**Noise Gate Function Block Diagram**

The relationship between the NG settings and the register values could be found on the register map. The threshold and time constants calculation equations are as below:

**1. Noise gate threshold** **(0x63)**

The thresholds of the noise gate functions are defined by NG\_CH0\_NT[2:0], NG\_CH1\_NT[2:0] and NG\_SUB\_NT[2:0]

Threshold(dB) = -120 + (NG\_CH0/CH1/SUB\_NG[2:0])

if NG\_CH0/CH1/SUB\_NG = 0, noise gate is disabled.

**2. Noise gate attack time (NG\_AT), decay time (NG\_RT) and hold time (NG\_HT) (0X64)**

Three noise gate functions have the same attack time/decay time and hold time

attack time = =-2.2/fs/lg(1-2^-(NG\_AT[3:0]+8)), (NG\_AT <=10)

decay time = =-2.2/fs/lg(1-2^-(NG\_RT[3:0]+5)), (NG\_RT <=10)

Hold time = 2^(NG\_HT[3:0]+8)/fs