When UART is in RX configured with a 9 bit frame size, all frames are ignored until a frame with the address bit set is received, and the 8 remaining bits of the data frame matches the address set in the register ADDRESS on page 744. The frames following the matching address are received as an 8 bit data frame until the next frame where the address bit set is received, the address bit is not stored. If the address does not match ADDRESS, the following frames are ignored.

If the parity bit is enabled, the address bit is not included in the parity calculation.

When UART TX is started, the first byte in the buffer read by EasyDMA is treated as an address, and transmitted with the address bit set to `1`. The next bits in the buffer are treated as data and transmitted with the address bit set to `0`.

When UARTE uses a data frame size less than an 8 bits, the data is trimmed from an 8 bit frame size in the RAM buffer for TX, and padded before being stored in the RAM buffer for RX. The ENDIAN field in the register CONFIG defines if the data is trimmed from MSB or LSB of the 8 bit buffer frame.

8.25.6 Frame timeout interrupt

UARTE can generate an event after a programmable timeout.

If enabled with the FRAMETIMEOUT field in register CONFIG on page 743, a counter starts at the start flag, and counts the number of bit periods given in register FRAMETIMEOUT on page 744. The period time of the counter is equal to the period of one bit on the UART TX line given by the BAUDRATE register. When the timeout expires, the event EVENTS_FRAMETIMEOUT is generated. The STOP task also stops the timeout counter. UARTE reception can be stopped on timeout by setting the short from the FRAMETIMEOUT event to the DMA.RX.STOP task in register SHORTS on page 736.

This feature can be used to support variable length UART transmission with no end of transmission tag. After the last UART frames are received within the configured timeout, an interrupt is generated and the data can be processed.

The following figure shows an example where the UART receives a transmission that times out after byte 12.