

Report of Calibration
PSC 4CH-MSF-AR-Fast XY Corr_S/N 0004
2025-10-22 12:00:28

Calibration Current standard: BNL PSC ATE S/N 001
Calibration Volt standard: HP 3458A-002 S/N 2823A 23647
Calibration Resistance standard: Fluke 742A-1 S/N 1063008
End Header

lab{1}Chan1
Burden resistor = 33.3333

Measuring initial gains and offsets

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -0.999708 | 1.004562 | -1.011559 | -1.010134 | 1.001214 | 0.029438 |
| -26.997860 | 27.010376 | -26.815842 | -26.818115 | 27.058620 | 0.049541 |

| | dacSP | dcct1 | dcct2 | dacRB |
|---------------------------|-----------|-----------|-----------|----------|
| Initial measured offsets: | -0.004559 | -0.019306 | -0.017738 | 0.000000 |
| Initial measured gains: | 1.000295 | 0.992543 | 0.992685 | 1.001984 |
| Gain corrections: | 1.000295 | 1.007513 | 1.007369 | 1.000000 |

Writing gain and offset corrections for dacSP, dcct1, and dcct2 to PSC

Measuring DAC readback gain and offset

| DAC SP | DAC RB |
|-----------|-----------|
| 1.000000 | 1.001713 |
| 27.000000 | 27.060373 |

Measured offset: -0.000543
Measured gain: 1.002256
Gain correction: 0.997749

Writing gain and offset constants for dacRB to PSC

Verification

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -0.999535 | 0.999510 | -0.999752 | -0.999720 | 0.999279 | 0.014928 |
| -26.997619 | 26.997955 | -26.997772 | -26.997761 | 26.997673 | 0.057168 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------|----------|-----------|-----------|-----------|
| Final measured offsets: | 0.000039 | -0.000220 | -0.000187 | -0.000229 |
| Final measured gains: | 1.000014 | 0.999998 | 0.999998 | 0.999998 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------------|-----------|-----------|-----------|-----------|
| Final measured offsets mean: | -0.000162 | -0.000196 | -0.000141 | -0.000148 |
| Final measured offsets stdev: | 0.000251 | 0.000163 | 0.000165 | 0.000338 |
| Final measured gains mean: | 0.999985 | 0.999987 | 0.999988 | 1.000000 |
| Final measured gains stdev: | 0.000018 | 0.000009 | 0.000009 | 0.000011 |

Saving channel 1 calibration constants to qspi

lab{1}Chan2
Burden resistor = 33.3333

Measuring initial gains and offsets

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -0.999705 | 1.002493 | -1.010411 | -1.010598 | 0.999443 | 0.002250 |
| -26.997889 | 27.017388 | -26.824888 | -26.824066 | 27.079062 | 0.031815 |

| | dacSP | dcct1 | dcct2 | dacRB |
|---------------------------|-----------|-----------|-----------|----------|
| Initial measured offsets: | -0.002146 | -0.017770 | -0.017996 | 0.000000 |
| Initial measured gains: | 1.000643 | 0.992934 | 0.992895 | 1.002488 |
| Gain corrections: | 1.000643 | 1.007116 | 1.007156 | 1.000000 |

Writing gain and offset corrections for dacSP, dcct1, and dcct2 to PSC

Measuring DAC readback gain and offset

| DAC SP | DAC RB |
|-----------|-----------|
| 1.000000 | 0.999865 |
| 27.000000 | 27.080992 |

Measured offset: -0.003255
Measured gain: 1.003120
Gain correction: 0.996889

Writing gain and offset constants for dacRB to PSC

Verification

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -0.999471 | 0.999614 | -0.999733 | -0.999898 | 0.999465 | 0.022371 |
| -26.997888 | 26.997466 | -26.997654 | -26.997498 | 26.996956 | 0.032332 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------|-----------|-----------|-----------|-----------|
| Final measured offsets: | -0.000165 | -0.000281 | -0.000459 | -0.000135 |
| Final measured gains: | 0.999978 | 0.999981 | 0.999969 | 0.999986 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------------|----------|-----------|-----------|-----------|
| Final measured offsets mean: | 0.000093 | -0.000138 | -0.000221 | -0.000143 |
| Final measured offsets stdev: | 0.000174 | 0.000095 | 0.000196 | 0.000136 |
| Final measured gains mean: | 1.000000 | 0.999993 | 0.999991 | 0.999999 |
| Final measured gains stdev: | 0.000018 | 0.000011 | 0.000012 | 0.000010 |

Saving channel 2 calibration constants to qspi

lab{1}Chan3
Burden resistor = 33.3333

Measuring initial gains and offsets

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -0.999716 | 1.002631 | -1.010310 | -1.011892 | 1.004421 | 0.038081 |
| -26.997889 | 27.011941 | -26.826504 | -26.817810 | 27.099346 | 0.044590 |

| | dacSP | dcct1 | dcct2 | dacRB |
|---------------------------|-----------|-----------|-----------|----------|
| Initial measured offsets: | -0.002487 | -0.017592 | -0.019569 | 0.000000 |
| Initial measured gains: | 1.000428 | 0.993000 | 0.992605 | 1.003292 |
| Gain corrections: | 1.000428 | 1.007049 | 1.007450 | 1.000000 |

Writing gain and offset corrections for dacSP, dcct1, and dcct2 to PSC

Measuring DAC readback gain and offset

| DAC SP | DAC RB |
|-----------|-----------|
| 1.000000 | 1.004728 |
| 27.000000 | 27.101259 |

Measured offset: 0.001015
Measured gain: 1.003713
Gain correction: 0.996301

Writing gain and offset constants for dacRB to PSC

Verification

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -0.999715 | 0.999852 | -1.000049 | -0.999983 | 0.999942 | 0.037056 |
| -26.997828 | 26.997635 | -26.998106 | -26.998070 | 26.998358 | 0.024794 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------|-----------|-----------|-----------|----------|
| Final measured offsets: | -0.000149 | -0.000336 | -0.000269 | 0.000066 |
| Final measured gains: | 0.999987 | 0.999998 | 0.999999 | 1.000024 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------------|-----------|-----------|-----------|----------|
| Final measured offsets mean: | -0.000109 | -0.000205 | -0.000212 | 0.000044 |
| Final measured offsets stdev: | 0.000196 | 0.000115 | 0.000041 | 0.000114 |
| Final measured gains mean: | 0.999985 | 0.999995 | 0.999990 | 1.000035 |
| Final measured gains stdev: | 0.000017 | 0.000007 | 0.000009 | 0.000010 |

Saving channel 3 calibration constants to qspi

lab{1}Chan4
Burden resistor = 33.3333

Measuring initial gains and offsets

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -0.999866 | 1.004527 | -1.011497 | -1.009496 | 1.001094 | 0.024951 |
| -26.998064 | 27.012108 | -26.825661 | -26.819658 | 27.078772 | 0.051087 |

| | dacSP | dcct1 | dcct2 | dacRB |
|---------------------------|-----------|-----------|-----------|----------|
| Initial measured offsets: | -0.004301 | -0.018709 | -0.016862 | 0.000000 |
| Initial measured gains: | 1.000361 | 0.992921 | 0.992767 | 1.002695 |
| Gain corrections: | 1.000361 | 1.007129 | 1.007285 | 1.000000 |

Writing gain and offset corrections for dacSP, dcct1, and dcct2 to PSC

Measuring DAC readback gain and offset

| DAC SP | DAC RB |
|-----------|-----------|
| 1.000000 | 1.001263 |
| 27.000000 | 27.080614 |

Measured offset: -0.001788
Measured gain: 1.003052
Gain correction: 0.996957

Writing gain and offset constants for dacRB to PSC

Verification

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -0.999887 | 1.000027 | -1.000205 | -1.000295 | 0.999531 | 0.032107 |
| -26.997993 | 26.997544 | -26.997845 | -26.997763 | 26.997055 | 0.033610 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------|-----------|-----------|-----------|-----------|
| Final measured offsets: | -0.000163 | -0.000337 | -0.000432 | -0.000496 |
| Final measured gains: | 0.999977 | 0.999982 | 0.999975 | 1.000000 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------------|-----------|-----------|-----------|-----------|
| Final measured offsets mean: | -0.000044 | -0.000133 | -0.000250 | -0.000545 |
| Final measured offsets stdev: | 0.000158 | 0.000167 | 0.000170 | 0.000079 |
| Final measured gains mean: | 0.999989 | 0.999991 | 0.999985 | 1.000004 |
| Final measured gains stdev: | 0.000012 | 0.000014 | 0.000015 | 0.000007 |

Saving channel 4 calibration constants to qspi

Test data reviewed by



Date 10/23/25