Figure 141: SPI transaction when shortcut between END and ACQUIRE is enabled

If the CPU is not able to reconfigure TXD.PTR and RXD.PTR between granted transactions, the same TX data will be clocked out and the RX buffers will be overwritten. To prevent this from happening, the END_ACQUIRE shortcut can be used. With this shortcut enabled, the semaphore will be handed over to the CPU automatically after the granted transaction has completed. This enables the CPU to update the TXPTR and RXPTR between every granted transaction.

The ENDRX event is generated when the RX buffer has been filled.

The RXD.MAXCNT register specifies the maximum number of bytes SPIS can receive in one granted transaction. If SPIS receives more than RXD.MAXCNT number of bytes, an OVERFLOW will be indicated in the STATUS register and the incoming bytes will be discarded.

The TXD.MAXCNT parameter specifies the maximum number of bytes SPIS can transmit in one granted transaction. If SPIS is forced to transmit more than TXD.MAXCNT number of bytes, an OVERREAD will be indicated in the STATUS register and the ORC character will be clocked out.

The RXD.AMOUNT and TXD.AMOUNT registers are updated when a granted transaction is complete. The TXD.AMOUNT register indicates how many bytes were read from the TX buffer in the last transaction. ORC (over-read) characters are not included in this number. Similarly, the RXD.AMOUNT register indicates how many bytes were written into the RX buffer in the last transaction.

NORDIC
SEMICONDUCTOR