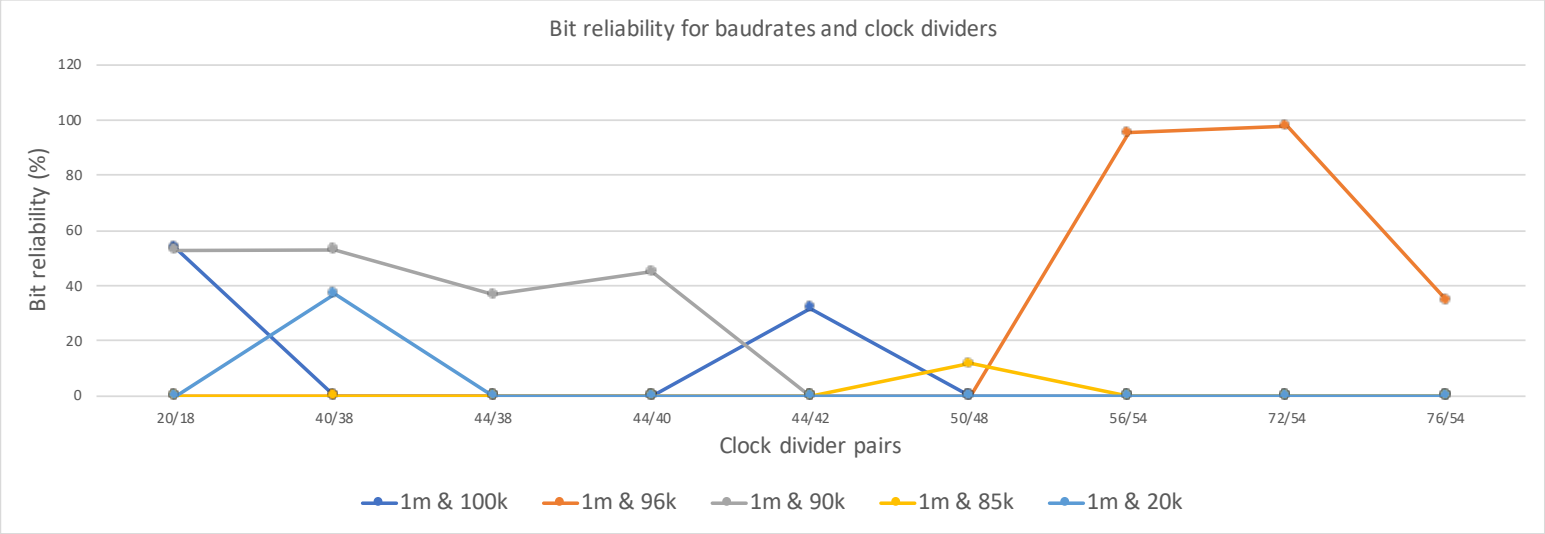
	20/18	40/38	44/38	44/40	44/42	50/48	56/54	72/54	76/54
1m & 100k	53,5880278	0	0	0	31,7785354	0	0	0	0
1m & 96k	0	0	0	0	0	0	95,3084859	97,8490659	34,8052862
1m & 90k	52,9522276	52,9936788	36,7513265	44,8951215	0	0	0	0	0
1m & 85k	0	0	0	0	0	11,9478842	0	0	0
1m & 20k	0	37,0546412	0	0	0	0	0	0	0




```
wcnes-project2023/baseband $ python3 generate-backscatter-pio.py 72 54 96000 --twoAntennas backscatter.pio


WARNING: a baudrate of 96000 Baud is not achievable with a 125 MHz clock.
Therefore, the closest achievable baud-rate 96006 Baud will be used.


Generated Radio seetings:
  - frequency 0 shift: 1.736 MHz       (1 period = 72 cycles @ 125 MHz clock)
  - frequency 1 shift: 2.315 Mhz       (1 period = 54 cycles @ 125 MHz clock)
  - center frequency shift: 2.025 MHz
  - deviation from center : 289.35 kHz
  - baud-rate 96.01 kBaud (1302.0 instructions per symbol)
  - occupied bandwith: 674.71 kHz
```

```
wcnes-project2023/baseband $ python3 generate-backscatter-pio.py 56 54 96000 --twoAntennas backscatter.pio


WARNING: a baudrate of 96000 Baud is not achievable with a 125 MHz clock.
Therefore, the closest achievable baud-rate 96006 Baud will be used.


Generated Radio seetings:
  - frequency 0 shift: 2.232 MHz       (1 period = 56 cycles @ 125 MHz clock)
  - frequency 1 shift: 2.315 Mhz       (1 period = 54 cycles @ 125 MHz clock)
  - center frequency shift: 2.273 MHz
  - deviation from center : 41.34 kHz
  - baud-rate 96.01 kBaud (1302.0 instructions per symbol)
  - occupied bandwith: 178.68 kHz
```

Notes:

Regarding the two dividers - 56/54 and 72/54, we notice that they both give good bit reliability. However, the deviation between the symbol frequencies differ by some magnitude. Also, the bandwidth are greatly different. Why is that?

The testing we have done shows that for some dividers, we get better reliabilty - whereas for some we don't get any at all. This is most certainly due to us not testing multiple times and taking an average over the test runs to get a bit reliability. We can notice however that having a frequency offset further away from the carrier doesnt yield as good results as we want. Moving it a bit closer to the carrier can provide better bit reliability, but not the desired. We feel like we need to place the offset not too far and not too close. We will test this.