

A standard command message consists of the following:

1 mSec of CW followed by:

5 Bytes of ASK MANCHESTER READER DATA

The reader data is sent at 423 KBS so therefore $(1/423,000) \times 5 \times 8 = 9.45\text{nSec}$

Since the data is Manchester the transmitter is only on for 50% of the time so the TX ON TIME is: 4.725nSec

This is followed by another 1 mSec of CW and then another 4.17 mSec of CW during which time the TAG Backscatters its data back to the reader.

This is a total of:

$$1\text{mSec} + 9.45\text{nSec} + 1\text{mSec} + 4.17\text{mSec} = 6.17001 \text{ mSec.}$$

A propriety command message consists of the following:

1 mSec of CW followed by:

1 Byte of 423 KBS $(1/423,000) \times 5 = 1.89\text{nSec}$

Since the data is Manchester the transmitter is only on for 50% of the time so the TX ON TIME is: 0.945nSec .

This is followed by 3.0mSec of CW and then another 1.74mSec of CW during which time the TAG Backscatters its data back to the reader.

The reader then processes the information and sends another 5 Byte message to the TAG so... $(1/423,000) \times 5 \times 8 = 9.45\text{nSec}$

Since the data is Manchester the transmitter is only on for 50% of the time so the TX ON TIME is: 4.725nSec

This is followed by 3.0mSec of CW and then another 3.47mSec of CW during which time the TAG Backscatters its data back to the reader.

This is a total of:

$$1\text{mSec} + 0.945\text{nSec} + 3.0\text{mSec} + 1.74\text{mSec} + 4.725\text{nSec} + 3.0\text{mSec} + 3.47\text{mSec} = 12.21001\text{mSec}$$