Figure 147: TWIM reading data from a target

A SUSPENDED event indicates that the SUSPEND task has taken effect. This event can be used to synchronize the software.

TWIM generates a LASTRX event when it is ready to receive the last byte. If RXD.MAXCNT > 1, the LASTRX event is generated after sending the ACK of the previously received byte. If RXD.MAXCNT = 1, the LASTRX event is generated after receiving the ACK following the address and READ bit.

TWIM is stopped by triggering the STOP task. This task must be triggered before the NACK bit begins transmission. The STOP task can be triggered at any time during the reception of the last byte. It is recommended to use the shortcut between LASTRX and STOP.

TWIM does not stop on its own when the RAM buffer is full or when an error occurs. The STOP task must be issued, either through a local or PPI shortcut, or in software as part of the error handler.

TWIM cannot be stopped while suspended. The STOP task must be issued after TWIM has been resumed.

8.23.6 TWIM repeated start sequence

A typical repeated start sequence is when TWIM writes two bytes to the target followed by reading four bytes from the target. This example uses shortcuts to perform a simple repeated start sequence, with one write followed by one read. The same approach can be used to perform a repeated start sequence where the sequence is read followed by a write.

The following figure shows an example of a repeated start sequence where TWIM writes two bytes followed by reading four bytes from the target.

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