Pulse Generation with KPCI3100 Driver

Below is shown the VB code for Pulse Generation with a board covered by KPCI3100 driver. This code snippet assumes the driver has already been opened and the board initialized.

```
With DriverLINXSR1
.Req_op = DL_START
.Req_mode = DL_POLLED
.Req_subsystem = DL_CT
.Evt_Str_type = DL_COMMAND
.Evt_Tim_type = DL_RATEEVENT
.Evt_Stp_type = DL_COMMAND
.Evt_Tim_rateClock = DL_INTERNAL1
.Evt_Tim_rateChannel = 0
.Evt_Tim_rateGate = DL_ENABLED
.Evt_Tim_rateMode = DL_PULSEGEN
.Evt_Tim_rateOnCount = duration ‘ how long the pulse will last
.Evt_Tim_ratePeriod = delay  ‘ how long from rising edge of gate until pulse starts
.Evt_Tim_ratePulses = 1
.Refresh
End With
```

Two properties, rateOnCount and ratePeriod, control the duty cycle of the pulse. For both properties, the value is expressed in terms of ‘tics’ of the selected rateClock. If using the internal timebase, this would be a 20MHz clock.

The sum of rateOnCount and ratePeriod cannot exceed 65535, the maximum value of a single 16bit counter.

An operational difference has been discovered between the current revision (3100-850A03) of the driver and the previous one (3100-850A02).

With the old version (3100-850A02), the delay is determined by the difference of ratePeriod – rateOnCount. These two properties can be equal to each other for a delay of zero.

The current version (3100-850A03) implements the pulse generation feature consistently with the documentation (ctmguide.pdf). As shown in the diagram below the delay is equal to the ratePeriod property. The duration of the pulse is equal to the rateOnCount property.