

# New DSP functions

- Configurable binning for histograms
  - Histograms function optimized ( 4,3us  $\rightarrow$  2,8us) for both Qf and FirstSampleHisto.
- Configurable conditions for frag. 1
  - Parameters:
    - Thresholds (  $E_{th}$ ,  $T_{th}$ ,  $QF_{th}$  )
    - Condition ( Below / Above threshold)
    - Logic ( AND / OR)
- This leads to 4 possibilities:
  - $E > E_{th} \ \&\& \ T > T_{th} \ \&\& \ QF > QF_{th}$
  - $E > E_{th} \ || \ T > T_{th} \ || \ QF > QF_{th}$
  - $E < E_{th} \ \&\& \ T < T_{th} \ \&\& \ QF < QF_{th}$
  - $E < E_{th} \ || \ T < T_{th} \ || \ QF < QF_{th}$
- Processing time 700ns per FEB