DAC Functional Test Report

Board ID: 0x123b55b6
Performed: 2016-06-27 17:07

Status	Test	Results
PASS	Channel Comms	0/33 channels missing.
FAIL	SCK Rails	LV Gain: 0.992956. UV Gain: 0.872233. 44/50 values okay.
FAIL	RG Rails	LV Gain: 0.998886. UV Gain: 0.895666. 45/50 values okay.
FAIL	Diverging SCK 0V	LV Gain: 0.726340. UV Gain: 0.620867. 24/38 values okay.
FAIL	Diverging SCK 3V	LV Gain: 0.803539. UV Gain: 0.709060. 16/38 values okay.
FAIL	Diverging SCK -3V	LV Gain: 0.369180. UV Gain: 0.757072. 26/38 values okay.
PASS	Diverging RG 0V	LV Gain: 0.980980. UV Gain: 0.951913. 35/38 values okay.
FAIL	Diverging RG 3V	LV Gain: 0.811259. UV Gain: 0.952098. 16/38 values okay.
FAIL	Diverging RG -3V	LV Gain: 0.666156. UV Gain: 0.851034. 27/38 values okay.
PASS	CCD Bias OG Voltage	Gain: 0.991664. 21/21 values okay.
PASS	CCD Bias OD Voltage	Gain: 0.993254. 15/16 values okay.
PASS	CCD Bias GR Voltage	Gain: 0.995870. 15/16 values okay.
PASS	CCD Bias RD Voltage	Gain: 0.996993. 15/16 values okay.

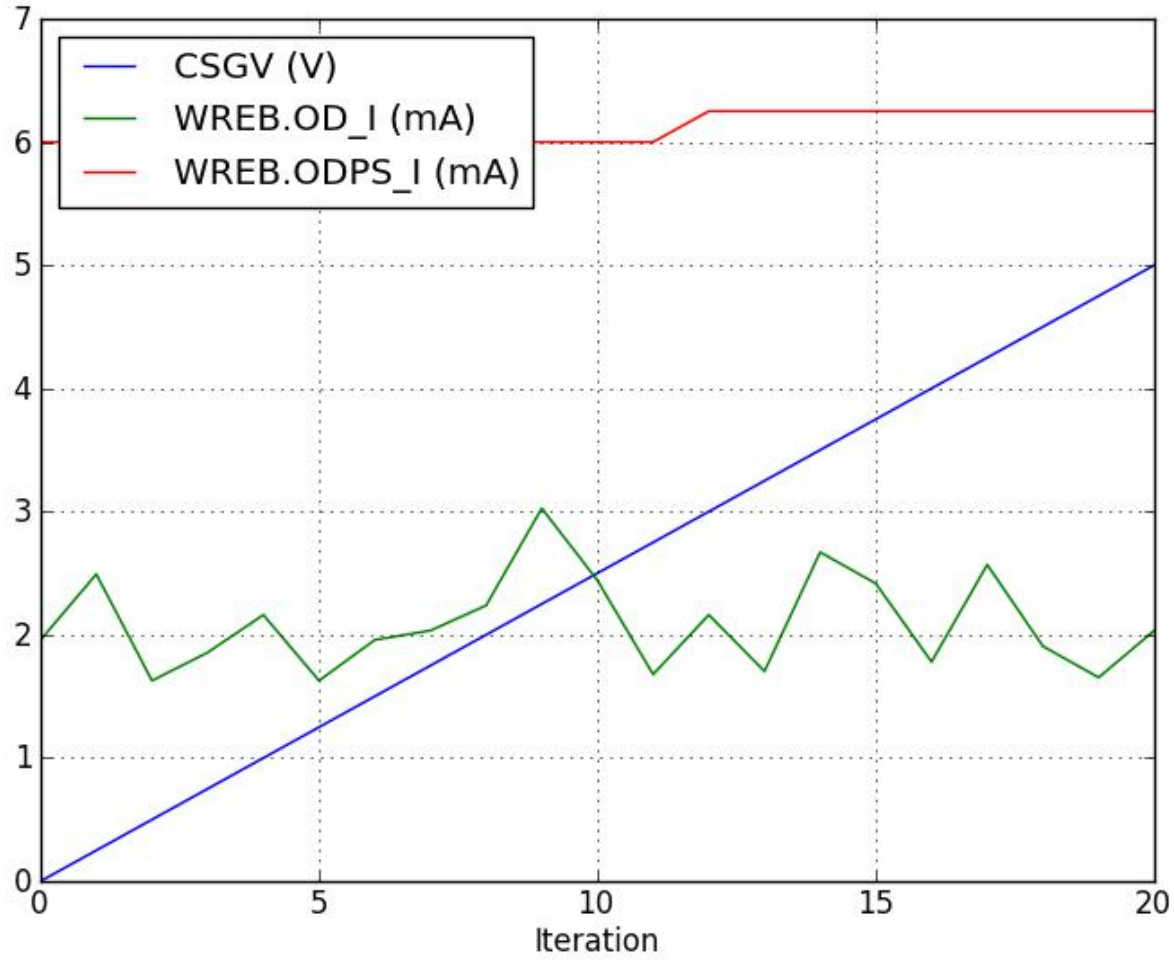
Idle Current Test

Channel	Voltage	Channel	Current
DigPS_V	4.925	DigPS_I	647.5
AnaPS_V	6.975	AnaPS_I	284.5
ODPS_V	29.2087	ODPS_I	2.1617
ClkHPS_V	9.0	ClkHPS_I	55.5
DphiPS_V	13.075	DphiPS_I	6.0
HtrPS_V	0.575	HtrPS_I	0.0

Channel Communications Test

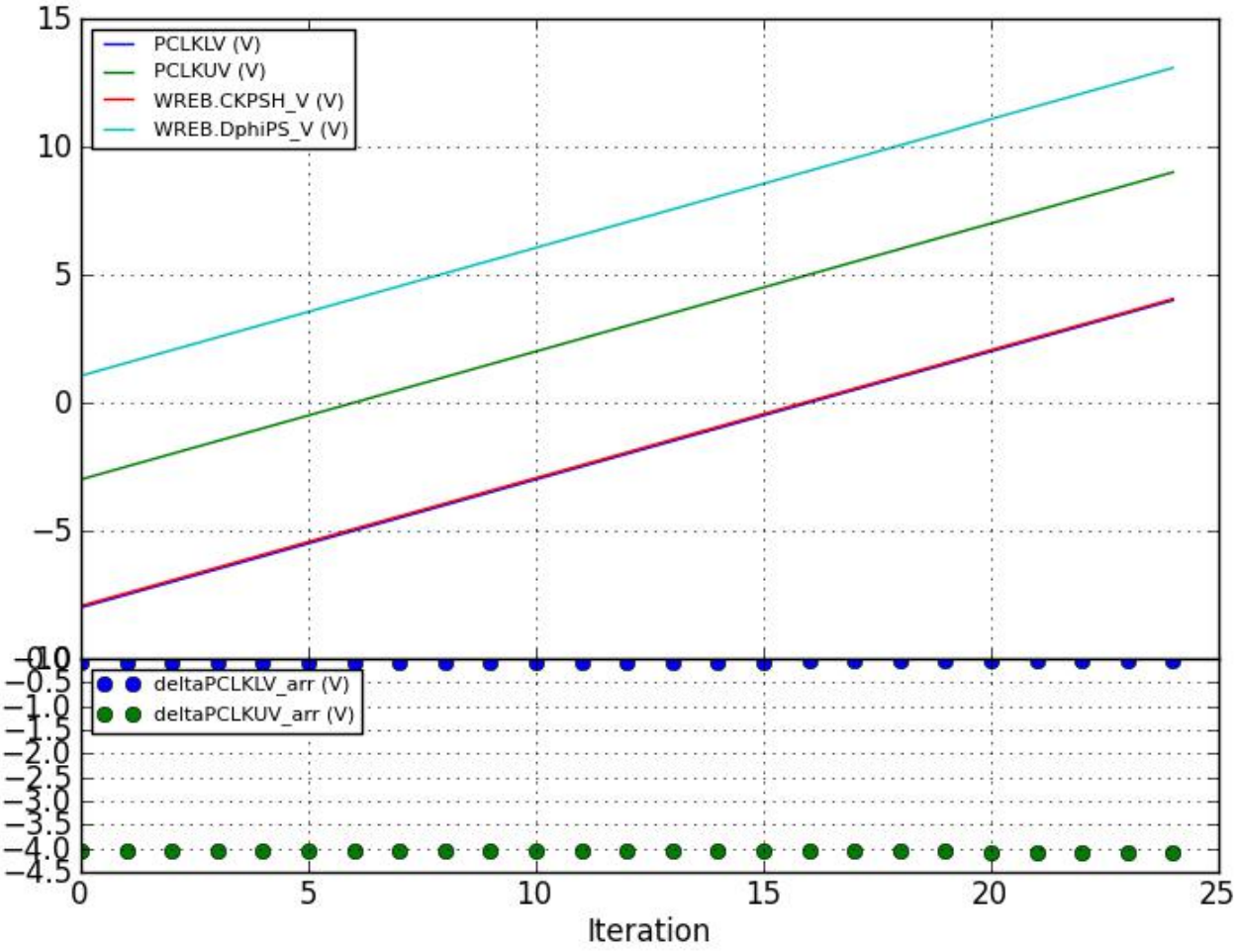
Channel	Value
WREB.Temp1	41.6875
WREB.Temp2	43.4375
WREB.Temp3	36.0
WREB.Temp4	40.5
WREB.Temp5	38.25
WREB.Temp6	37.4375
WREB.CCDtemp	2857.1427
WREB.DigPS_V	4.925
WREB.DigPS_I	647.75
WREB.AnaPS_V	6.975
WREB.AnaPS_I	285.0
WREB.ODPS_V	31.05
WREB.ODPS_I	6.25
WREB.ClkHPS_V	9.0
WREB.ClkHPS_I	33.5
WREB.DphiPS_V	13.075
WREB.DphiPS_I	6.0
WREB.HtrPS_V	0.575
WREB.HtrPS_I	0.0
WREB.VREF25	2.4944
WREB.OD_V	26.0078
WREB.OD_I	2.6957
WREB.OG_V	-2.4271
WREB.RD_V	11.5646
WREB.GD_V	25.8669
WREB.CKP_V	4.0652
WREB.CKPSH_V	4.055
WREB.CKS_V	4.171
WREB.SCKU_V	4.1573
WREB.SCKL_V	-4.0421
WREB.RG_V	8.0365
WREB.RGU_V	8.0124
WREB.RGL_V	-1.9341

CSGate Test

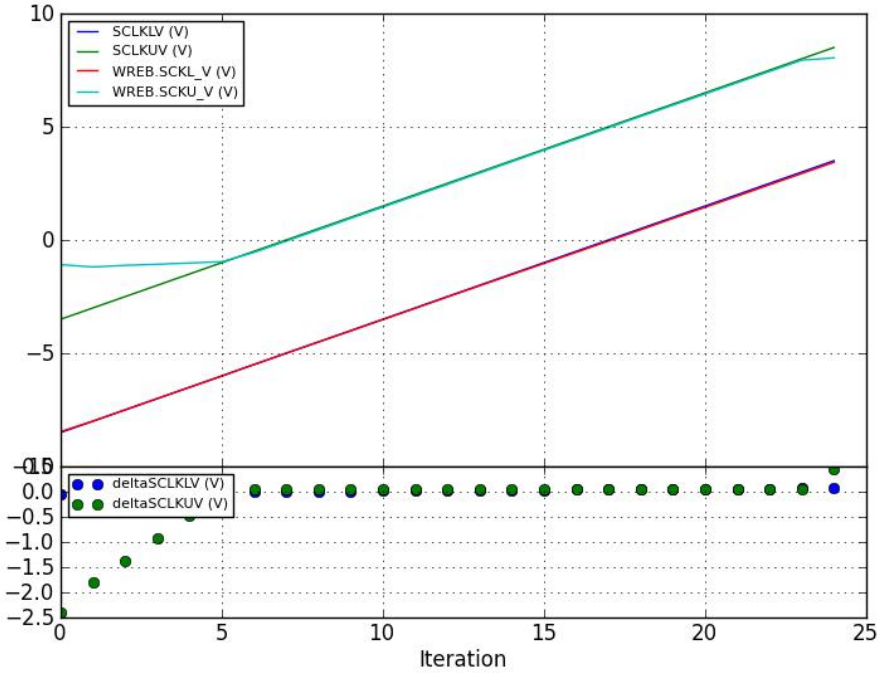


CSGV (V)	WREB.OD_I (mA)	WREB.ODPS_I (mA)
0	1.9582	6.0
0.25	2.4923	6.0
0.5	1.6276	6.0
0.75	1.8565	6.0
1.0	2.1617	6.0
1.25	1.6276	6.0
1.5	1.9582	6.0
1.75	2.0345	6.0
2.0	2.238	6.0
2.25	3.0263	6.0
2.5	2.4414	6.0
2.75	1.6785	6.0
3.0	2.1617	6.25
3.25	1.7039	6.25
3.5	2.6703	6.25
3.75	2.416	6.25
4.0	1.7802	6.25
4.25	2.5686	6.25
4.5	1.9073	6.25
4.75	1.653	6.25
5.0	2.0345	6.25

PCKRails Test



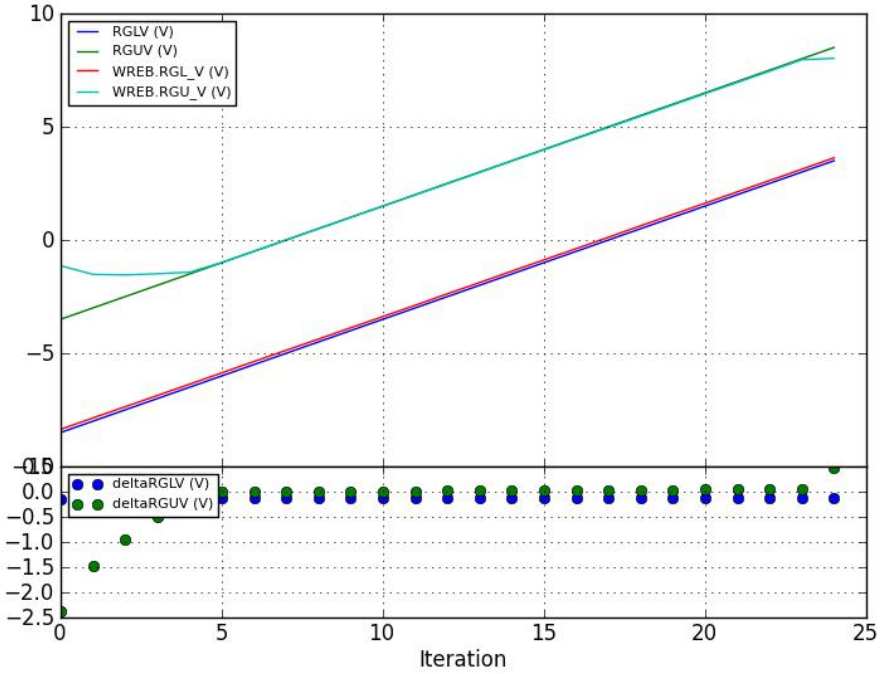
SCK Rails Test



LV Gain: 0.992956. UV Gain: 0.872233. 44/50 values okay.
Test FAILED.

SCLKLV (V)	SCLKUV (V)	WREB.SCKL_V (V)	WREB.SCKU_V (V)	deltaSCLKLV (V)	deltaSCLKUV (V)
-8.5	-3.5	-8.4618	-1.0895	-0.0382	-2.4105
-8.0	-3.0	-7.9964	-1.1887	-0.0036	-1.8113
-7.5	-2.5	-7.4989	-1.12	-0.0011	-1.38
-7.0	-2.0	-7.0007	-1.0712	0.0007	-0.9288
-6.5	-1.5	-6.5041	-1.0178	0.0041	-0.4822
-6.0	-1.0	-6.0089	-0.9583	0.0089	-0.0417
-5.5	-0.5	-5.497	-0.5508	-0.003	0.0508
-5.0	0.0	-4.998	-0.0473	-0.002	0.0473
-4.5	0.5	-4.5052	0.4486	0.0052	0.0514
-4.0	1.0	-4.0123	0.956	0.0123	0.044
-3.5	1.5	-3.5141	1.4526	0.0141	0.0474
-3.0	2.0	-3.0167	1.9516	0.0167	0.0484
-2.5	2.5	-2.5154	2.4513	0.0154	0.0487
-2.0	3.0	-2.0203	2.9549	0.0203	0.0451
-1.5	3.5	-1.5274	3.4584	0.0274	0.0416
-1.0	4.0	-1.0353	3.9619	0.0353	0.0381
-0.5	4.5	-0.5409	4.454	0.0409	0.046
0.0	5.0	-0.0465	4.9538	0.0465	0.0462
0.5	5.5	0.4532	5.4573	0.0468	0.0427
1.0	6.0	0.9537	5.9525	0.0463	0.0475
1.5	6.5	1.4442	6.4484	0.0558	0.0516
2.0	7.0	1.9409	6.9466	0.0591	0.0534
2.5	7.5	2.4414	7.444	0.0586	0.056
3.0	8.0	2.9358	7.9391	0.0642	0.0609
3.5	8.5	3.434	8.0383	0.066	0.4617

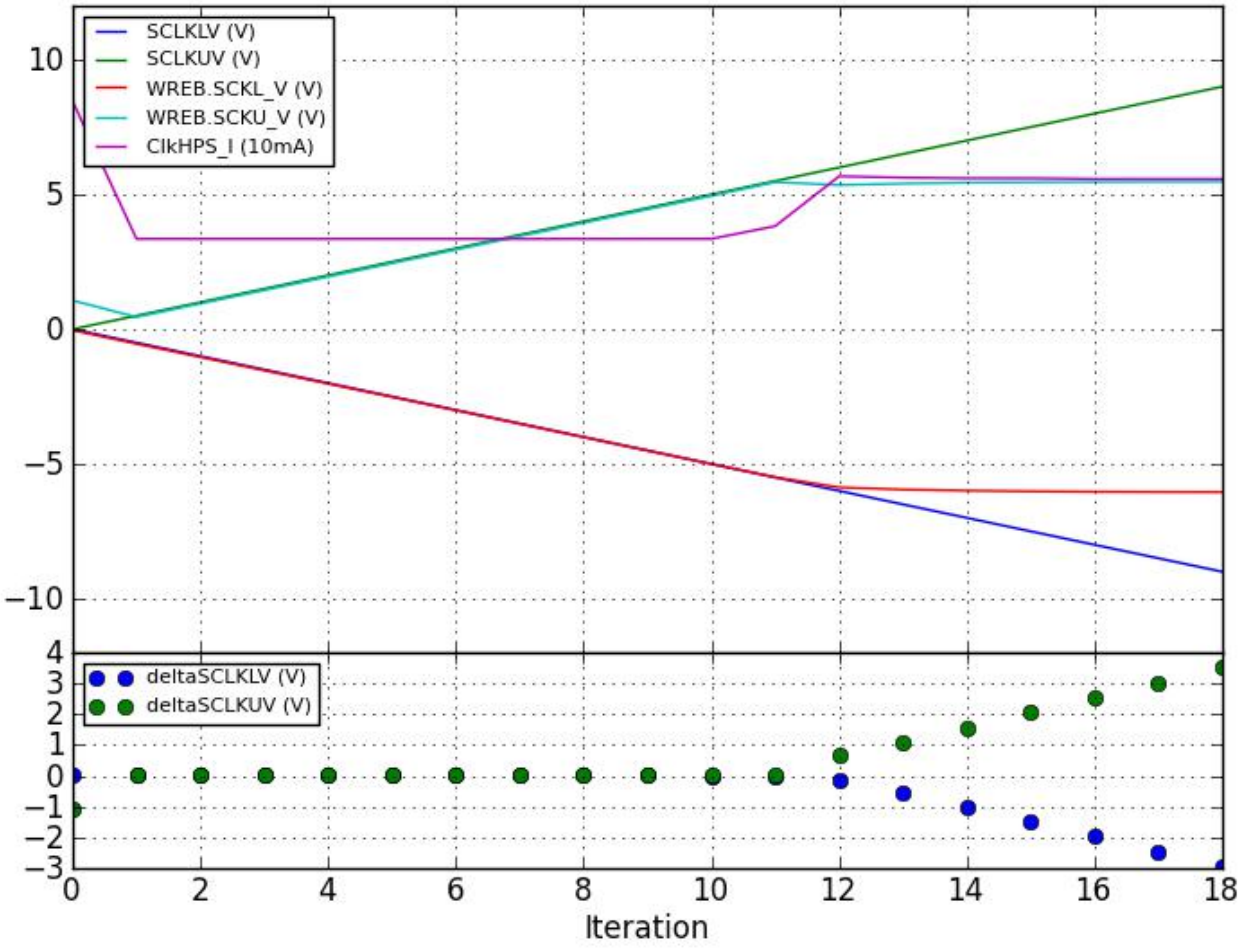
RG Rails Test



LV Gain: 0.998886. UV Gain: 0.895666. 45/50 values okay.
Test FAILED.

RGLV (V)	RGUV (V)	WREB.RGL_V (V)	WREB.RGU_V (V)	deltaRGLV (V)	deltaRGUV (V)
-8.5	-3.5	-8.3588	-1.1353	-0.1412	-2.3647
-8.0	-3.0	-7.8583	-1.5167	-0.1417	-1.4833
-7.5	-2.5	-7.3639	-1.5427	-0.1361	-0.9573
-7.0	-2.0	-6.8657	-1.49	-0.1343	-0.51
-6.5	-1.5	-6.3675	-1.4221	-0.1325	-0.0779
-6.0	-1.0	-5.8662	-0.9888	-0.1338	-0.0112
-5.5	-0.5	-5.3642	-0.4951	-0.1358	-0.0049
-5.0	0.0	-4.8683	0.0038	-0.1317	-0.0038
-4.5	0.5	-4.3747	0.5066	-0.1253	-0.0066
-4.0	1.0	-3.8765	1.0025	-0.1235	-0.0025
-3.5	1.5	-3.3791	1.4946	-0.1209	0.0054
-3.0	2.0	-2.8831	1.9897	-0.1169	0.0103
-2.5	2.5	-2.3758	2.4841	-0.1242	0.0159
-2.0	3.0	-1.8799	2.9823	-0.1201	0.0177
-1.5	3.5	-1.3756	3.4859	-0.1244	0.0141
-1.0	4.0	-0.8774	3.9825	-0.1226	0.0175
-0.5	4.5	-0.3792	4.4769	-0.1208	0.0231
0.0	5.0	0.1221	4.969	-0.1221	0.031
0.5	5.5	0.6287	5.4634	-0.1287	0.0366
1.0	6.0	1.1253	5.9639	-0.1253	0.0361
1.5	6.5	1.6273	6.4621	-0.1273	0.0379
2.0	7.0	2.1248	6.9557	-0.1248	0.0443
2.5	7.5	2.626	7.4532	-0.126	0.0468
3.0	8.0	3.125	7.9582	-0.125	0.0418
3.5	8.5	3.6285	8.0208	-0.1285	0.4792

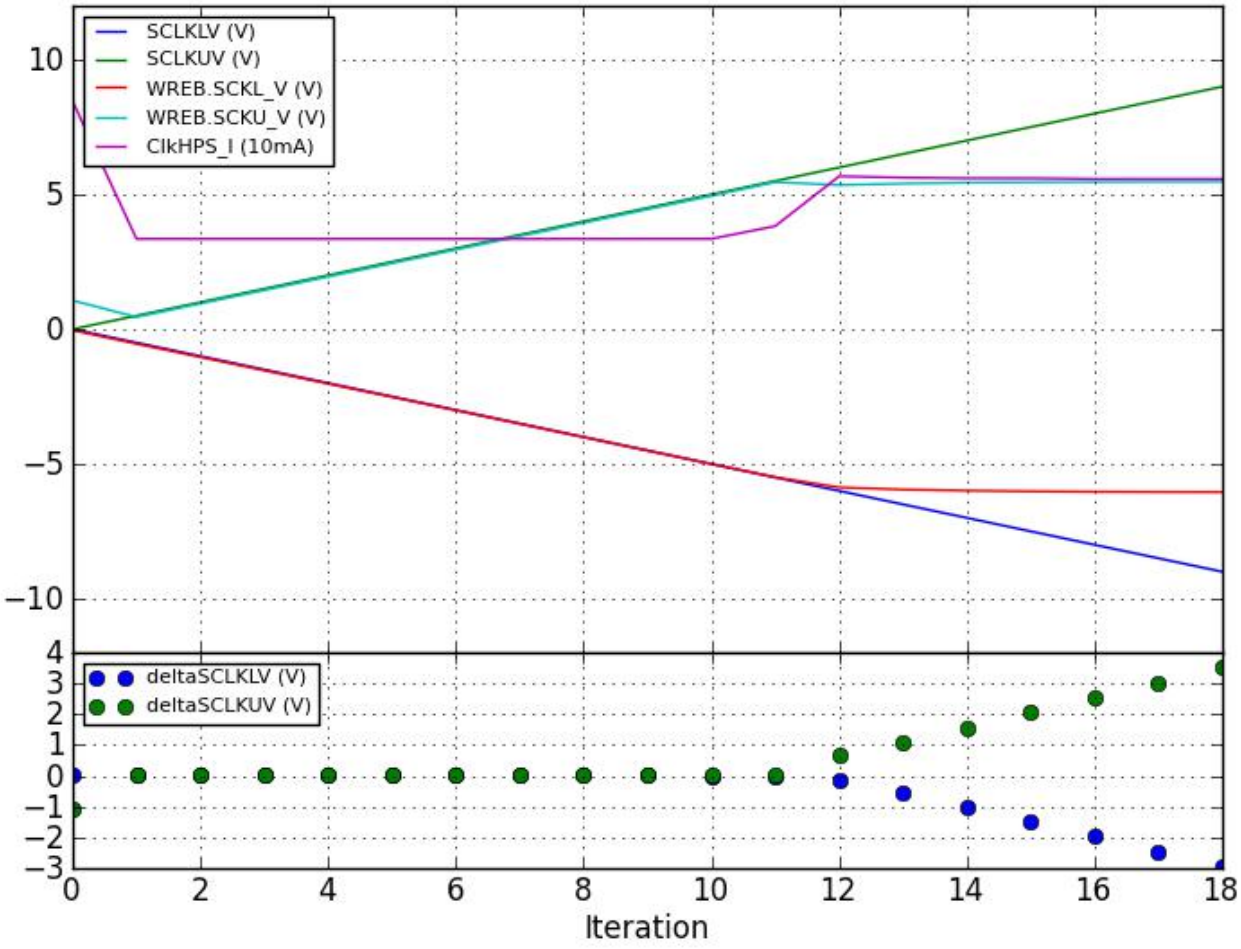
Diverging SCKRails Test 0V



LV Gain: 0.726340. UV Gain: 0.620867. 24/38 values okay.
Test FAILED.

SCLKLV (V)	SCLKUV (V)	WREB.SCKL_V (V)	WREB.SCKU_V (V)	ClkHPS_I (10mA)	deltaSCLKLV (V)	deltaSCLKUV (V)
0.0	0.0	-0.0412	1.0651	8.45	0.0412	-1.0651
-0.5	0.5	-0.5432	0.4501	3.35	0.0432	0.0499
-1.0	1.0	-1.0361	0.9506	3.35	0.0361	0.0494
-1.5	1.5	-1.5297	1.4465	3.35	0.0297	0.0535
-2.0	2.0	-2.0233	1.9478	3.35	0.0233	0.0522
-2.5	2.5	-2.5162	2.446	3.35	0.0162	0.054
-3.0	3.0	-3.0098	2.951	3.35	0.0098	0.049
-3.5	3.5	-3.5103	3.45	3.35	0.0103	0.05
-4.0	4.0	-4.0092	3.9467	3.35	0.0092	0.0533
-4.5	4.5	-4.5067	4.4479	3.35	0.0067	0.0521
-5.0	5.0	-5.0011	4.95	3.35	0.0011	0.05
-5.5	5.5	-5.4932	5.4558	3.825	-0.0068	0.0442
-6.0	6.0	-5.8701	5.3482	5.675	-0.1299	0.6518
-6.5	6.5	-5.9494	5.4031	5.625	-0.5506	1.0969
-7.0	7.0	-5.9906	5.4367	5.6	-1.0094	1.5633
-7.5	7.5	-6.0165	5.4535	5.6	-1.4835	2.0465
-8.0	8.0	-6.0318	5.4634	5.575	-1.9682	2.5366
-8.5	8.5	-6.0402	5.4695	5.575	-2.4598	3.0305
-9.0	9.0	-6.0448	5.4741	5.575	-2.9552	3.5259

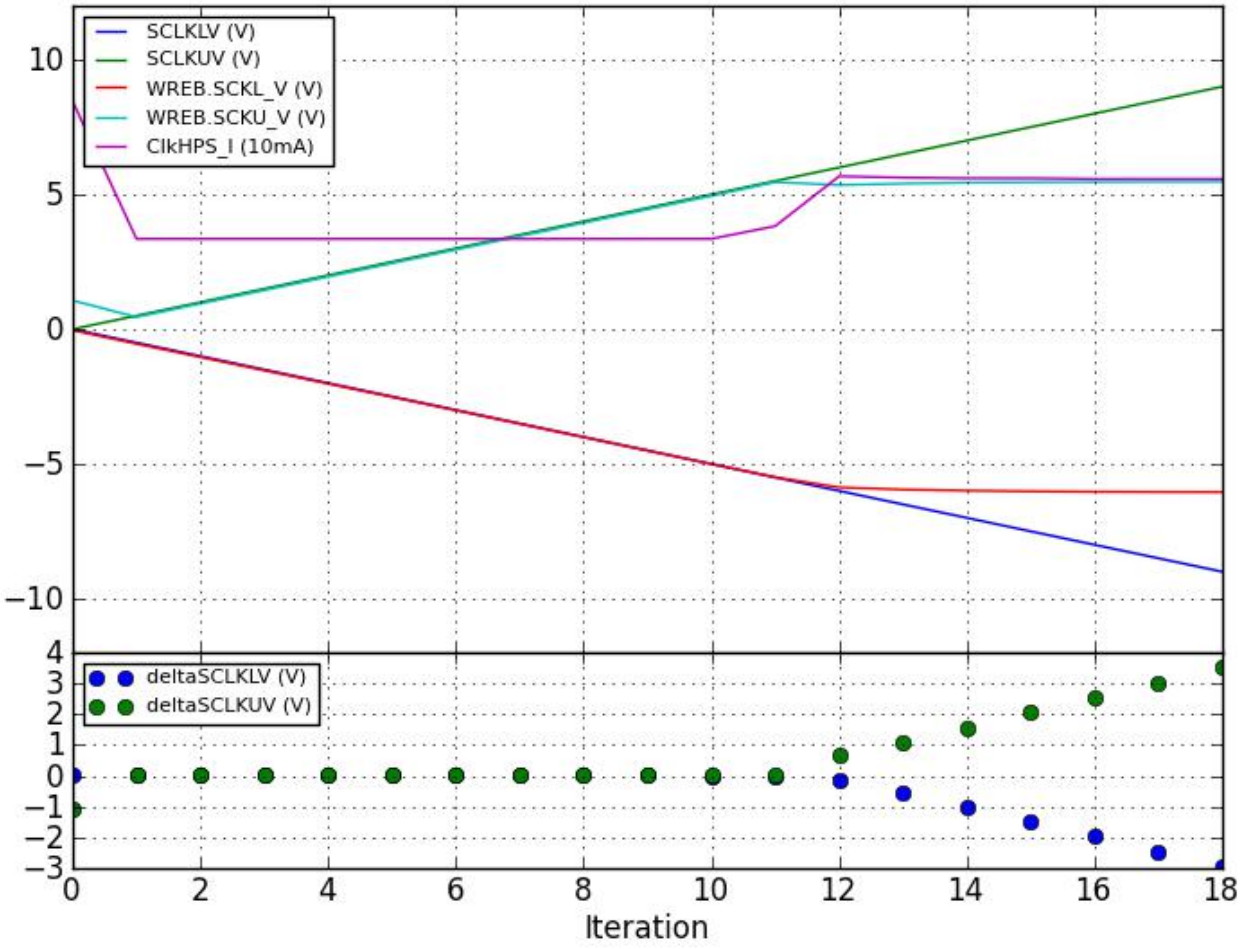
Diverging SCKRails Test 0V



LV Gain: 0.803539. UV Gain: 0.709060. 16/38 values okay.
Test FAILED.

SCLKLV (V)	SCLKUV (V)	WREB.SCKL_V (V)	WREB.SCKU_V (V)	ClkHPS_I (10mA)	deltaSCLKLV (V)	deltaSCLKUV (V)
3.0	3.0	-0.795	1.0284	9.05	3.795	1.9716
2.5	3.5	0.708	0.708	8.9	1.792	2.792
2.0	4.0	1.0086	0.9949	8.675	0.9914	3.0051
1.5	4.5	1.4442	1.445	3.325	0.0558	3.055
1.0	5.0	0.9514	1.9478	3.325	0.0486	3.0522
0.5	5.5	0.4585	2.4445	3.35	0.0415	3.0555
0.0	6.0	-0.0359	2.951	3.35	0.0359	3.049
-0.5	6.5	-0.5379	3.45	3.35	0.0379	3.05
-1.0	7.0	-1.0353	3.9474	3.35	0.0353	3.0526
-1.5	7.5	-1.5312	4.4479	3.35	0.0312	3.0521
-2.0	8.0	-2.0264	4.9507	3.35	0.0264	3.0493
-2.5	8.5	-2.5185	5.455	3.35	0.0185	3.045
-3.0	9.0	-3.0182	5.9578	3.35	0.0182	3.0422
-3.5	9.5	-3.5294	6.4522	3.35	0.0294	3.0478
-4.0	10.0	-4.0253	6.9359	4.075	0.0253	3.0641
-4.5	10.5	-4.5219	6.5491	4.45	0.0219	3.9509
-5.0	11.0	-5.0209	6.1646	4.825	0.0209	4.8354
-5.5	11.5	-5.5168	5.7793	5.225	0.0168	5.7207
-6.0	12.0	-5.9586	5.439	5.6	-0.0414	6.561

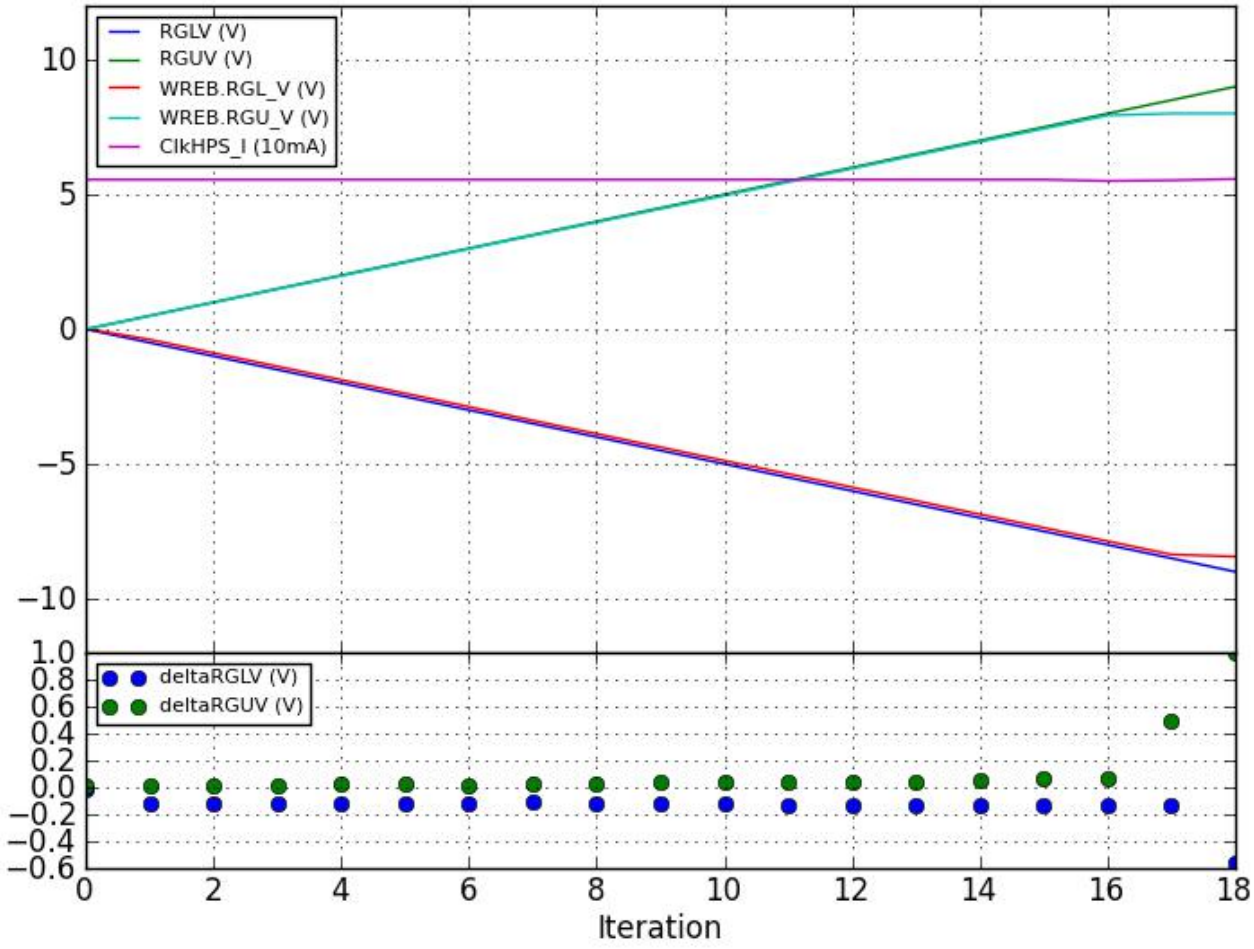
Diverging SCKRails Test 0V



LV Gain: 0.369180. UV Gain: 0.757072. 26/38 values okay.
Test FAILED.

SCLKLV (V)	SCLKUV (V)	WREB.SCKL_V (V)	WREB.SCKU_V (V)	ClkHPS_I (10mA)	deltaSCLKLV (V)	deltaSCLKUV (V)
-3.0	-3.0	-3.0312	0.8339	7.3	0.0312	-3.8339
-3.5	-2.5	-3.5332	-0.4044	6.925	0.0332	-2.0956
-4.0	-2.0	-4.0276	-0.7782	6.5	0.0276	-1.2218
-4.5	-1.5	-4.5197	-0.943	6.075	0.0197	-0.557
-5.0	-1.0	-5.0133	-1.0429	5.4	0.0133	0.0429
-5.5	-0.5	-5.5069	-0.5493	3.35	0.0069	0.0493
-6.0	0.0	-5.999	-0.0427	3.35	-0.001	0.0427
-6.5	0.5	-6.5018	0.4562	3.35	0.0018	0.0438
-7.0	1.0	-6.9992	0.9537	3.35	-0.0008	0.0463
-7.5	1.5	-7.4959	1.4557	3.35	-0.0041	0.0443
-8.0	2.0	-7.9926	1.9585	3.35	-0.0074	0.0415
-8.5	2.5	-8.3717	2.4628	3.4	-0.1283	0.0372
-9.0	3.0	-7.9491	2.9648	3.75	-1.0509	0.0352
-9.5	3.5	-7.5386	3.4592	4.125	-1.9614	0.0408
-10.0	4.0	-7.1358	3.9574	4.475	-2.8642	0.0426
-10.5	4.5	-6.7345	4.4601	4.85	-3.7655	0.0399
-11.0	5.0	-6.3438	4.9545	5.2	-4.6562	0.0455
-11.5	5.5	-5.9837	5.4214	5.6	-5.5163	0.0786
-12.0	6.0	-6.0074	5.4489	5.575	-5.9926	0.5511

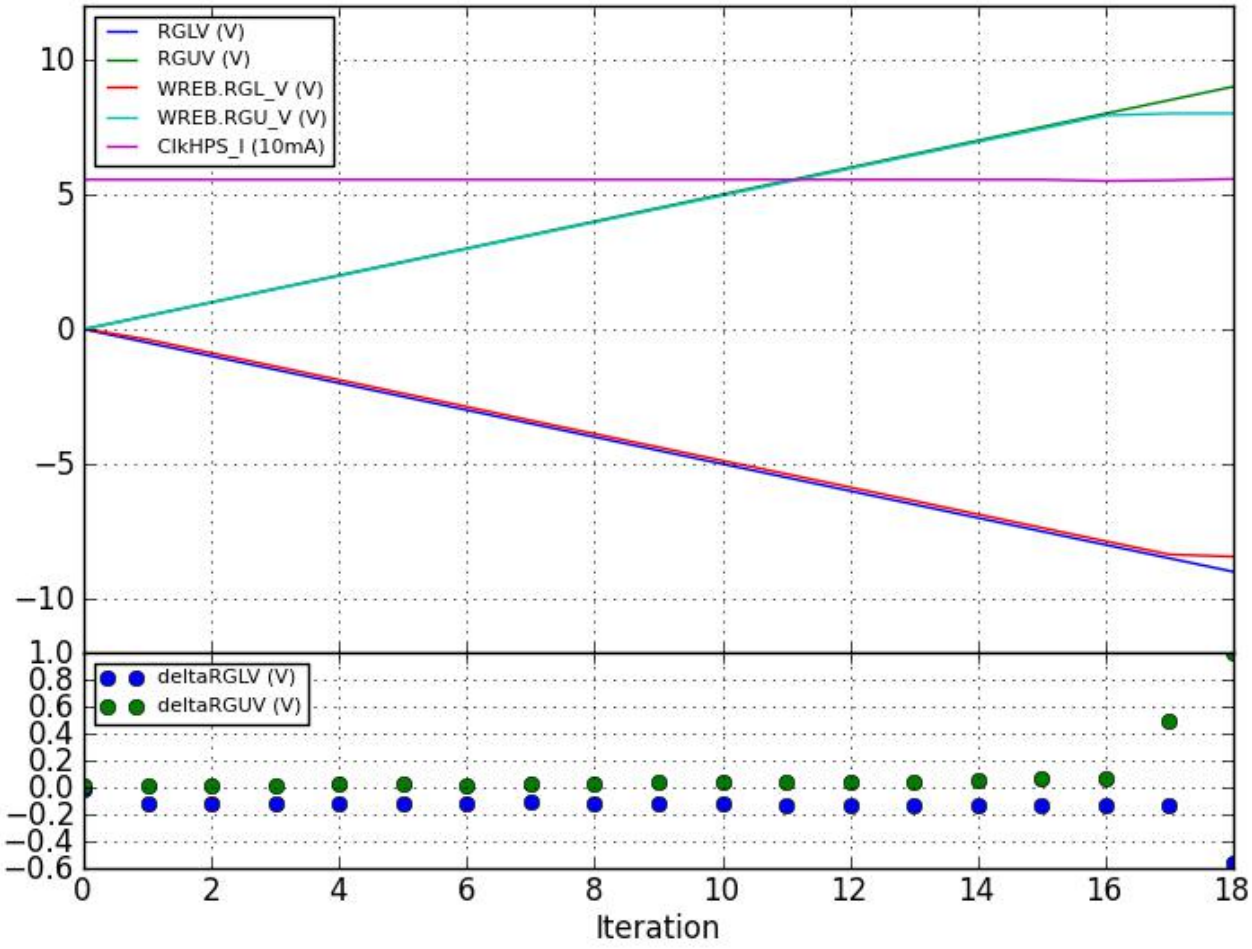
Diverging RGRails Test 0V



LV Gain: 0.980980. UV Gain: 0.951913. 35/38 values okay.
Test PASSED.

RGLV (V)	RGUV (V)	WREB.RGL_V (V)	WREB.RGU_V (V)	ClkHPS_I (10mA)	deltaRGLV (V)	deltaRGUV (V)
0.0	0.0	0.0191	-0.0122	5.55	-0.0191	0.0122
-0.5	0.5	-0.3815	0.4883	5.55	-0.1185	0.0117
-1.0	1.0	-0.8835	0.9865	5.55	-0.1165	0.0135
-1.5	1.5	-1.3809	1.4839	5.55	-0.1191	0.0161
-2.0	2.0	-1.8806	1.9783	5.55	-0.1194	0.0217
-2.5	2.5	-2.3834	2.4765	5.55	-0.1166	0.0235
-3.0	3.0	-2.8793	2.98	5.55	-0.1207	0.02
-3.5	3.5	-3.3867	3.476	5.55	-0.1133	0.024
-4.0	4.0	-3.8834	3.9673	5.55	-0.1166	0.0327
-4.5	4.5	-4.38	4.464	5.55	-0.12	0.036
-5.0	5.0	-4.8775	4.9568	5.55	-0.1225	0.0432
-5.5	5.5	-5.3711	5.4565	5.55	-0.1289	0.0435
-6.0	6.0	-5.867	5.9578	5.55	-0.133	0.0422
-6.5	6.5	-6.3683	6.4545	5.55	-0.1317	0.0455
-7.0	7.0	-6.8695	6.9481	5.55	-0.1305	0.0519
-7.5	7.5	-7.3685	7.4394	5.55	-0.1315	0.0606
-8.0	8.0	-7.8674	7.933	5.5	-0.1326	0.067
-8.5	8.5	-8.3626	8.0048	5.525	-0.1374	0.4952
-9.0	9.0	-8.4373	8.0055	5.575	-0.5627	0.9945

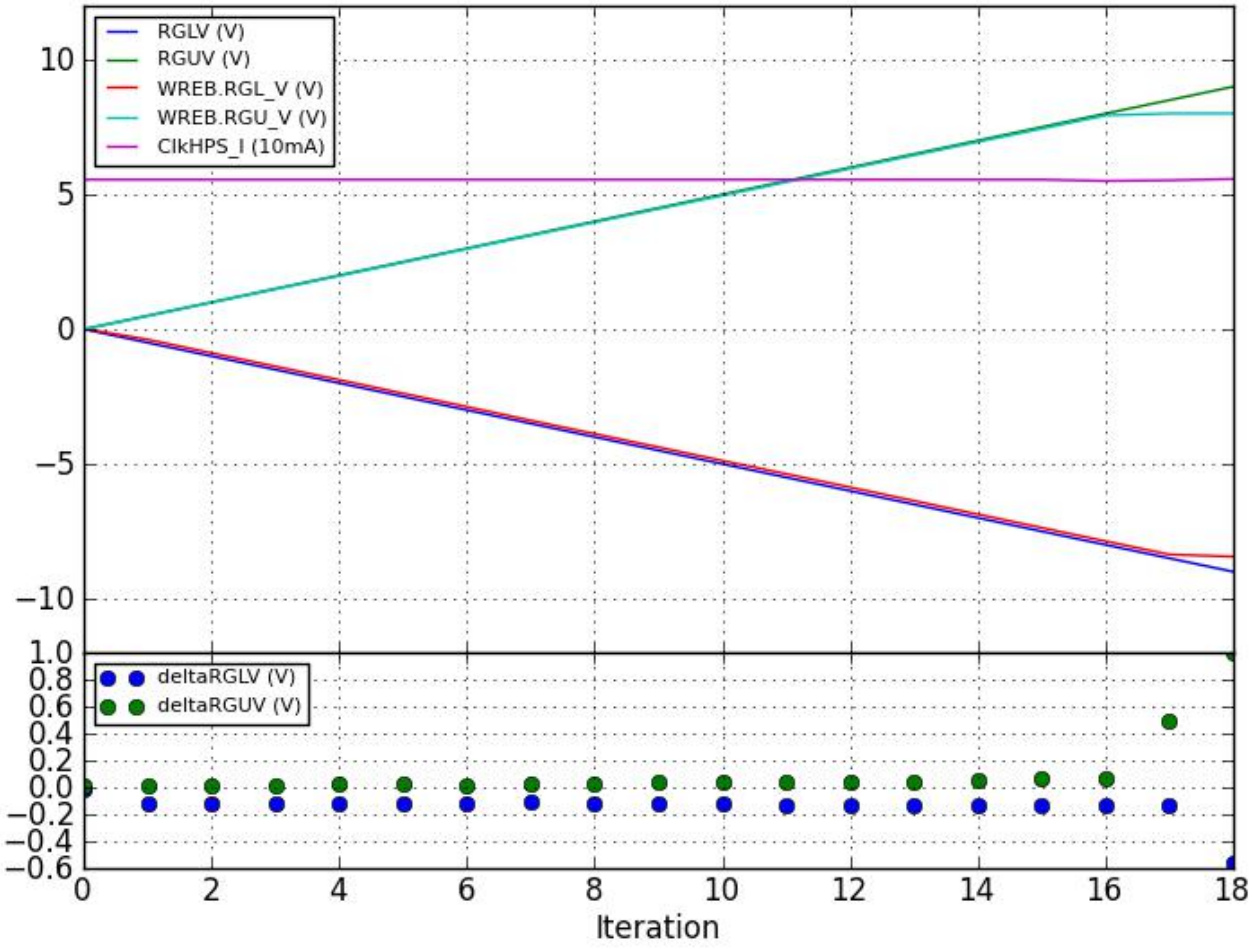
Diverging RGRails Test 0V



LV Gain: 0.811259. UV Gain: 0.952098. 16/38 values okay.
Test FAILED.

RGLV (V)	RGUV (V)	WREB.RGL_V (V)	WREB.RGU_V (V)	ClkHPS_I (10mA)	deltaRGLV (V)	deltaRGUV (V)
3.0	3.0	-0.0114	-0.0107	5.55	3.0114	3.0107
2.5	3.5	0.5081	0.4898	5.55	1.9919	3.0102
2.0	4.0	0.9987	0.9865	5.525	1.0013	3.0135
1.5	4.5	1.49	1.4847	5.525	0.01	3.0153
1.0	5.0	1.1017	1.9783	5.525	-0.1017	3.0217
0.5	5.5	0.5989	2.4757	5.525	-0.0989	3.0243
0.0	6.0	0.103	2.98	5.525	-0.103	3.02
-0.5	6.5	-0.4044	3.4752	5.55	-0.0956	3.0248
-1.0	7.0	-0.9003	3.9658	5.55	-0.0997	3.0342
-1.5	7.5	-1.3985	4.464	5.55	-0.1015	3.036
-2.0	8.0	-1.8951	4.9576	5.55	-0.1049	3.0424
-2.5	8.5	-2.3888	5.4558	5.55	-0.1112	3.0442
-3.0	9.0	-2.887	5.9593	5.55	-0.113	3.0407
-3.5	9.5	-3.3875	6.4552	5.55	-0.1125	3.0448
-4.0	10.0	-3.8879	6.9489	5.55	-0.1121	3.0511
-4.5	10.5	-4.3854	7.4402	5.55	-0.1146	3.0598
-5.0	11.0	-4.8859	7.9346	5.5	-0.1141	3.0654
-5.5	11.5	-5.3802	8.0086	5.55	-0.1198	3.4914
-6.0	12.0	-5.8815	8.0078	5.575	-0.1185	3.9922

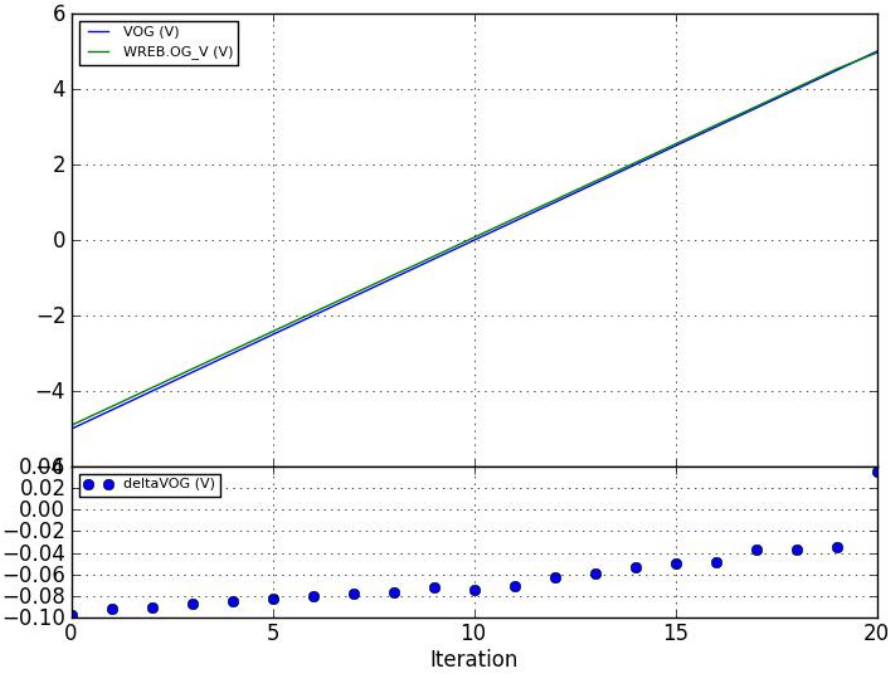
Diverging RGRails Test 0V



LV Gain: 0.666156. UV Gain: 0.851034. 27/38 values okay.
Test FAILED.

RGLV (V)	RGUV (V)	WREB.RGL_V (V)	WREB.RGU_V (V)	ClkHPS_I (10mA)	deltaRGLV (V)	deltaRGUV (V)
-3.0	-3.0	-2.8656	-0.6699	5.525	-0.1344	-2.3301
-3.5	-2.5	-3.3691	-0.9697	5.525	-0.1309	-1.5303
-4.0	-2.0	-3.8712	-1.1177	5.525	-0.1288	-0.8823
-4.5	-1.5	-4.3701	-1.2222	5.525	-0.1299	-0.2778
-5.0	-1.0	-4.8698	-0.9941	5.525	-0.1302	-0.0059
-5.5	-0.5	-5.3719	-0.4967	5.525	-0.1281	-0.0033
-6.0	0.0	-5.8685	0.0046	5.525	-0.1315	-0.0046
-6.5	0.5	-6.3759	0.5028	5.55	-0.1241	-0.0028
-7.0	1.0	-6.871	0.9933	5.55	-0.129	0.0067
-7.5	1.5	-7.3685	1.49	5.55	-0.1315	0.01
-8.0	2.0	-7.8659	1.9844	5.55	-0.1341	0.0156
-8.5	2.5	-8.358	2.4826	5.5	-0.142	0.0174
-9.0	3.0	-8.4389	2.9846	5.55	-0.5611	0.0154
-9.5	3.5	-8.4389	3.4821	5.55	-1.0611	0.0179
-10.0	4.0	-8.4381	3.9757	5.55	-1.5619	0.0243
-10.5	4.5	-8.4381	4.4685	5.55	-2.0619	0.0315
-11.0	5.0	-8.4381	4.9637	5.55	-2.5619	0.0363
-11.5	5.5	-8.4373	5.4634	5.55	-3.0627	0.0366
-12.0	6.0	-8.4381	5.9647	5.55	-3.5619	0.0353

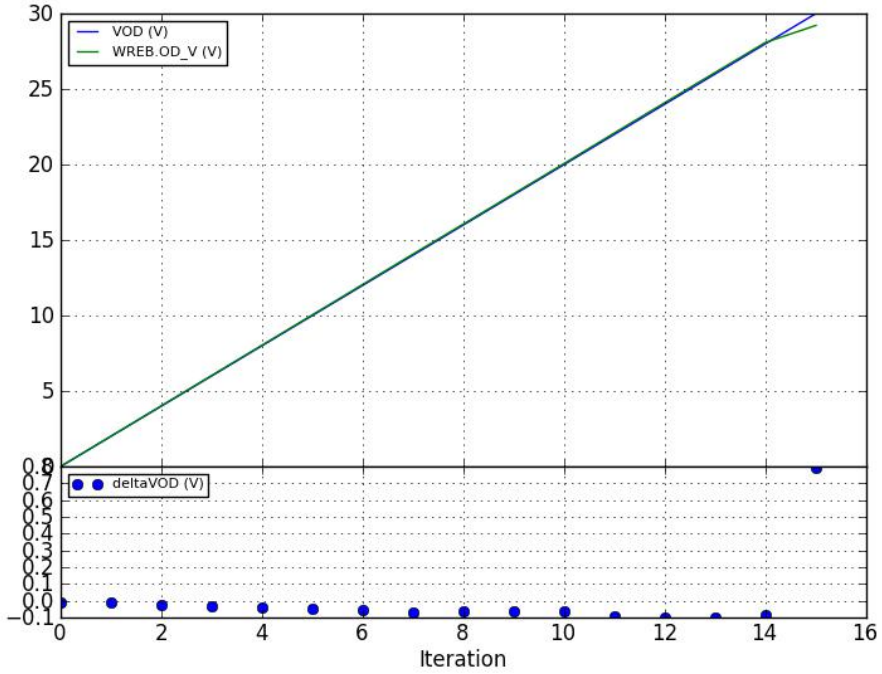
OG Bias Test



Gain: 0.991664. 21/21 values okay.
Test PASSED.

VOG (V)	WREB.OG_V (V)	deltaVOG (V)
-5.0	-4.9028	-0.0972
-4.5	-4.4077	-0.0923
-4.0	-3.9091	-0.0909
-3.5	-3.4123	-0.0877
-3.0	-2.9155	-0.0845
-2.5	-2.417	-0.083
-2.0	-1.9202	-0.0798
-1.5	-1.4217	-0.0783
-1.0	-0.9232	-0.0768
-0.5	-0.428	-0.072
0.0	0.0739	-0.0739
0.5	0.5707	-0.0707
1.0	1.0625	-0.0625
1.5	1.5593	-0.0593
2.0	2.0528	-0.0528
2.5	2.5496	-0.0496
3.0	3.0481	-0.0481
3.5	3.5365	-0.0365
4.0	4.0367	-0.0367
4.5	4.5352	-0.0352
5.0	4.9649	0.0351

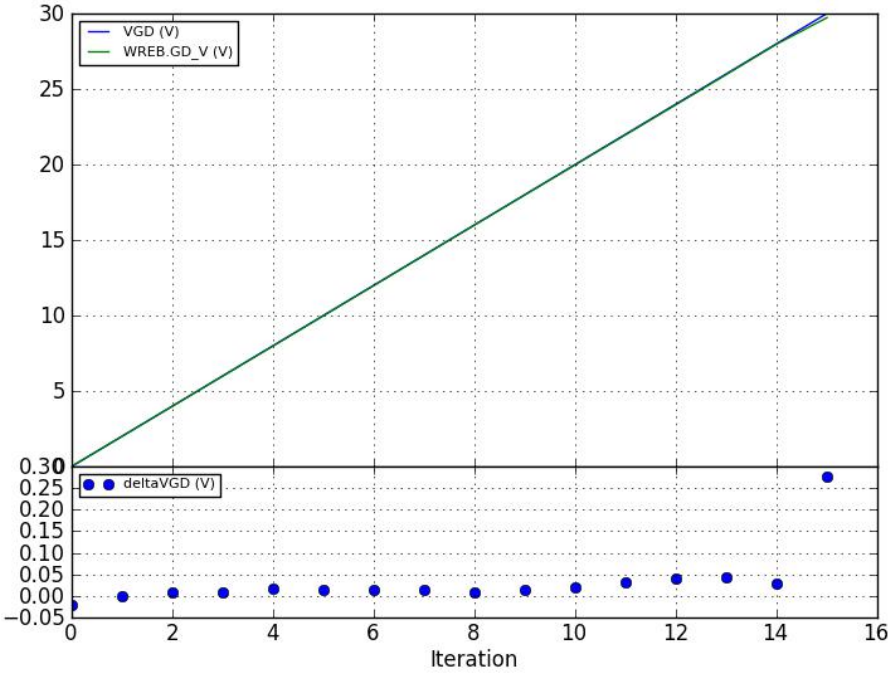
OD Bias Test



Gain: 0.993254. 15/16 values okay.
Test PASSED.

VOD (V)	WREB.OD_V (V)	deltaVOD (V)
0	0.0134	-0.0134
2	2.0125	-0.0125
4	4.025	-0.025
6	6.0307	-0.0307
8	8.0365	-0.0365
10	10.0439	-0.0439
12	12.0564	-0.0564
14	14.0706	-0.0706
16	16.0596	-0.0596
18	18.0637	-0.0637
20	20.0661	-0.0661
22	22.092	-0.092
24	24.0994	-0.0994
26	26.0968	-0.0968
28	28.0858	-0.0858
30	29.2104	0.7896

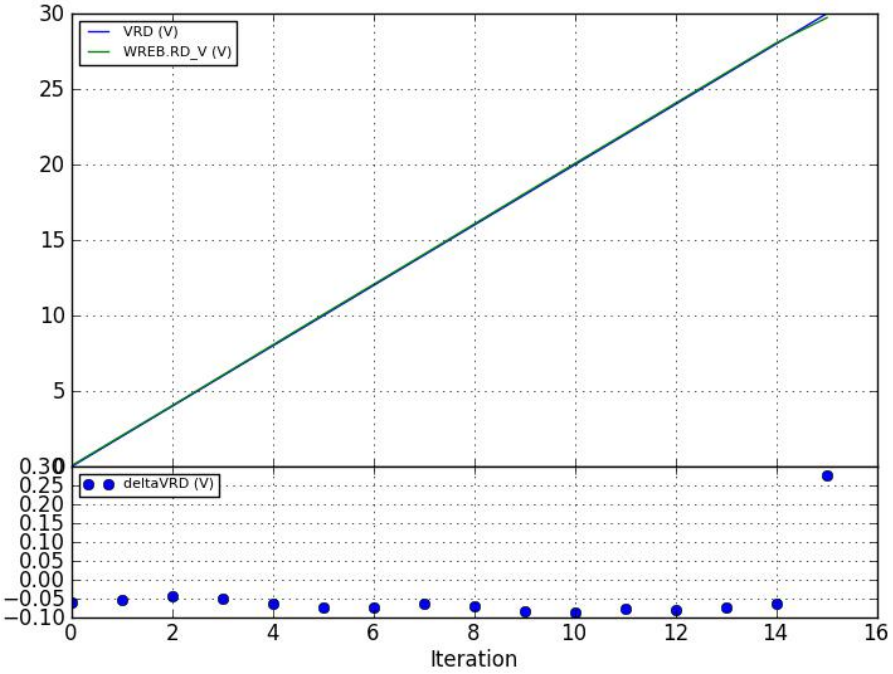
GD Bias Test



Gain: 0.995870. 15/16 values okay.
Test PASSED.

VGD (V)	WREB.GD_V (V)	deltaVGD (V)
0	0.0201	-0.0201
2	1.9991	0.0009
4	3.9914	0.0086
6	5.9904	0.0096
8	7.9828	0.0172
10	9.9852	0.0148
12	11.9859	0.0141
14	13.9867	0.0133
16	15.9908	0.0092
18	17.9865	0.0135
20	19.9788	0.0212
22	21.9678	0.0322
24	23.9584	0.0416
26	25.9575	0.0425
28	27.9716	0.0284
30	29.7223	0.2777

RD Bias Test



Gain: 0.996993. 15/16 values okay.

Test PASSED.

VRD (V)	WREB.RD_V (V)	deltaVRD (V)
0	0.0587	-0.0587
2	2.0528	-0.0528
4	4.0434	-0.0434
6	6.0509	-0.0509
8	8.0617	-0.0617
10	10.0742	-0.0742
12	12.0732	-0.0732
14	14.0639	-0.0639
16	16.0713	-0.0713
18	18.0838	-0.0838
20	20.0862	-0.0862
22	22.0752	-0.0752
24	24.081	-0.081
26	26.075	-0.075
28	28.064	-0.064
30	29.7223	0.2777