTargetFile
Warning	SuppressErrorStatus	*Prerequisite constraint not met.*	on	SystemTargetFile
Warning	MatFileLogging	on	off	

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related code generation settings for code style

Check code generation settings in the model configuration that apply to code style and might impact safety.

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	ParenthesesLevel	*Prerequisite constraint not met.*	Maximum	SystemTargetFile
Warning	PreserveExpressionOrder	*Prerequisite constraint not met.*	on	SystemTargetFile
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related code generation identifier settings

Check code generation identifier settings in the model configuration that might impact safety.

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

Status	Parameter	Current Value	Recommended Values	Not Recommended Values	Prerequisites
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target		
Warning	MangleLength	*Prerequisite constraint not met.*		1, 2, 3	SystemTargetFile

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for compatibility

Check diagnostic settings in the model configuration that affect compatibility and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	S-function upgrades needed (SFcnCompatibilityMsg)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for parameters

Check diagnostic settings in the model configuration that apply to parameters and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Detect underflow (ParameterUnderflowMsg)	none	error
Warning	Detect precision loss (ParameterPrecisionLossMsg)	warning	error
Warning	Detect loss of tunability (ParameterTunabilityLossMsg)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

✓ Check safety-related diagnostic settings for Merge blocks

Check diagnostic settings in the model configuration that apply to Merge blocks and might impact safety.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Detect multiple driving blocks executing at the same time step (MergeDetectMultiDrivingBlocksExec)	error	error

---

✓ Check safety-related diagnostic settings for model initialization

Check diagnostic settings in the model configuration that affect model initialization and might impact safety.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Underspecified initialization detection (UnderspecifiedInitializationDetection)	Simplified	Simplified

---

⚠ Check safety-related diagnostic settings for data used for debugging

Check diagnostic settings in the model configuration that apply to data used for debugging and might impact safety.

Warning

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

Status	Parameter	Current Value	Recommended Values
Warning	Model Verification block enabling (AssertControl)	UseLocalSettings	DisableAll

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for signal connectivity

Check diagnostic settings in the model configuration that apply to signal connectivity and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Signal label mismatch (SignalLabelMismatchMsg)	none	error
Warning	Unconnected block input ports (UnconnectedInputMsg)	warning	error
Warning	Unconnected block output ports (UnconnectedOutputMsg)	warning	error
Warning	Unconnected line (UnconnectedLineMsg)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for bus connectivity

Check diagnostic settings in the model configuration that apply to bus connectivity and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Unspecified bus object at root Outport block (RootOutportRequireBusObject)	warning	error
Warning	Element name mismatch (BusObjectLabelMismatch)	warning	error
Warning	Bus signal treated as vector (StrictBusMsg)	ErrorLevel1	ErrorOnBusTreatedAsVector
Warning	Non-bus signals treated as bus signals (NonBusSignalsTreatedAsBus)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

✓ Check safety-related diagnostic settings that apply to function-call connectivity

Check diagnostic settings in the model configuration that apply to function-call connectivity and might impact safety.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	InvalidFcnCallConnMsg	error	error
Pass	Context-dependent inputs (FcnCallInpInsideContextMsg)	error	error

---

⚠ Check safety-related diagnostic settings for type conversions

Check diagnostic settings in the model configuration that apply to type conversions and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Unnecessary type conversions (UnnecessaryDatatypeConvMsg)	none	warning
Warning	Vector/matrix block input conversion (VectorMatrixConversionMsg)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for model referencing

Check diagnostic settings in the model configuration that apply to model referencing and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Port and parameter mismatch (ModelReferenceIOMismatchMessage)	none	error
Warning	Invalid root Inport/Outport block connection (ModelReferenceIOMsg)	none	error
Warning	Unsupported data logging (ModelReferenceDataLoggingMessage)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for Stateflow

Check diagnostic settings in the model configuration that apply to Stateflow and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Invalid input data access in chart initialization (SFInvalidInputDataAccessInChartInitDiag)	warning	error
Warning	Transition outside natural parent (SFTransitionOutsideNaturalParentDiag)	warning	error
Warning	Unreachable execution path (SFUnreachableExecutionPathDiag)	warning	error
Warning	Undirected event broadcasts (SFUndirectedBroadcastEventsDiag)	warning	error
Warning	Transition action specified before condition action (SFTransitionActionBeforeConditionDiag)	warning	error
Warning	Absolute time temporal value shorter than sampling period (SFTemporalDelaySmallerThanSampleTimeDiag)	warning	error
Warning	Self-transition on leaf state (SFSelfTransitionDiag)	warning	error
Warning	'Execute-at-initialization' disabled in presence of input events (SFExecutionAtInitializationDiag)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for signal data

Check diagnostic settings in the model configuration that apply to signal data and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Division by singular matrix (CheckMatrixSingularityMsg)	none	error
Warning	Underspecified data types (UnderSpecifiedDataTypeMsg)	none	error
Warning	Wrap on overflow (IntegerOverflowMsg)	warning	error
Warning	Saturate on overflow (IntegerSaturationMsg)	warning	error
Warning	Inf or NaN block output (SignalInfNanChecking)	none	error
Warning	Simulation range checking (SignalRangeChecking)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for variants

Check diagnostic settings in the model configuration that apply to variants and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Variant condition mismatch at signal source and destination (VariantConditionMismatch)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

✓ Check type and size of condition expressions

Identify condition expressions which are not logical scalars.

Passed
No condition expressions found which are not logical scalars.

✓ Display model version information

Display model configuration and checksum information.

Model configuration and checksum information

Attribute	Value
Model Version	1.3
Author	Rajeev Ranjan
Date	Sat Mar 26 22:48:14 2022
Model Checksum	3754679981 1157656999 2831316963 2990556161

✓ Check usage of relational operators in MATLAB Function blocks

Identify relational operators operating on operands of different data types in MATLAB Function blocks.

Passed
No relational operators found operating on operands of different data types.

✓ Check usage of logical operators and functions in MATLAB Function blocks

Identify logical operators and functions operating on operands with numerical data types.

Passed
No logical operators or functions found operating on operands with numerical data types.

✓ Metrics for generated code complexity

Identify usage of built-in MATLAB Functions with high code complexity.

Passed
No MATLAB constructs found with high code complexity.

✓ Check usage of bitwise operations in Stateflow charts

Identify usage of signed data type operands to bitwise operations in Stateflow charts.

Passed
No Stateflow objects found that use signed data type operands with bitwise operations.

Check Stateflow charts for strong data typing

Identify expressions with variables and parameters of different data types in Stateflow objects.

Passed
No expressions were found with variables and parameters of different data types.

Check assignment operations in Stateflow charts

Identify assignment operations in Stateflow objects which cast integer and fixed-point calculations to wider datatype.

Passed
No assignment operations were found which cast integer and fixed-point calculations to wider datatype.

Check Stateflow charts for unary operators

Identify unary minus operators on unsigned data types in Stateflow objects.

Passed
No unary minus operations on unsigned data types were found in Stateflow objects.

Check usage of Abs blocks

Identify Abs blocks that have unreachable code or produce overflows.

Passed
No Abs blocks found causing unreachable code or produce overflows.

Check usage of For Iterator blocks

Identify For Iterator blocks that cause variable loops.

Passed
No For Iterator blocks found that cause variable loops.

Check usage of If blocks and If Action Subsystem blocks

Identify If and If Action Subsystem blocks without else conditions.

Passed
No If blocks with questionable configurations or connections were found.

Check usage of Switch Case blocks and Switch Case Action Subsystem blocks

Identify inappropriately used Switch Case blocks and Switch Case Action Subsystem blocks.

Passed
No Switch Case blocks with questionable configurations or connections were found.

Check usage of conditionally executed subsystems

Identify inappropriate blocks in conditionally executed subsystems.

Passed
No blocks with improper sample times or asynchronously executed sample-time dependent blocks were found.

Check relational comparisons on floating-point signals

Identify relational blocks or operations that perform equality or inequality comparisons on floating-point data types.

Passed
No relational blocks or operations found that perform equality or inequality comparisons on floating-point data types.

Check usage of Relational Operator blocks

Identify Relational Operator blocks that operate on different data types or have a non-boolean output.

Passed
No Relational Operator blocks found that operate on different data types or have a non-boolean output.

Check usage of Logical Operator blocks

Identify Logical Operator blocks that operate on non-boolean data types.

Passed
No Logical Operator blocks found that operate on non-boolean data types.

Check usage of bitwise operations

Identify bit operations with signed data types as inputs.

Passed
No bit operation found with signed data types as inputs.

Check usage of Merge blocks

Identify Merge blocks constructs which can lead to ambiguous behavior.

Passed
No merge blocks found which can lead to ambiguous behavior.

Check data types for blocks with index signals

Identify blocks with index signals that have data types other than integer or enum.

Passed
No blocks or charts found with index signals or variables that have data types other than integer or enum.

Check for root Inports with missing range definitions

Identify root-level Inport blocks with missing or erroneous minimum or maximum values. Inport block minimum and maximum values are specified with block parameters or Simulink signal objects that explicitly resolve to the connected signal lines.

Passed
There are no missing or erroneous Inport range properties at the model root level.

Check for root Outports with missing range definitions

Identify root-level Outport blocks with missing or erroneous minimum or maximum values. Outport block minimum and maximum values are specified with block parameters or Simulink signal objects that explicitly resolve to the connected signal lines.

Passed
There are no missing or erroneous Outport range properties at the model root level.
Note: Root Outports with inherited data types are not analyzed by this check.

Check usage of Assignment blocks

Identify Assignment blocks whose array fields are not initialized.

Passed
All Assignment blocks are configured with block parameter "Action if any output element is not assigned" set to Warning or Error.

Check model object names

Identify invalid names of following model objects (first invalid name fragment is highlighted):

- Blocks
- Signals
- Parameters
- Buses
- Stateflow elements

Warning
The following model objects have invalid names:

Block	Name
.... FM Demodulation (Discriminator)	FM Demodulation (Discriminator)
..../FM Demodulator Passband	FM Demodulator Passband
..../FM Demodulation using PLL	FM Demodulation using PLL
..../Frequency Modulation	Frequency Modulation
FM_Modulation_Demodulation_03/Sin Wave	Sin Wave
..../Spectrum Analyzer(demodulation)	Spectrum Analyzer(demodulation)
..../Spectrum Analyzer (modulation)	Spectrum Analyzer (modulation)
..../Subsystem(Indirect FM)	Subsystem(Indirect FM)
..../Discrete-Time Integrator	Discrete-Time Integrator
..../Subsystem(Indirect FM) /Gain2	Gain2
..../Subsystem(Indirect FM) /Kf Gain	Kf Gain
..../Trignometric Function	Trignometric Function
..../Subsystem(Indirect FM) /fc constant	fc constant
..../Subsystem(Phase lock loop)	Subsystem(Phase lock loop)
..../Analog Filter Design	Analog Filter Design
..../Continuous-Time VCO	Continuous-Time VCO
..../Subsystem(Phase lock loop) /Gain3	Gain3

∧ **Less**

Recommended Action
Change flagged names of model objects

Check usage of Signal Routing blocks

Identify usage of Signal Routing blocks in Simulink that might impact safety.

Passed
No Switch blocks that might generate code with inequality operations (~=) in expressions where at least one side of the expression is a floating-point variable or constant were found.

Check for length of user-defined object names

Identify user-defined object names with length greater than threshold.

Passed
No Subsystem blocks found with function name length greater than Maximum identifier length. There are no data objects with names having length greater than Maximum identifier length.

Check data type of loop control variables

Identify loop control variables using non-integer data types.

Passed
No For Iterator blocks or MATLAB Function blocks found using non-integer data type for loop control counter variable.

Check usage of bit-shift operations

Identify blocks or expressions that perform bit-shift operations greater than the bit width of Input type.

Passed
No blocks or expressions found that perform bit-shift operations greater than the bit width of Input type.

Check usage of recursions

Identify usage of recursive behavior.

Passed
No entities involved in recursions were found.

4.1.2 IEC 61508, IEC 62304, ISO 26262, ISO 25119, EN 50128 and EN 50657 Checks

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Check usage of standardized MATLAB function headers

Identify usage of standardized function headers in MATLAB function.

Passed
No MATLAB function blocks found without standardized function headers.

Check for MATLAB Function interfaces with inherited properties

Identify MATLAB Functions that have inputs, outputs, or parameters with inherited complexity or data type properties.

Passed
No MATLAB Function interfaces with inherited complexity or data type properties found.

Check MATLAB Function metrics

Identify MATLAB Functions that violate code and complexity metrics.

Passed
No MATLAB Function blocks found that violate code and complexity metrics.

Check MATLAB Code Analyzer messages

Check MATLAB functions for %#codegen directive, MATLAB Code Analyzer messages, and justification message IDs.

Passed
No MATLAB Function blocks found with Code Analyzer messages, missing %#codegen directive or inappropriate usage of justification message IDs.

Check if/elseif/else patterns in MATLAB Function blocks

Identify if/elseif/else patterns without appropriate else conditions in embedded MATLAB code.

Passed
No inappropriate if/elseif/else patterns found.

Check switch statements in MATLAB Function blocks

Identify inappropriately used switch statements in embedded MATLAB code.

Passed
No inappropriately used switch statements found.

Check MATLAB functions not supported for code generation

Identify MATLAB functions that are not supported for code generation.

Passed
All identified MATLAB functions are supported for code generation.

Check state machine type of Stateflow charts

Identify Stateflow Charts whose State Machine Type differs from the type set in the Model Advisor Configuration Editor.

Passed
No Stateflow Charts found that deviate from recommended state machine type.

Check Stateflow charts for ordering of states and transitions

Identify Stateflow charts that do not use explicit ordering of parallel states and transitions.

Passed
No Stateflow Charts found that deviate from recommended state/transition execution order settings.

Check for Strong Data Typing with Simulink I/O

Verify configuration settings for strong data typing on the boundaries between Simulink and Stateflow.

Passed
No Stateflow charts found that set 'Use Strong Data Typing with Simulink I/O' to off.

⚠ Check Stateflow debugging options

Identify whether Stateflow debugging options are set appropriately.

Warning
The following Stateflow debugging options are not set appropriately:

Parameter	Current Value	Recommended Values
Wrap on overflow (IntegerOverflowMsg)	warning	error
Simulation range checking (SignalRangeChecking)	none	error

Recommended Action
Change the Stateflow debugging options to the recommended value.

Check Stateflow charts for transition paths that cross parallel state boundaries

Identify transition paths that cross parallel state boundaries in Stateflow charts.

Passed
No transition paths crossing parallel state boundaries were found in Stateflow charts.

Check for inappropriate use of transition paths

Identify transition paths that go into and out of a state without ending on a substate.

Passed
No transition paths found that go into and out of a state without ending on a substate.

Check naming of ports in Stateflow charts

Identify mismatches between names of Stateflow ports and associated signals.

Passed
There are no name mismatches between Stateflow ports and associated signals

---

Check scoping of Stateflow data objects

Identify Stateflow data objects with local scope that are not scoped at the chart level or below.

Passed
All Stateflow data objects are properly scoped.

Check usage of While Iterator blocks

Identify While Iterator blocks that do not have a positive value for the maximum number of iterations.

Passed
No While Iterator blocks found that might cause infinite loops

---

Check usage of For and While Iterator subsystems

Identify sample time-dependent blocks in While and For Iterator subsystems.

Passed
No sample time-dependent blocks in For or While Iterator subsystems.

⚠ Check for blocks not recommended for C/C++ production code deployment

Identify blocks not supported by code generation or not recommended for C/C++ production code deployment.

Warning
The following blocks are not recommended for C/C++ production code generation:

- FM_Modulation_Demodulation_03/Sin Wave

Recommended Action
Although Embedded Coder supports these blocks, they are not recommended for C/C++ production code deployment.
1. These blocks do not reference absolute time when configured for sample-based operation. In time-based operation they depend on absolute time.

Identify blocks not supported by code generation or not recommended for C/C++ production code deployment.

Warning
The following blocks are not recommended for C/C++ production code generation:

- ..../Subsystem(Phase lock loop) /Analog Filter Design

Recommended Action
Although Embedded Coder supports these blocks, they are not recommended for C/C++ production code deployment.
1. Consider using the Model Discretizer to map these continuous blocks into discrete equivalents that support code generation. From a model, select Model Discretizer to access the Model Discretizer.

Identify blocks not supported by code generation or not recommended for C/C++ production code deployment.

Warning
The following blocks are not recommended for C/C++ production code generation:

- ..../Subsystem(Phase lock loop) /Continuous-Time VCO

Recommended Action
Although Embedded Coder supports these blocks, they are not recommended for C/C++ production code deployment.
1. Cannot be used inside a triggered subsystem, and with asynchronous signals.

Check for inconsistent vector indexing methods

Identify inconsistent usage of vector indexing methods across the model or subsystem.

Passed
No blocks found using inconsistent indexing modes.

Check usage of variant blocks

Check variant block settings that might result in code that doesn't trace back to requirements.

Passed
No variant blocks have "VariantActivationTime" set to 'code compile'.

Check for root Inports with missing properties

Identify Inport blocks in the top-level of the model with missing or inherited sample times, data types, or port dimensions. Inport block properties are specified with block parameters or Simulink signal data objects that explicitly resolve to the connected signal lines.

Passed
There are no Inport blocks in the top-level of the model with missing or inherited sample times, data types, or port dimensions

---

Check model file name

Identify inappropriate characters and length issues in model file name.

Passed
No issues found with model file name.

Check usage of lookup table blocks

Check for Lookup Table blocks, Prelookup blocks and Interpolation blocks that do not generate out-of-range checking code.

Passed
No lookup table blocks found to not generate out-of-range checking code.

Check safety-related solver settings for simulation time

Identify if the model Start time is set to 0 and Stop time is less than the Application Life Span.

Passed
No issues found with solver settings for simulation time.

Check Stateflow charts for uniquely defined data objects

Identify local data identifiers that are defined in multiple scopes within a chart.

Passed
No Stateflow data identifiers found to be defined in multiple scopes.

Check global variables in graphical functions

Identify expressions that both read and write to the same global data.

Passed
No expressions found that both read and write to the same global data.

Check usage of Gain blocks

Identify Gain blocks with value which resolves to 1.

Warning
The following Gain blocks have value which resolves to 1.

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Gain2

Recommended Action
Consider remodeling to remove the Gain blocks with values that resolve to 1

Check safety-related settings for hardware implementation

Check 'Byte ordering' and 'Signed integer division rounds to' parameters
Identify inconsistencies or underspecification of hardware attributes that can lead to incorrect and inefficient generated code.

Passed
Target specification is consistent.

Check whether 'Production hardware' and 'Test hardware' match
Search for 'Test hardware is the same as production hardware' in the Configuration Parameters dialog box and check if it is selected. If it is cleared, identify whether target specifications match.

Passed
'Test hardware is the same as production hardware' is selected or is cleared and the target specifications match.

Check for parameter tunability ignored for referenced models

Check for models parameter tunability information specified using Model Parameter Configuration dialog boxes.

Passed
No parameters found that lose the tunability defined in the referenced models.

Check safety-related diagnostic settings for data store memory

Check diagnostic settings in the model configuration that apply to data store memory and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Detect read before write (ReadBeforeWriteMsg)	UseLocalSettings	EnableAllAsError
Warning	Detect write after read (WriteAfterReadMsg)	UseLocalSettings	EnableAllAsError
Warning	Detect write after write (WriteAfterWriteMsg)	UseLocalSettings	EnableAllAsError
Warning	Duplicate data store names (UniqueDataStoreMsg)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for saving

Check diagnostic settings in the model configuration that apply to saving model files.

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

Status	Parameter	Current Value	Recommended Values
Warning	Block diagram contains disabled library links (SaveWithDisabledLinksMsg)	warning	error
Warning	Block diagram contains parameterized library links (SaveWithParameterizedLinksMsg)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

✓ Check safety-related model referencing settings

Check model referencing settings in the model configuration that might impact safety.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Rebuild (UpdateModelReferenceTargets)	IfOutOfDateOrStructuralChange	AssumeUpToDate, IfOutOfDateOrStructuralChange
Pass	Pass fixed-size scalar root inputs by value for code generation (ModelReferencePassRootInputsByReference) *	on	on
Pass	Minimize algebraic loop occurrences (ModelReferenceMinAlgLoopOccurrences)	off	off

Recommended Action

* The Command-Line values provided in the table are reverse of the settings in the Configuration Parameters Dialog. Therefore, 'on' in the Command-Line corresponds to an "Off" setting in the dialog, and 'off' in the Command-Line corresponds to an "On" setting in the dialog.

⚠ Check safety-related solver settings for solver options

Check solver settings in the model configuration that apply to solvers and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Type (SolverType)	Variable-step	Fixed-step
Warning	Solver (SolverName)	VariableStepAuto	FixedStepDiscrete

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

✓ Check safety-related solver settings for tasking and sample-time

Check solver settings in the model configuration that apply to tasking and sample-time constraints and might impact safety.

Passed
All constraints on model configuration parameters have been met.

⚠ Check safety-related diagnostic settings for solvers

Check diagnostic settings in the model configuration that apply to solvers and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Algebraic loop (AlgebraicLoopMsg)	warning	error
Warning	Minimize algebraic loop (ArtificialAlgebraicLoopMsg)	warning	error
Warning	Block priority violation (BlockPriorityViolationMsg)	warning	error
Warning	Automatic solver parameter selection (SolverPrmCheckMsg)	none	error
Warning	State name clash (StateNameClashWarn)	none	warning

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for sample time

Check diagnostic settings in the model configuration that apply to sample time and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Source block specifies -1 sample time (InheritedTsInSrcMsg)	warning	error
Warning	Enforce sample times specified by Signal Specification blocks (SigSpecEnsureSampleTimeMsg)	warning	error
Warning	Single task data transfer (SingleTaskRateTransMsg)	none	error
Warning	Tasks with equal priority (TasksWithSamePriorityMsg)	warning	error
Warning	Unspecified inheritability of sample time (UnknownTsInhSupMsg)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

✔ Check safety-related optimization settings for logic signals

Check optimization settings in the model configuration that apply to logic signals and might impact safety.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Implement logic signals as Boolean data (vs. double) (BooleanDataType)	on	on

---

⚠ Check safety-related block reduction optimization settings

Check block reduction optimization settings in the model configuration that might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Block reduction (BlockReduction)	on	off

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related optimization settings for application lifespan

Check optimization settings in the model configuration that apply to application lifespan and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Application lifespan (days) (LifeSpan)	auto	inf

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related optimization settings for data initialization

Check optimization settings in the model configuration that apply to data initialization and might impact safety.

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

Status	Parameter	Current Value	Recommended Values	Prerequisites
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	
Warning	ZeroExternalMemoryAtStartup*	*Prerequisite constraint not met.*	on	SystemTargetFile, CodeInterfacePackaging
Warning	ZeroInternalMemoryAtStartup*	*Prerequisite constraint not met.*	on	SystemTargetFile, CodeInterfacePackaging

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

* The Command-Line values provided in the table are reverse of the settings in the Configuration Parameters Dialog. Therefore, 'on' in the Command-Line corresponds to an "Off" setting in the dialog, and 'off' in the Command-Line corresponds to an "On" setting in the dialog.

⚠ Check safety-related optimization settings for data type conversions

Check optimization settings in the model configuration that apply to data type conversions and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	EfficientFloat2IntCast	off	on

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related optimization settings for division arithmetic exceptions

Check optimization settings in the model configuration that apply to division arithmetic exceptions and might impact safety.

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

Status	Parameter	Current Value	Recommended Values	Prerequisites
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	
Warning	NoFixptDivByZeroProtection	*Prerequisite constraint not met.*	off	SystemTargetFile

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related optimization settings for specified minimum and maximum values

Check optimization settings in the model configuration that apply to specified minimum and maximum values and might impact safety.

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	UseSpecifiedMinMax	*Prerequisite constraint not met.*	off	SystemTargetFile
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related code generation settings for comments

Check code generation settings in the model configuration that apply comments and might impact safety.

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	ShowEliminatedStatement	off	on	GenerateComments
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	
Warning	ForceParamTrailComments	off	on	GenerateComments
Warning	ReqsInCode	*Prerequisite constraint not met.*	on	SystemTargetFile, GenerateComments

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related code generation interface settings

Check code generation interface settings in the model configuration that might impact safety.

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	SupportNonFinite	on	off	
Warning	SupportAbsoluteTime	*Prerequisite constraint not met.*	off	SystemTargetFile
Warning	SupportContinuousTime	*Prerequisite constraint not met.*	off	SystemTargetFile
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	
Warning	SupportNonInlinedSFcns	*Prerequisite constraint not met.*	off	SystemTargetFile
Warning	IncludeMdlTerminateFcn	*Prerequisite constraint not met.*	off	SystemTargetFile
Warning	SuppressErrorStatus	*Prerequisite constraint not met.*	on	SystemTargetFile
Warning	MatFileLogging	on	off	

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related code generation settings for code style

Check code generation settings in the model configuration that apply to code style and might impact safety.

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	ParenthesesLevel	*Prerequisite constraint not met.*	Maximum	SystemTargetFile

Warning	PreserveExpressionOrder	*Prerequisite constraint not met.*	on	SystemTargetFile
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target	

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related code generation identifier settings

Check code generation identifier settings in the model configuration that might impact safety.

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

Status	Parameter	Current Value	Recommended Values	Not Recommended Values	Prerequisites
D - Warning	SystemTargetFile	Non-ERT based target	ERT based target		
Warning	MangleLength	*Prerequisite constraint not met.*		1, 2, 3	SystemTargetFile

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for compatibility

Check diagnostic settings in the model configuration that affect compatibility and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	S-function upgrades needed (SFcnCompatibilityMsg)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for parameters

Check diagnostic settings in the model configuration that apply to parameters and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Detect underflow (ParameterUnderflowMsg)	none	error
Warning	Detect precision loss (ParameterPrecisionLossMsg)	warning	error
Warning	Detect loss of tunability (ParameterTunabilityLossMsg)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

✔ Check safety-related diagnostic settings for Merge blocks

Check diagnostic settings in the model configuration that apply to Merge blocks and might impact safety.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Detect multiple driving blocks executing at the same time step (MergeDetectMultiDrivingBlocksExec)	error	error

Check safety-related diagnostic settings for model initialization

Check diagnostic settings in the model configuration that affect model initialization and might impact safety.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Underspecified initialization detection (UnderspecifiedInitializationDetection)	Simplified	Simplified

Check safety-related diagnostic settings for data used for debugging

Check diagnostic settings in the model configuration that apply to data used for debugging and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Model Verification block enabling (AssertControl)	UseLocalSettings	DisableAll

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check safety-related diagnostic settings for signal connectivity

Check diagnostic settings in the model configuration that apply to signal connectivity and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Signal label mismatch (SignalLabelMismatchMsg)	none	error
Warning	Unconnected block input ports (UnconnectedInputMsg)	warning	error
Warning	Unconnected block output ports (UnconnectedOutputMsg)	warning	error
Warning	Unconnected line (UnconnectedLineMsg)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check safety-related diagnostic settings for bus connectivity

Check diagnostic settings in the model configuration that apply to bus connectivity and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Unspecified bus object at root Outport block (RootOutportRequireBusObject)	warning	error
Warning	Element name mismatch (BusObjectLabelMismatch)	warning	error
Warning	Bus signal treated as vector (StrictBusMsg)	ErrorLevel1	ErrorOnBusTreatedAsVector
Warning	Non-bus signals treated as bus signals (NonBusSignalsTreatedAsBus)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check safety-related diagnostic settings that apply to function-call connectivity

Check diagnostic settings in the model configuration that apply to function-call connectivity and might impact safety.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	InvalidFcnCallConnMsg	error	error
Pass	Context-dependent inputs (FcnCallInpInsideContextMsg)	error	error

---

⚠ Check safety-related diagnostic settings for type conversions

Check diagnostic settings in the model configuration that apply to type conversions and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Unnecessary type conversions (UnnecessaryDatatypeConvMsg)	none	warning
Warning	Vector/matrix block input conversion (VectorMatrixConversionMsg)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for model referencing

Check diagnostic settings in the model configuration that apply to model referencing and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Port and parameter mismatch (ModelReferenceIOMismatchMessage)	none	error
Warning	Invalid root Inport/Outport block connection (ModelReferenceIOMsg)	none	error
Warning	Unsupported data logging (ModelReferenceDataLoggingMessage)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for Stateflow

Check diagnostic settings in the model configuration that apply to Stateflow and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Invalid input data access in chart initialization (SFInvalidInputDataAccessInChartInitDiag)	warning	error
Warning	Transition outside natural parent (SFTransitionOutsideNaturalParentDiag)	warning	error
Warning	Unreachable execution path (SFUnreachableExecutionPathDiag)	warning	error
Warning	Undirected event broadcasts (SFUndirectedBroadcastEventsDiag)	warning	error
Warning	Transition action specified before condition action (SFTransitionActionBeforeConditionDiag)	warning	error
Warning	Absolute time temporal value shorter than sampling period (SFTemporalDelaySmallerThanSampleTimeDiag)	warning	error
Warning	Self-transition on leaf state (SFSelfTransitionDiag)	warning	error
Warning	'Execute-at-initialization' disabled in presence of input events (SFExecutionAtInitializationDiag)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for signal data

Check diagnostic settings in the model configuration that apply to signal data and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Division by singular matrix (CheckMatrixSingularityMsg)	none	error
Warning	Underspecified data types (UnderSpecifiedDataTypeMsg)	none	error
Warning	Wrap on overflow (IntegerOverflowMsg)	warning	error
Warning	Saturate on overflow (IntegerSaturationMsg)	warning	error
Warning	Inf or NaN block output (SignalInfNanChecking)	none	error
Warning	Simulation range checking (SignalRangeChecking)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

⚠ Check safety-related diagnostic settings for variants

Check diagnostic settings in the model configuration that apply to variants and might impact safety.

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

Status	Parameter	Current Value	Recommended Values
Warning	Variant condition mismatch at signal source and destination (VariantConditionMismatch)	none	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

✔ Display model metrics and complexity report

Display number of elements and name, level, and depth of subsystems for the model or subsystem

Model metrics information
Display number of elements for Simulink blocks and Stateflow constructs

Summary

Element Type	Count
Inport	2
Outport	2
SubSystem	11

Simulink

Block Type	Count
SubSystem	11
S-Function	6
Gain	4
Scope	3
SpectrumAnalyzer	2
Inport	2
Outport	2
Sin	1
DiscreteIntegrator	1
Sum	1
Trigonometry	1
Constant	1

StateSpace	1
Product	1

∧ **Less**

Model complexity information
Display name, level, and depth of subsystems

Maximum Subsystem Depth: 4

Subsystem Depth

Subsystem Name	Level	Depth
..../FM Demodulator Passband	1	3
..../FM Demodulator Passband /Analytic Signal	2	2
..../Analytic Signal/Check Signal Attributes	3	1
..../Check Signal Attributes	2	1
....ut zeros until signal is available (Ho)	2	1
..../Subsystem(Indirect FM)	1	1
..../Subsystem(Phase lock loop)	1	3
..../Continuous-Time VCO	2	2
..../Check Signal Attributes	3	1

Check for unconnected objects

Identify unconnected lines, input ports, and output ports in the model

Passed
There are no unconnected lines, input ports, and output ports in this model.

Check type and size of condition expressions

Identify condition expressions which are not logical scalars.

Passed
No condition expressions found which are not logical scalars.

Check usage of relational operators in MATLAB Function blocks

Identify relational operators operating on operands of different data types in MATLAB Function blocks.

Passed
No relational operators found operating on operands of different data types.

Check usage of logical operators and functions in MATLAB Function blocks

Identify logical operators and functions operating on operands with numerical data types.

Passed
No logical operators or functions found operating on operands with numerical data types.

Metrics for generated code complexity

Identify usage of built-in MATLAB Functions with high code complexity.

Passed
No MATLAB constructs found with high code complexity.

Check usage of bitwise operations in Stateflow charts

Identify usage of signed data type operands to bitwise operations in Stateflow charts.

Passed
No Stateflow objects found that use signed data type operands with bitwise operations.

Check Stateflow charts for strong data typing

Identify expressions with variables and parameters of different data types in Stateflow objects.

Passed
No expressions were found with variables and parameters of different data types.

Check assignment operations in Stateflow charts

Identify assignment operations in Stateflow objects which cast integer and fixed-point calculations to wider datatype.

Passed
No assignment operations were found which cast integer and fixed-point calculations to wider datatype.

Check Stateflow charts for unary operators

Identify unary minus operators on unsigned data types in Stateflow objects.

Passed
No unary minus operations on unsigned data types were found in Stateflow objects.

Check usage of Abs blocks

Identify Abs blocks that have unreachable code or produce overflows.

Passed
No Abs blocks found causing unreachable code or produce overflows.

Check usage of For Iterator blocks

Identify For Iterator blocks that cause variable loops.

Passed
No For Iterator blocks found that cause variable loops.

Check usage of If blocks and If Action Subsystem blocks

Identify If and If Action Subsystem blocks without else conditions.

Passed
No If blocks with questionable configurations or connections were found.

Check usage of Switch Case blocks and Switch Case Action Subsystem blocks

Identify inappropriately used Switch Case blocks and Switch Case Action Subsystem blocks.

Passed
No Switch Case blocks with questionable configurations or connections were found.

Check usage of conditionally executed subsystems

Identify inappropriate blocks in conditionally executed subsystems.

Passed
No blocks with improper sample times or asynchronously executed sample-time dependent blocks were found.

Check relational comparisons on floating-point signals

Identify relational blocks or operations that perform equality or inequality comparisons on floating-point data types.

Passed
No relational blocks or operations found that perform equality or inequality comparisons on floating-point data types.

Check usage of Relational Operator blocks

Identify Relational Operator blocks that operate on different data types or have a non-boolean output.

Passed
No Relational Operator blocks found that operate on different data types or have a non-boolean output.

Check usage of Logical Operator blocks

Identify Logical Operator blocks that operate on non-boolean data types.

Passed
No Logical Operator blocks found that operate on non-boolean data types.

Check usage of bitwise operations

Identify bit operations with signed data types as inputs.

Passed
No bit operation found with signed data types as inputs.

Check usage of Merge blocks

Identify Merge blocks constructs which can lead to ambiguous behavior.

Passed
No merge blocks found which can lead to ambiguous behavior.

Check data types for blocks with index signals

Identify blocks with index signals that have data types other than integer or enum.

Passed
No blocks or charts found with index signals or variables that have data types other than integer or enum.

Check for root Inports with missing range definitions

Identify root-level Inport blocks with missing or erroneous minimum or maximum values. Inport block minimum and maximum values are specified with block parameters or Simulink signal objects that explicitly resolve to the connected signal lines.

Passed
There are no missing or erroneous Inport range properties at the model root level.

Check for root Outports with missing range definitions

Identify root-level Outport blocks with missing or erroneous minimum or maximum values. Outport block minimum and maximum values are specified with block parameters or Simulink signal objects that explicitly resolve to the connected signal lines.

Passed
There are no missing or erroneous Outport range properties at the model root level.
Note: Root Outports with inherited data types are not analyzed by this check.

Check usage of Assignment blocks

Identify Assignment blocks whose array fields are not initialized.

Passed
All Assignment blocks are configured with block parameter "Action if any output element is not assigned" set to Warning or Error.

⚠ Check model object names

Identify invalid names of following model objects (first invalid name fragment is highlighted):

- Blocks
- Signals
- Parameters
- Buses
- Stateflow elements

Warning
The following model objects have invalid names:

Block	Name
.... FM Demodulation (Discriminator)	FM Demodulation (Discriminator)
..../FM Demodulator Passband	FM Demodulator Passband
..../FM Demodulation using PLL	FM Demodulation using PLL
..../Frequency Modulation	Frequency Modulation
FM_Modulation_Demodulation_03/Sin Wave	Sin Wave
..../Spectrum Analyzer(demodulation)	Spectrum Analyzer(demodulation)
..../Spectrum Analyzer (modulation)	Spectrum Analyzer (modulation)
..../Subsystem(Indirect FM)	Subsystem(Indirect FM)
..../Discrete-Time Integrator	Discrete-Time Integrator
..../Subsystem(Indirect FM) /Gain2	Gain2
..../Subsystem(Indirect FM) /Kf Gain	Kf Gain
..../Trignometric Function	Trignometric Function
..../Subsystem(Indirect FM) /fc constant	fc constant
..../Subsystem(Phase lock loop)	Subsystem(Phase lock loop)
..../Analog Filter Design	Analog Filter Design
..../Continuous-Time VCO	Continuous-Time VCO
..../Subsystem(Phase lock loop) /Gain3	Gain3

∧ **Less**

Recommended Action
Change flagged names of model objects

Check usage of Signal Routing blocks

Identify usage of Signal Routing blocks in Simulink that might impact safety.

Passed
No Switch blocks that might generate code with inequality operations (~=) in expressions where at least one side of the expression is a floating-point variable or constant were found.

Check for length of user-defined object names

Identify user-defined object names with length greater than threshold.

Passed
No Subsystem blocks found with function name length greater than Maximum identifier length. There are no data objects with names having length greater than Maximum identifier length.

Check data type of loop control variables

Identify loop control variables using non-integer data types.

Passed
No For Iterator blocks or MATLAB Function blocks found using non-integer data type for loop control counter variable.

Check usage of bit-shift operations

Identify blocks or expressions that perform bit-shift operations greater than the bit width of Input type.

Passed
No blocks or expressions found that perform bit-shift operations greater than the bit width of Input type.

Display configuration management data

Display model configuration and checksum information

Model configuration and checksum information

Attribute	Value
Model Version	1.3

Author	Rajeev Ranjan
Date	Sat Mar 26 22:48:14 2022
Model Checksum	3754679981 1157656999 2831316963 2990556161

Check usage of recursions

Identify usage of recursive behavior.

Passed
No entities involved in recursions were found.

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Check for prohibited sink blocks

Identify sink blocks that must be removed prior to code generation.

Passed
There are no prohibited blocks in the subsystem.

Check whether block names appear below blocks

Identify blocks where the name is not displayed below the block.

Passed
All blocks have names displayed below the block.

Check for mixing basic blocks and subsystems

Identify levels in the model that include basic blocks and subsystems. Each level of a model must be designed with blocks of the same level (for example, only subsystems or only basic blocks).

Warning
The following level(s) in the model include basic blocks and subsystems:

System	Block path
FM_Modulation_Demodulation_03	.... FM Demodulation (Discriminator)
FM_Modulation_Demodulation_03	..../FM Demodulator Passband
FM_Modulation_Demodulation_03	..../FM Demodulation using PLL
FM_Modulation_Demodulation_03	..../Frequency Modulation
FM_Modulation_Demodulation_03	FM_Modulation_Demodulation_03/Sin Wave
FM_Modulation_Demodulation_03	..../Spectrum Analyzer(demodulation)
FM_Modulation_Demodulation_03	..../Spectrum Analyzer (modulation)

Recommended Action
If possible, replace blocks at the identified level of the model hierarchy with basic blocks. Move nonvirtual blocks into the identified subsystem.

Check usage of tunable parameters in blocks

Identify tunable parameters used to specify expressions, data type conversions, or indexing operations.

Passed
Tunable parameters are not used in the model.

Check the display attributes of block names

Identify whether to display block names.

Check for missing block names
Identify block names that are hidden but should be displayed to show a descriptive name.

Passed
All displayed names provide descriptive information.

Check for blocks with hidden names and obvious function
Identify block names that are displayed but can be hidden due to obvious behavior.

Warning
The following block names can be hidden:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Trignometric Function
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /MatrixMultiply

Recommended Action
Hide the block name by selecting (**Format > Auto Name > Hide Automatic Block Name**).

Check for non-descriptive displayed block names
Identify block names that are displayed but should be hidden due to a lack of a descriptive name.

Warning
The following blocks have a name displayed, however, the name is not descriptive:

- FM_Modulation_Demodulation_03/FM Demodulator Passband
- ..../Subsystem(Indirect FM) /Discrete-Time Integrator
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Gain2
- ..../Subsystem(Phase lock loop) /Continuous-Time VCO
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Gain3

Recommended Action
Modify the block name to provide descriptive information, or hide the block name by selecting (**Format > Auto Name > Hide Automatic Block Name**).

Check display for port blocks

Identify Inport and Outport blocks that do not specify Port number for the **Icon display** block parameter.

Passed
All port blocks display the port number.

Check usage of Relational Operator blocks

Identify Relational Operator blocks that connect to constants with the first (upper) input value.

Passed
This model does not contain Relational Operator blocks.

Check for nondefault block attributes

Identify blocks that use and fail to display nondefault values.

Passed
Model displays all block parameter values that are not default values.

Check signal line labels

Identify blocks that require labeled signals. A subset of source and destination blocks require labeled signals.

Check source block labels

Warning
The following signals have no label:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /In1/
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /In1/
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /fc constant/

Recommended Action
Add a new or propagated label to the signal line.

Identify blocks that require labeled signals. A subset of source and destination blocks require labeled signals.

Check destination block labels

Warning
The following signals have no label:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Out1/
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /

Recommended Action
Add a new or propagated label to the signal line.

Check for propagated signal labels

Identify propagated labels on signal lines.

Passed
All inputs and outputs to the subsystems and blocks have labels and display propagated signals.

Check return value assignments in Stateflow graphical functions

Identify graphical functions with multiple assignments of return values in Stateflow charts.

Passed
No Stateflow charts were found.

Check for pointers in Stateflow charts

Identify pointer operations on custom code variables.
Note: This check applies only to Stateflow charts that use C as the action language.

Passed
No pointer operations were found.

Check logical expressions in If blocks

Checks If blocks for complex usage of primary expressions within a logical expression

Passed
Logical expressions inside If blocks are simple

Check for Simulink diagrams using nonstandard display attributes

Identify nonstandard display attributes in Simulink diagrams.

Check format settings
Identify incorrect model-level format options.

Warning
The following format display options are incorrect.

Display Attribute	Recommended Value	Actual Value
Debug > Information Overlays > Nonscalar Signals	on	off
Modeling > Environment > Model Browser	off	on
Debug > Information Overlays > Show All Links	none	disabled

Recommended Action
Set the format options to the recommended value.

Check block colors
Identify blocks using nonstandard colors.

Warning
The following blocks use nonstandard colors:

- .../ FM Demodulation (Discriminator)
- FM_Modulation_Demodulation_03/FM Demodulator Passband
- FM_Modulation_Demodulation_03/FM Demodulation using PLL
- FM_Modulation_Demodulation_03/Frequency Modulation
- FM_Modulation_Demodulation_03/Sin Wave
- FM_Modulation_Demodulation_03/Spectrum Analyzer(demodulation)
- FM_Modulation_Demodulation_03/Spectrum Analyzer (modulation)
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM)
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop)

Recommended Action
Set the block foreground color to black and the background color to white.

Check canvas colors
Identify canvases that are not white.

Passed
All diagrams use a white canvas.

Check diagram zoom
Identify diagrams that do not have zoom factor set to 100 %.
Note: Zoom factors can differ for each instance of a model diagram opened in Simulink Editor

Warning
The following diagrams do not have zoom factor set to 100 percent:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM)
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop)

Recommended Action
For each listed diagram, select **Modeling > Environment > Zoom > Normal View (100%)**.

Check input and output settings of MATLAB Functions

Identify MATLAB Functions that have inputs, outputs, or parameters with inherited complexity, data type, or size properties.

Passed
No MATLAB Functions found in the model or subsystem.

Check MATLAB code for global variables

Check for global variables in MATLAB code

Check for global variables in MATLAB code used in MATLAB Function blocks

Passed
No MATLAB Function blocks found

Check for global variables in MATLAB functions defined in Stateflow charts

Passed
No MATLAB functions defined in Stateflow charts found

Check for global variables in called MATLAB functions

Passed
No external MATLAB functions found

Check use of Simulink in Stateflow charts

na_0039: Limitation on Simulink functions in Chart blocks

Check use of Stateflow charts nested inside Simulink functions used in Stateflow.

Passed
No Stateflow charts found nested inside Simulink functions used in Stateflow.

Check use of default variants

na_0036: Default variant

Identify variant subsystems that do not use default variants.

Passed
All variant subsystems in the model use default variants

Check use of single variable variant conditionals

Identify variant subsystems which use multi-variable compound conditions.

Passed
No variant subsystems with multiple variable compound conditions found

---

Check usage of restricted variable names

Checks whether variable names used in MATLAB Function blocks are reserved for C/C++/MATLAB keywords

Passed
No variable names conflict with reserved keywords

Check usage of character vector inside MATLAB Function block

Checks whether character vectors are being used inside MATLAB Function blocks

Passed
No character vectors found in MATLAB Function block

Check usage of recommended patterns for Switch/Case statements

Checks whether non-constant variables are used in Switch/Case arguments.

Passed
Non-constant variables are not used as Switch/Case arguments

Check the number of function calls in MATLAB Function blocks

Checks whether number of function calls in MATLAB Function blocks is less than 3.

Passed
Number of function calls in MATLAB Function blocks is less than 3.

Check lines of code in MATLAB Functions

Identify MATLAB Functions with high number of effective lines of code.

Passed
No MATLAB Function found with high number of effective lines of code.

Check nested conditions in MATLAB Functions

Identify nested if/else and case statements in MATLAB Functions.

Passed
No MATLAB Function found with deeply nested if/else and case statements.

Check Implement logic signals as Boolean data (vs. double)

Identify whether **Implement logic signals as Boolean data (vs. double)** is selected.

Passed
Implement logic signals as Boolean data (vs. double) is selected.

Check model diagnostic parameters

Identify diagnostic parameters that are set to **none**.

Warning
The following diagnostics parameters are set to **none**:

- Inf or NaN block output
- Duplicate data store names

Recommended Action
In the Configuration Parameters dialog box, set the above diagnostic parameters to **warning** or **error**.

⚠ Check usage of Discrete-Time Integrator block

Check Saturation limit settings of Discrete-Time Integrator blocks

Warning
The following Discrete-Time Integrator blocks do not have recommended Saturation limit settings:

Block	Parameter	Current Value	Recommended Values
..../Discrete-Time Integrator	LimitOutput	off	on

Recommended Action
Consider setting Saturation limits by selecting the "Limit output" parameter.

✓ Check default transition placement in Stateflow charts

Identify all groupings of states that do not have a default transition or do not have the default state as the top-most state.

Passed
No Stateflow charts and states found that violate the guidelines for default transition placement in Stateflow charts.

✓ Check for avoiding algebraic loops between subsystems

jc_0653: Delay block layout in feedback loops

Identify delay blocks usage in feedback loops.

Passed
No delay blocks in feedback loops violate the guidelines for avoiding algebraic loops between subsystems.

✓ Check for missing ports in Variant Subsystems

Check for number of inputs/outputs to a Variant Subsystem.

Passed
No Variant Subsystems found having different number of inputs/outputs in the Variant Subsystem choices.

✓ Check for cascaded Unit Delay blocks

Identify cascaded and tapped pattern of Unit Delay blocks.

Passed
No cascaded Unit Delay blocks found that can be changed to Tapped Delay/Delay block.

⚠ Check file names

Characters allowed for file names

Warning
The following files have invalid names:

- E:\LTTS\MBD\FM_Modulation_Demodulation_03 Coverage Report(99007927).pdf
- E:\LTTS\MBD\Modelling Files Samples-20220323.zip
- E:\LTTS\MBD\Sample_Project_MBD (1).zip

Recommended Action
Consider having only alphanumeric characters and underscores in file name.

⚠ Check folder names

Characters allowed for folder names

Warning
The following folders have invalid names:

- E:\LTTS\MBD\Modelling file
- E:\LTTS\MBD\Sample Project
- E:\LTTS\MBD\Wipper System Car
- E:\LTTS\MBD\Sample Project\3_Compliance (License Based)
- E:\LTTS\MBD\Sample Project\5_Embedded_C_Executable(License Based)

Recommended Action
Consider having only alphanumeric characters and underscores in folder name.

Number at the beginning

Warning
The following folders have numbers at the beginning of the folder name:

- E:\LTTS\MBD\Sample Project\1_Model
- E:\LTTS\MBD\Sample Project\2_Project_Documents
- E:\LTTS\MBD\Sample Project\3_Compliance (License Based)
- E:\LTTS\MBD\Sample Project\4_Test_Results
- E:\LTTS\MBD\Sample Project\5_Embedded_C_Executable(License Based)
- E:\LTTS\MBD\Sample Project\6_Older_Models
- E:\LTTS\MBD\Sample Project\7_Video
- E:\LTTS\MBD\Sample Project\8_Scripts

Recommended Action
Consider having alphabetic character at the beginning of the folder name.

✓ Check port block names

Identify Inport or Outport block names with incorrect characters.

Passed
All the Inport or Outport block names use correct characters.

✓ Check subsystem names

Identify subsystem names with incorrect characters.

Passed
All the subsystem names use correct characters.

⚠ Check character usage in block names

Characters allowed for block names

Warning
The following blocks have invalid names:

- ..../ FM Demodulation (Discriminator)
- FM_Modulation_Demodulation_03/FM Demodulation using PLL
- FM_Modulation_Demodulation_03/Frequency Modulation
- FM_Modulation_Demodulation_03/Sin Wave
- FM_Modulation_Demodulation_03/Spectrum Analyzer(demodulation)
- FM_Modulation_Demodulation_03/Spectrum Analyzer (modulation)
- ..../Subsystem(Indirect FM) /Discrete-Time Integrator
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Gain2
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Kf Gain
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Trignometric Function
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /fc constant
- ..../Subsystem(Phase lock loop) /Analog Filter Design
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Gain3

∧ Less

Recommended Action
Consider having only alphanumeric characters and underscores in block name.

⚠ Check definition of signal labels

Identify blocks that require labeled signals. A subset of source and destination blocks require labeled signals.

Check source block labels

Warning
The following signals have no label:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /In1/
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /In1/
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /fc constant/

Recommended Action
Add a new or propagated label to the signal line.

Identify blocks that require labeled signals. A subset of source and destination blocks require labeled signals.

Check destination block labels

Warning
The following signals have no label:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Out1/
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /

Recommended Action
Add a new or propagated label to the signal line.

⚠ Check Signal name propagation

Check Signal name propagation for subsystems

Warning
The following subsystems do not have propagated signal labels:

- FM_Modulation_Demodulation_03
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM)
- FM_Modulation_Demodulation_03
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop)

Recommended Action
Add labels and enable signal propagation by selecting 'Show propagated signal' parameter for signals.

✓ Check Signed Integer Division Rounding mode

jc_0642: Integer rounding mode setting

Identifies blocks with block parameter 'Integer Rounding Mode' set to 'Simplest' when the configuration parameter 'Signed integer division rounds to' is set to 'Undefined'.

Passed
Configuration parameter 'Signed integer division rounds to' is not set to 'Undefined'.

✓ Check usage of State names

jc_0731: State name format

Identify state names with '/' at its end.

Passed
No Stateflow states were found.

✓ Check usage of Stateflow comments

Identify comments that are nested or contain newline(s) in the middle in Stateflow for action language 'C'.

Passed
No comments found that are either nested or contain newline(s) in the middle.

Check execution timing for default transition path

'Execute (enter) Chart At Initialization' should be set to OFF.

Passed
All Stateflow Charts pass the check.

Check usage of Merge block

jc_0659: Usage restrictions of signal lines input to Merge blocks
There must not be any block between a Conditional Subsystem block and a Merge block.

Passed
No Merge block found.

Check usage of internal transitions in Stateflow states

Identify Stateflow states using multiple internal transitions.

Passed
No Stateflow states found with multiple internal transitions

Check usage of transition conditions in Stateflow transitions

Identify unconditional Stateflow transitions with higher priority than conditional transitions.

Passed
No unconditional Stateflow transitions found with higher priority than conditional transitions

---

Check block orientation

Check block orientation

Warning
The following blocks have rotated or reversed orientation:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /In1
- ..../Subsystem(Phase lock loop) /Continuous-Time VCO

Recommended Action
Flip/rotate the blocks to be oriented towards the right.

Check usage of parentheses in Stateflow transitions

jc_0752: Condition action in transition label

Start new line before and after parentheses for condition actions in Stateflow transitions.

Passed
No Stateflow Transitions found that violate the requirement for new line for condition actions.

Check usable number for first index

Identify usage of first index of Stateflow data.

Passed
All Stateflow data first index values are uniform.

Check character usage in signal names and bus names

Single reserved MATLAB word

Warning
The following signals or buses have reserved MATLAB words as the name:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Const

Recommended Action
Consider not having reserved MATLAB word as the signal or bus names.

Check uniqueness of Stateflow State and Data names

jc_0732: Distinction between state names, data names, and event names
Identify Stateflow State and Stateflow Data that have identical names in a given chart.

Passed
No Stateflow charts were found.

Check length of model file name

Check length of model file name

Passed
Model name is valid.

Check length of folder name at every level of model path

The model file name is: FM_Modulation_Demodulation_03

Passed
Folder names are valid.

Check length of subsystem names

Check length of subsystem names

Passed
All subsystem names are valid.

Check length of Inport and Outport names

Check length of Inport and Outport names

Passed
All Inport and Outport names are valid.

Check length of signal and bus names

Check length of signal and bus names

Passed
All signal and bus names are valid.

Check length of block names

Check length of block names

Passed
All block names are valid.

Check entry formatting in State blocks in Stateflow charts

Identify missing line breaks between entry action (en), during action (du), and exit action (ex) entries in states. Identify missing line breaks after semicolons (;) in statements.

Passed
All state entries found are correctly formatted.

Check prohibited combination of state action and flow chart

State actions and flow charts should not be combined in states.

Passed
No Stateflow states were found that combine state action and flow chart.

Check repetition of Action types

jc_0734: Number of state action types
Identifies repeated action types in a Stateflow State.

Passed
No Stateflow States were found.

Check for unused data in Stateflow Charts

Checks if the model parameter 'Unused data, events, messages and functions' is not set to 'none'.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Unused data, events, messages and functions (SFUnusedDataAndEventsDiag)	warning	error, warning

---

Check updates to variables used in state transition conditions

jc_0741: Timing to update data used in state chart transition conditions

Variables used in state transition conditions must not perform an update by "during" state action type.

Passed
No Stateflow states found that violate the guidelines for updating the variables used in state transition conditions.

Check condition actions and transition actions in Stateflow

Identify usage of transition actions in Stateflow.

Passed
No Stateflow charts have transition actions.

Check uniqueness of State names

jc_0730: Unique state name in Stateflow blocks
Identifies identical State names within a Stateflow Chart.

Passed
No Stateflow charts were found.

Check if blocks are shaded in the model

Check if blocks are shaded in the model

Passed
Blocks in the model are not shaded.

Check operator order of Product blocks

Operator order for Product blocks.

Passed
All Product blocks have valid operator order.

Check icon shape of Logical Operator blocks

Icon shape of Logical Operator blocks.

Passed
All Logical Operator blocks have consistent icon shape.

Check if tunable block parameters are defined as named constants

Check if tunable block parameters are defined as named constants

Warning
The following tunable block parameters are not defined as named constants.

Block	Violations
FM_Modulation_Demodulation_03/Sin Wave	Frequency : 2 Samples : 10
..../Discrete-Time Integrator	gainval : 1.0
..../Subsystem(Indirect FM) /Kf Gain	Gain : 10
..../Subsystem(Indirect FM) /fc constant	Value : 20
..../Subsystem(Phase lock loop) /Gain3	Gain : 10

Recommended Action
Consider changing tunable block parameter literal values to named constants.

Check default/else case in Switch Case blocks and If blocks

Check if default/else case in Switch Case blocks and If blocks are set to 'on'

Passed
Conditional Control blocks are valid.

Check usage of internal transition

Internal transition lines should start from the left edge of the state.

Passed
No Stateflow transitions found that violate the guidelines for starting point of internal transition in Stateflow.

Check usage of parallel states

Substates of parallel states should not be parallel states.

Passed
All Stateflow Charts pass the check.

Check scope of data in parallel states

jc_0722: Local data definition in parallel states
The scope of local variables should be restricted to one parallel state unless it is being used by other parallel states.

Passed
No Stateflow States were found.

Check indentation of code in Stateflow states

Identify non-uniform indentation in Stateflow blocks.

Passed
All Stateflow blocks have uniform indentation.

Check for unexpected backtracking in state transitions

Identify configuration parameter settings which identify unexpected backtracking in state transitions.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Unexpected backtracking (SFUnexpectedBacktrackingDiag)	error	error

---

Check usage of Lookup Tables

Check usage of recommended settings for Lookup Table blocks to prevent unexpected results.

Passed
All Lookup Table blocks have recommended settings.

Check for parentheses in Fcn block expressions

Identify order of parentheses in Fcn block expressions.

Passed
All Fcn blocks use parentheses to mark operator precedence.

Check for usage of text inside states

Identify Stateflow states with text exceeding the boundary of the state.

Passed
No Stateflow states found with text exceeding the boundary of the state.

Check for unconnected objects in Stateflow Charts

Identify dangling transitions and unconnected Stateflow States and Junctions in Stateflow Charts.

Passed
No unconnected transitions, states or junctions found in Stateflow Charts.

Check position of label string in Stateflow transition

Identify placement of label string in Stateflow transition.

Passed
All Stateflow transitions are placed uniformly.

Check duplication of Simulink Data names

Simulink Data names should be unique across base workspace, model workspace and data dictionary.

Passed
All Simulink Data names are unique.

Check Model Description

Identify layers in the model having inconsistent description format.

Warning
Following layers do not have model descriptions:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop)

Recommended Action
Consider adding model description for all the layers.

Identify layers in the model having inconsistent description format.

Warning
Following layers do not have consistent model description format:

- FM_Modulation_Demodulation_03
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM)

Recommended Action
Consider having a consistent format for the model description

Example: If description tags are 'Input:, Description:, and Output:' then format should be as following:
Input: add input information here
Description: add model description here
Output: add output information here

Check Stateflow chart action language

Check if the action language of Stateflow charts is set to 'C'.

Passed
All Stateflow Charts have action language set to 'C'.

Check character usage in Stateflow data names

Identify Stateflow data names with invalid characters.

Passed
No invalid characters are used in Stateflow data names.

Check length of Stateflow data name

Check if the length of Stateflow data names are within limit.

Passed
All Stateflow data names are valid.

Check diagnostic settings for incorrect calculation results

Identify data validity diagnostic settings which detect incorrect calculation results.

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

Status	Parameter	Current Value	Recommended Values
Warning	Division by singular matrix (CheckMatrixSingularityMsg)	none	error
Warning	Inf or NaN block output (SignalInfNanChecking)	none	error
Warning	Wrap on overflow (IntegerOverflowMsg)	warning	error
Warning	Saturate on overflow (IntegerSaturationMsg)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check usage of transitions to external states

Identify transitions ending on external child states.

Passed
No direct transitions found from external state to child state.

Check order of state action types

Identify out of order state action types in Stateflow states.

Passed
No Stateflow states found with out of order state action types

---

Check usage of numeric literals in Stateflow

Identify use of numeric literals in Stateflow states and transitions.

Passed
No numeric literals found in Stateflow charts.

Check position of comments in transition labels

Identify comments in transition labels that are not positioned uniformly.

Passed
Comments in transition labels are positioned uniformly.

Check trigger signal names

Identify trigger blocks where the origin of the trigger signal and the destination have dissimilar names.

Passed
No violation of the guideline for use of trigger signal names.

Check usage of unconditional transitions in flow charts

Identify unconditional transitions in flow charts.

Passed
All unconditional transitions adhere to the guideline.

Check for comments in unconditional transitions

Identify comments in unconditional transitions without action statements.

Passed
All unconditional transitions without action statements have comments.

Check output data type of operation blocks

jc_0651: Implementing a type conversion

Identify operation blocks that specify output data type.

Passed
No operation blocks found that explicitly specify output data type.

Check terminal junctions in Stateflow

Identify usage of terminal junctions in flow charts.

Passed
Multiple terminal junctions were not found.

Check if state action type 'exit' is used in the model

Check if state action type 'exit' is used in the model.

Passed
State action type 'exit' is not used in the model.

⚠ Check for consistency in model element names

Check if model elements connected to a signal are following consistent naming

Warning
The following model elements are not consistent with the connected signal name:

Block Path	Expression
..../Subsystem(Indirect FM) /Out1	Naming mismatch with signal name "M1"
..../Subsystem(Indirect FM) /In1	Naming mismatch with signal name "M2"

Recommended Action
Consider renaming the deviating model elements to match the signal name or to be consistent with Inport/Outport blocks.

Check usage of graphical functions in Stateflow

Check for calls between graphical functions.

Passed
No calls between graphical functions were found.

Check for sample time setting

Check if sample time property of a block is set to -1 (inherited).

Passed
All permitted blocks have sample time set to -1 (inherited).

Check usage of Sum blocks

Check shape of Sum block

Warning
Following Sum blocks are "round" shaped but are not part of a feedback loop:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Sum

Recommended Action
Set the shape of Sum block to "rectangular".

Check Indexing Mode

Identify blocks and charts with inconsistent Indexing mode.

Passed
No inconsistent Indexing mode used in the model.

Check position of signal labels

Check location of signal labels

Warning
The following signals do not have labels located at the origin of the signal line:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M1
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M1
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M1
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M2
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M1
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M1
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Const
- FM_Modulation_Demodulation_03/M2

Recommended Action
Consider placing the labels at the origin of the signal line.

Check position of Inport and Outport blocks

Check positions of Inport blocks

Warning
The following Inport blocks are not placed to the extreme left side of the diagram:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /In1

Recommended Action
Move the Inport blocks identified to the left of all other blocks in the diagram.
It is acceptable to move the Inport block to the right only to prevent signal crossings.

Check definition of Stateflow events

Stateflow events should be defined at the smallest possible scope of usage.

Passed
All Stateflow events are defined at their smallest scope.

Check for usage of Data Store Memory blocks

Identify the usage of Data Store Memory blocks.

Passed
Usage of Data Store Memory blocks is correct.

Check for MATLAB expressions in Stateflow blocks

Identify MATLAB expressions that are not suitable for code generation in Stateflow blocks.

Passed
No Stateflow objects found using MATLAB expressions unsuitable for code generation.

Check definition of Stateflow data

Identify the Scope value set on Stateflow data defined at machine level.

Passed
All Stateflow data at machine level has been defined as per guideline.

⚠ Check signal flow in model

Check placement of sequential blocks

Warning
The placement of blocks in the following subsystems can be improved:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM)
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop)
- ..../Subsystem(Phase lock loop) /Continuous-Time VCO
- FM_Modulation_Demodulation_03

Recommended Action
Ensure that the signal flow in the mentioned subsystems is from left to right.

- All sequential blocks, except the blocks on feedback path, must be placed from left to right.
- All blocks, except the blocks on feedback path, should be oriented to the right.

Check Stateflow transition appearance

Identify Stateflow transitions visually overlapping other Stateflow objects.

Passed
No transition violates the guidelines for Stateflow transition appearance.

Check position of conditional blocks and iterator blocks

Identify conditional and iterative blocks that are positioned inconsistently in the model.

Passed
The conditional and iterative blocks are correctly placed in the model.

Check signal line connections

Identify intersections and overlaps of signals in a model.

Passed
No signal intersections or overlaps found.

Check usage of events in Stateflow charts

Identify undirected event broadcasts in Stateflow.

Passed
No instances of undirected event broadcast were found.

Check Model font settings

Identify blocks and charts with different font settings from input parameters.

Passed
Font settings of the blocks and charts and input parameters are same.

Check usage of Simulink functions in Stateflow

Usage of Simulink Functions in Stateflow.

Passed
All Simulink Functions in Stateflow are defined according to the guideline.

Check for Strong Data Typing with Simulink I/O

Check whether labeled input and output signals are strongly typed.

Passed
No Stateflow charts have **Use Strong Data Typing with Simulink I/O** cleared.

Check for exclusive states in state machines

Identify states which are the only sub-state within a state with OR(exclusive) type decomposition.

Passed
All states with OR(exclusive) type decomposition have more than one sub-state.

Check for unconnected signal lines and blocks

Identify unconnected signal lines, subsystems and basic blocks.

Passed
All signal lines and blocks in the model are connected.

Check transitions in Stateflow flow charts

Identify transitions in Stateflow flow charts that are drawn incorrectly.

Passed
All Stateflow transitions in flow charts are drawn correctly.

Check scope of From and Goto blocks

Identify incorrect scoping of From and Goto blocks. For signal flows, From and Goto blocks must use local scope. Control flow can use global scope.

Passed
All From and Goto blocks are used correctly.

Check usage of Switch blocks

Identify Switch blocks that do not use Boolean inputs for the switch condition (input 2), and do not use u2 ~= 0 for the **Criteria for passing first input** block parameter.

Check Switch block parameters
Identify Switch blocks with the parameter **Criteria for passing first input** not set to u2 ~= 0.

Passed
The block parameter **Criteria for passing first input** is correctly configured.

Check for Boolean switch condition
Identify blocks that do not use Boolean signal switch conditions (input 2).

Passed
The switch condition is a Boolean signal.

Check usage of unary minus operations in Stateflow charts

Identify unary minus operations applied to unsigned integers in Stateflow objects.

Passed
No unary minus operations applied to unsigned integers in Stateflow objects were found.

Check usage of floating-point expressions in Stateflow charts

Identify equality or inequality operations (==,~=,!=) in expressions involving floating-point variables or constants.

Passed
No equality or inequality operations in expressions where at least one side of the expression is a floating-point variable or constant were found.

Check usage of enumerated values

Identify enumeration classes used in the model with no default value specification.

Passed
No enumeration classes found without default value specifications.

Check for names of Stateflow ports and associated signals

Identify mismatches between names of Stateflow ports and the associated signals.

Passed
No Stateflow charts were found.

Check settings for data ports in Multiport Switch blocks

Identify Multiport Switch blocks that violate data port settings.

Passed
No Multiport Switch blocks found with inappropriate data port settings.

Check input and output datatype for Switch blocks

Identify Switch blocks with mismatched input and output data types.

Passed
No Switch blocks found with mismatched input and output data types

---

Check usage of fixed-point data type with non-zero bias

jc_0643: Fixed-point setting

Identify blocks with a fixed-point data type whose bias is not zero.

Passed
No blocks found with the Data Type Assistant mode set to "Fixed point" and a bias value other than zero

---

Check signs of input signals in product blocks

jc_0611: Input sign for multiplication and division blocks

Identify blocks that perform division whose inputs have different sign bit.

Passed
No product block with division of different sign bits found.

Check type setting by data objects

jc_0644: Type setting

Identify blocks that violate signal data type setting if signal objects are used.

Passed
No blocks found that violate signal data type setting if signal objects are used.

Check usage of the Saturation blocks

jc_0628: Usage of Saturation blocks

Identify the Saturation and Saturation Dynamic blocks that perform type casting.

Passed
No Saturation and/or Saturation Dynamic blocks perform type casting

---

Check prohibited comparison operation of logical type signals

Identify boolean variables in Stateflow charts using comparison operations.

Passed
No boolean variables use comparison operations of logical type in the model.

Check usage of Memory and Unit Delay blocks

Identify Memory blocks not using a continuous sample time

Passed
No Memory blocks found with inappropriate sample time

Identify Unit Delay blocks with non-discrete sample time

Passed
No Unit Delay blocks found with non-discrete sample time

Check character usage in parameter names

Identify parameter names with invalid characters.

Passed
No invalid characters are used in parameter names.

Check length of parameter names

Check length of parameter names

Passed
All parameter names are valid.

Check undefined initial output for conditional subsystems

Identify undefined initial output for Outports/Merge blocks in conditional subsystems

Passed
The initial output setting for all Conditional Subsystems are valid.

Check comparison of floating point types in Simulink

jc_0800: Comparing floating-point types in Simulink

Equivalence comparison should not be used for floating point numbers.

Passed
No Equivalence comparison done on floating point numbers.

Check unused data in Simulink Model

Identify unused data in model workspace and data dictionary.

Passed
No unused data found in model workspace and/or data dictionary.

Check for implicit type casting in Stateflow

Identify implicit type casting in Stateflow.

Passed
No instances of implicit type casting found.

Check for use of C-style comment symbols

Identify usage of C-style comments in CGT Files and MPT Objects.

Passed
C-style comments are not used in CGT Files and MPT Objects.

Check Stateflow operators

Identify the usage of operators in Stateflow.

Passed
No Stateflow blocks found with incorrect operator usage.

Check fundamental logical and numerical operations

Identify the usage of logical and numerical operations.

Passed
No numerical operation blocks found with boolean inputs.
No logical operation blocks found with non-boolean inputs.

Check usage of vector and bus signals

Check bus signals treated as vectors

Warning
The following configuration parameters are set inappropriately:

Parameter	Current Value	Recommended Values
Bus signal treated as vector (StrictBusMsg)	ErrorLevel1	ErrorOnBusTreatedAsVector

Recommended Action
Consider setting the configuration parameters to the recommended value.

Check connections between structural subsystems

Identify connections between structural subsystems.

Passed
All connections to structural subsystems adhere to the guideline.

4.1.4 JMAAB Checks

98 0 17 0

Check usage of tunable parameters in blocks

Identify tunable parameters used to specify expressions, data type conversions, or indexing operations.

Passed
Tunable parameters are not used in the model.

Check use of single variable variant conditionals

Identify variant subsystems which use multi-variable compound conditions.

Passed
No variant subsystems with multiple variable compound conditions found

---

Check usage of character vector inside MATLAB Function block

Checks whether character vectors are being used inside MATLAB Function blocks

Passed
No character vectors found in MATLAB Function block

⚠ Check usage of Discrete-Time Integrator block

Check Saturation limit settings of Discrete-Time Integrator blocks

Warning
The following Discrete-Time Integrator blocks do not have recommended Saturation limit settings:

Block	Parameter	Current Value	Recommended Values
..../Discrete-Time Integrator	LimitOutput	off	on

Recommended Action
Consider setting Saturation limits by selecting the "Limit output" parameter.

✓ Check default transition placement in Stateflow charts

Identify all groupings of states that do not have a default transition or do not have the default state as the top-most state.

Passed
No Stateflow charts and states found that violate the guidelines for default transition placement in Stateflow charts.

✓ Check for avoiding algebraic loops between subsystems

jc_0653: Delay block layout in feedback loops

Identify delay blocks usage in feedback loops.

Passed
No delay blocks in feedback loops violate the guidelines for avoiding algebraic loops between subsystems.

✓ Check for missing ports in Variant Subsystems

Check for number of inputs/outputs to a Variant Subsystem.

Passed
No Variant Subsystems found having different number of inputs/outputs in the Variant Subsystem choices.

✓ Check for cascaded Unit Delay blocks

Identify cascaded and tapped pattern of Unit Delay blocks.

Passed
No cascaded Unit Delay blocks found that can be changed to Tapped Delay/Delay block.

⚠ Check file names

Characters allowed for file names

Warning
The following files have invalid names:

- E:\LTTS\MBD\FM_Modulation_Demodulation_03 Coverage Report(99007927).pdf
- E:\LTTS\MBD\Modelling Files Samples-20220323.zip
- E:\LTTS\MBD\Sample_Project_MBD (1).zip

Recommended Action
Consider having only alphanumeric characters and underscores in file name.

⚠ Check folder names

Characters allowed for folder names

Warning
The following folders have invalid names:

- E:\LTTS\MBD\Modelling file
- E:\LTTS\MBD\Sample Project
- E:\LTTS\MBD\Wipper System Car
- E:\LTTS\MBD\Sample Project\3_Compliance (License Based)
- E:\LTTS\MBD\Sample Project\5_Embedded_C_Executable(License Based)

Recommended Action
Consider having only alphanumeric characters and underscores in folder name.

Number at the beginning

Warning
The following folders have numbers at the beginning of the folder name:

- E:\LTTS\MBD\Sample Project\1_Model
- E:\LTTS\MBD\Sample Project\2_Project_Documents
- E:\LTTS\MBD\Sample Project\3_Compliance (License Based)
- E:\LTTS\MBD\Sample Project\4_Test_Results
- E:\LTTS\MBD\Sample Project\5_Embedded_C_Executable(License Based)
- E:\LTTS\MBD\Sample Project\6_Older_Models
- E:\LTTS\MBD\Sample Project\7_Video
- E:\LTTS\MBD\Sample Project\8_Scripts

Recommended Action
Consider having alphabetic character at the beginning of the folder name.

Check port block names

Identify Inport or Outport block names with incorrect characters.

Passed
All the Inport or Outport block names use correct characters.

Check subsystem names

Identify subsystem names with incorrect characters.

Passed
All the subsystem names use correct characters.

Check character usage in block names

Characters allowed for block names

Warning
The following blocks have invalid names:

- ..../ FM Demodulation (Discriminator)
- FM_Modulation_Demodulation_03/FM Demodulation using PLL
- FM_Modulation_Demodulation_03/Frequency Modulation
- FM_Modulation_Demodulation_03/Sin Wave
- FM_Modulation_Demodulation_03/Spectrum Analyzer(demodulation)
- FM_Modulation_Demodulation_03/Spectrum Analyzer (modulation)
- ..../Subsystem(Indirect FM) /Discrete-Time Integrator
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Gain2
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Kf Gain
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Trignometric Function
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /fc constant
- ..../Subsystem(Phase lock loop) /Analog Filter Design
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Gain3

∧ Less

Recommended Action
Consider having only alphanumeric characters and underscores in block name.

Check definition of signal labels

Identify blocks that require labeled signals. A subset of source and destination blocks require labeled signals.

Check source block labels

Warning
The following signals have no label:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /In1/
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /In1/
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /fc constant/

Recommended Action
Add a new or propagated label to the signal line.

Identify blocks that require labeled signals. A subset of source and destination blocks require labeled signals.

Check destination block labels

Warning
The following signals have no label:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Out1/
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /

Recommended Action
Add a new or propagated label to the signal line.

⚠ Check Signal name propagation

Check Signal name propagation for subsystems

Warning
The following subsystems do not have propagated signal labels:

- FM_Modulation_Demodulation_03
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM)
- FM_Modulation_Demodulation_03
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop)

Recommended Action
Add labels and enable signal propagation by selecting 'Show propagated signal' parameter for signals.

✓ Check Signed Integer Division Rounding mode

jc_0642: Integer rounding mode setting

Identifies blocks with block parameter 'Integer Rounding Mode' set to 'Simplest' when the configuration parameter 'Signed integer division rounds to' is set to 'Undefined'.

Passed
Configuration parameter 'Signed integer division rounds to' is not set to 'Undefined'.

✓ Check usage of State names

jc_0731: State name format

Identify state names with '/' at its end.

Passed
No Stateflow states were found.

✓ Check usage of Stateflow comments

Identify comments that are nested or contain newline(s) in the middle in Stateflow for action language 'C'.

Passed
No comments found that are either nested or contain newline(s) in the middle.

✓ Check execution timing for default transition path

'Execute (enter) Chart At Initialization' should be set to OFF.

Passed
All Stateflow Charts pass the check.

Check usage of Merge block

jc_0659: Usage restrictions of signal lines input to Merge blocks
There must not be any block between a Conditional Subsystem block and a Merge block.

Passed
No Merge block found.

Check usage of internal transitions in Stateflow states

Identify Stateflow states using multiple internal transitions.

Passed
No Stateflow states found with multiple internal transitions

Check usage of transition conditions in Stateflow transitions

Identify unconditional Stateflow transitions with higher priority than conditional transitions.

Passed
No unconditional Stateflow transitions found with higher priority than conditional transitions

---

Check block orientation

Check block orientation

Warning
The following blocks have rotated or reversed orientation:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /In1
- .../Subsystem(Phase lock loop) /Continuous-Time VCO

Recommended Action
Flip/rotate the blocks to be oriented towards the right.

Check usage of parentheses in Stateflow transitions

jc_0752: Condition action in transition label

Start new line before and after parentheses for condition actions in Stateflow transitions.

Passed
No Stateflow Transitions found that violate the requirement for new line for condition actions.

Check usable number for first index

Identify usage of first index of Stateflow data.

Passed
All Stateflow data first index values are uniform.

Check character usage in signal names and bus names

Single reserved MATLAB word

Warning
The following signals or buses have reserved MATLAB words as the name:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Const

Recommended Action
Consider not having reserved MATLAB word as the signal or bus names.

Check uniqueness of Stateflow State and Data names

jc_0732: Distinction between state names, data names, and event names
Identify Stateflow State and Stateflow Data that have identical names in a given chart.

Passed
No Stateflow charts were found.

Check length of model file name

Check length of model file name

Passed
Model name is valid.

Check length of folder name at every level of model path

The model file name is: FM_Modulation_Demodulation_03

Passed
Folder names are valid.

Check length of subsystem names

Check length of subsystem names

Passed
All subsystem names are valid.

Check length of Inport and Outport names

Check length of Inport and Outport names

Passed
All Inport and Outport names are valid.

Check length of signal and bus names

Check length of signal and bus names

Passed
All signal and bus names are valid.

Check length of block names

Check length of block names

Passed
All block names are valid.

Check entry formatting in State blocks in Stateflow charts

Identify missing line breaks between entry action (en), during action (du), and exit action (ex) entries in states. Identify missing line breaks after semicolons (;) in statements.

Passed
All state entries found are correctly formatted.

Check prohibited combination of state action and flow chart

State actions and flow charts should not be combined in states.

Passed
No Stateflow states were found that combine state action and flow chart.

Check repetition of Action types

jc_0734: Number of state action types
Identifies repeated action types in a Stateflow State.

Passed
No Stateflow States were found.

Check for unused data in Stateflow Charts

Checks if the model parameter 'Unused data, events, messages and functions' is not set to 'none'.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Unused data, events, messages and functions (SFUnusedDataAndEventsDiag)	warning	error, warning

---

Check updates to variables used in state transition conditions

jc_0741: Timing to update data used in state chart transition conditions

Variables used in state transition conditions must not perform an update by "during" state action type.

Passed
No Stateflow states found that violate the guidelines for updating the variables used in state transition conditions.

Check condition actions and transition actions in Stateflow

Identify usage of transition actions in Stateflow.

Passed
No Stateflow charts have transition actions.

Check uniqueness of State names

jc_0730: Unique state name in Stateflow blocks
Identifies identical State names within a Stateflow Chart.

Passed
No Stateflow charts were found.

Check if blocks are shaded in the model

Check if blocks are shaded in the model

Passed
Blocks in the model are not shaded.

Check operator order of Product blocks

Operator order for Product blocks.

Passed
All Product blocks have valid operator order.

Check icon shape of Logical Operator blocks

Icon shape of Logical Operator blocks.

Passed
All Logical Operator blocks have consistent icon shape.

Check if tunable block parameters are defined as named constants

Check if tunable block parameters are defined as named constants

Warning
The following tunable block parameters are not defined as named constants.

Block	Violations
FM_Modulation_Demodulation_03/Sin Wave	Frequency : 2 Samples : 10
..../Discrete-Time Integrator	gainval : 1.0
..../Subsystem(Indirect FM) /Kf Gain	Gain : 10
..../Subsystem(Indirect FM) /fc constant	Value : 20
..../Subsystem(Phase lock loop) /Gain3	Gain : 10

Recommended Action
Consider changing tunable block parameter literal values to named constants.

Check default/else case in Switch Case blocks and If blocks

Check if default/else case in Switch Case blocks and If blocks are set to 'on'

Passed
Conditional Control blocks are valid.

Check usage of internal transition

Internal transition lines should start from the left edge of the state.

Passed
No Stateflow transitions found that violate the guidelines for starting point of internal transition in Stateflow.

Check usage of parallel states

Substates of parallel states should not be parallel states.

Passed
All Stateflow Charts pass the check.

Check scope of data in parallel states

jc_0722: Local data definition in parallel states
The scope of local variables should be restricted to one parallel state unless it is being used by other parallel states.

Passed
No Stateflow States were found.

Check indentation of code in Stateflow states

Identify non-uniform indentation in Stateflow blocks.

Passed
All Stateflow blocks have uniform indentation.

Check for unexpected backtracking in state transitions

Identify configuration parameter settings which identify unexpected backtracking in state transitions.

Passed
All constraints on model configuration parameters have been met.

Status	Parameter	Current Value	Recommended Values
Pass	Unexpected backtracking (SFUnexpectedBacktrackingDiag)	error	error

---

Check usage of Lookup Tables

Check usage of recommended settings for Lookup Table blocks to prevent unexpected results.

Passed
All Lookup Table blocks have recommended settings.

Check for parentheses in Fcn block expressions

Identify order of parentheses in Fcn block expressions.

Passed
All Fcn blocks use parentheses to mark operator precedence.

Check for usage of text inside states

Identify Stateflow states with text exceeding the boundary of the state.

Passed
No Stateflow states found with text exceeding the boundary of the state.

Check for unconnected objects in Stateflow Charts

Identify dangling transitions and unconnected Stateflow States and Junctions in Stateflow Charts.

Passed
No unconnected transitions, states or junctions found in Stateflow Charts.

Check position of label string in Stateflow transition

Identify placement of label string in Stateflow transition.

Passed
All Stateflow transitions are placed uniformly.

Check duplication of Simulink Data names

Simulink Data names should be unique across base workspace, model workspace and data dictionary.

Passed
All Simulink Data names are unique.

Check Model Description

Identify layers in the model having inconsistent description format.

Warning
Following layers do not have model descriptions:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop)

Recommended Action
Consider adding model description for all the layers.

Identify layers in the model having inconsistent description format.

Warning
Following layers do not have consistent model description format:

- FM_Modulation_Demodulation_03
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM)

Recommended Action
Consider having a consistent format for the model description

Example: If description tags are 'Input:, Description:, and Output:' then format should be as following:
Input: add input information here
Description: add model description here
Output: add output information here

Check Stateflow chart action language

Check if the action language of Stateflow charts is set to 'C'.

Passed
All Stateflow Charts have action language set to 'C'.

Check character usage in Stateflow data names

Identify Stateflow data names with invalid characters.

Passed
No invalid characters are used in Stateflow data names.

Check length of Stateflow data name

Check if the length of Stateflow data names are within limit.

Passed
All Stateflow data names are valid.

Check diagnostic settings for incorrect calculation results

Identify data validity diagnostic settings which detect incorrect calculation results.

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

Status	Parameter	Current Value	Recommended Values
Warning	Division by singular matrix (CheckMatrixSingularityMsg)	none	error
Warning	Inf or NaN block output (SignalInfNanChecking)	none	error
Warning	Wrap on overflow (IntegerOverflowMsg)	warning	error
Warning	Saturate on overflow (IntegerSaturationMsg)	warning	error

Recommended Action
Follow the links in the result table to modify the model configuration parameters.

Check usage of transitions to external states

Identify transitions ending on external child states.

Passed
No direct transitions found from external state to child state.

Check order of state action types

Identify out of order state action types in Stateflow states.

Passed
No Stateflow states found with out of order state action types

---

Check usage of numeric literals in Stateflow

Identify use of numeric literals in Stateflow states and transitions.

Passed
No numeric literals found in Stateflow charts.

Check position of comments in transition labels

Identify comments in transition labels that are not positioned uniformly.

Passed
Comments in transition labels are positioned uniformly.

Check trigger signal names

Identify trigger blocks where the origin of the trigger signal and the destination have dissimilar names.

Passed
No violation of the guideline for use of trigger signal names.

Check usage of unconditional transitions in flow charts

Identify unconditional transitions in flow charts.

Passed
All unconditional transitions adhere to the guideline.

Check for comments in unconditional transitions

Identify comments in unconditional transitions without action statements.

Passed
All unconditional transitions without action statements have comments.

Check output data type of operation blocks

jc_0651: Implementing a type conversion

Identify operation blocks that specify output data type.

Passed
No operation blocks found that explicitly specify output data type.

Check terminal junctions in Stateflow

Identify usage of terminal junctions in flow charts.

Passed
Multiple terminal junctions were not found.

Check if state action type 'exit' is used in the model

Check if state action type 'exit' is used in the model.

Passed
State action type 'exit' is not used in the model.

⚠ Check for consistency in model element names

Check if model elements connected to a signal are following consistent naming

Warning
The following model elements are not consistent with the connected signal name:

Block Path	Expression
..../Subsystem(Indirect FM) /Out1	Naming mismatch with signal name "M1"
..../Subsystem(Indirect FM) /In1	Naming mismatch with signal name "M2"

Recommended Action
Consider renaming the deviating model elements to match the signal name or to be consistent with Inport/Outport blocks.

Check usage of graphical functions in Stateflow

Check for calls between graphical functions.

Passed
No calls between graphical functions were found.

Check for sample time setting

Check if sample time property of a block is set to -1 (inherited).

Passed
All permitted blocks have sample time set to -1 (inherited).

Check usage of Sum blocks

Check shape of Sum block

Warning
Following Sum blocks are "round" shaped but are not part of a feedback loop:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /Sum

Recommended Action
Set the shape of Sum block to "rectangular".

Check Indexing Mode

Identify blocks and charts with inconsistent Indexing mode.

Passed
No inconsistent Indexing mode used in the model.

Check position of signal labels

Check location of signal labels

Warning
The following signals do not have labels located at the origin of the signal line:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M1
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M1
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M1
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M2
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M1
- FM_Modulation_Demodulation_03/Subsystem(Indirect FM) /M1
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /Const
- FM_Modulation_Demodulation_03/M2

Recommended Action
Consider placing the labels at the origin of the signal line.

Check position of Inport and Outport blocks

Check positions of Inport blocks

Warning
The following Inport blocks are not placed to the extreme left side of the diagram:

- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop) /In1

Recommended Action
Move the Inport blocks identified to the left of all other blocks in the diagram.
It is acceptable to move the Inport block to the right only to prevent signal crossings.

Check definition of Stateflow events

Stateflow events should be defined at the smallest possible scope of usage.

Passed
All Stateflow events are defined at their smallest scope.

Check for usage of Data Store Memory blocks

Identify the usage of Data Store Memory blocks.

Passed
Usage of Data Store Memory blocks is correct.

Check for MATLAB expressions in Stateflow blocks

Identify MATLAB expressions that are not suitable for code generation in Stateflow blocks.

Passed
No Stateflow objects found using MATLAB expressions unsuitable for code generation.

Check definition of Stateflow data

Identify the Scope value set on Stateflow data defined at machine level.

Passed
All Stateflow data at machine level has been defined as per guideline.

Check signal flow in model

Check placement of sequential blocks

Warning
The placement of blocks in the following subsystems can be improved:

- FM_Modulation_Demodulation_03/Subsystem(Indirect FM)
- FM_Modulation_Demodulation_03/Subsystem(Phase lock loop)
- ..../Subsystem(Phase lock loop) /Continuous-Time VCO
- FM_Modulation_Demodulation_03

Recommended Action
Ensure that the signal flow in the mentioned subsystems is from left to right.

- All sequential blocks, except the blocks on feedback path, must be placed from left to right.
- All blocks, except the blocks on feedback path, should be oriented to the right.

Check Stateflow transition appearance

Identify Stateflow transitions visually overlapping other Stateflow objects.

Passed
No transition violates the guidelines for Stateflow transition appearance.

Check position of conditional blocks and iterator blocks

Identify conditional and iterative blocks that are positioned inconsistently in the model.

Passed
The conditional and iterative blocks are correctly placed in the model.

Check signal line connections

Identify intersections and overlaps of signals in a model.

Passed
No signal intersections or overlaps found.

Check usage of events in Stateflow charts

Identify undirected event broadcasts in Stateflow.

Passed
No instances of undirected event broadcast were found.

Check Model font settings

Identify blocks and charts with different font settings from input parameters.

Passed
Font settings of the blocks and charts and input parameters are same.

Check usage of Simulink functions in Stateflow

Usage of Simulink Functions in Stateflow.

Passed
All Simulink Functions in Stateflow are defined according to the guideline.

Check for Strong Data Typing with Simulink I/O

Check whether labeled input and output signals are strongly typed.

Passed
No Stateflow charts have **Use Strong Data Typing with Simulink I/O** cleared.

Check for exclusive states in state machines

Identify states which are the only sub-state within a state with OR(exclusive) type decomposition.

Passed
All states with OR(exclusive) type decomposition have more than one sub-state.

Check for unconnected signal lines and blocks

Identify unconnected signal lines, subsystems and basic blocks.

Passed
All signal lines and blocks in the model are connected.

Check transitions in Stateflow flow charts

Identify transitions in Stateflow flow charts that are drawn incorrectly.

Passed
All Stateflow transitions in flow charts are drawn correctly.

Check scope of From and Goto blocks

Identify incorrect scoping of From and Goto blocks. For signal flows, From and Goto blocks must use local scope. Control flow can use global scope.

Passed
All From and Goto blocks are used correctly.

Check usage of floating-point expressions in Stateflow charts

Identify equality or inequality operations (==,~=,!=) in expressions involving floating-point variables or constants.

Passed
No equality or inequality operations in expressions where at least one side of the expression is a floating-point variable or constant were found.

Check usage of enumerated values

Identify enumeration classes used in the model with no default value specification.

Passed
No enumeration classes found without default value specifications.

Check settings for data ports in Multiport Switch blocks

Identify Multiport Switch blocks that violate data port settings.

Passed
No Multiport Switch blocks found with inappropriate data port settings.

Check input and output datatype for Switch blocks

Identify Switch blocks with mismatched input and output data types.

Passed
No Switch blocks found with mismatched input and output data types

---

Check usage of fixed-point data type with non-zero bias

jc_0643: Fixed-point setting

Identify blocks with a fixed-point data type whose bias is not zero.

Passed
No blocks found with the Data Type Assistant mode set to "Fixed point" and a bias value other than zero

---

Check signs of input signals in product blocks

jc_0611: Input sign for multiplication and division blocks

Identify blocks that perform division whose inputs have different sign bit.

Passed
No product block with division of different sign bits found.

Check type setting by data objects

jc_0644: Type setting

Identify blocks that violate signal data type setting if signal objects are used.

Passed
No blocks found that violate signal data type setting if signal objects are used.

Check usage of the Saturation blocks

jc_0628: Usage of Saturation blocks

Identify the Saturation and Saturation Dynamic blocks that perform type casting.

Passed
No Saturation and/or Saturation Dynamic blocks perform type casting

---

Check prohibited comparison operation of logical type signals

Identify boolean variables in Stateflow charts using comparison operations.

Passed
No boolean variables use comparison operations of logical type in the model.

Check usage of Memory and Unit Delay blocks

Identify Memory blocks not using a continuous sample time

Passed
No Memory blocks found with inappropriate sample time

Identify Unit Delay blocks with non-discrete sample time

Passed
No Unit Delay blocks found with non-discrete sample time

Check character usage in parameter names

Identify parameter names with invalid characters.

Passed
No invalid characters are used in parameter names.

Check length of parameter names

Check length of parameter names

Passed
All parameter names are valid.

Check undefined initial output for conditional subsystems

Identify undefined initial output for Outports/Merge blocks in conditional subsystems

Passed
The initial output setting for all Conditional Subsystems are valid.

Check comparison of floating point types in Simulink

jc_0800: Comparing floating-point types in Simulink

Equivalence comparison should not be used for floating point numbers.

Passed
No Equivalence comparison done on floating point numbers.

Check unused data in Simulink Model

Identify unused data in model workspace and data dictionary.

Passed
No unused data found in model workspace and/or data dictionary.

Check for implicit type casting in Stateflow

Identify implicit type casting in Stateflow.

Passed
No instances of implicit type casting found.

Check for use of C-style comment symbols

Identify usage of C-style comments in CGT Files and MPT Objects.

Passed
C-style comments are not used in CGT Files and MPT Objects.

Check Stateflow operators

Identify the usage of operators in Stateflow.

Passed
No Stateflow blocks found with incorrect operator usage.

Check fundamental logical and numerical operations

Identify the usage of logical and numerical operations.

Passed
No numerical operation blocks found with boolean inputs.
No logical operation blocks found with non-boolean inputs.

⚠ Check usage of vector and bus signals

Check bus signals treated as vectors

Warning
The following configuration parameters are set inappropriately:

Parameter	Current Value	Recommended Values

Bus signal treated as vector (StrictBusMsg)	ErrorLevel1	ErrorOnBusTreatedAsVector

Recommended Action
Consider setting the configuration parameters to the recommended value.

Check connections between structural subsystems

Identify connections between structural subsystems.

Passed
All connections to structural subsystems adhere to the guideline.

4.2 Model Metrics

10 0 0 0

Simulink block metric

Display number of blocks in the model or subsystem.
Passed

Component	Blocks
..../FM Demodulator Passband	**16**
FM_Modulation_Demodulation_03	**9**
..../Continuous-Time VCO	**9**
..../Subsystem(Indirect FM)	**9**
..../FM Demodulator Passband /Analytic Signal	**6**
..../Subsystem(Phase lock loop)	**6**
..../FM Demodulator Passband /Subsystem	**5**
..../FM Demodulator Passband /Subsystem1	**5**
..../Time and Sample time	**5**
....ut zeros until signal is available (Ho)	**5**
..../Analytic Signal/Check Signal Attributes	**3**
..../Check Signal Attributes	**3**
..../Check Signal Attributes	**3**
..../Continuous-Time VCO /Modulo Integrator	**3**

∧ **Less**

Subsystem metric

Display number of Subsystems in the model or subsystem.
Passed

Component	Subsystems
..../FM Demodulator Passband	**3**
FM_Modulation_Demodulation_03	**2**
..../Continuous-Time VCO	**1**
..../FM Demodulator Passband /Subsystem	**0**
..../FM Demodulator Passband /Subsystem1	**0**
..../FM Demodulator Passband /Analytic Signal	**0**
..../Time and Sample time	**0**
..../Analytic Signal/Check Signal Attributes	**0**
..../Check Signal Attributes	**0**
....ut zeros until signal is available (Ho)	**0**
..../Check Signal Attributes	**0**
..../Continuous-Time VCO /Modulo Integrator	**0**
..../Subsystem(Indirect FM)	**0**
..../Subsystem(Phase lock loop)	**0**

∧ **Less**

Library link metric

Display number of library links in the model or subsystem.
Passed

Component	Library Links
FM_Modulation_Demodulation_03	0
..../FM Demodulator Passband	0
..../FM Demodulator Passband /Subsystem	0
..../FM Demodulator Passband /Subsystem1	0
..../FM Demodulator Passband /Analytic Signal	0
..../Time and Sample time	0
..../Analytic Signal/Check Signal Attributes	0
..../Check Signal Attributes	0
....ut zeros until signal is available (Ho)	0
..../Continuous-Time VCO	0
..../Check Signal Attributes	0
..../Continuous-Time VCO /Modulo Integrator	0
..../Subsystem(Indirect FM)	0
..../Subsystem(Phase lock loop)	0

∧ **Less**

Effective lines of MATLAB code metric

Display number of effective lines of MATLAB code.
No metric data available. Nothing to report for this metric.

Passed

Stateflow chart objects metric

Display number of Stateflow objects in each chart.
No metric data available. Nothing to report for this metric.

Passed

Lines of code for Stateflow blocks metric

Display number of code lines for Stateflow blocks.
No metric data available. Nothing to report for this metric.

Passed

Nondescriptive block name metric

Display non-descriptive names of Inport, Outport and Subsystem blocks.
Passed

Component	Nondescriptive Names
..../FM Demodulator Passband	2
..../FM Demodulator Passband /Subsystem	2
..../FM Demodulator Passband /Subsystem1	2
..../Time and Sample time	2
..../Analytic Signal/Check Signal Attributes	2
..../Check Signal Attributes	2
..../Check Signal Attributes	2
..../Continuous-Time VCO /Modulo Integrator	2
..../Subsystem(Indirect FM)	2
..../Subsystem(Phase lock loop)	2
FM_Modulation_Demodulation_03	0
..../FM Demodulator Passband /Analytic Signal	0
....ut zeros until signal is available (Ho)	0
..../Continuous-Time VCO	0

∧ **Less**

Data and structure layer separation metric

Display data and structure layer separation, defined by MAB modeling guideline db_0143.
Passed

Component	Non-conforming Blocks
..../FM Demodulator Passband	10
FM_Modulation_Demodulation_03	7
..../Continuous-Time VCO	6
..../FM Demodulator Passband /Subsystem	0
..../FM Demodulator Passband /Subsystem1	0
..../FM Demodulator Passband /Analytic Signal	0
..../Time and Sample time	0
..../Analytic Signal/Check Signal Attributes	0
..../Check Signal Attributes	0
....ut zeros until signal is available (Ho)	0
..../Check Signal Attributes	0
..../Continuous-Time VCO /Modulo Integrator	0
..../Subsystem(Indirect FM)	0
..../Subsystem(Phase lock loop)	0

∧ **Less**

Subsystem depth metric

Display depth of subsystems in the model or subsystem.
Passed

Component	Subsystem Depth
..../Analytic Signal/Check Signal Attributes	3
..../Check Signal Attributes	3
..../Continuous-Time VCO /Modulo Integrator	3
..../FM Demodulator Passband /Subsystem	2
..../FM Demodulator Passband /Subsystem1	2
..../FM Demodulator Passband /Analytic Signal	2
..../Time and Sample time	2
..../Check Signal Attributes	2
....ut zeros until signal is available (Ho)	2
..../Continuous-Time VCO	2
..../FM Demodulator Passband	1
..../Subsystem(Indirect FM)	1
..../Subsystem(Phase lock loop)	1
FM_Modulation_Demodulation_03	0

∧ **Less**

Cyclomatic complexity metric

Display cyclomatic complexity for Simulink and Stateflow objects.
Passed

Component	Local Complexity (Component level)
FM_Modulation_Demodulation_03	2
..../FM Demodulator Passband	1
....ut zeros until signal is available (Ho)	1
..../FM Demodulator Passband /Subsystem	0
..../FM Demodulator Passband /Subsystem1	0
..../FM Demodulator Passband /Analytic Signal	0
..../Time and Sample time	0
..../Analytic Signal/Check Signal Attributes	0
..../Check Signal Attributes	0

..../Continuous-Time VCO	**0**
..../Check Signal Attributes	**0**
..../Continuous-Time VCO /Modulo Integrator	**0**
..../Subsystem(Indirect FM)	**0**
..../Subsystem(Phase lock loop)	**0**

∧ Less

5 Simulink Coder

1 0 0 0

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.