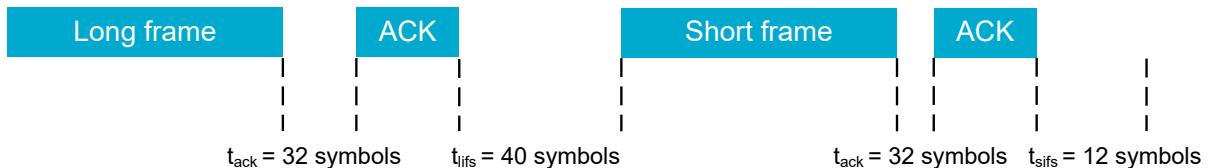


Acknowledged transmission



Unacknowledged transmission

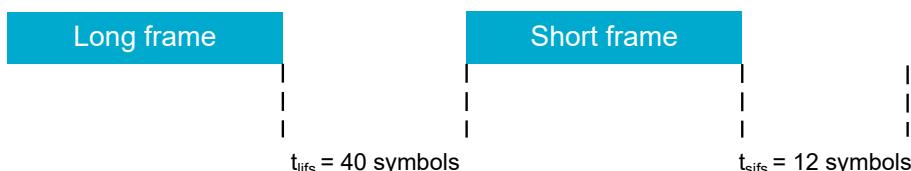


Figure 130: Interframe spacing examples

8.17.13 EasyDMA

RADIO uses EasyDMA to read and write packets to RAM without CPU involvement.

As illustrated in [RADIO block diagram](#) on page 465, the RADIO peripheral's EasyDMA utilizes the same [PACKETPTR](#) for receiving and transmitting packets. This pointer should be reconfigured by the CPU each time before RADIO is started by the [START](#) task. The [PACKETPTR](#) register is double-buffered, meaning that it can be updated and prepared for the next transmission.

The [END](#) event indicates that the last bit has been processed by RADIO. The [DISABLED](#) event is issued to acknowledge that the [DISABLE](#) task is done.

The structure of a packet is described in detail in [Packet configuration](#) on page 465. The data that is stored in Data RAM and transported by EasyDMA consists of the following fields:

- S0
- LENGTH
- S1
- PAYLOAD

In addition, a static add-on is sent immediately after the payload.

The size of each of the listed fields in the frame is configurable (see [Packet configuration](#) on page 465), and the space occupied in RAM depends on these settings. The size of the field can be zero, as long as the resulting frame complies with the chosen RF protocol.

All fields are extended in size to align with a byte boundary in RAM. For instance, a 3-bit long field on-air will occupy 1 byte in RAM while a 9-bit long field will be extended to 2 bytes.

The packet's elements can be configured as follows:

- CI, TERM1, and TERM2 fields are only present in Bluetooth Low Energy Long Range mode
- S0 is configured through the field [PCNFO.SOLEN](#)
- LENGTH is configured through the field [PCNFO.LFLEN](#)
- S1 is configured through the field [PCNFO.S1LEN](#)
- Payload size is configured through the value in RAM corresponding to the LENGTH field
- Static add-on size is configured through the field [PCNF1.STATLEN](#)

The [PCNF1.MAXLEN](#) field configures the maximum packet payload plus add-on size in number of bytes that can be transmitted or received by RADIO. This feature can be used to ensure that RADIO does not overwrite or read beyond the RAM assigned to the packet payload. This means that if the LENGTH