Enhanced ShockBurst Transmitting Payload

1. Clear PRIM\_RX bit in the configuration
2. Clock out the transmission address(TX\_ADDR) the pay load to be transmitted (TXX\_PLD) via the SPI interface while holding the CSN bit low.
3. If the Primary transmitter device will receive acknowledge, data pipe 0 has to be configured to receive the acknowledgement by
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   2. The receive address for data pip0 (RX\_ADDR\_P0) has to be equal to the transmit address (TX\_ADDR)
4. High pulse on CE starts the transmission, with minimum pulse width on CE equal to 10us
5. After that the following will automatically happen:
   1. Radio is powered up
   2. 16 MHz internal clock is started
   3. RF packet is completed
   4. Data is transmitted at high speed (1 Mbps or 2 Mbps as configured)
6. If auto acknowledgment is activated (ENAA\_P0 = 1)
   1. The radio goes to RX mode
   2. If a valid packet has been received in the valid acknowledgement time window, the transmission is considered a success.
   3. The TX\_DS bit in the status register is set high
   4. the payload is removed from TX FIFO. And go to step 7
7. the device goes into standby-I mode if CE is low. Otherwise net payload in TX FIFO will be sent. If TX FIFO IS empty and CE is still high, the device will enter standby-II mode
8. if the device is in standby-II mode it will go to standby mode immediately if CE is set low

If a valid acknowledgement is not received in the specified time window, the payload is resent (if auto retransmit is enabled). If the auto retransmit counter (ARC\_CNT) exceeds the programmed maximum limit (ARC), the MAX\_RT bit in the status register is set high. The payload in TX FIFO is NOT removed. The IRQ pin will be active when MAX\_RT or TX\_DS is high. To turn off the IRQ pin, the interrupt source must be reset by writing to the status register (see Interrupt chapter). If no acknowledgement is received for a packet after the maximum number of retries, no further packets can be sent before the MAX\_RX interrupt is cleared. The packet loss counter (PLOS\_CNT) is incremented at each MAX\_RT interrupt. I.e. ARC\_CNT counts the number of retries that was required to get a single packet through. PLOS\_CNT counts the number of packets that did not get through after maximum number of retries.

Enhanced ShockBurst receive payload

1. RX is selected by wetting the PRIM\_RX bit in the configuration register to high all data pipes that shall receive data must be enabled.(EN\_RXADDR register).