



Can I make a Simulink[®] test point available as a measuring label in ETAS INTECRIO Experiment Environment (EE) or in INCA?

Note: Matlab[®] Simulink[®] 2019a and ETAS INTECRIO 5.0 is the software referenced in this article.

Answer:

Yes you can configure test points in Simulink $^{\mbox{(R)}}$ for having them as a measurement label in ETAS INTECRIO EE or INCA

Compact:

You need to configure the test point with a name that must resolve to a Simulink[®] signal object which's storage class is "Exported Global". You will find a step by step instruction below.

Step by Step:

In Simulink ${}^{\textcircled{R}}$ signals transport data between two blocks.

Defining a signal as a test point gives the chance to get a measure label in ETAS INTECRIO Experiment Environment (EE) or in INCA.

Note: The referenced pictures in the step-by-step instruction you will find on the next page



- 1) Click on the output signal it will highlight to blue.
- 2) Then press the **R**ight **M**ouse **B**utton to open the context menu for the signal.
- 3) Please select properties to open the Signal Properties dialog.
- 4) In the Signal Properties dialog check **Test Point** in the "Logging and accessibility section".
- 5) You need to define a signal name: "my_testpoint"
- 6) Please check "Signal name must resolve to Simulink[®] signal object" (see figure: "Signal Properties Dialog I")
- 7) You need to create a signal object for this test point which matches the defined name and configure it (see figure "Signal Properties Dialog II")

Switch to the tab Modelling - then Model Explorer. There select Base Workspace in the Model

Hierarchy. Select "Add" in the menu and add a Simulink[®] signal. **Rename it to "my_testpoint**" and **change the Storage Class to "ExportedGlobal"** (see figure "Signal Object with Storage Class "ExportedGlobal")

Now build ("Ctrl"+"B") to get the module (*.six files) available for INTECRIO

Import the generated module in INTECRIO – Note: you will not see there our defined test point. In INTECRIO make the OS auto configuration, then build and start the INTECRIO EE. Download the model. Now you should have the test point "my_testpoint" available (see figure "Testpoint as measure label in INTECRIO EE") ETAS DRIVING EMBEDDED EXCELLENCE result 5 aain Signal Properties: \times 6 🔏 Cut Ctrl+X Signal name: 15 : 🚡 Сору Ctrl+C Signal name must resolve to Simulink signal object 6 Ctrl+V Paste Delete Del Show propagated signals Highlight Signal to Source Highlight Signal to Destination Logging and accessibility Code Generation Documentation Remove Highlighting Ctrl+Shift+H 🗌 Log signal data 🔲 Test point [4] Format Add Conditional Breakpoint Show Value Label of Selected Port Logging name Use signal name Log Selected Signals

5000

2

-1

OK Cancel Help Apply

Figure "Signal Properties Dialog I"					
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Data

Decimation

Sample time:

Limit data points to last

Figure: "Signal Properties Dialog II"

Viewers & Generators Manager... Open Viewer Create & Connect Viewer

Connect To Viewer

Disconnect Viewer Delete Viewer

Signal Hierarchy Properties •

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Figure "Signal Object with Storage Class 'ExportedGlobal'"



Figure "Testpoint as measure label in ETAS INTECRIO EE"

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Model Settings for the "IRT TLC"-Target

Page Simulink_testpoint_for_INTECF	RIO_EE * - Simulink				
SIMULATION DEBUG	MODELING	FORMAT	APPS	C CODE	
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Figure "How to access Model Settings in $\mathsf{Simulink}^{\mathbb{R}''}$

Solver Simulation time Data Import/Export Start time: 0.0 Math and Data Types Start time: 0.0 Diagnostics Solver selection Hardware Implementation Solver selection Model Referencing Solver selection Simulation Target Solver details Code Generation Optimization Report Comments Identifiers Fixed-step size (fundamental sample time): auto Custom Code Periodic sample time options Interface Treat each discrete rate as a separate task IRT Code Generation Allow tasks to execute concurrently on target Automatically handle rate transition for data transfer	Configuration Parameters: Simuli	ink_testpoint_for_INTECRIO_EE/Configuration (Active) -
Solver Simulation time Data Import/Export Stant time: 0.0 Math and Data Types Start time: 0.0 > Diagnostics Start time: 0.0 Hardware Implementation Solver selection Model Referencing Solver selection Simulation Target Solver details Code Generation Volver details Optimization Fixed-step size (fundamental sample time): auto Report Tasking and sample time options Code Generation Periodic sample time constraint: Unconstrained Interface Treat each discrete rate as a separate task IRT ASAP2 Generation Allow tasks to execute concurrently on target	Q Search	
Comments Identifiers Tasking and sample time options Identifiers Tasking and sample time options Custom Code Periodic sample time constraint: Unconstrained Interface Treat each discrete rate as a separate task IRT Code Generation Allow tasks to execute concurrently on target IRT ASAP2 Generation Automatically handle rate transition for data transfer	Solver Data Import/Export Math and Data Types Diagnostics Hardware Implementation Model Referencing Simulation Target Code Generation Optimization Report	Simulation time Start time: 0.0 Stop time: inf Solver selection Type: Fixed-step Solver: discrete (no continuous states) Solver details Fixed-step size (fundamental sample time): auto
Higher priority value indicates higher task priority	Comments Identifiers Custom Code Interface IRT Code Generation IRT ASAP2 Generation	Tasking and sample time options Periodic sample time constraint: Unconstrained Treat each discrete rate as a separate task Allow tasks to execute concurrently on target Automatically handle rate transition for data transfer Higher priority value indicates higher task priority

Figure "Model Settings – Solver"

Configuration Parameters: Simuli	nk_testpoint_for_INTECRIO_EE/Configuration (Active) -	×					
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Solver Data Import/Export Math and Data Types Diagnostics Hardware Implementation Model Referencing Simulation Target Code Generation Optimization Report Comments Identifiers Custom Code Interface IRT Code Generation IRT ASAP2 Generation	Target selection System target file: irt tlc Language: C Description: INTECRIO Real-Time Target Build process Generate code only						
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	Code generation objectives Select objective: Unspecified OK Cancel Help	- Apply					

Figure "Model Settings - Code Generation"







Please feel free to contact our Support Center, if you have further questions. Here you can find all information: <u>http://www.etas.com/en/hotlines.php</u>

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