

Test @NU1 (v20231207)

NOTE) The FW version is bit old, but the conclusion should not change.



■ Firmware

- v20231207

■ Input

- Burst sin wave @ ch.18
- 1.6 MHz, 600 mVpp
- 8 cycles (4.972 μ s width)
- -90 deg
- external trigger
- 500.00 ns delay from trigger

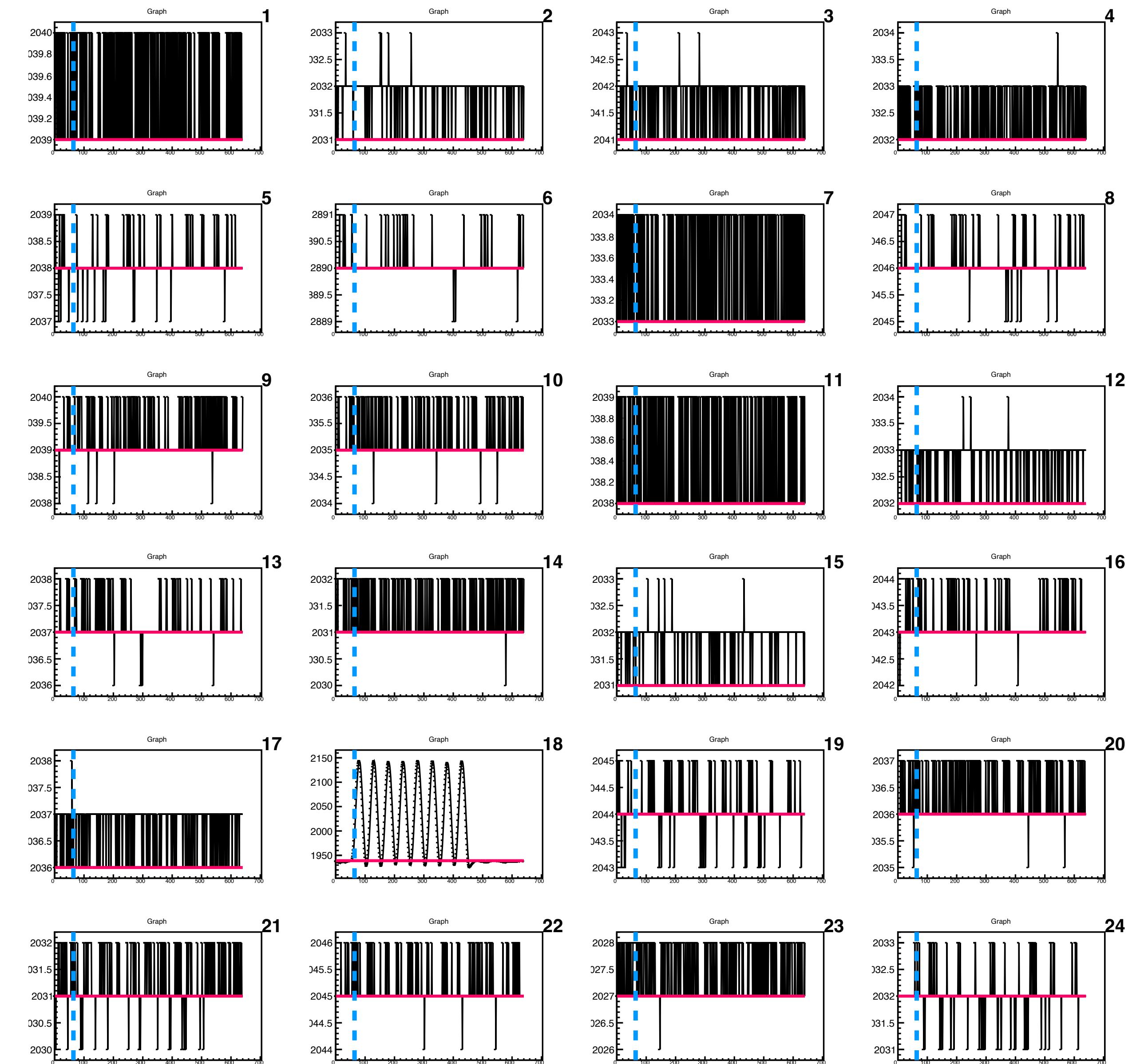
■ Trigger

- Tag-trigger delay: 4.009 ms
- Trigger width: 96.8 ns
- Tag width: 102.8 ns

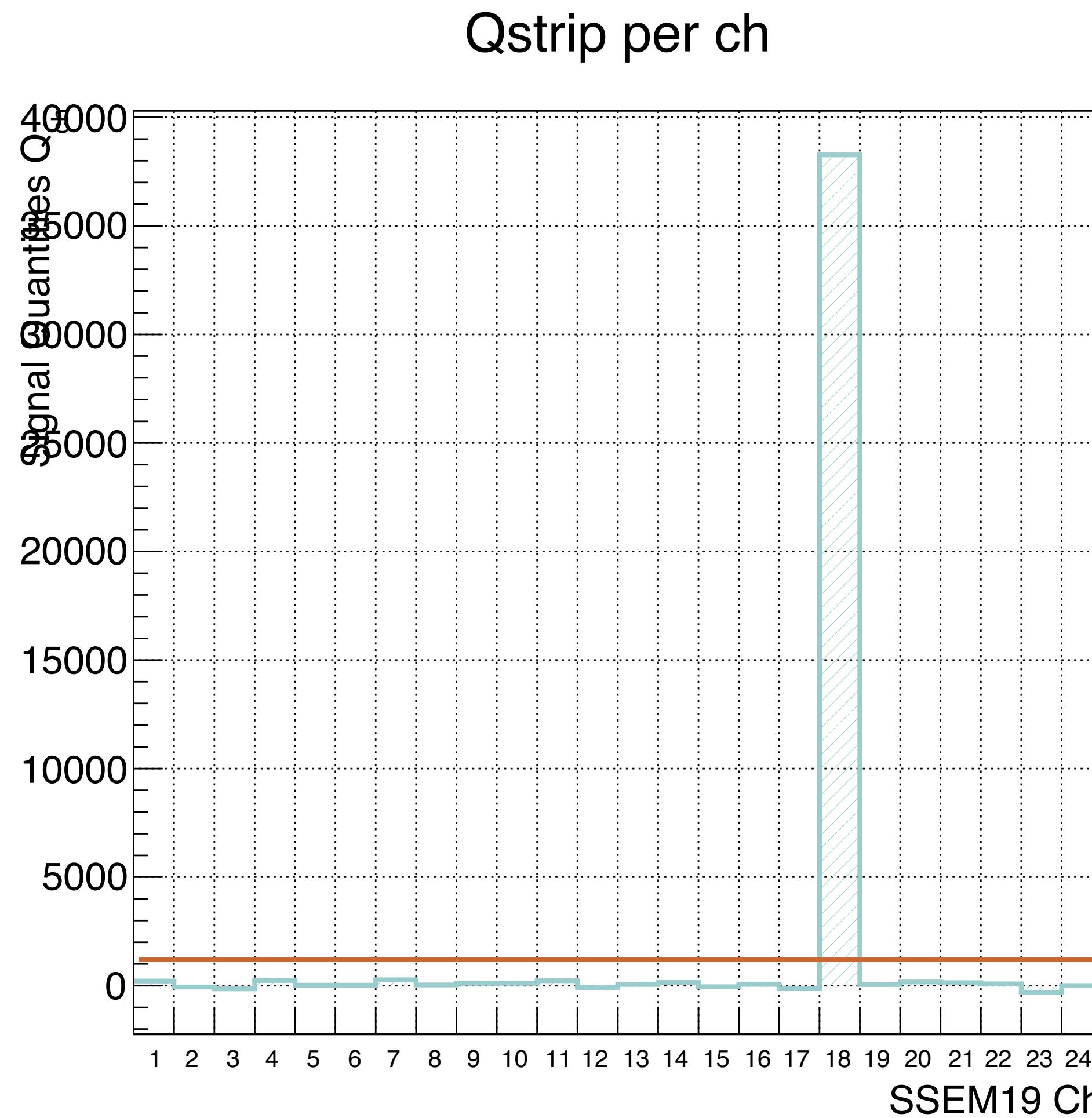


Waveform @NU1 (v20231207)

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Calculation Results @NU1 (v20231202)



```
===== Header info =====
Magic           : ffff5555
Board ID        : 01012345
Length          : 00007800
Trigger Count   : 00000000
Beam position   : 000009d5
Beam width      : 00000000
Interlock status: 00000000
```

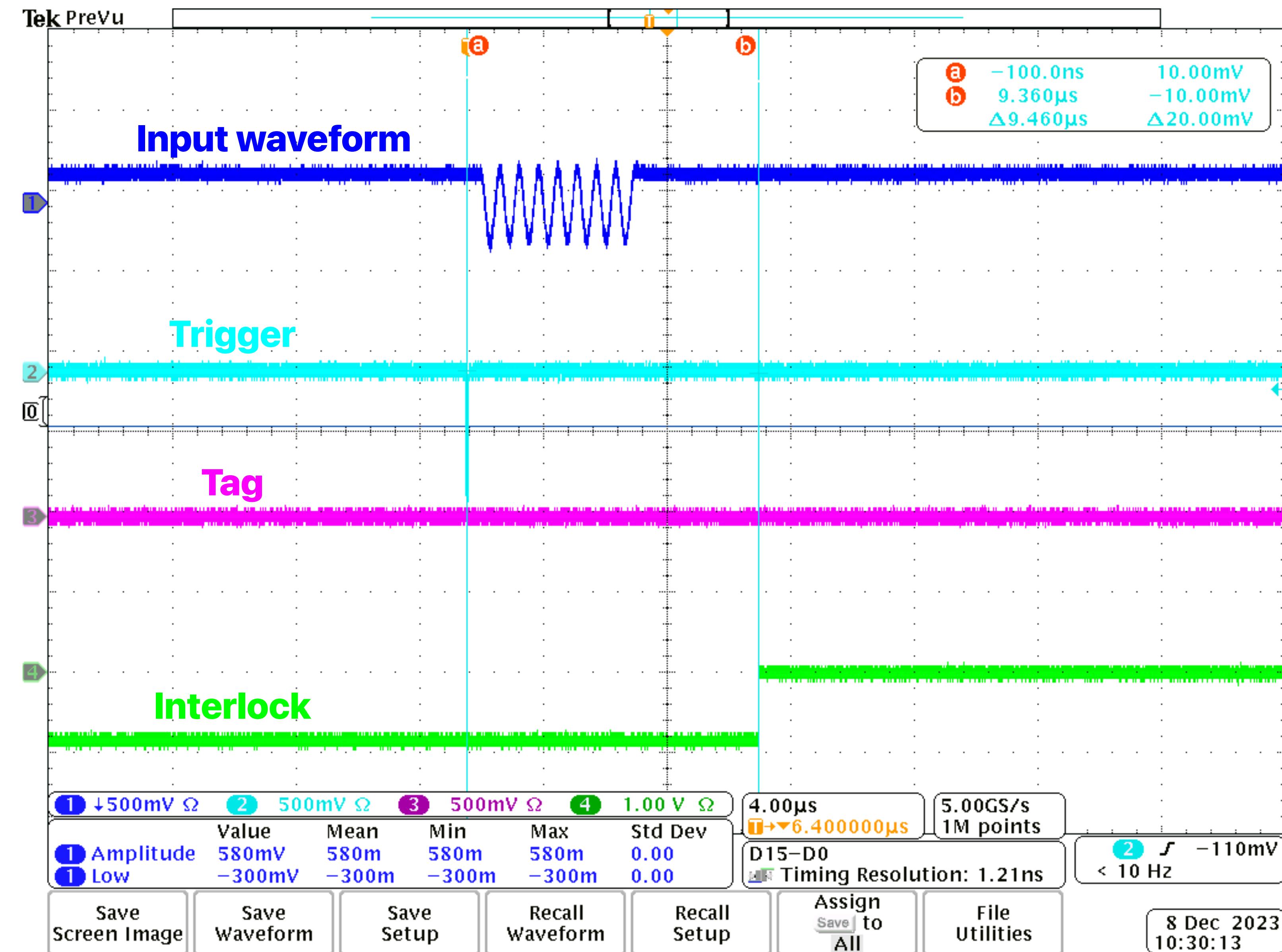
0x9D5 = 25.17 mm

Expected result:

- beam position: 25.171 mm
- beam width: 0 mm

InterlockはFW内で反転させた
0はLOW (発報中)に対応

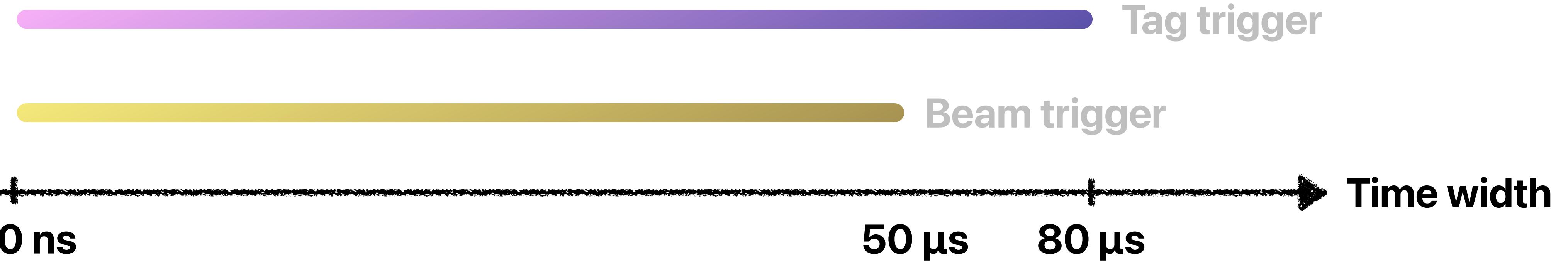
Latency @NU1 (v20231207)



Robustness to Trigger Timing

Width

Confirmed the operation
in the region with the color bar.



Delay



Robustness to Signal Timing

Width

Confirmed the operation
in the region with the color bar.



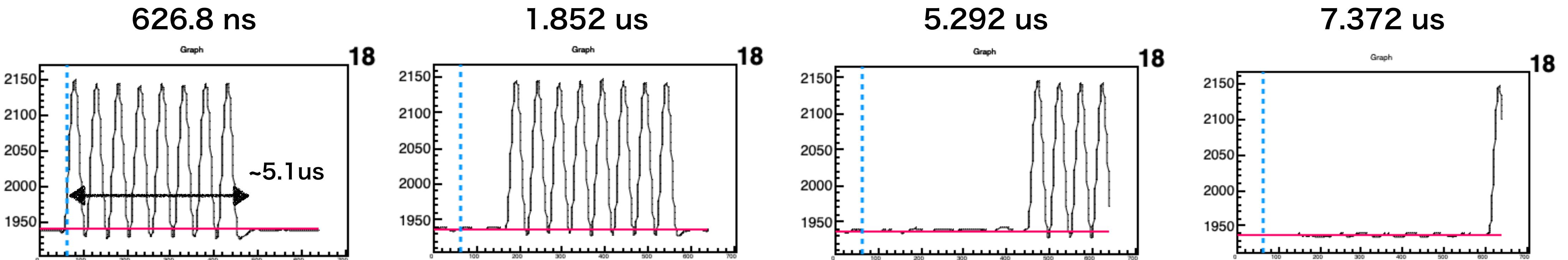
Delay



Timing between Beam Trigger and Signal

Burst sin @ ch.18
1.6 MHz, 600 mVpp, 8 cycles

Trigger width: 96.8 ns
Tag width: 102.8 ns
Tag-Trigger delay: 10.0256 ms



Beam triggerから~7 usまで離れた信号であればサンプリングできる
~1.5 us遅れたらくらいたくらに信号が来ると綺麗に収まる