8.25.3 Transmission

The first step of a DMA transmission is storing bytes in the transmit buffer and configuring EasyDMA. This is achieved by writing the initial address pointer to DMA.TX.PTR, and the number of bytes to transmit from the RAM buffer to DMA.TX.MAXCNT. The UARTE transmission is started by triggering the DMA.TX.START task.

After each byte has been sent over the TXD line, a TXDRDY event is generated.

When then bytes have been transmitted, the DMA.TX.END event is generated.

A UARTE transmission sequence is stopped by triggering the DMA.TX.STOP task. A TXSTOPPED event will be generated when the UARTE transmitter has stopped.

If the DMA.TX.END event has not been generated when the UARTE transmitter stops, UARTE will generate the DMA.TX.END event explicitly even though all bytes specified in the DMA.TX.MAXCNT register have not been transmitted.

If flow control is enabled in the HWFC field in the CONFIG register, a transmission will be automatically suspended when CTS is deactivated, and resumed when CTS is activated again, as shown in the following figure. A byte that is in transmission when CTS is deactivated will finish transmitting before the transmission is suspended.
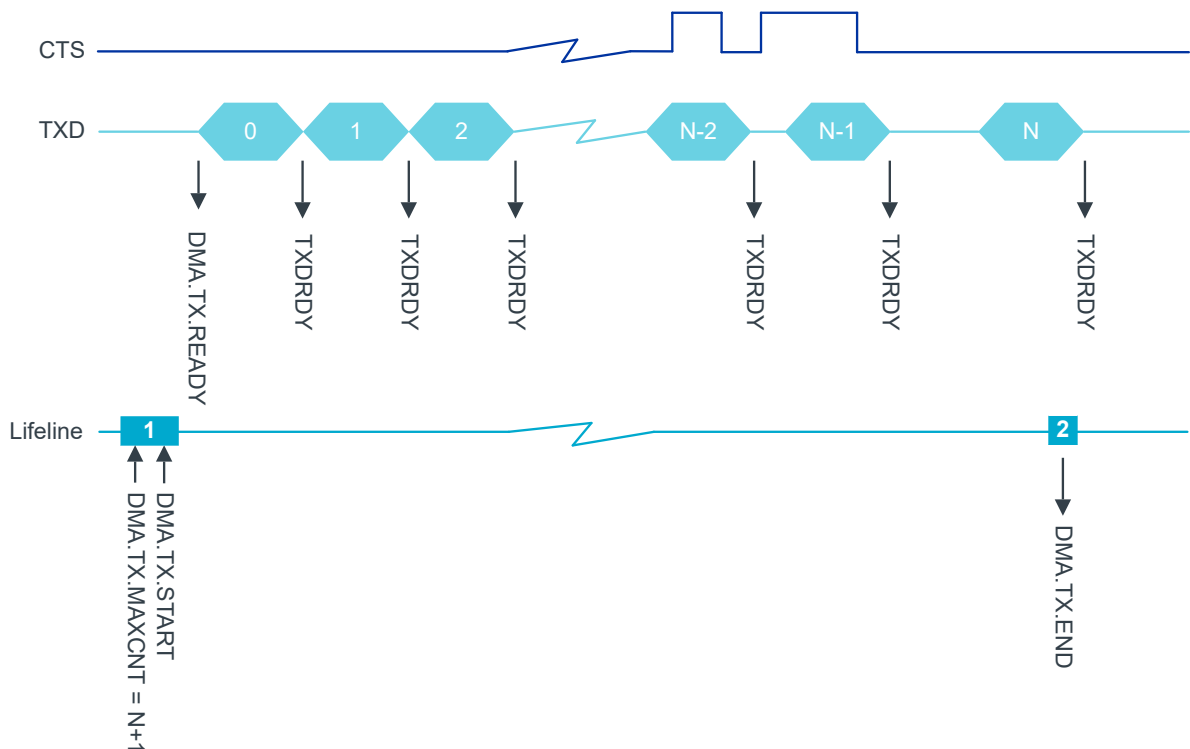

Figure 159: UARTE transmission

The UARTE transmitter is least active when it is stopped, consuming the least amount of energy. This is before it is started via DMA.TX.START, or after it has been stopped via DMA.TX.STOP and the TXSTOPPED event has been generated. See POWER — Power control on page 92 for more information about power modes.

8.25.4 Reception

The UARTE receiver is started by triggering the DMA.RX.START task. The UARTE receiver uses EasyDMA to store incoming data in an RX buffer in RAM.

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