

Report of Calibration
PSC 4CH-MSF-AR-Fast XY Corr_S/N 0006
2025-09-25 20:01:33

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 |
|------------|-----------|------------|------------|-----------|----------|
| -1.000292 | 1.007898 | -1.012646 | -1.009621 | 1.001126 | 0.022097 |
| -26.998067 | 27.010859 | -26.822224 | -26.810909 | 27.035999 | 0.089764 |

| | dacSP | dcct1 | dcct2 | dacRB |
|---------------------------|-----------|-----------|-----------|----------|
| Initial measured offsets: | -0.007406 | -0.019594 | -0.016889 | 0.000000 |
| Initial measured gains: | 1.000200 | 0.992761 | 0.992442 | 1.001227 |
| Gain corrections: | 1.000200 | 1.007292 | 1.007615 | 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 | 1.001033 |
| 27.000000 | 27.038017 |

Measured offset: -0.000389
Measured gain: 1.001422
Gain correction: 0.998580

Writing gain and offset constants for dacRB to PSC

Verification

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -1.000478 | 1.000543 | -1.000689 | -1.000932 | 1.000529 | 0.024445 |
| -26.998127 | 26.997678 | -26.997883 | -26.998047 | 26.998205 | 0.072805 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------|-----------|-----------|-----------|-----------|
| Final measured offsets: | -0.000085 | -0.000228 | -0.000474 | -0.000035 |
| Final measured gains: | 0.999980 | 0.999983 | 0.999979 | 1.000021 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------------|----------|-----------|-----------|-----------|
| Final measured offsets mean: | 0.000013 | -0.000177 | -0.000166 | -0.000050 |
| Final measured offsets stdev: | 0.000497 | 0.000562 | 0.000521 | 0.000162 |
| Final measured gains mean: | 0.999991 | 0.999988 | 0.999989 | 1.000005 |
| Final measured gains stdev: | 0.000019 | 0.000013 | 0.000013 | 0.000012 |

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 |
|------------|-----------|------------|------------|-----------|----------|
| -1.000186 | 1.005202 | -1.010998 | -1.008854 | 0.996121 | 0.030903 |
| -26.998068 | 27.010536 | -26.832418 | -26.814291 | 27.012020 | 0.073732 |

| | dacSP | dcct1 | dcct2 | dacRB |
|---------------------------|-----------|-----------|-----------|----------|
| Initial measured offsets: | -0.004729 | -0.017601 | -0.016071 | 0.000000 |
| Initial measured gains: | 1.000287 | 0.993212 | 0.992598 | 1.000406 |
| Gain corrections: | 1.000287 | 1.006834 | 1.007457 | 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 | 0.996143 |
| 27.000000 | 27.013693 |

Measured offset: -0.004532
Measured gain: 1.000675
Gain correction: 0.999325

Writing gain and offset constants for dacRB to PSC

Verification

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -1.000104 | 1.000026 | -1.000353 | -1.000253 | 0.999800 | 0.044841 |
| -26.998324 | 26.997725 | -26.998356 | -26.998051 | 26.997625 | 0.019988 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------|----------|-----------|-----------|-----------|
| Final measured offsets: | 0.000057 | -0.000258 | -0.000166 | -0.000232 |
| Final measured gains: | 0.999980 | 0.999992 | 0.999984 | 1.000005 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------------|----------|-----------|-----------|----------|
| Final measured offsets mean: | 0.000003 | -0.000297 | -0.000275 | 0.000143 |
| Final measured offsets stdev: | 0.000206 | 0.000214 | 0.000195 | 0.000290 |
| Final measured gains mean: | 0.999982 | 0.999987 | 0.999981 | 1.000004 |
| Final measured gains stdev: | 0.000012 | 0.000011 | 0.000011 | 0.000013 |

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 |
|------------|-----------|------------|------------|-----------|----------|
| -0.999974 | 1.005856 | -1.011485 | -1.011163 | 1.001806 | 0.029180 |
| -26.997871 | 27.004584 | -26.820345 | -26.821907 | 27.012596 | 0.069266 |

| | dacSP | dcct1 | dcct2 | dacRB |
|---------------------------|-----------|-----------|-----------|----------|
| Initial measured offsets: | -0.005850 | -0.018782 | -0.018388 | 0.000000 |
| Initial measured gains: | 1.000032 | 0.992729 | 0.992801 | 1.000464 |
| Gain corrections: | 1.000032 | 1.007325 | 1.007251 | 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 | 1.002058 |
| 27.000000 | 27.014542 |

Measured offset: 0.001578
Measured gain: 1.000480
Gain correction: 0.999520

Writing gain and offset constants for dacRB to PSC

Verification

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -1.000128 | 0.999919 | -1.000141 | -1.000289 | 1.000869 | 0.016035 |
| -26.998071 | 26.997951 | -26.998049 | -26.998188 | 26.998974 | 0.056202 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------|----------|-----------|-----------|----------|
| Final measured offsets: | 0.000213 | -0.000014 | -0.000163 | 0.000947 |
| Final measured gains: | 1.000003 | 0.999999 | 0.999998 | 1.000003 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------------|----------|-----------|-----------|----------|
| Final measured offsets mean: | 0.000142 | -0.000085 | -0.000196 | 0.000978 |
| Final measured offsets stdev: | 0.000158 | 0.000080 | 0.000060 | 0.000079 |
| Final measured gains mean: | 0.999999 | 0.999993 | 0.999990 | 1.000002 |
| Final measured gains stdev: | 0.000007 | 0.000010 | 0.000010 | 0.000003 |

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 |
|------------|-----------|------------|------------|-----------|-----------|
| -1.000116 | 1.005562 | -1.009762 | -1.010583 | 0.997546 | -0.004070 |
| -26.998144 | 26.999492 | -26.819191 | -26.828505 | 26.988930 | 0.045371 |

| | dacSP | dcct1 | dcct2 | dacRB |
|---------------------------|-----------|-----------|-----------|----------|
| Initial measured offsets: | -0.005603 | -0.016901 | -0.017395 | 0.000000 |
| Initial measured gains: | 0.999842 | 0.992746 | 0.993072 | 0.999902 |
| Gain corrections: | 0.999842 | 1.007307 | 1.006976 | 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 0.997563

27.000000 26.990887

Measured offset: -0.002180

Measured gain: 0.999743

Gain correction: 1.000257

Writing gain and offset constants for dacRB to PSC

Verification

| Itest | dacSP | dcct1 | dcct2 | dacRB | err |
|------------|-----------|------------|------------|-----------|----------|
| -1.000192 | 1.000236 | -1.000262 | -1.000222 | 1.000518 | 0.040186 |
| -26.998047 | 26.998019 | -26.998192 | -26.997820 | 26.997986 | 0.079026 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------|-----------|-----------|-----------|----------|
| Final measured offsets: | -0.000047 | -0.000067 | -0.000040 | 0.000294 |
| Final measured gains: | 0.999997 | 1.000003 | 0.999990 | 0.999988 |

| | dacSP | dcct1 | dcct2 | dacRB |
|-------------------------------|-----------|-----------|-----------|----------|
| Final measured offsets mean: | -0.000066 | -0.000126 | -0.000319 | 0.000219 |
| Final measured offsets stdev: | 0.000197 | 0.000043 | 0.000167 | 0.000178 |
| Final measured gains mean: | 0.999992 | 0.999996 | 0.999986 | 0.999992 |
| Final measured gains stdev: | 0.000008 | 0.000006 | 0.000004 | 0.000007 |

Saving channel 4 calibration constants to qspi

Test data reviewed by



Date 9/26/25