Customer Training Workshop

Traveo™ II Trigger Multiplexer

Q4 2020
Target Products

Target product list for this training material:

<table>
<thead>
<tr>
<th>Family Category</th>
<th>Series</th>
<th>Code Flash Memory Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traveo™ II Automotive Body Controller Entry</td>
<td>CYT2B6</td>
<td>Up to 576 KB</td>
</tr>
<tr>
<td>Traveo II Automotive Body Controller Entry</td>
<td>CYT2B7</td>
<td>Up to 1088 KB</td>
</tr>
<tr>
<td>Traveo II Automotive Body Controller Entry</td>
<td>CYT2B9</td>
<td>Up to 2112 KB</td>
</tr>
<tr>
<td>Traveo II Automotive Body Controller Entry</td>
<td>CYT2BL</td>
<td>Up to 4160 KB</td>
</tr>
<tr>
<td>Traveo II Automotive Body Controller High</td>
<td>CYT3BB/4BB</td>
<td>Up to 4160 KB</td>
</tr>
<tr>
<td>Traveo II Automotive Body Controller High</td>
<td>CYT4BF</td>
<td>Up to 8384 KB</td>
</tr>
<tr>
<td>Traveo II Automotive Cluster</td>
<td>CYT3DL</td>
<td>Up to 4160 KB</td>
</tr>
<tr>
<td>Traveo II Automotive Cluster</td>
<td>CYT4DN</td>
<td>Up to 6336 KB</td>
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Trigger Multiplexer Overview

- The trigger multiplexer helps the user route triggers from a source peripheral block to a destination.

Features
- Up to 16 multiplexer-based trigger groups
- Up to 16 one-to-one trigger groups
- Software (SW) trigger support to trigger any signal in the block
Trigger Multiplexing

- A trigger input signal indicates the completion of a peripheral action or a peripheral event
- A trigger output signal initiates a peripheral action

**Group Trigger**

- TCPWM_32_TR_OUT[0:7]
- PASS_GEN_TR_OUT[0:5]
- HSIOM_IO_INPUT[0:31]
- EVTGEN_TR_OUT[0:10]

**Trigger Input:**
- Level sensitive: FIFO empty
- Edge sensitive: ADC channel done

**Trigger Output:**
- Invert

**1-to-1 Trigger**

- SCB_TX_TR_OUT[0:7]
- EVTGEN_TR_OUT[3:10]

**Start**

- ADC Complete
- I/O Input Signals
- Counter Reaches Preprogrammed Limit

**Start ADC**

- PASS_GEN_TR_IN[0:11]

**Start Transfer**

- Start LIN Message Transfer
- SCB_TX_TO_PDMA1[0:7]
- EVTGEN_TO_LIN_TR[0:7]

Review TRM section 29.3 for additional details
Refer to the datasheet for the trigger list for each device

Trigger input:
- Level sensitive: FIFO empty
- Edge sensitive: ADC channel done

Trigger output:
- Invert
A trigger multiplexer consists of multiple trigger groups, which are of two types:
- Group Trigger
- 1-to-1 Trigger

Hint Bar
Review TRM section 29.3 for additional details
Group Trigger

› Functionalities
  - Connects a peripheral input trigger to multiple peripheral output triggers
  - Generates a SW trigger

Multiple peripheral output triggers are selected by the software.

Review TRM section 29.3 for additional details.
1-to-1 Trigger

› Functionalities
  - Connects a peripheral input trigger to one specific peripheral output trigger
  - Generates a SW trigger

![Diagram of 1-to-1 Trigger]

SCB_TX_TR_OUT[0:7]
SCB_TX_TO_PDMA1[0:7]
EVTGEN_TR_OUT[3:10]
EVTGEN_TO_LIN_TR[0:7]
SW Trigger
SW Trigger

Review TRM section 29.3 for additional details
Use Case: SW Trigger

- SW trigger is written as one of the system triggers of a bit-encoded interrupt in P-DMA
  - P-DMA activation made through the SW trigger can enable the initial CRC on program data
Part of your life. Part of tomorrow.
## Revision History

<table>
<thead>
<tr>
<th>Revision</th>
<th>ECN</th>
<th>Submission Date</th>
<th>Description of Change</th>
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<tbody>
<tr>
<td>**</td>
<td>6086858</td>
<td>03/12/2018</td>
<td>Initial release</td>
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<tr>
<td>*A</td>
<td>6385302</td>
<td>11/19/2018</td>
<td>Added page 2 and the note descriptions for all pages. Updated pages 4, 6, and 7. Deleted the Appendix section and TVII-B-E-1M Trigger pages.</td>
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<td>*C</td>
<td>7048497</td>
<td>12/18/2020</td>
<td>Updated page 2.</td>
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