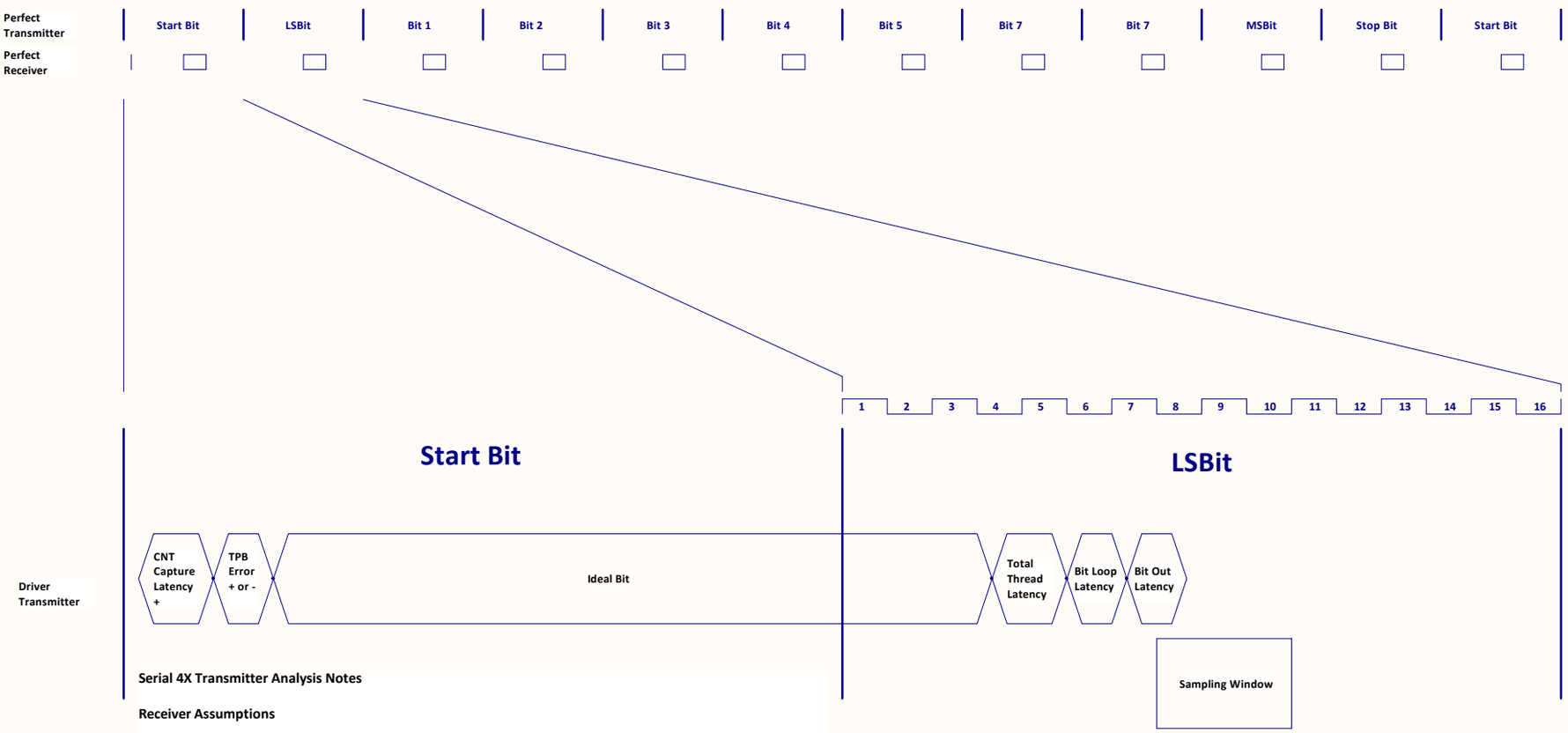


**Serial 4X Transmitter Analysis Notes**

**Receiver Assumptions**

**Runs at 16x baud clock and uses 3x sampling strategy for start, stop and data**
**Detects the start bit with 0 to 1 16ths latency**
**Data bits are sampled in 16ths 8, 9 & 10**

**cnt capture latency is 4 ticks**
**Bit loop Latency is 0 to 28 ticks**
**Bit Output Latency is 8 ticks**
**Thread Latency is 140 to 333**

**Worst case latency to bit out is 4 + 28 + 8 + 333 or 373 ticks**
**Theoretical baud rate limit is 80000000 / (373 * 2) or 107238 Baud**

# NOT TO SCALE