

DAC Functional Test Report

Board ID: 0x123b55b6

Performed: 2016-06-28 16:39

Status	Test	Results
PASS	Channel Comms	0/33 channels missing.
FAIL	SCK Rails	LV Gain: 0.993015. UV Gain: 0.869179. 44/50 values okay.
FAIL	RG Rails	LV Gain: 0.998829. UV Gain: 0.893291. 45/50 values okay.
FAIL	Diverging SCK 0V	LV Gain: 0.726185. UV Gain: 0.620637. 24/38 values okay.
FAIL	Diverging SCK 3V	LV Gain: 0.803539. UV Gain: 0.708524. 16/38 values okay.
FAIL	Diverging SCK -3V	LV Gain: 0.369043. UV Gain: 0.753273. 26/38 values okay.
PASS	Diverging RG 0V	LV Gain: 0.981084. UV Gain: 0.951926. 35/38 values okay.
FAIL	Diverging RG 3V	LV Gain: 0.811168. UV Gain: 0.952164. 16/38 values okay.
FAIL	Diverging RG -3V	LV Gain: 0.665977. UV Gain: 0.848943. 27/38 values okay.
PASS	CCD Bias OG Voltage	Gain: 0.991712. 21/21 values okay.
PASS	CCD Bias OD Voltage	Gain: 0.993281. 15/16 values okay.
PASS	CCD Bias GR Voltage	Gain: 0.995859. 15/16 values okay.
PASS	CCD Bias RD Voltage	Gain: 0.997020. 15/16 values okay.

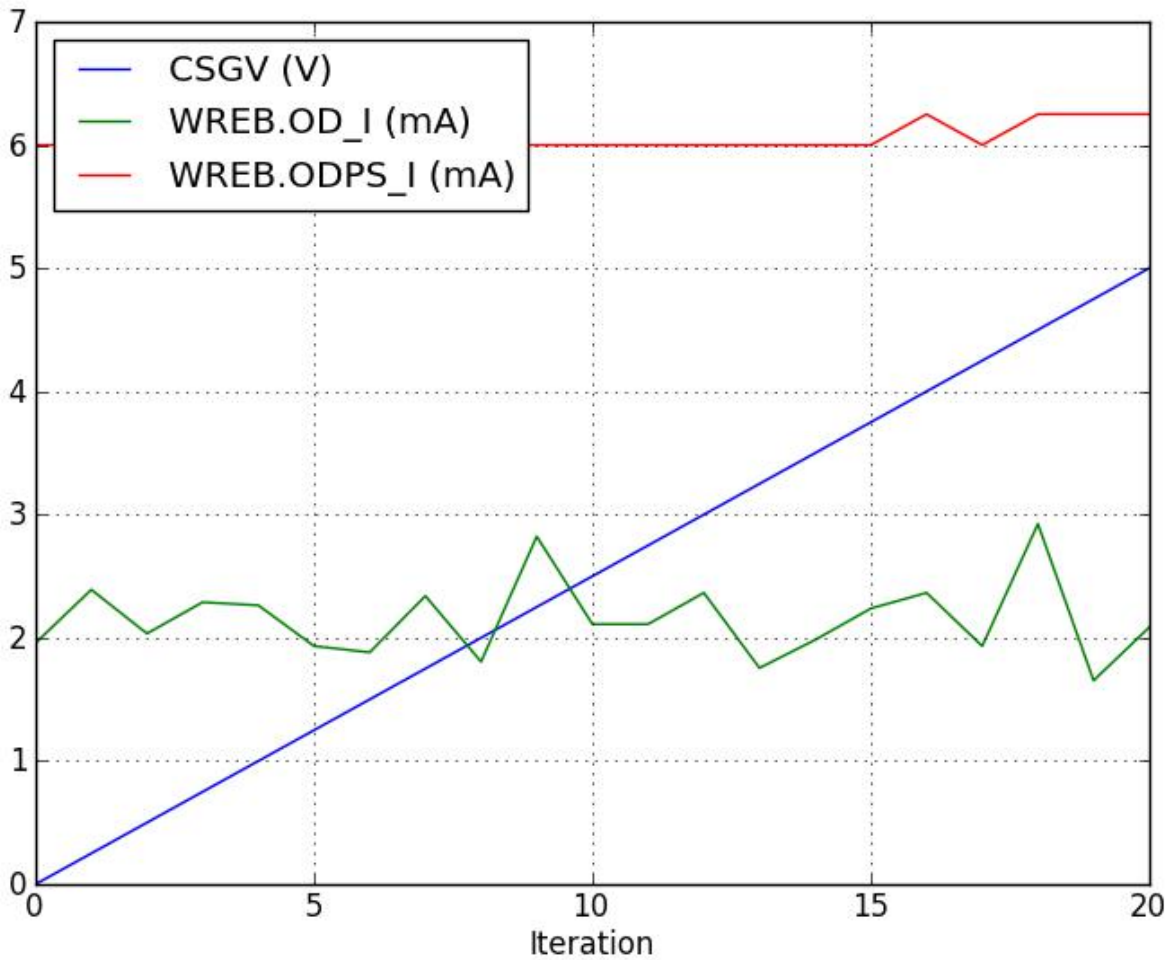
Idle Current Test

Channel	Voltage	Channel	Current
DigPS_V	4.925	DigPS_I	646.5
AnaPS_V	6.975	AnaPS_I	284.5
ODPS_V	29.2087	ODPS_I	2.0091
ClkHPS_V	9.0	ClkHPS_I	55.5
DphiPS_V	13.075	DphiPS_I	6.25
HtrPS_V	0.575	HtrPS_I	0.0

Channel Communications Test

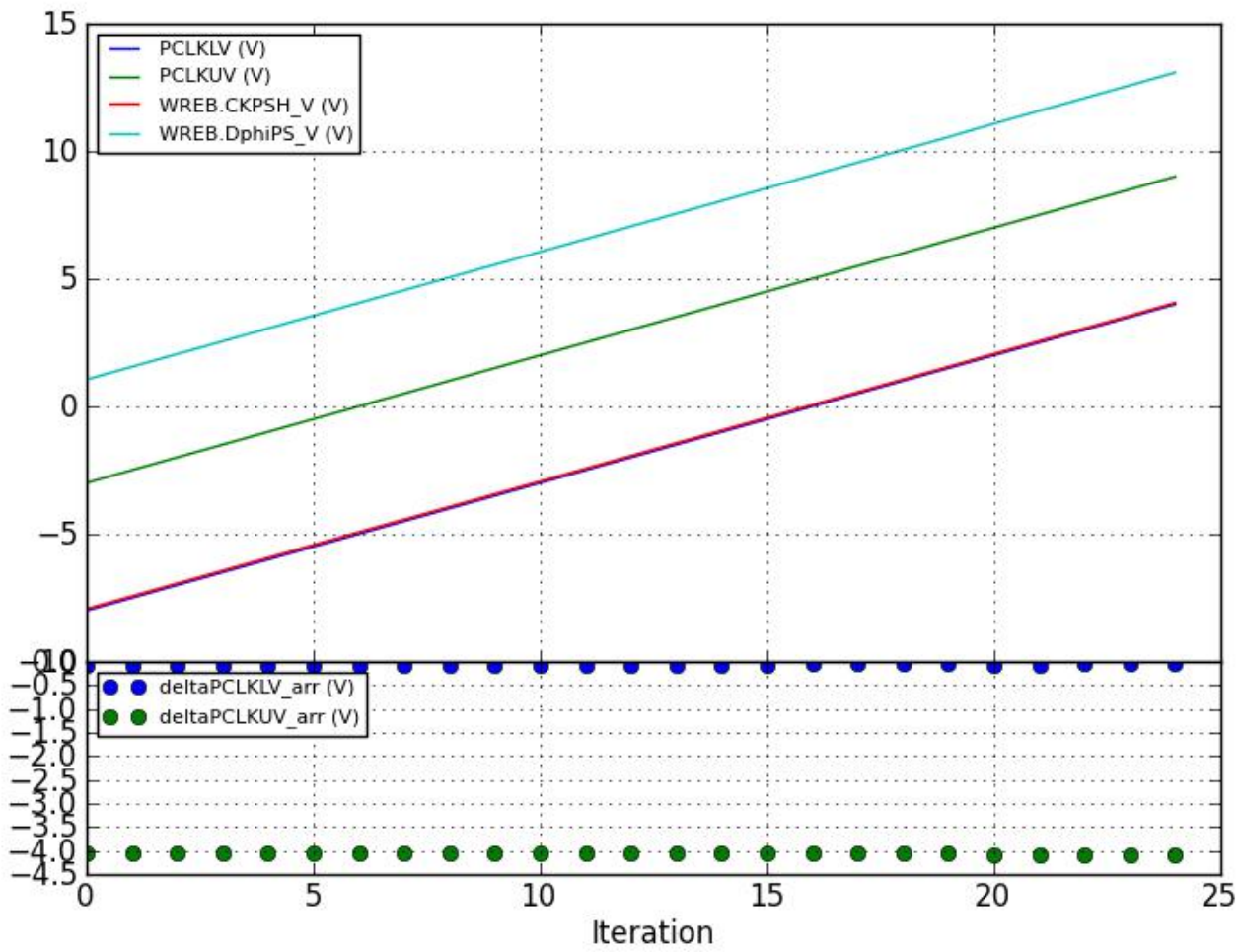
Channel	Value
WREB.Temp1	40.8125
WREB.Temp2	42.6875
WREB.Temp3	36.0
WREB.Temp4	40.8125
WREB.Temp5	38.125
WREB.Temp6	37.8125
WREB.CCDtemp	2857.1427
WREB.DigPS_V	4.925
WREB.DigPS_I	646.75
WREB.AnaPS_V	6.975
WREB.AnaPS_I	284.75
WREB.ODPS_V	31.05
WREB.ODPS_I	6.25
WREB.ClkHPS_V	9.0
WREB.ClkHPS_I	33.5
WREB.DphiPS_V	13.075
WREB.DphiPS_I	6.25
WREB.HtrPS_V	0.575
WREB.HtrPS_I	0.0
WREB.VREF25	2.4944
WREB.OD_V	26.0095
WREB.OD_I	2.1617
WREB.OG_V	-2.4271
WREB.RD_V	11.5613
WREB.GD_V	25.8669
WREB.CKP_V	4.0652
WREB.CKPSH_V	4.0543
WREB.CKS_V	4.1693
WREB.SCKU_V	4.1573
WREB.SCKL_V	-4.0421
WREB.RG_V	8.0365
WREB.RGU_V	8.0116
WREB.RGL_V	-1.9348

CSGate Test

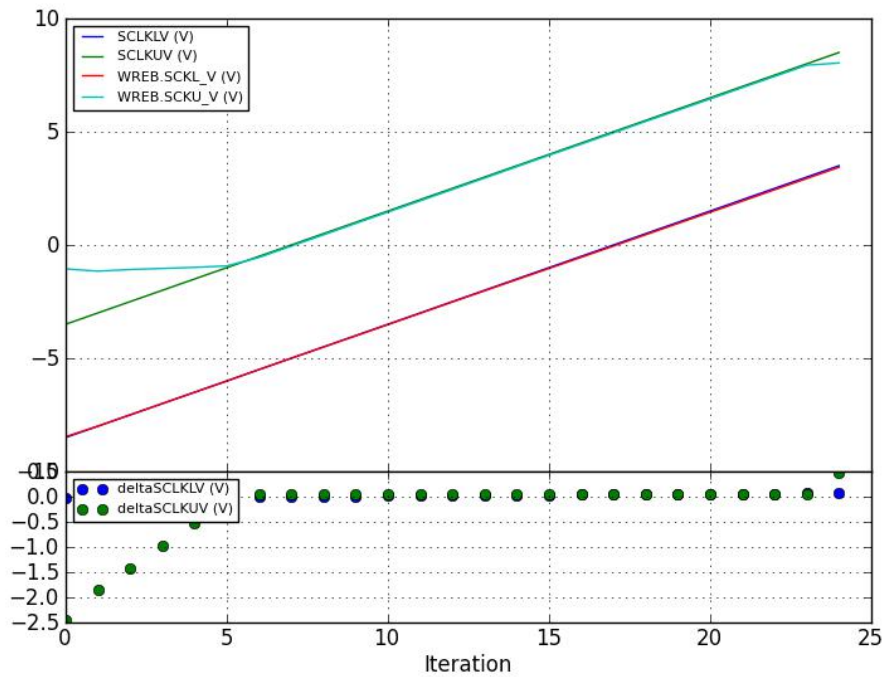


CSGV (V)	WREB.OD_I (mA)	WREB.ODPS_I (mA)
0	1.9582	6.0
0.25	2.3905	6.0
0.5	2.0345	6.0
0.75	2.2888	6.0
1.0	2.2634	6.0
1.25	1.9328	6.0
1.5	1.8819	6.0
1.75	2.3397	6.0
2.0	1.8056	6.0
2.25	2.8229	6.0
2.5	2.1108	6.0
2.75	2.1108	6.0
3.0	2.3651	6.0
3.25	1.7548	6.0
3.5	1.9836	6.0
3.75	2.238	6.0
4.0	2.3651	6.25
4.25	1.9328	6.0
4.5	2.9246	6.25
4.75	1.653	6.25
5.0	2.0854	6.25

PCKRails Test



SCK Rails Test

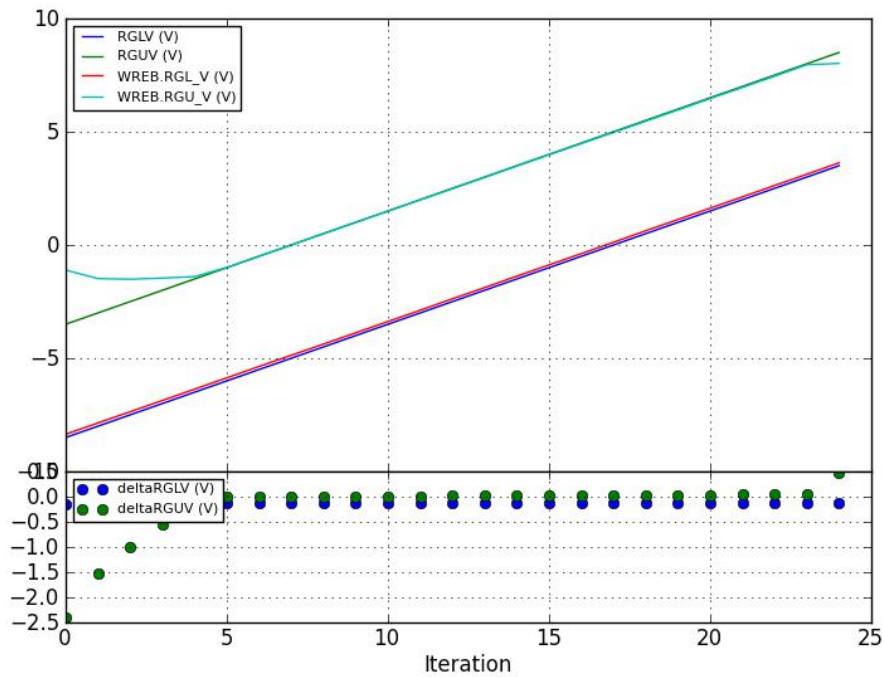


LV Gain: 0.993015. UV Gain: 0.869179. 44/50 values okay.

Test FAILED.

SCLKLV (V)	SCLKUV (V)	WREB.SCKL_V (V)	WREB.SCKU_V (V)	deltaSCLKLV (V)	deltaSCLKUV (V)
-8.5	-3.5	-8.4625	-1.0559	-0.0375	-2.4441
-8.0	-3.0	-7.9964	-1.1543	-0.0036	-1.8457
-7.5	-2.5	-7.4997	-1.0818	-0.0003	-1.4182
-7.0	-2.0	-7.0015	-1.0368	0.0015	-0.9632
-6.5	-1.5	-6.5056	-0.9872	0.0056	-0.5128
-6.0	-1.0	-6.0089	-0.9232	0.0089	-0.0768
-5.5	-0.5	-5.4977	-0.5508	-0.0023	0.0508
-5.0	0.0	-5.0003	-0.0488	0.0003	0.0488
-4.5	0.5	-4.5059	0.4478	0.0059	0.0522
-4.0	1.0	-4.0115	0.9537	0.0115	0.0463
-3.5	1.5	-3.5156	1.4526	0.0156	0.0474
-3.0	2.0	-3.0167	1.9501	0.0167	0.0499
-2.5	2.5	-2.5146	2.4521	0.0146	0.0479
-2.0	3.0	-2.021	2.9541	0.021	0.0459
-1.5	3.5	-1.5274	3.4584	0.0274	0.0416
-1.0	4.0	-1.0353	3.9612	0.0353	0.0388
-0.5	4.5	-0.5417	4.4548	0.0417	0.0452
0.0	5.0	-0.0465	4.953	0.0465	0.047
0.5	5.5	0.4539	5.4573	0.0461	0.0427
1.0	6.0	0.9529	5.9517	0.0471	0.0483
1.5	6.5	1.445	6.4468	0.055	0.0532
2.0	7.0	1.9386	6.9481	0.0614	0.0519
2.5	7.5	2.4406	7.444	0.0594	0.056
3.0	8.0	2.9358	7.9384	0.0642	0.0616
3.5	8.5	3.4348	8.036	0.0652	0.464

RG Rails Test

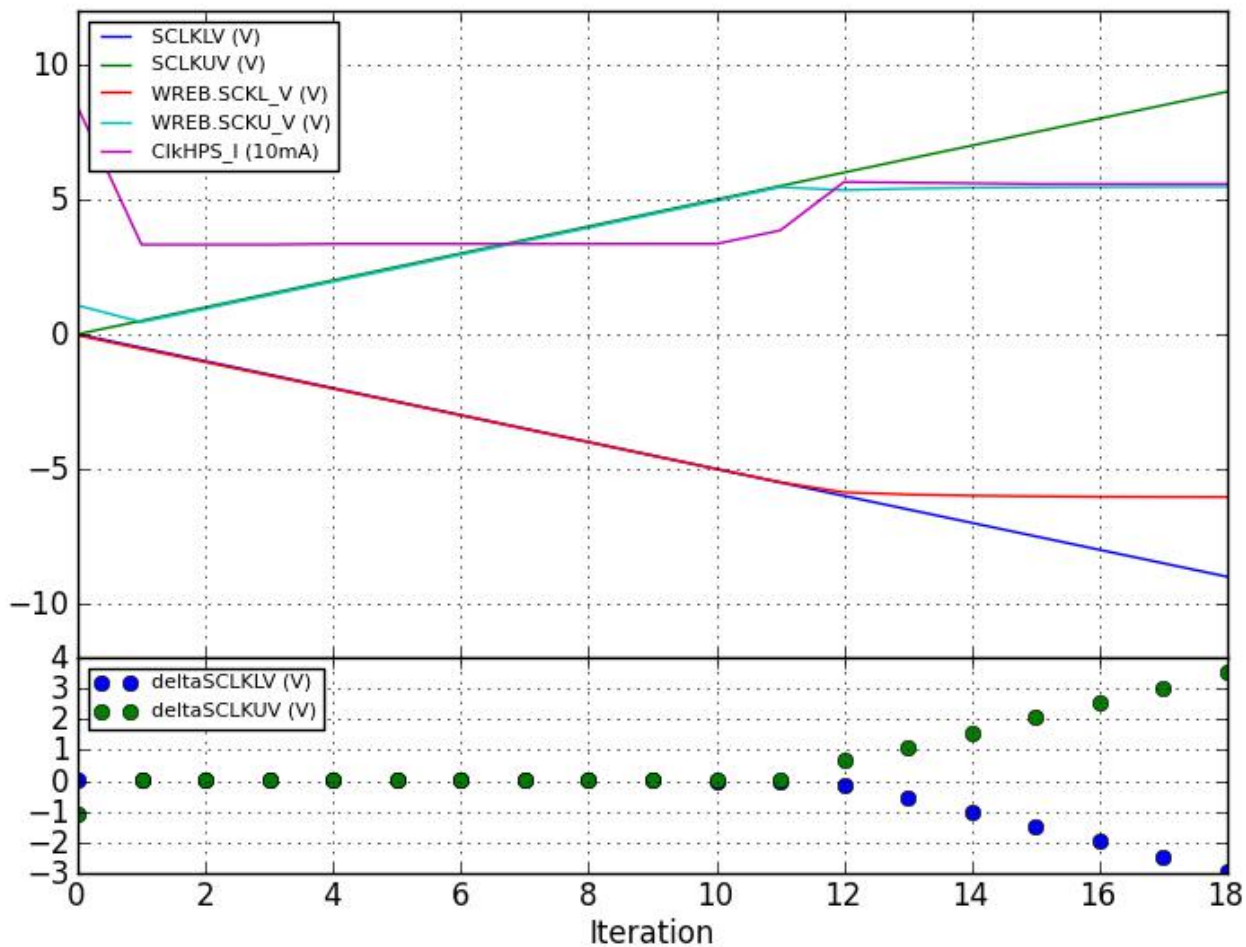


LV Gain: 0.998829. UV Gain: 0.893291. 45/50 values okay.

Test FAILED.

RGLV (V)	RGUV (V)	WREB.RGL_V (V)	WREB.RGU_V (V)	deltaRGLV (V)	deltaRGUV (V)
-8.5	-3.5	-8.358	-1.1055	-0.142	-2.3945
-8.0	-3.0	-7.8583	-1.4832	-0.1417	-1.5168
-7.5	-2.5	-7.3639	-1.5106	-0.1361	-0.9894
-7.0	-2.0	-6.8649	-1.461	-0.1351	-0.539
-6.5	-1.5	-6.3667	-1.3939	-0.1333	-0.1061
-6.0	-1.0	-5.8662	-0.9903	-0.1338	-0.0097
-5.5	-0.5	-5.365	-0.4951	-0.135	-0.0049
-5.0	0.0	-4.8676	0.0038	-0.1324	-0.0038
-4.5	0.5	-4.3755	0.5058	-0.1245	-0.0058
-4.0	1.0	-3.878	1.0033	-0.122	-0.0033
-3.5	1.5	-3.3791	1.4931	-0.1209	0.0069
-3.0	2.0	-2.8824	1.9905	-0.1176	0.0095
-2.5	2.5	-2.3766	2.4841	-0.1234	0.0159
-2.0	3.0	-1.8814	2.9823	-0.1186	0.0177
-1.5	3.5	-1.3763	3.4843	-0.1237	0.0157
-1.0	4.0	-0.8781	3.9825	-0.1219	0.0175
-0.5	4.5	-0.3799	4.4769	-0.1201	0.0231
0.0	5.0	0.1221	4.969	-0.1221	0.031
0.5	5.5	0.6264	5.4642	-0.1264	0.0358
1.0	6.0	1.1269	5.9631	-0.1269	0.0369
1.5	6.5	1.6258	6.4636	-0.1258	0.0364
2.0	7.0	2.124	6.9542	-0.124	0.0458
2.5	7.5	2.6268	7.4532	-0.1268	0.0468
3.0	8.0	3.125	7.959	-0.125	0.041
3.5	8.5	3.6285	8.0185	-0.1285	0.4815

Diverging SCKRails Test 0V

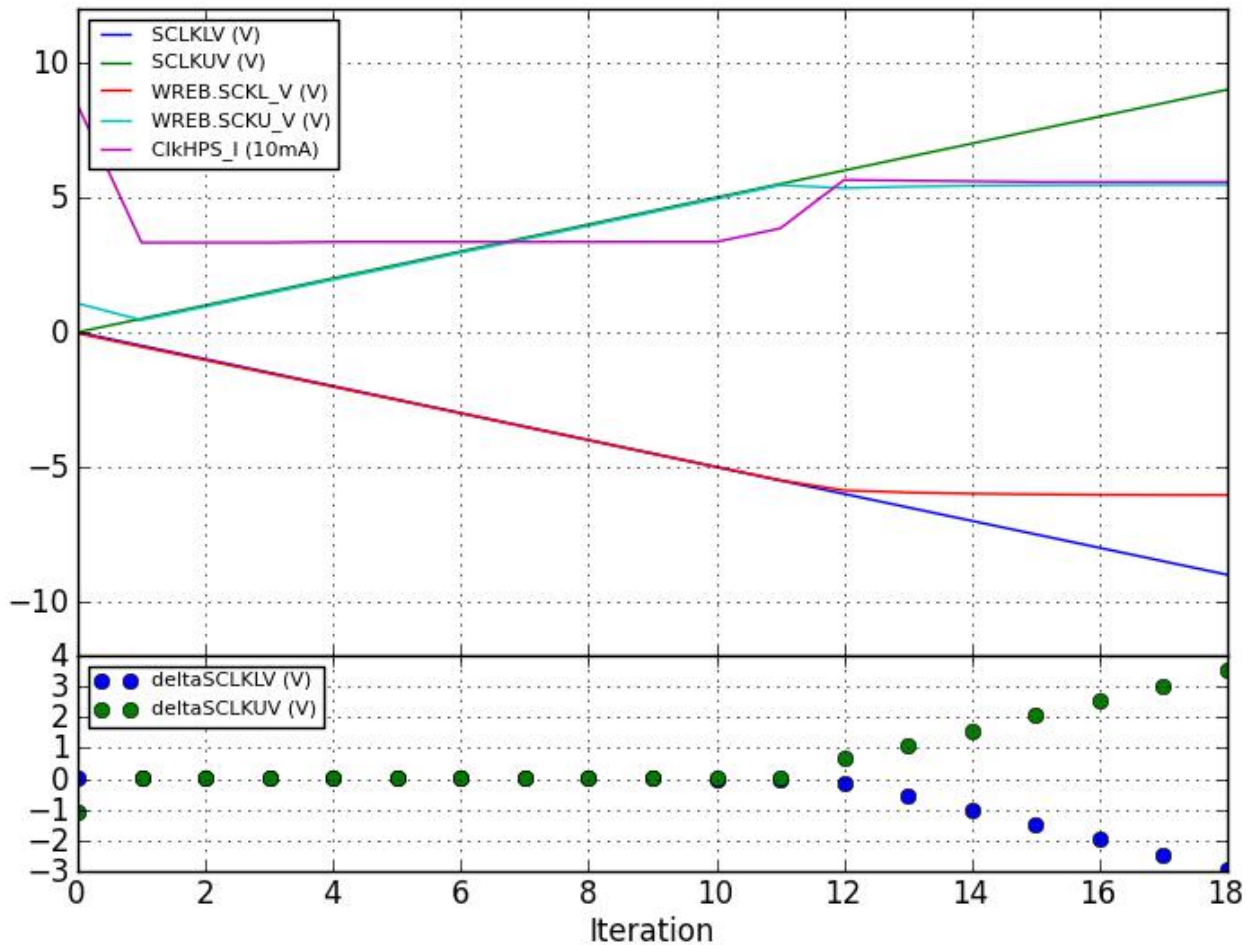


LV Gain: 0.726185. UV Gain: 0.620637. 24/38 values okay.

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	-0.042	1.0674	8.425	0.042	-1.0674
-0.5	0.5	-0.5424	0.4501	3.325	0.0424	0.0499
-1.0	1.0	-1.0368	0.9499	3.325	0.0368	0.0501
-1.5	1.5	-1.5297	1.4458	3.325	0.0297	0.0542
-2.0	2.0	-2.0233	1.9478	3.35	0.0233	0.0522
-2.5	2.5	-2.5162	2.4445	3.35	0.0162	0.0555
-3.0	3.0	-3.0121	2.9503	3.35	0.0121	0.0497
-3.5	3.5	-3.5118	3.4492	3.35	0.0118	0.0508
-4.0	4.0	-4.0092	3.9474	3.35	0.0092	0.0526
-4.5	4.5	-4.5067	4.4472	3.35	0.0067	0.0528
-5.0	5.0	-5.0011	4.95	3.35	0.0011	0.05
-5.5	5.5	-5.4932	5.4558	3.85	-0.0068	0.0442
-6.0	6.0	-5.8685	5.3459	5.65	-0.1315	0.6541
-6.5	6.5	-5.9479	5.4016	5.625	-0.5521	1.0984
-7.0	7.0	-5.9906	5.4344	5.6	-1.0094	1.5656
-7.5	7.5	-6.0158	5.452	5.575	-1.4842	2.048
-8.0	8.0	-6.0318	5.4619	5.575	-1.9682	2.5381
-8.5	8.5	-6.0394	5.4688	5.575	-2.4606	3.0313
-9.0	9.0	-6.044	5.4726	5.575	-2.956	3.5274

Diverging SCKRails Test 0V

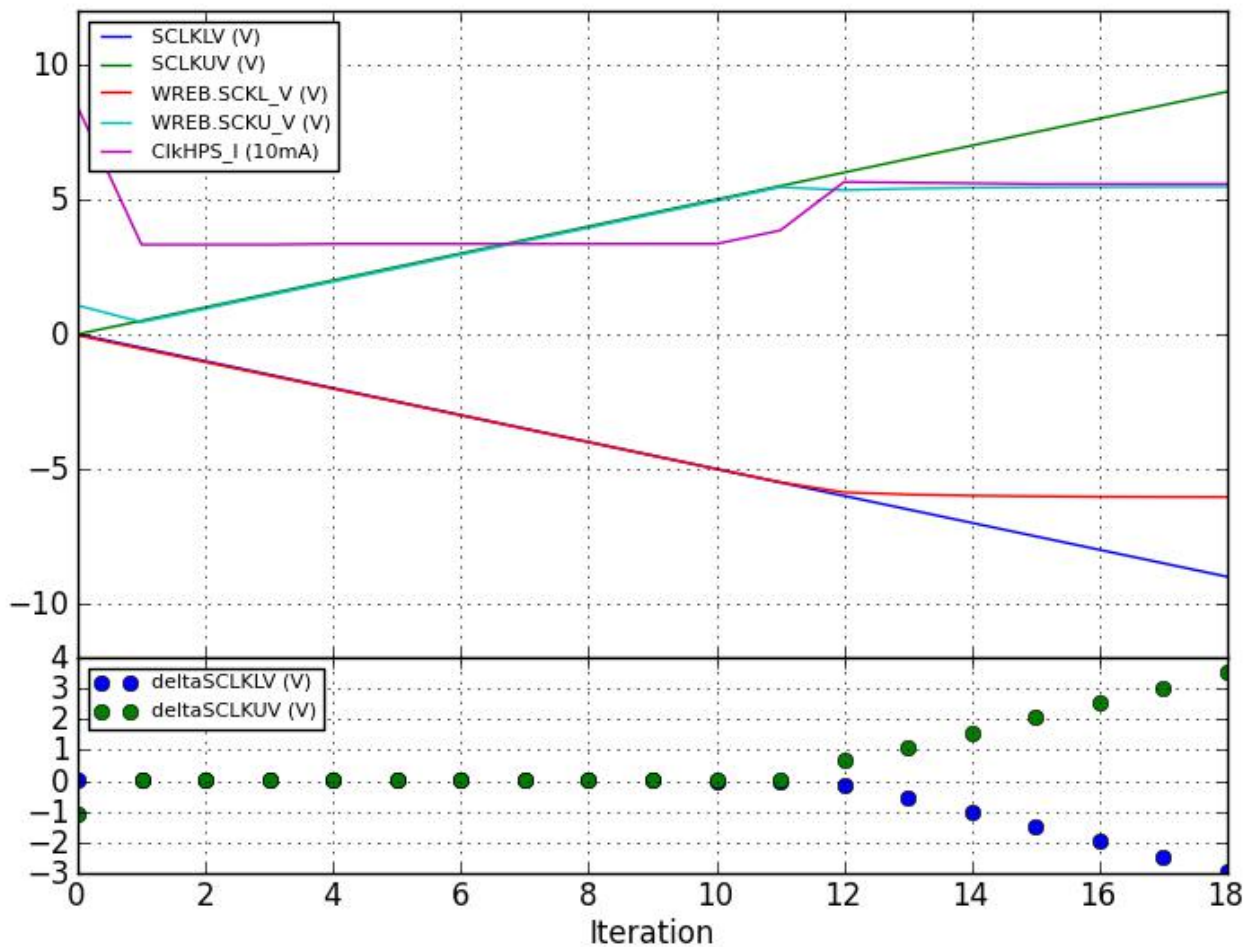


LV Gain: 0.803539. UV Gain: 0.708524. 16/38 values okay.

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	-0.7942	1.0368	9.05	3.7942	1.9632
2.5	3.5	0.7057	0.7057	8.9	1.7943	2.7943
2.0	4.0	1.0071	0.9933	8.675	0.9929	3.0067
1.5	4.5	1.4442	1.4458	3.325	0.0558	3.0542
1.0	5.0	0.9514	1.9493	3.325	0.0486	3.0507
0.5	5.5	0.4593	2.4437	3.325	0.0407	3.0563
0.0	6.0	-0.0366	2.951	3.325	0.0366	3.049
-0.5	6.5	-0.5371	3.4492	3.35	0.0371	3.0508
-1.0	7.0	-1.0345	3.9459	3.35	0.0345	3.0541
-1.5	7.5	-1.5312	4.4472	3.35	0.0312	3.0528
-2.0	8.0	-2.0279	4.9507	3.35	0.0279	3.0493
-2.5	8.5	-2.5192	5.455	3.35	0.0192	3.045
-3.0	9.0	-3.0182	5.9586	3.35	0.0182	3.0414
-3.5	9.5	-3.5301	6.4522	3.375	0.0301	3.0478
-4.0	10.0	-4.0268	6.9313	4.05	0.0268	3.0687
-4.5	10.5	-4.5219	6.5468	4.45	0.0219	3.9532
-5.0	11.0	-5.0217	6.1615	4.825	0.0217	4.8385
-5.5	11.5	-5.5168	5.7755	5.225	0.0168	5.7245
-6.0	12.0	-5.9586	5.4375	5.575	-0.0414	6.5625

Diverging SCKRails Test 0V

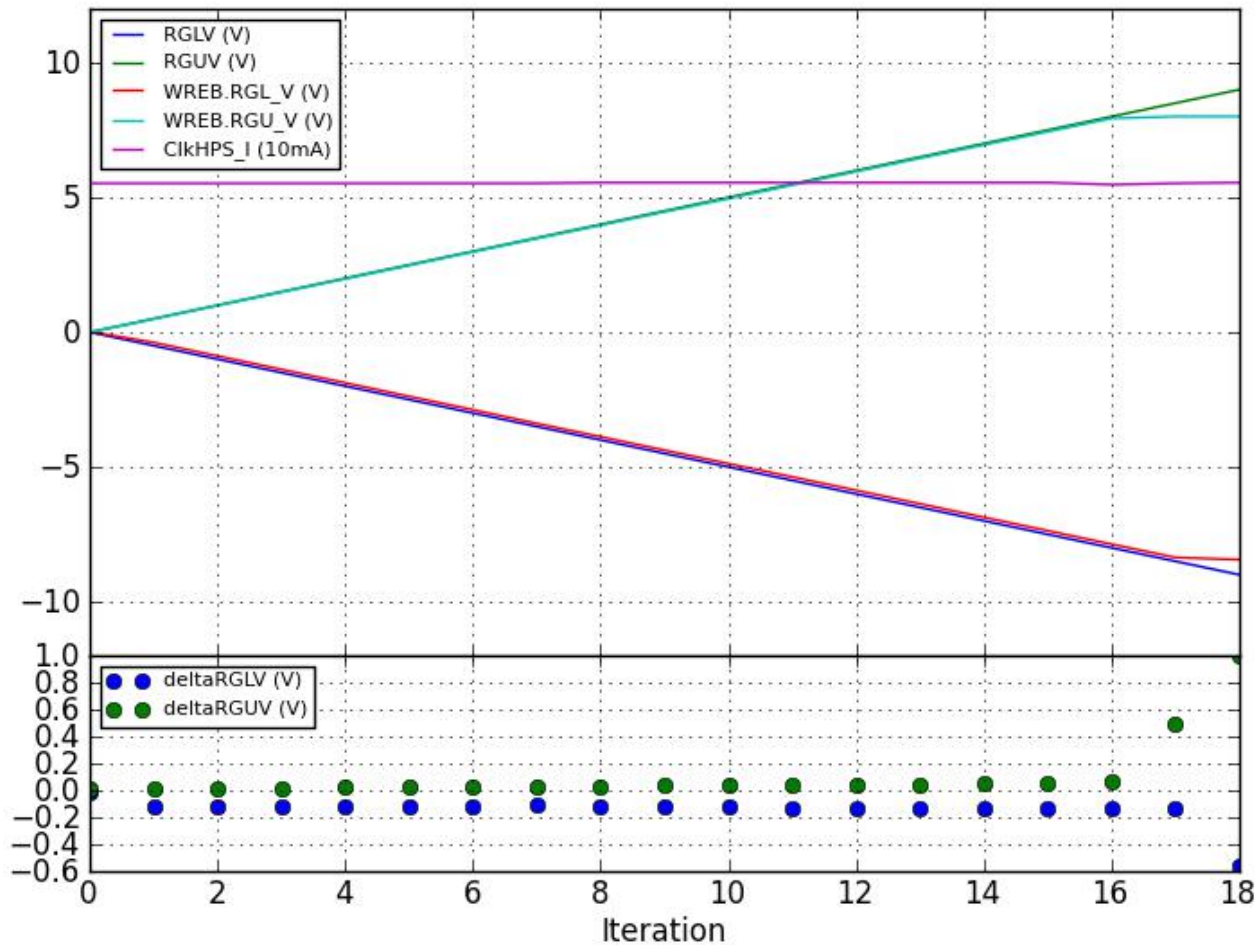


LV Gain: 0.369043. UV Gain: 0.753273. 26/38 values okay.

Test FAILED.

SCLKLV (V)	SCLKUV (V)	WREB.SCKL_V (V)	WREB.SCKU_V (V)	CkHPS_I (10mA)	deltaSCLKLV (V)	deltaSCLKUV (V)
-3.0	-3.0	-3.0312	0.8469	7.275	0.0312	-3.8469
-3.5	-2.5	-3.5339	-0.3731	6.925	0.0339	-2.1269
-4.0	-2.0	-4.0276	-0.7439	6.5	0.0276	-1.2561
-4.5	-1.5	-4.5204	-0.9033	6.05	0.0204	-0.5967
-5.0	-1.0	-5.014	-1.0033	5.6	0.014	0.0033
-5.5	-0.5	-5.5069	-0.5478	3.325	0.0069	0.0478
-6.0	0.0	-5.9998	-0.0427	3.325	-0.0002	0.0427
-6.5	0.5	-6.501	0.457	3.35	0.001	0.043
-7.0	1.0	-6.9992	0.9544	3.35	-0.0008	0.0456
-7.5	1.5	-7.4959	1.4534	3.35	-0.0041	0.0466
-8.0	2.0	-7.9918	1.9577	3.35	-0.0082	0.0423
-8.5	2.5	-8.3694	2.462	3.4	-0.1306	0.038
-9.0	3.0	-7.9445	2.964	3.75	-1.0555	0.036
-9.5	3.5	-7.5363	3.4584	4.1	-1.9637	0.0416
-10.0	4.0	-7.1335	3.9574	4.475	-2.8665	0.0426
-10.5	4.5	-6.7314	4.4594	4.825	-3.7686	0.0406
-11.0	5.0	-6.3431	4.9545	5.2	-4.6569	0.0455
-11.5	5.5	-5.9853	5.4192	5.575	-5.5147	0.0808
-12.0	6.0	-6.0104	5.4489	5.575	-5.9896	0.5511

Diverging RGRails Test 0V

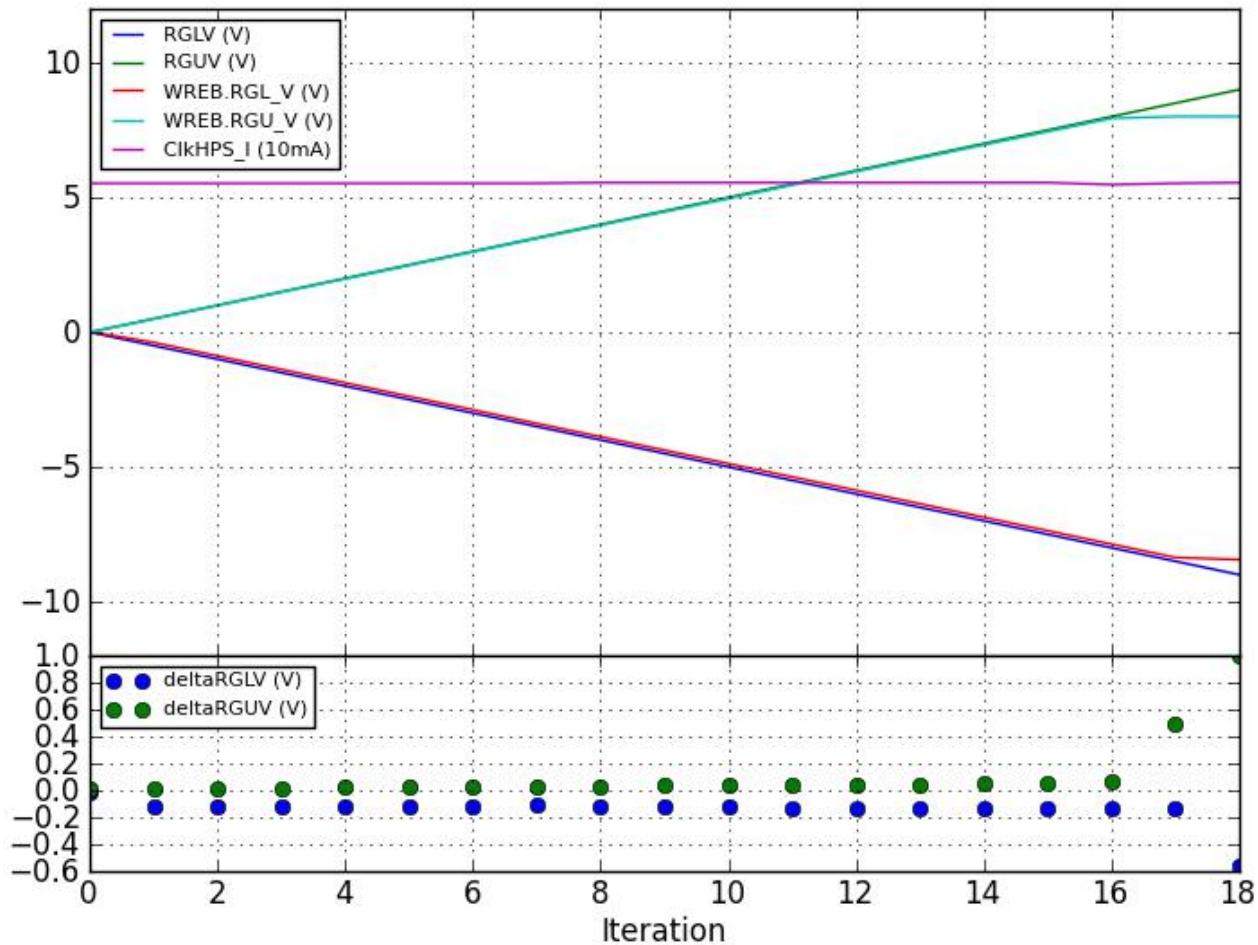


LV Gain: 0.981084. UV Gain: 0.951926. 35/38 values okay.

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	-0.0107	5.525	-0.0191	0.0107
-0.5	0.5	-0.3807	0.489	5.525	-0.1193	0.011
-1.0	1.0	-0.882	0.9865	5.525	-0.118	0.0135
-1.5	1.5	-1.3817	1.4832	5.525	-0.1183	0.0168
-2.0	2.0	-1.8799	1.9775	5.525	-0.1201	0.0225
-2.5	2.5	-2.3827	2.4757	5.525	-0.1173	0.0243
-3.0	3.0	-2.8793	2.9778	5.525	-0.1207	0.0222
-3.5	3.5	-3.3867	3.4752	5.525	-0.1133	0.0248
-4.0	4.0	-3.8818	3.9673	5.55	-0.1182	0.0327
-4.5	4.5	-4.38	4.4624	5.55	-0.12	0.0376
-5.0	5.0	-4.8775	4.9553	5.55	-0.1225	0.0447
-5.5	5.5	-5.3711	5.455	5.55	-0.1289	0.045
-6.0	6.0	-5.8678	5.957	5.55	-0.1322	0.043
-6.5	6.5	-6.3698	6.4537	5.55	-0.1302	0.0463
-7.0	7.0	-6.8703	6.9489	5.55	-0.1297	0.0511
-7.5	7.5	-7.3677	7.4402	5.55	-0.1323	0.0598
-8.0	8.0	-7.8667	7.9338	5.475	-0.1333	0.0662
-8.5	8.5	-8.3626	8.0048	5.525	-0.1374	0.4952
-9.0	9.0	-8.4381	8.0055	5.55	-0.5619	0.9945

Diverging RGRails Test 0V

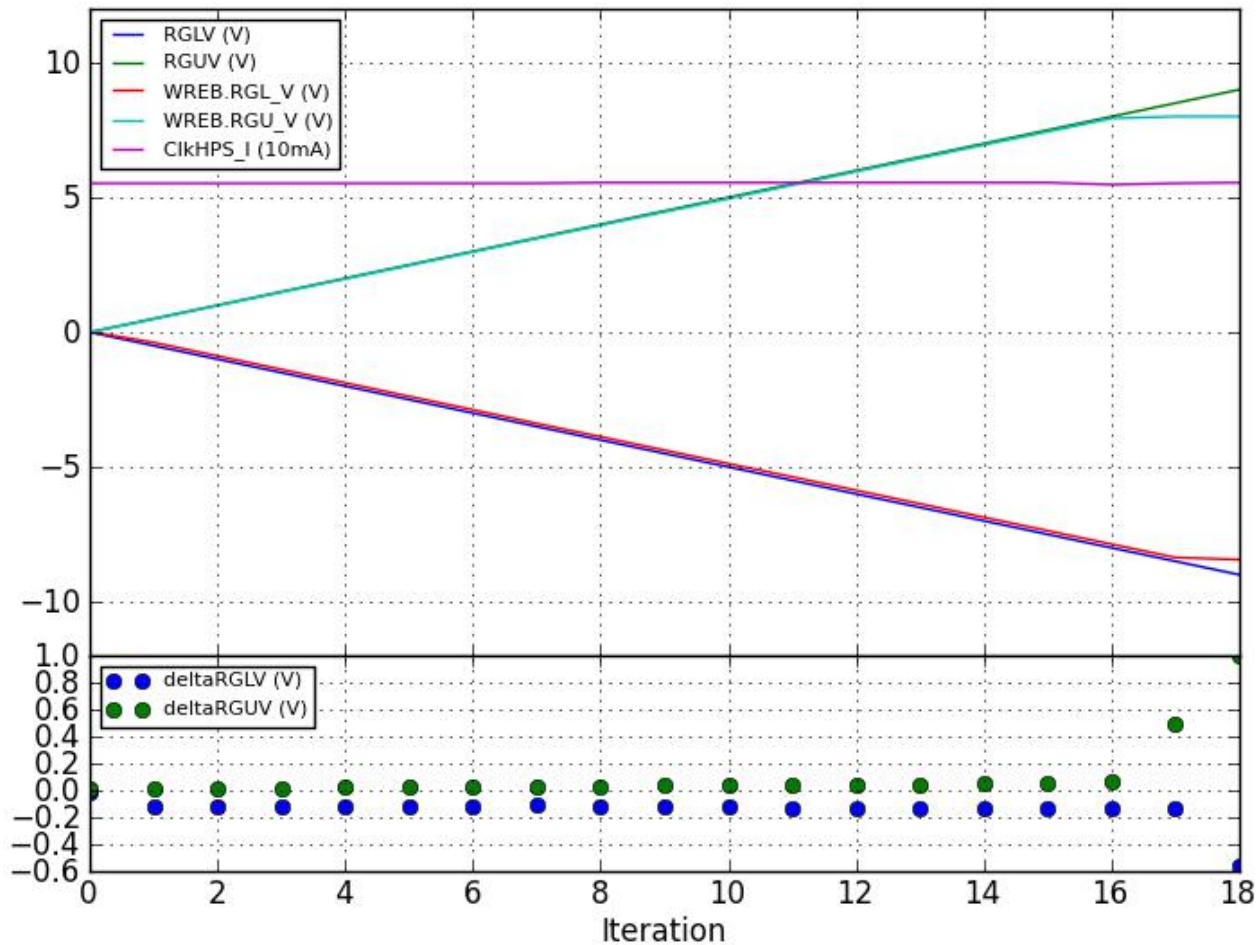


LV Gain: 0.811168. UV Gain: 0.952164. 16/38 values okay.

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	-0.013	-0.0107	5.55	3.013	3.0107
2.5	3.5	0.5074	0.489	5.525	1.9926	3.011
2.0	4.0	0.9987	0.9857	5.525	1.0013	3.0143
1.5	4.5	1.49	1.4824	5.525	0.01	3.0176
1.0	5.0	1.1017	1.9775	5.525	-0.1017	3.0225
0.5	5.5	0.5989	2.4765	5.525	-0.0989	3.0235
0.0	6.0	0.1015	2.9793	5.525	-0.1015	3.0207
-0.5	6.5	-0.4036	3.4752	5.525	-0.0964	3.0248
-1.0	7.0	-0.9003	3.9673	5.525	-0.0997	3.0327
-1.5	7.5	-1.3985	4.4632	5.525	-0.1015	3.0368
-2.0	8.0	-1.8967	4.9561	5.525	-0.1033	3.0439
-2.5	8.5	-2.3888	5.455	5.55	-0.1112	3.045
-3.0	9.0	-2.8862	5.9578	5.55	-0.1138	3.0422
-3.5	9.5	-3.3875	6.4545	5.55	-0.1125	3.0455
-4.0	10.0	-3.8872	6.9481	5.55	-0.1128	3.0519
-4.5	10.5	-4.3869	7.4402	5.55	-0.1131	3.0598
-5.0	11.0	-4.8859	7.9346	5.475	-0.1141	3.0654
-5.5	11.5	-5.381	8.0086	5.55	-0.119	3.4914
-6.0	12.0	-5.88	8.0086	5.55	-0.12	3.9914

Diverging RGRails Test 0V

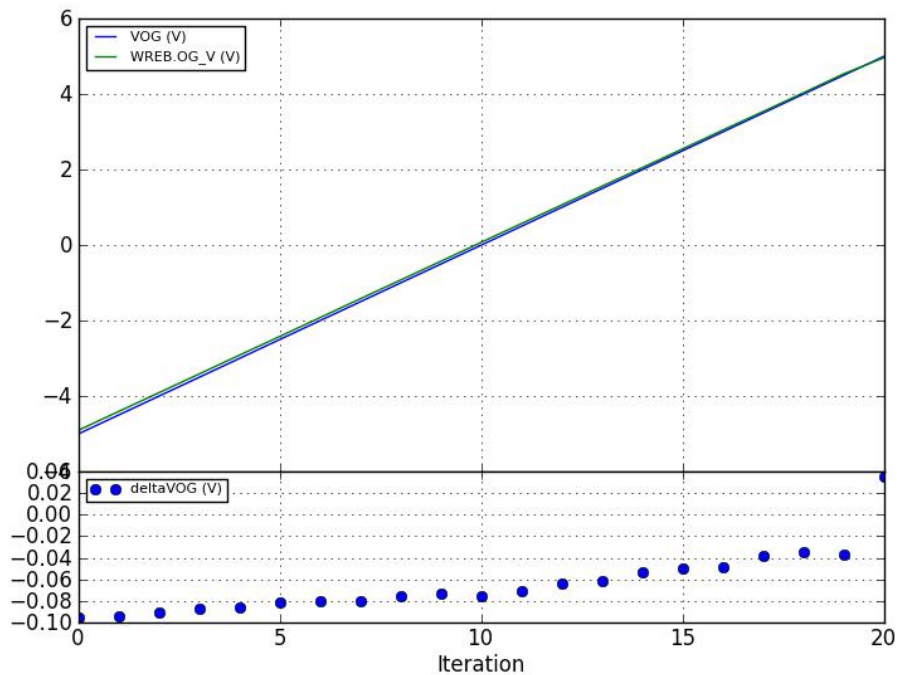


LV Gain: 0.665977. UV Gain: 0.848943. 27/38 values okay.

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	-0.6584	5.525	-0.1344	-2.3416
-3.5	-2.5	-3.3707	-0.9483	5.525	-0.1293	-1.5517
-4.0	-2.0	-3.8719	-1.0941	5.525	-0.1281	-0.9059
-4.5	-1.5	-4.3716	-1.1971	5.525	-0.1284	-0.3029
-5.0	-1.0	-4.8683	-0.9956	5.525	-0.1317	-0.0044
-5.5	-0.5	-5.3719	-0.4974	5.525	-0.1281	-0.0026
-6.0	0.0	-5.8693	0.0038	5.525	-0.1307	-0.0038
-6.5	0.5	-6.3751	0.5028	5.525	-0.1249	-0.0028
-7.0	1.0	-6.8718	0.9941	5.525	-0.1282	0.0059
-7.5	1.5	-7.3685	1.49	5.525	-0.1315	0.01
-8.0	2.0	-7.8659	1.9836	5.525	-0.1341	0.0164
-8.5	2.5	-8.3588	2.4834	5.5	-0.1412	0.0166
-9.0	3.0	-8.4389	2.9854	5.525	-0.5611	0.0146
-9.5	3.5	-8.4381	3.4828	5.525	-1.0619	0.0172
-10.0	4.0	-8.4381	3.9764	5.525	-1.5619	0.0236
-10.5	4.5	-8.4373	4.4685	5.525	-2.0627	0.0315
-11.0	5.0	-8.4366	4.9644	5.55	-2.5634	0.0356
-11.5	5.5	-8.4373	5.4619	5.55	-3.0627	0.0381
-12.0	6.0	-8.4366	5.9624	5.55	-3.5634	0.0376

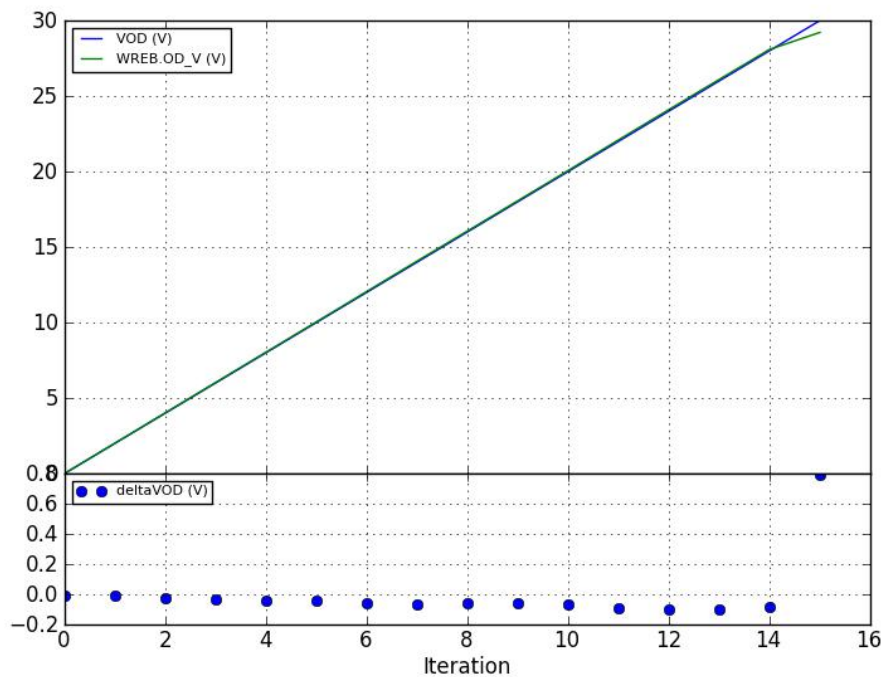
OG Bias Test



Gain: 0.991712. 21/21 values okay.
Test PASSED.

VOG (V)	WREB.OG_V (V)	deltaVOG (V)
-5.0	-4.9045	-0.0955
-4.5	-4.406	-0.094
-4.0	-3.9091	-0.0909
-3.5	-3.4123	-0.0877
-3.0	-2.9138	-0.0862
-2.5	-2.4187	-0.0813
-2.0	-1.9202	-0.0798
-1.5	-1.42	-0.08
-1.0	-0.9248	-0.0752
-0.5	-0.4263	-0.0737
0.0	0.0755	-0.0755
0.5	0.5707	-0.0707
1.0	1.0641	-0.0641
1.5	1.561	-0.061
2.0	2.0528	-0.0528
2.5	2.5496	-0.0496
3.0	3.0481	-0.0481
3.5	3.5382	-0.0382
4.0	4.035	-0.035
4.5	4.5369	-0.0369
5.0	4.9649	0.0351

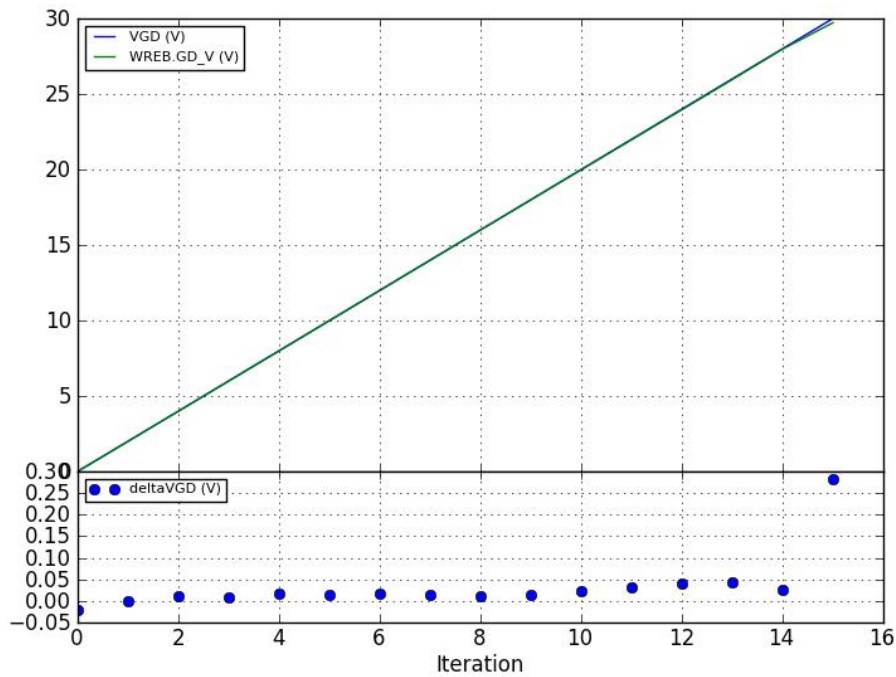
OD Bias Test



Gain: 0.993281. 15/16 values okay.
Test PASSED.

VOD (V)	WREB.OD_V (V)	deltaVOD (V)
0	0.0117	-0.0117
2	2.0125	-0.0125
4	4.0233	-0.0233
6	6.0324	-0.0324
8	8.0382	-0.0382
10	10.0423	-0.0423
12	12.0547	-0.0547
14	14.0689	-0.0689
16	16.0596	-0.0596
18	18.062	-0.062
20	20.0644	-0.0644
22	22.092	-0.092
24	24.1011	-0.1011
26	26.0968	-0.0968
28	28.0841	-0.0841
30	29.212	0.788

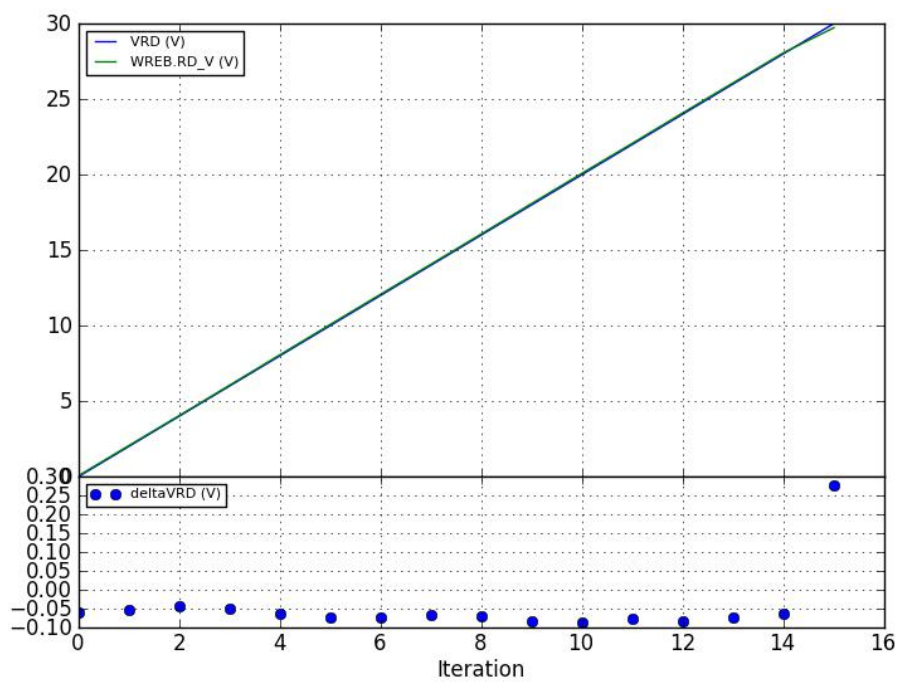
GD Bias Test



Gain: 0.995859. 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	3.9897	0.0103
6	5.9904	0.0096
8	7.9828	0.0172
10	9.9852	0.0148
12	11.9843	0.0157
14	13.9867	0.0133
16	15.9891	0.0109
18	17.9865	0.0135
20	19.9771	0.0229
22	21.9678	0.0322
24	23.9584	0.0416
26	25.9575	0.0425
28	27.9733	0.0267
30	29.7189	0.2811

RD Bias Test



Gain: 0.997020. 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	4.0417	-0.0417
6	6.0492	-0.0492
8	8.0634	-0.0634
10	10.0742	-0.0742
12	12.0749	-0.0749
14	14.0656	-0.0656
16	16.0696	-0.0696
18	18.0838	-0.0838
20	20.0879	-0.0879
22	22.0752	-0.0752
24	24.0826	-0.0826
26	26.075	-0.075
28	28.064	-0.064
30	29.7223	0.2777

Temperature test

