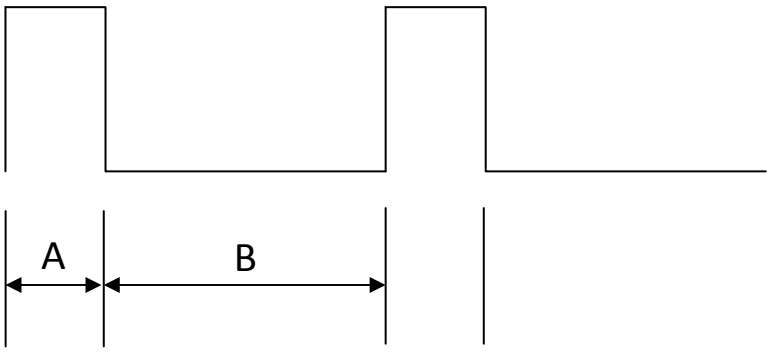
Dear Customer:

On GW Instek's function generator of GFG/SFG Series, the symmetry specification of square waveform is almost at 100kHz, but the square is more big than 100kHz, why not define the symmetry range and square frequency range on the same range??



For our specification, the SFG-1013 frequency range is 3MHz, and the duty cycle is cover 20% ~ 80%. For Example, we set some case on SFG-1013:

1. Square wave, **100kHz** range, the duty cycle is 20/80
   100 kHz = 10us = range A+B
   For 20%, the range A is 2us, the range B is 8us,
   (A : B = 2us : 8us = 500kHz : 125kHz)

   It's still within GW specifications.

2. Square wave, **200kHz** range, the duty cycle is 20/80
   200kHz = 5us = range A+B
   For 20%, the range A is 1us, the range B is 4us,
   (A : B = 1us : 4us = 1MHz : 250kHz)

   It's still within GW specifications, but if the specification add the fall/rise time, **the range-A maximum maybe @1.x MHz (over 1MHz)**

3. Square wave, **500kHz** range, the duty cycle is 20/80
   500kHz = 2us = range A+B
   For 20%, the range A is 0.4us, the range B is 1.6us,
   (A : B = 0.4us : 1.6us = 400ns : 1600ns = 2.5MHz : 625kHz)

   It looks like within specifications, but if the specification add the fall/rise time 100ns, **the maximum range maybe @3.x MHz (Over 3MHz)**

Because we need satisfied the specification of duty cycle (20 ~ 80%), if the symmetry range is too big, we can't do any duty cycle on square wave.

Finally, square wave will be in addition to the symmetry restrictions, must also take into account the changes in duty cycle settings, so GW's SFG-2000/1000 even GFG-8000 series is such a setting.