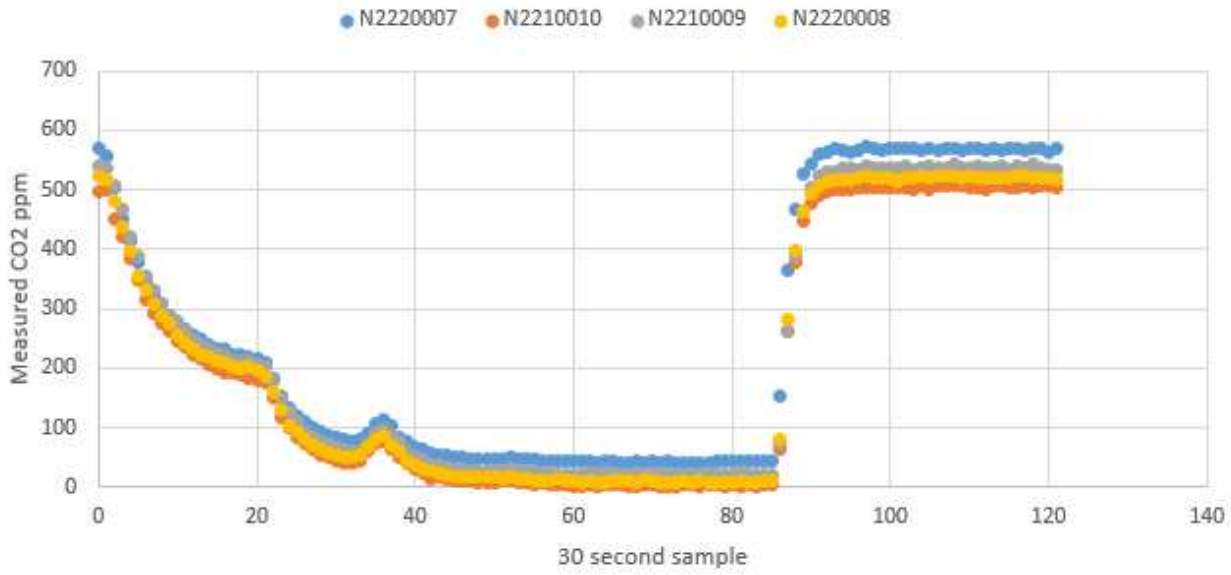
Calibration Report

Date: 2024-02-20
Model: GMP343
Serial No.: N2220007, N2210010, N2210009, N2220008
Where: Lab
By: Joe Verfaillie

Serial No.	Slope	Offset (ppm)
N2220007	0.9975	-42.393
N2210010	1.0446	-2.4651
N2210009	1.0172	-22.108
N2220008	1.0247	-9.2838

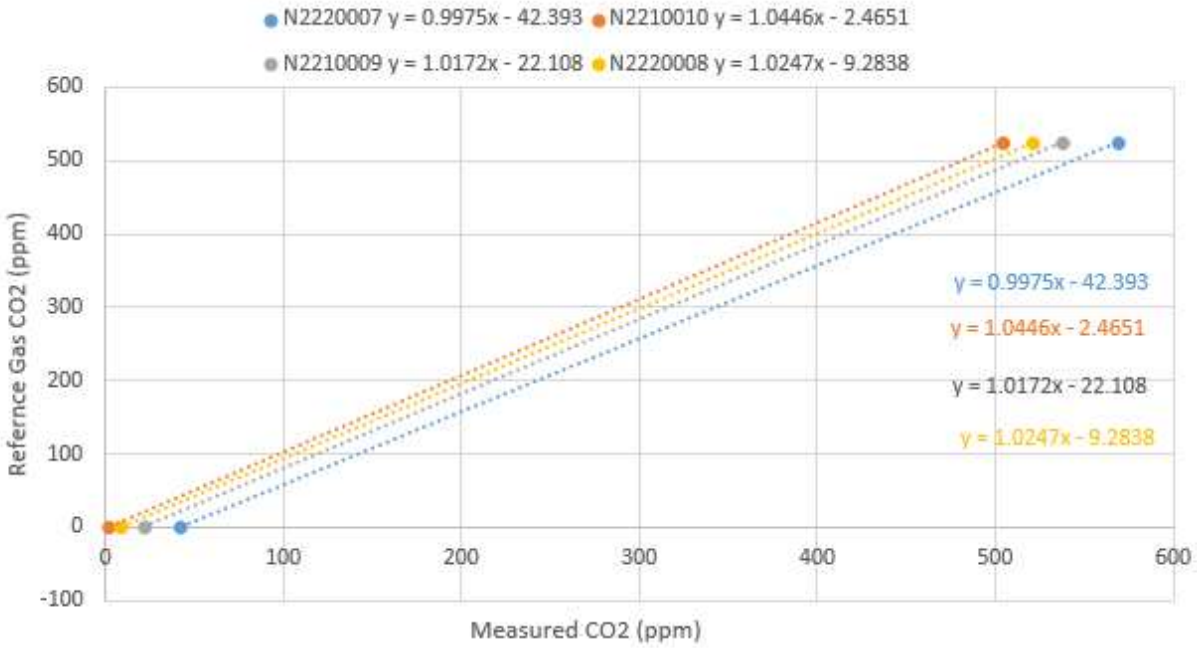
Notes:
On 2024-02-20 I put all four GMP343 CO2 probes into the Tupperware box with a fan and flowed zero air followed by AMP CA04119 524.77ppm CO2. The probes were hooked up to a CR6 with a slightly modified version to the field program. The modifications include storing 30sec measurements, and setting fixed values for ambient temperature, RH and pressure. RH was zero due to compressed gasses, pressure (101kPa) and Temperature (20C) came from the Li7550:

The overall time series:



I took the average of 15 reading (samples 70-84) just before the switch to span gas, and the average of 20 sample at the end of the measurements for zero and span readings. The position of the probes in relation to the gas inlet and fan didn't seem to have any relationship to their readings.

Regressions against the calibration gasses:



The spans all seem very tight. The offsets will need to be checked against the in situ comparisons made on the Tonzi Tower.

There is a way to add these offsets to the internal firmware of each probe through their serial interface. However, our lab setup is far from perfect and I am already doing in situ comparisons with the 7500s at Tonzi. For now these calibration values are advisory.