Scheme 3 – System configuration

# Optical setup

## Pump

795nm, Circularly polarized along the z direction. Passes through a TA with maximal amplification (2590ma).

Detuning is 44mv, which correspond to 27.1 degrees at the Vescent controller. Detuning is approximately 10Ghz from the center of the line. Current is 172ma.

## Probe

795nm, linearly polarized along the x direction.

Detuning is -12mv, which correspond to 26.1 degrees at the Vescent controller. Detuning is approximately 10Ghz from the center of the line. Current is 102ma.

# Magnetic setup

## Bx

Connected directly to AG5CH2

## By

Connected directly to AG1CH2

## Bz

Connected directly to AG3CH2 (which is set to track AG3CH1). Wire is sampled with a Tektronix CT2 probe.

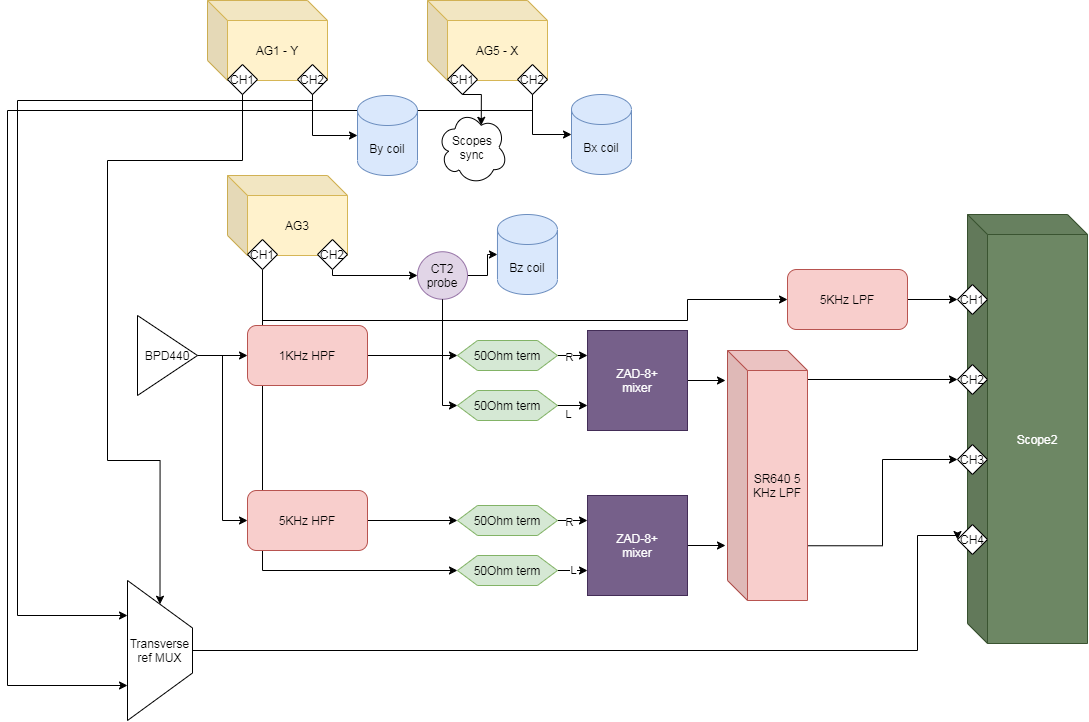
# Oven

Tabor1 signals a Minicircuit RF amp which is fed by an Advice DC power supply.

Frequency is 512KHz and amp is 310mvpp which yields a temperature of 148C according to thermistor placed near the cell.

# Wirings

See drawing, besides there is the laser detunings which are connected to AG2 (1- pump, 2- probe).



Scope2:

1. Slow modulation ref (raw Bz = DC + fast\_mod + slow mod, LPF kills fast mod).
2. Main LIA – mixed with tracking Bz signal
3. Secondary LIA – mixed with CT2 signal
4. Bx/By reference – output of the Mux

Scope1:

1. BPD210A.
2. Red cable – BPD440 "-" channel
3. BPD440
4. Pump power indicator.