

LOW DOSE RADIATION TEST REPORT AD8229S

November 2015

Generic

Radiation Test Report	
Product:	AD8229S
Gamma:	0, 10k, 30k, 50k, 75k, 100k
Gamma Source:	Co60/TM1019 Condition D
Dose Rate:	<8.1 mRad/s
Facilities:	VPT RAD
Tested:	5/2015 - 11/2015

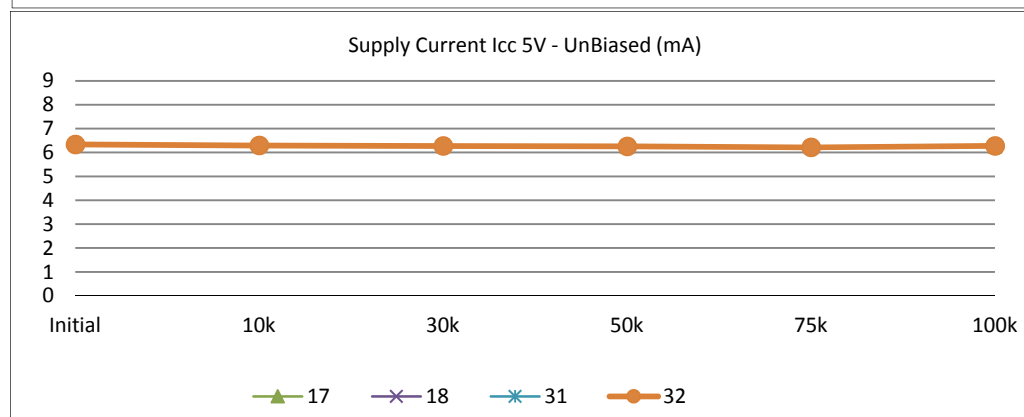
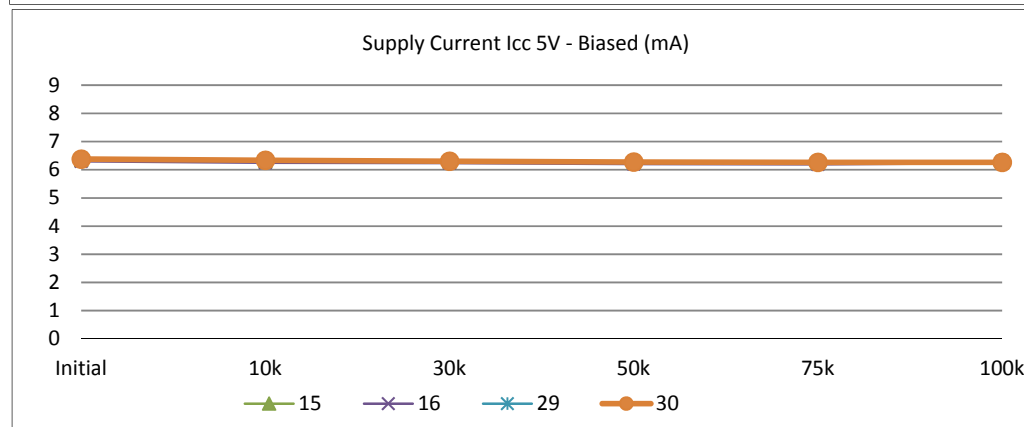
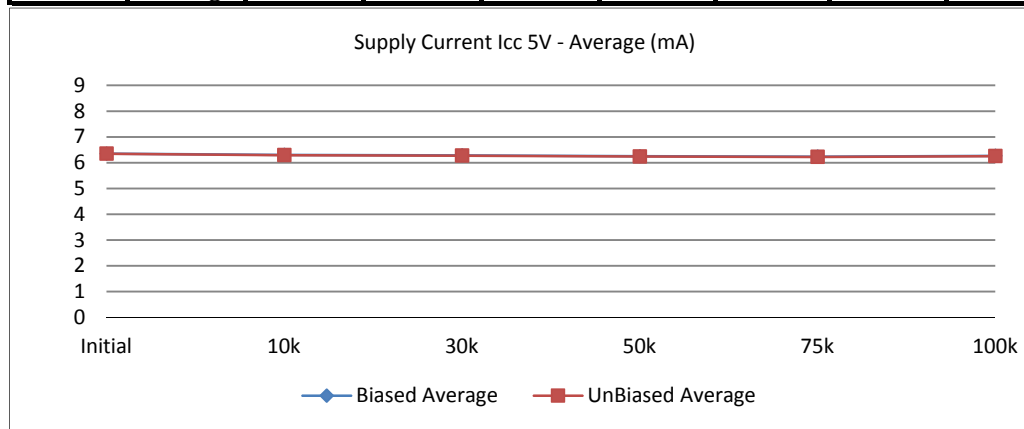
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It is the responsibility of the Procuring Activity to screen products from Analog Devices, Inc. for compliance to Nuclear Hardness Critical Items (HCI) specifications.

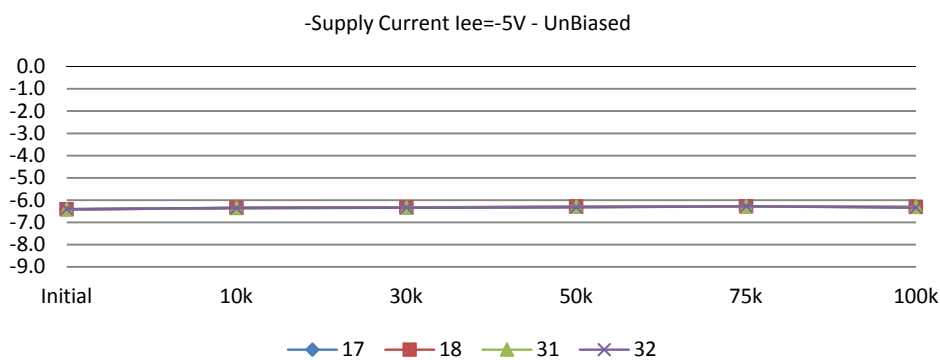
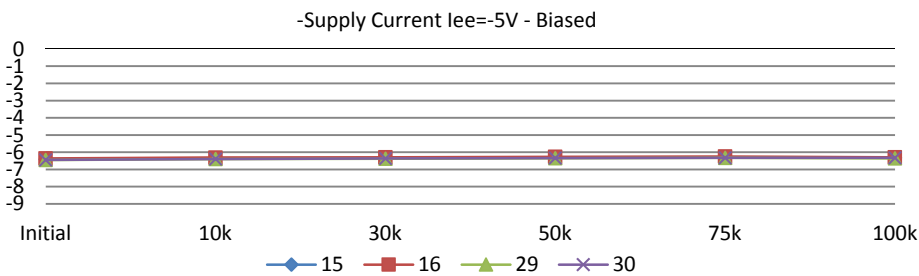
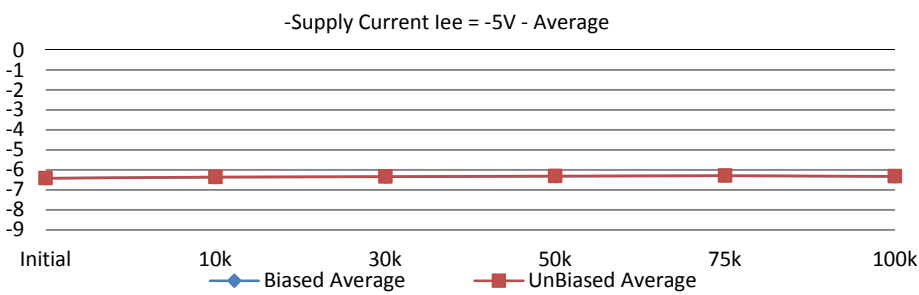
Warning:

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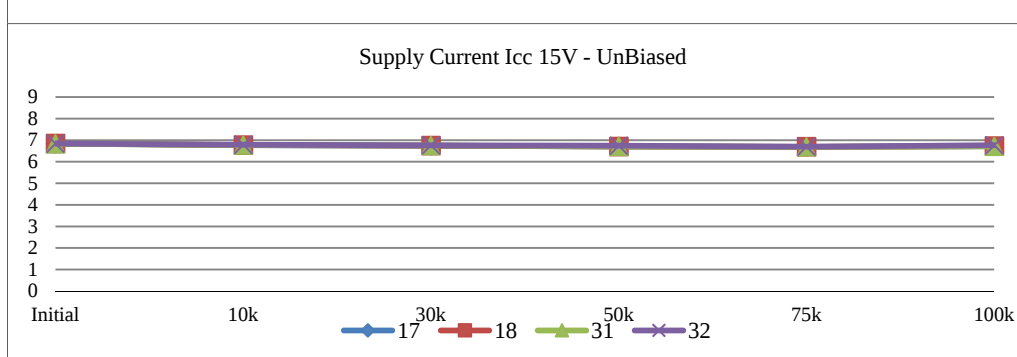
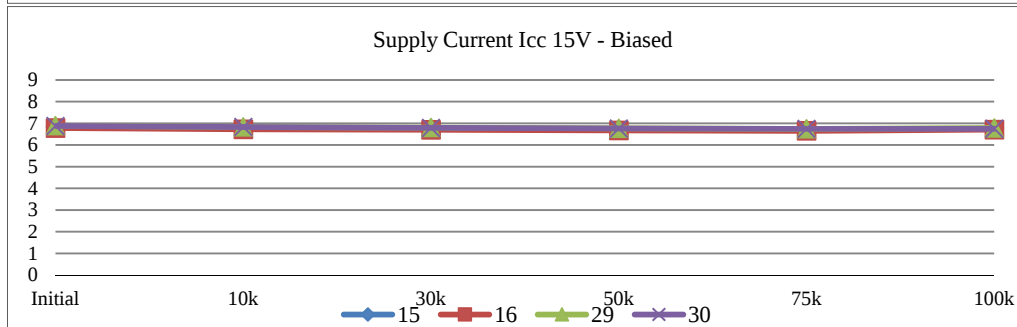
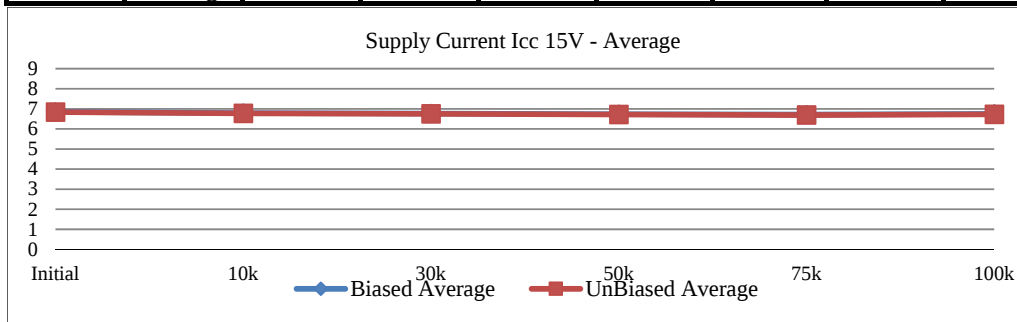
	T# 1	ISY Icc 5V						mA
	SN	Initial	10k	30k	50k	75k	100k	Limit
Control	10	6.34267	6.32345	6.31709	6.31466	6.26649	6.2908	<9
	48	6.32271	6.29950	6.28915	6.29550	6.24494	6.26805	
Biased	15	6.34267	6.29551	6.28955	6.25200	6.23337	6.26446	
	16	6.29796	6.24761	6.23527	6.20171	6.18947	6.23732	
	29	6.38698	6.33782	6.31230	6.28113	6.25931	6.29678	
	30	6.37899	6.33902	6.30192	6.27475	6.26370	6.26526	
	Min	6.29796	6.24761	6.23527	6.20171	6.18947	6.23732	
	Max	6.38698	6.33902	6.31230	6.28113	6.26370	6.29678	
	Average	6.35165	6.30499	6.28476	6.25240	6.23646	6.26596	
UnBiased	17	6.35305	6.28673	6.27039	6.23603	6.22618	6.24610	
	18	6.35624	6.29431	6.27199	6.22805	6.22459	6.25049	
	31	6.34187	6.29352	6.27478	6.23803	6.22020	6.24251	
	32	6.33868	6.29272	6.27358	6.25599	6.21501	6.27803	
	Min	6.33868	6.28673	6.27039	6.22805	6.21501	6.24251	
	Max	6.35624	6.29431	6.27478	6.25599	6.22618	6.27803	
	Average	6.34746	6.29182	6.27269	6.23953	6.22150	6.25428	



		T#6	-ISY Iee -5V						mA
		SN	Initial	10k	30k	50k	75k	100k	Limit
Control	10	-6.40694	-6.38372	-6.37379	-6.37670	-6.32627	-6.35088		>-9
	48	-6.38894	-6.36253	-6.35019	-6.36270	-6.30627	-6.33049		
Biased	15	-6.40934	-6.35293	-6.34739	-6.31630	-6.29228	-6.32249		
	16	-6.36054	-6.30853	-6.29380	-6.26391	-6.24589	-6.29369		
	29	-6.45414	-6.39812	-6.37539	-6.34750	-6.32427	-6.35688		
	30	-6.44574	-6.39812	-6.36419	-6.34230	-6.32587	-6.32809		
	Min	-6.45414	-6.39812	-6.37539	-6.34750	-6.32587	-6.35688		
	Max	-6.36054	-6.30853	-6.29380	-6.26391	-6.24589	-6.29369		
	Average	-6.41744	-6.36443	-6.34519	-6.31750	-6.29708	-6.32529		
UnBiased	17	-6.41734	-6.34693	-6.32699	-6.30111	-6.28668	-6.30809		
	18	-6.41934	-6.35493	-6.33059	-6.29391	-6.28508	-6.30849		
	31	-6.41014	-6.35733	-6.33619	-6.30431	-6.28268	-6.30809		
	32	-6.40414	-6.35573	-6.33739	-6.32310	-6.27948	-6.33888		
	Min	-6.41934	-6.35733	-6.33739	-6.32310	-6.28668	-6.33888		
	Max	-6.40414	-6.34693	-6.32699	-6.29391	-6.27948	-6.30809		
	Average	-6.41274	-6.35373	-6.33279	-6.30561	-6.28348	-6.31589		

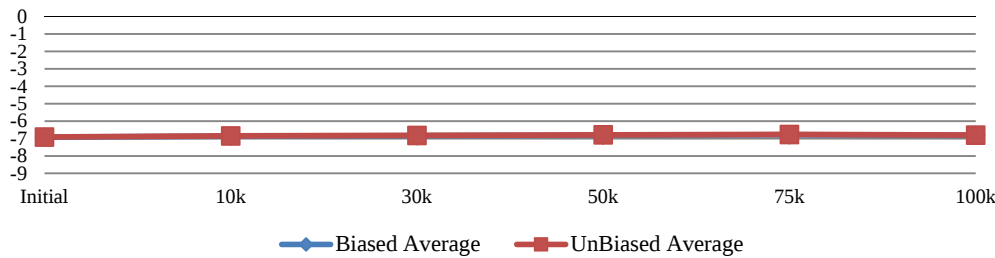


	T#7	ISY Icc 15V						mA
	SN	Initial	10k	30k	50k	75k	100k	Limit
Control	10	6.81682	6.79451	6.78447	6.78458	6.73136	6.76007	<9
	48	6.81243	6.78493	6.77090	6.77939	6.72458	6.75488	
Biased	15	6.83478	6.77974	6.76771	6.73189	6.70702	6.74491	
	16	6.78329	6.72506	6.70465	6.67043	6.65434	6.71138	
	29	6.89106	6.83083	6.80164	6.76582	6.74214	6.78282	
	30	6.88188	6.83043	6.79046	6.76183	6.74573	6.74970	
	Min	6.78329	6.72506	6.70465	6.67043	6.65434	6.71138	
	Max	6.89106	6.83083	6.80164	6.76582	6.74573	6.78282	
	Average	6.84775	6.79152	6.76612	6.73249	6.71231	6.74720	
UnBiased	17	6.83997	6.76418	6.74336	6.70874	6.69145	6.71857	
	18	6.84556	6.77336	6.74576	6.70395	6.69265	6.72216	
	31	6.83159	6.77376	6.75135	6.71034	6.68786	6.71418	
	32	6.83878	6.78853	6.76053	6.74307	6.69624	6.76446	
	Min	6.83159	6.76418	6.74336	6.70395	6.68786	6.71418	
	Max	6.84556	6.78853	6.76053	6.74307	6.69624	6.76446	
	Average	6.83898	6.77496	6.75025	6.71653	6.69205	6.72984	

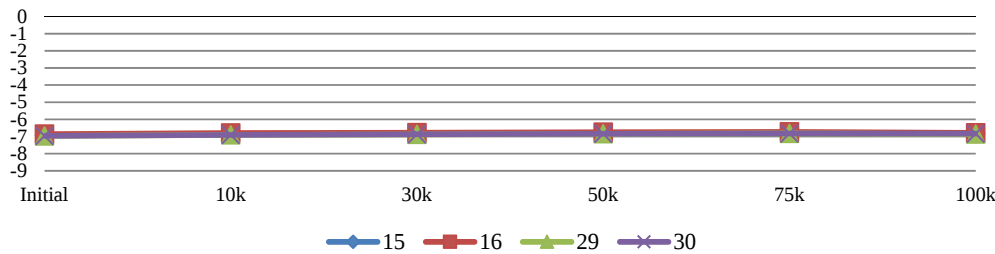


	T#8	-ISY Iee -15V						mA
	SN	Initial	10k	30k	50k	75k	100k	Limit
Control	10	-6.89086	-6.86454	-6.85600	-6.85851	-6.80163	-6.83190	>-9
	48	-6.88926	-6.85934	-6.84561	-6.85891	-6.79443	-6.82710	
Biased	15	-6.91206	-6.84974	-6.84281	-6.80611	-6.78164	-6.81710	
	16	-6.85686	-6.79614	-6.77841	-6.74812	-6.72725	-6.78231	
	29	-6.96807	-6.90374	-6.87520	-6.84331	-6.81723	-6.85629	
	30	-6.96207	-6.90654	-6.86560	-6.84171	-6.82163	-6.82670	
	Min	-6.96807	-6.90654	-6.87520	-6.84331	-6.82163	-6.85629	
	Max	-6.85686	-6.79614	-6.77841	-6.74812	-6.72725	-6.78231	
UnBiased	Average	-6.92477	-6.86404	-6.84051	-6.80981	-6.78694	-6.82060	
	17	-6.91766	-6.83694	-6.81601	-6.78451	-6.76564	-6.79030	
	18	-6.91926	-6.84654	-6.81881	-6.77891	-6.76804	-6.79430	
	31	-6.90886	-6.84854	-6.82321	-6.78851	-6.76244	-6.78910	
	32	-6.91726	-6.86374	-6.83841	-6.82091	-6.77084	-6.83829	
	Min	-6.91926	-6.86374	-6.83841	-6.82091	-6.77084	-6.83829	
UnBiased	Max	-6.90886	-6.83694	-6.81601	-6.77891	-6.76244	-6.78910	
	Average	-6.91576	-6.84894	-6.82411	-6.79321	-6.76674	-6.80300	

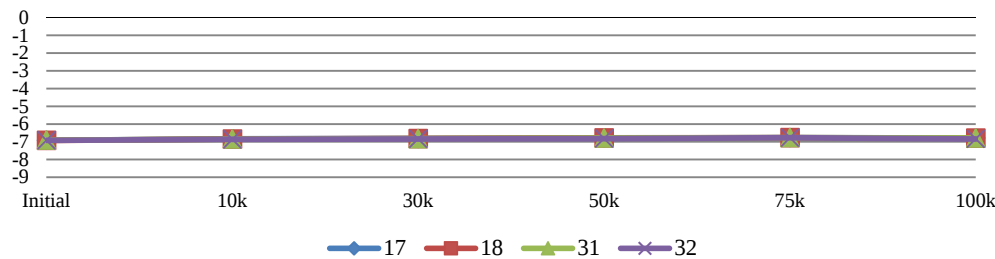
-Supply Current Iee -15V - Average



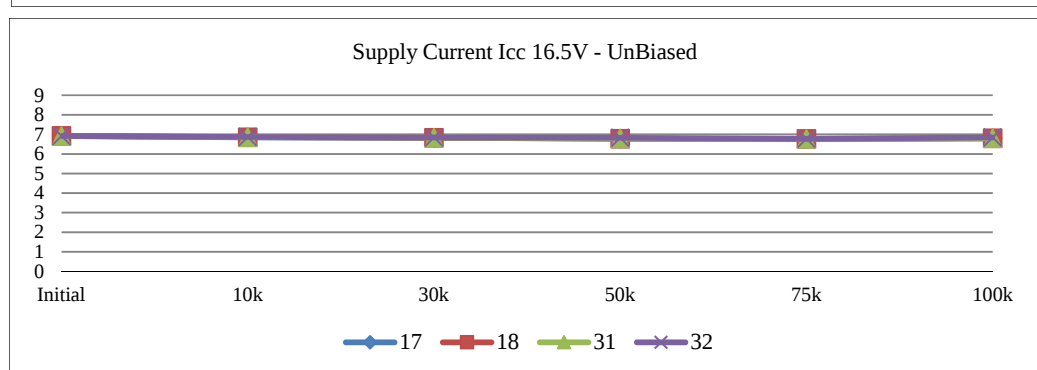
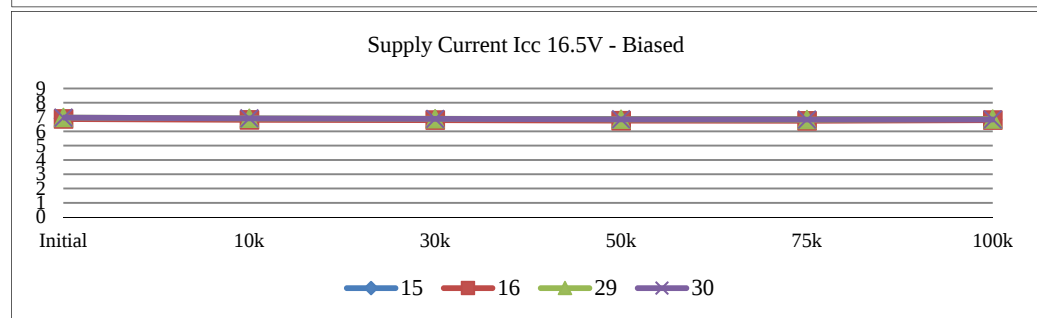
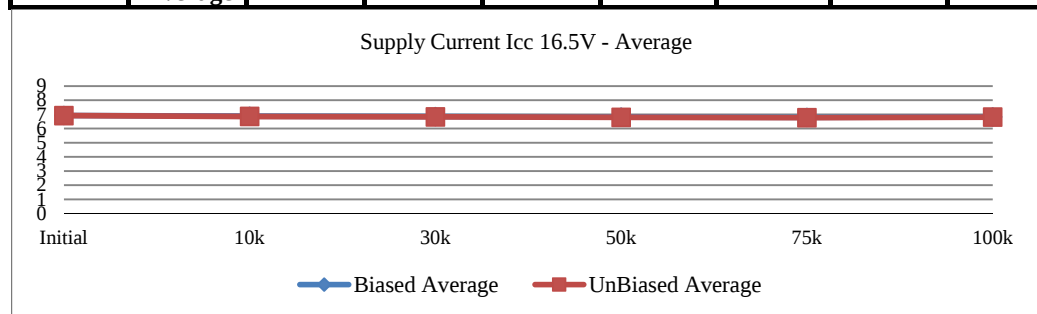
-Supply Current Iee -15V - Biased



-Supply Current Iee -15V - UnBiased

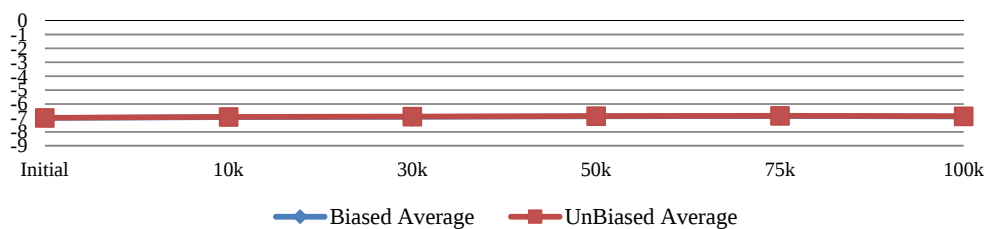


	T#9	ISY Icc 16.5V						mA
	SN	Initial	10k	30k	50k	75k	100k	Limit
Control	10	6.89036	6.86972	6.85756	6.85860	6.80482	6.83371	<9
	48	6.88836	6.86174	6.84838	6.85899	6.79844	6.82853	
Biased	15	6.91311	6.85695	6.84678	6.80671	6.78288	6.82055	
	16	6.86282	6.80347	6.78451	6.74804	6.73139	6.78742	
	29	6.96740	6.90884	6.87991	6.84303	6.81879	6.85926	
	30	6.96101	6.90964	6.86993	6.84064	6.82119	6.83052	
	Min	6.86282	6.80347	6.78451	6.74804	6.73139	6.78742	
	Max	6.96740	6.90964	6.87991	6.84303	6.82119	6.85926	
UnBiased	Average	6.92609	6.86973	6.84528	6.80961	6.78856	6.82444	
	17	6.91990	6.84058	6.81844	6.78476	6.76611	6.79341	
	18	6.92309	6.85296	6.82163	6.77757	6.76931	6.79820	
	31	6.90912	6.85256	6.82842	6.78556	6.76252	6.79101	
	32	6.91790	6.86733	6.84039	6.82108	6.77330	6.84090	
	Min	6.90912	6.84058	6.81844	6.77757	6.76252	6.79101	
	Max	6.92309	6.86733	6.84039	6.82108	6.77330	6.84090	
	Average	6.91750	6.85336	6.82722	6.79224	6.76781	6.80588	

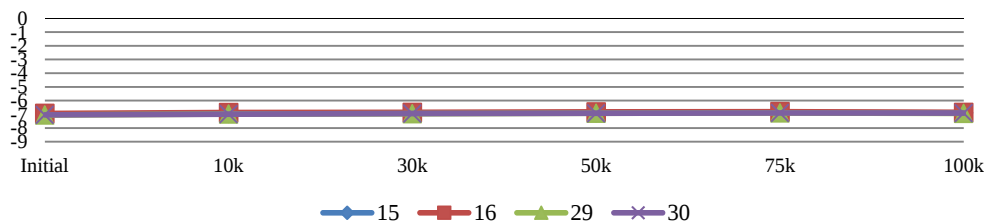


	T#12	-ISY Iee -16.5V						mA
	SN	Initial	10k	30k	50k	75k	100k	Limit
Control	10	-6.96469	-6.94038	-6.92954	-6.93078	-6.87390	-6.90429	>-9
	48	-6.96829	-6.93518	-6.92114	-6.93478	-6.87030	-6.90269	
Biased	15	-6.98949	-6.92718	-6.91834	-6.88318	-6.85270	-6.89109	
	16	-6.93749	-6.87479	-6.85834	-6.82199	-6.80311	-6.85750	
	29	-7.04509	-6.97958	-6.95154	-6.92118	-6.89429	-6.93388	
	30	-7.03989	-6.98358	-6.94514	-6.91758	-6.89709	-6.90389	
	Min	-7.04509	-6.98358	-6.95154	-6.92118	-6.89709	-6.93388	
	Max	-6.93749	-6.87479	-6.85834	-6.82199	-6.80311	-6.85750	
	Average	-7.00299	-6.94128	-6.91834	-6.88598	-6.86180	-6.89659	
UnBiased	17	-6.99509	-6.91358	-6.89074	-6.85838	-6.83990	-6.86430	
	18	-6.99709	-6.92278	-6.89234	-6.85398	-6.84110	-6.86710	
	31	-6.98509	-6.92518	-6.90074	-6.86238	-6.83591	-6.86310	
	32	-6.99389	-6.94158	-6.91434	-6.89838	-6.84750	-6.91469	
	Min	-6.99709	-6.94158	-6.91434	-6.89838	-6.84750	-6.91469	
	Max	-6.98509	-6.91358	-6.89074	-6.85398	-6.83591	-6.86310	
	Average	-6.99279	-6.92578	-6.89954	-6.86828	-6.84110	-6.87730	

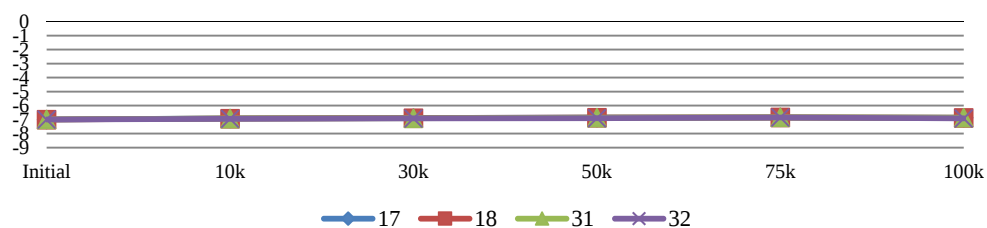
-Supply Current Iee -16.5V - Average



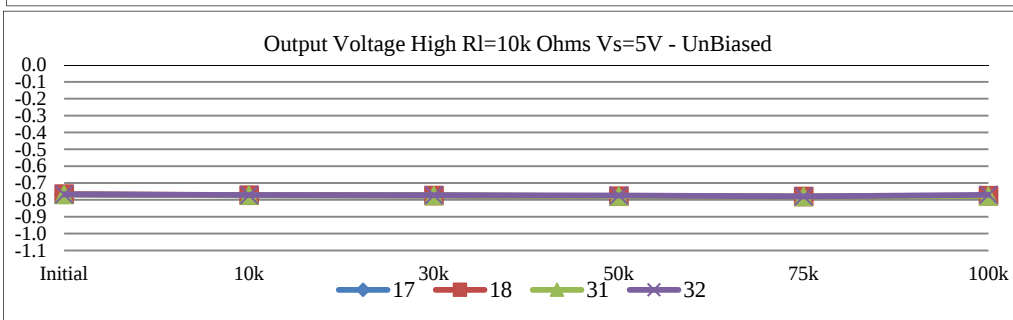
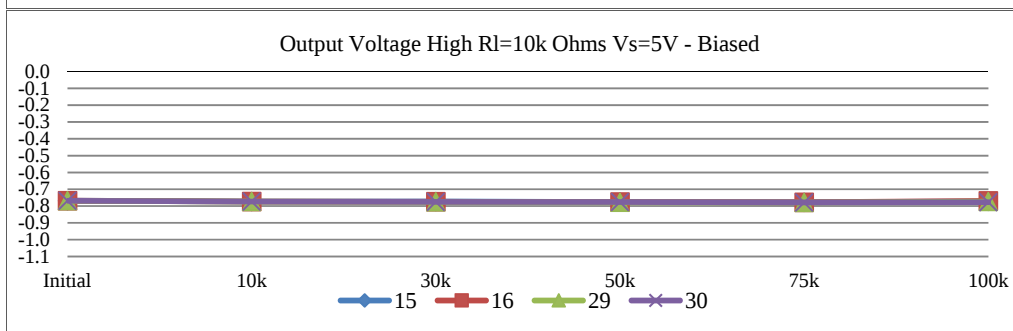
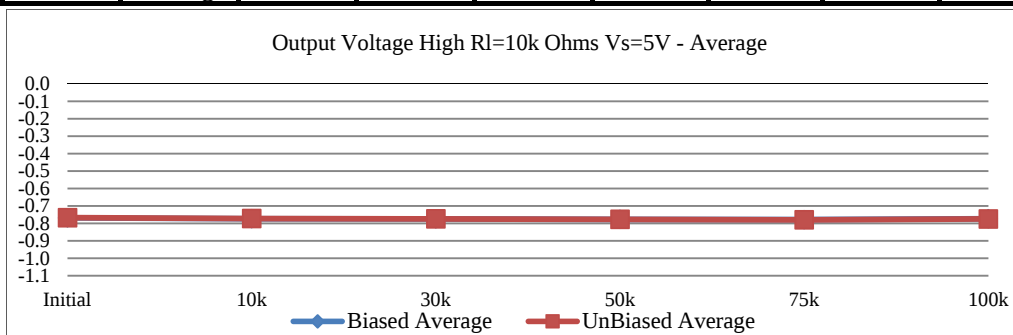
-Supply Current Iee -16.5V - Biased



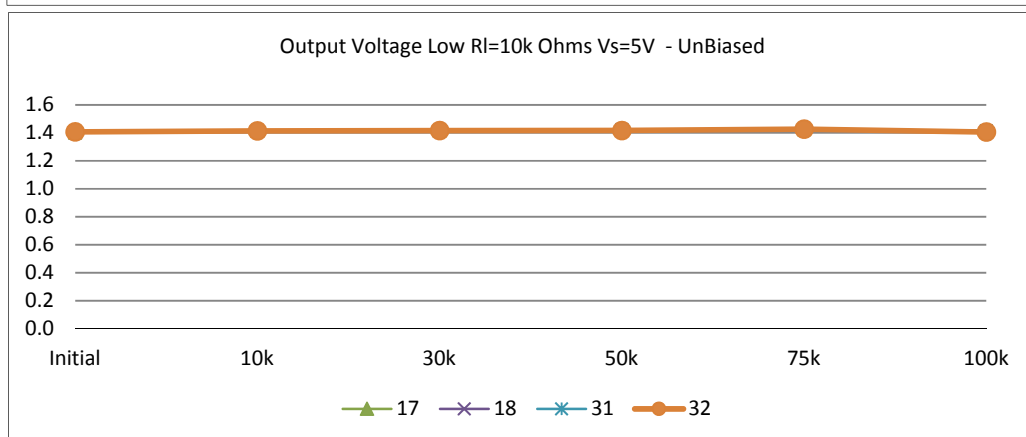
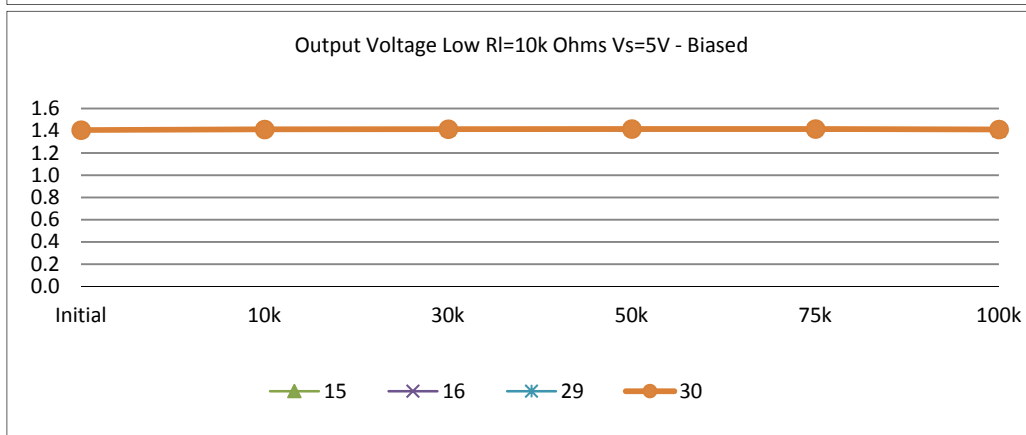
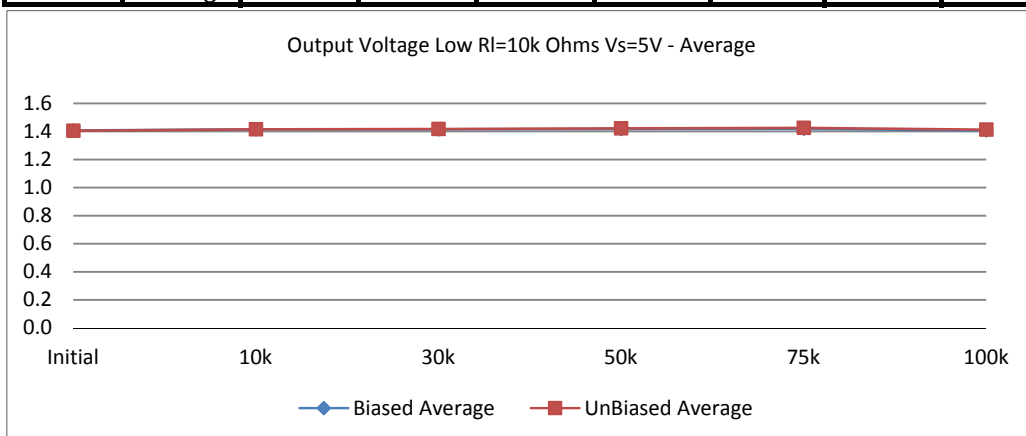
-Supply Current Iee -16.5V - UnBiased



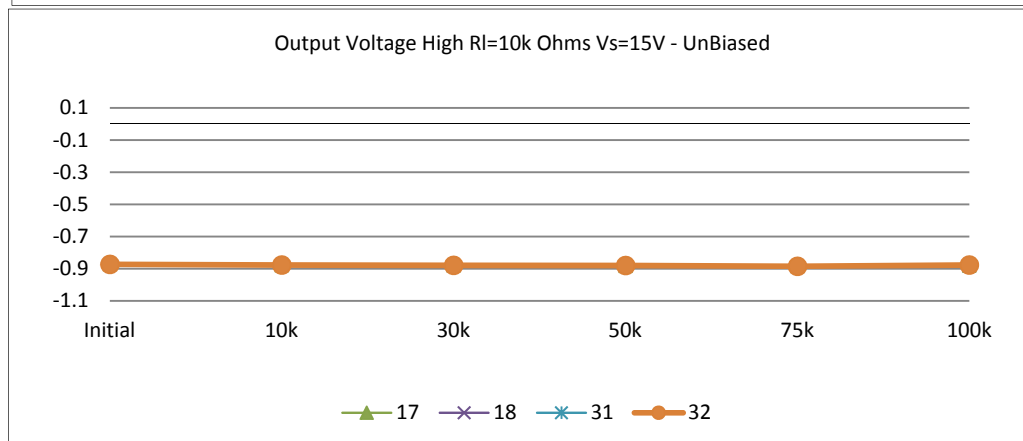
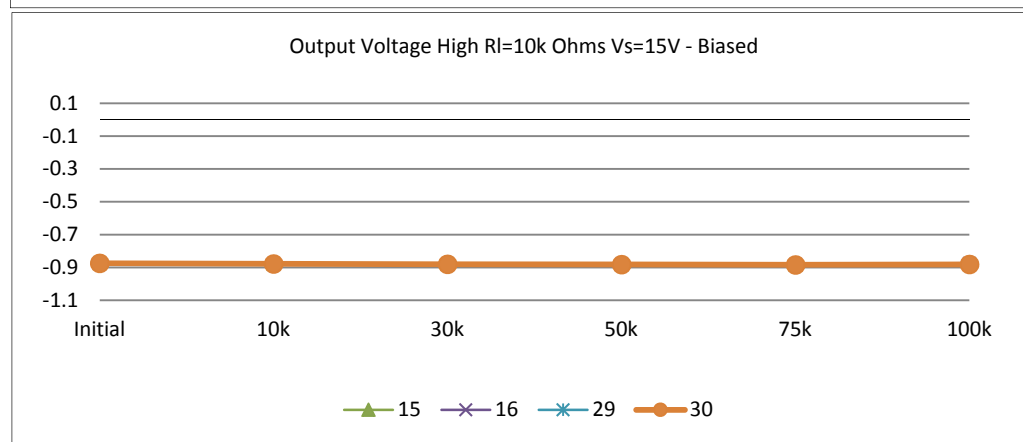
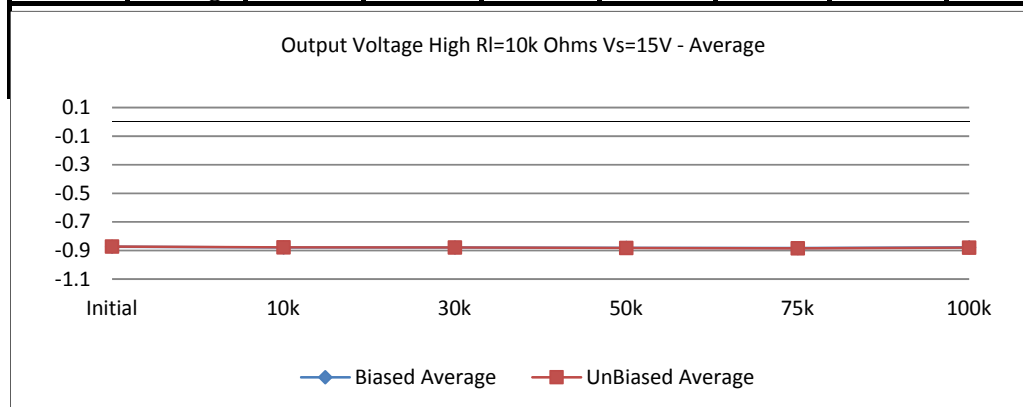
T#13		VOH 10k 5V						V
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	-0.76873	-0.77261	-0.77314	-0.77242	-0.77928	-0.77667	>-1.1
	48	-0.76607	-0.76892	-0.77122	-0.76862	-0.77679	-0.77348	
Biased	15	-0.76800	-0.77306	-0.77277	-0.77583	-0.77753	-0.77190	
	16	-0.76813	-0.77310	-0.77392	-0.77612	-0.77769	-0.76981	
	29	-0.76851	-0.77336	-0.77506	-0.77758	-0.77897	-0.77301	
	30	-0.76852	-0.77293	-0.77478	-0.77645	-0.77854	-0.77671	
	Min	-0.76852	-0.77336	-0.77506	-0.77758	-0.77897	-0.77671	
	Max	-0.76800	-0.77293	-0.77277	-0.77583	-0.77753	-0.76981	
	Average	-0.76829	-0.77311	-0.77413	-0.77650	-0.77818	-0.77286	
UnBiased	17	-0.76704	-0.77324	-0.77502	-0.77759	-0.77989	-0.77547	
	18	-0.76579	-0.77232	-0.77389	-0.77807	-0.77949	-0.77543	
	31	-0.76833	-0.77263	-0.77406	-0.77778	-0.78015	-0.77654	
	32	-0.76719	-0.77083	-0.77231	-0.77366	-0.77922	-0.76981	
	Min	-0.76833	-0.77324	-0.77502	-0.77807	-0.78015	-0.77654	
	Max	-0.76579	-0.77083	-0.77231	-0.77366	-0.77922	-0.76981	
	Average	-0.76709	-0.77226	-0.77382	-0.77678	-0.77969	-0.77431	



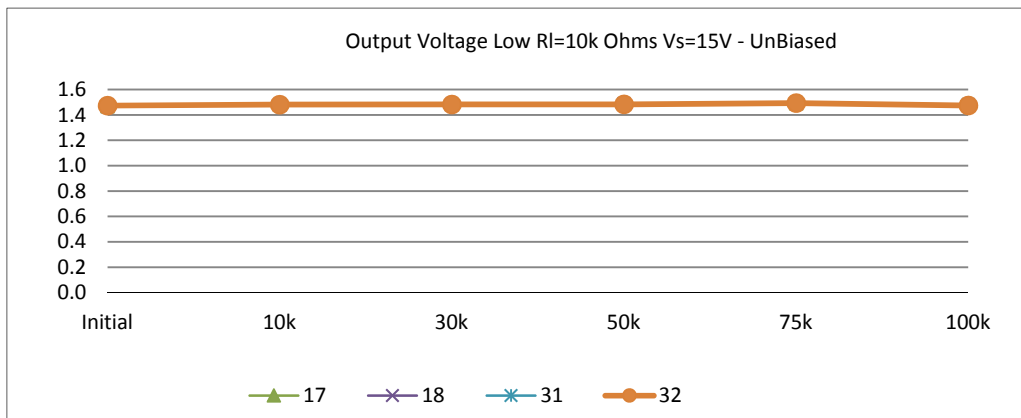
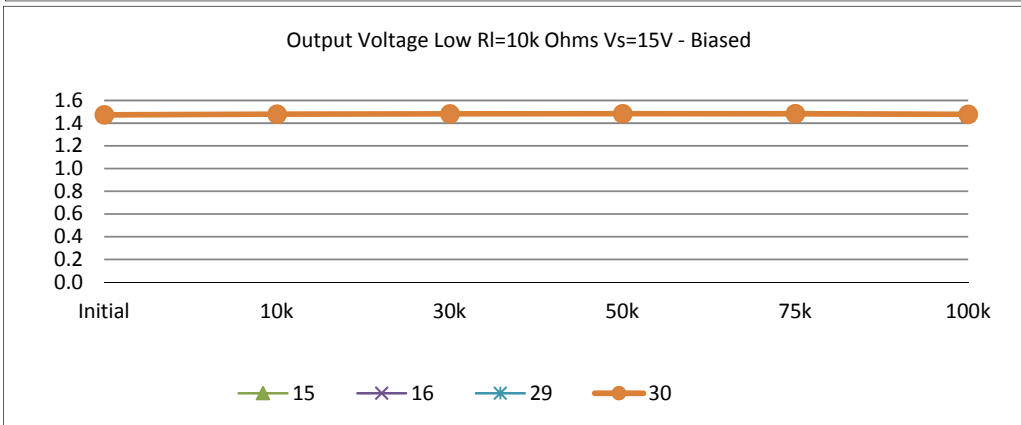
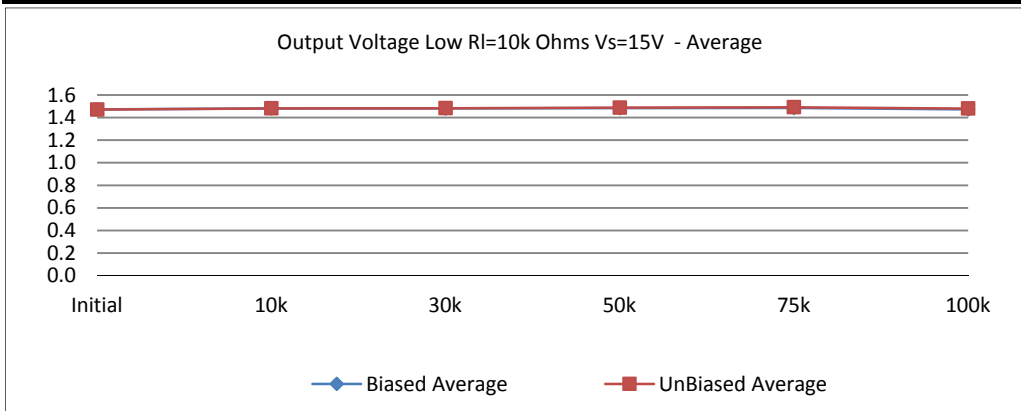
	T#14	VOL 10K 5V					V
		Initial	10k	30k	50k	75k	
Control	10	1.40741	1.41257	1.41557	1.41437	1.42838	1.42161
	48	1.40431	1.41243	1.41605	1.41225	1.42830	1.42063
Biased	15	1.40734	1.41644	1.41259	1.41624	1.41893	1.40637
	16	1.40624	1.41704	1.41496	1.41851	1.42037	1.40143
	29	1.40587	1.41487	1.41526	1.41785	1.41957	1.40510
	30	1.40665	1.41289	1.41522	1.41642	1.41632	1.41196
	Min	1.40587	1.41289	1.41259	1.41624	1.41632	1.40143
	Max	1.40734	1.41704	1.41526	1.41851	1.42037	1.41196
	Average	1.40653	1.41531	1.41451	1.41726	1.41880	1.40622
UnBiased	17	1.40222	1.41658	1.41817	1.42312	1.42537	1.41512
	18	1.40123	1.41383	1.41643	1.42328	1.42432	1.41357
	31	1.40716	1.41512	1.41610	1.42213	1.42511	1.41550
	32	1.40718	1.41452	1.41609	1.41713	1.42668	1.40623
	Min	1.40123	1.41383	1.41609	1.41713	1.42432	1.40623
	Max	1.40718	1.41658	1.41817	1.42328	1.42668	1.41550
	Average	1.40445	1.41501	1.41670	1.42142	1.42537	1.41261



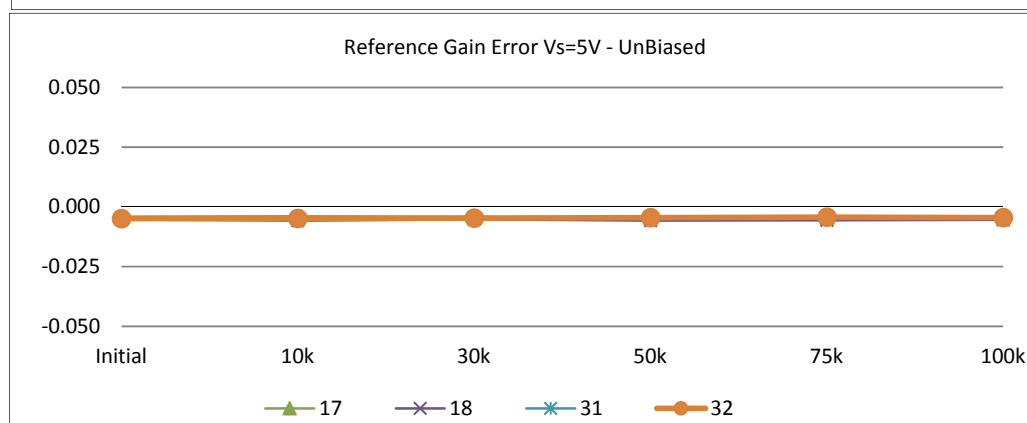
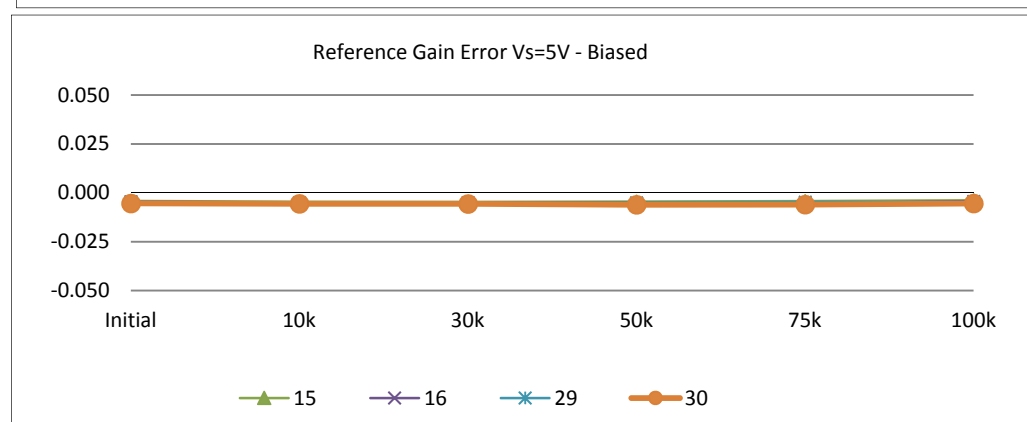
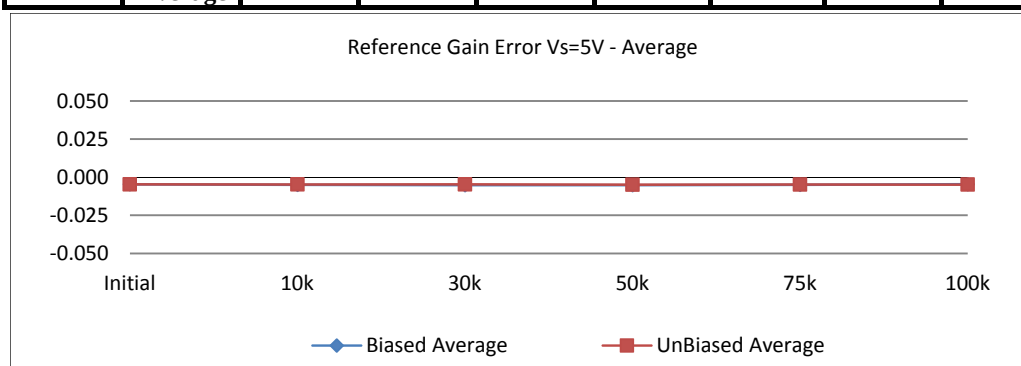
		T#15	VOH 10K 15V					V
		SN	Initial	10k	30k	50k	75k	100k
Control	10	-0.87544	-0.87900	-0.87953	-0.87977	-0.88503	-0.88321	>-1.1
	48	-0.87198	-0.87531	-0.87633	-0.87581	-0.88238	-0.87907	
Biased	15	-0.87343	-0.87785	-0.87756	-0.88014	-0.88247	-0.87701	
	16	-0.87260	-0.87821	-0.87743	-0.88171	-0.88231	-0.87395	
	29	-0.87474	-0.88007	-0.88097	-0.88333	-0.88503	-0.88004	
	30	-0.87443	-0.87804	-0.88037	-0.88204	-0.88381	-0.88149	
	Min	-0.87474	-0.88007	-0.88097	-0.88333	-0.88503	-0.88149	
	Max	-0.87260	-0.87785	-0.87743	-0.88014	-0.88231	-0.87395	
	Average	-0.87380	-0.87854	-0.87908	-0.88181	-0.88341	-0.87812	
UnBiased	17	-0.87183	-0.87851	-0.87965	-0.88302	-0.88371	-0.88026	
	18	-0.87122	-0.87727	-0.87836	-0.88254	-0.88428	-0.87989	
	31	-0.87408	-0.87966	-0.88109	-0.88353	-0.88685	-0.88260	
	32	-0.87278	-0.87706	-0.87886	-0.87957	-0.88449	-0.87668	
	Min	-0.87408	-0.87966	-0.88109	-0.88353	-0.88685	-0.88260	
	Max	-0.87122	-0.87706	-0.87836	-0.87957	-0.88371	-0.87668	
	Average	-0.87248	-0.87813	-0.87949	-0.88217	-0.88483	-0.87986	



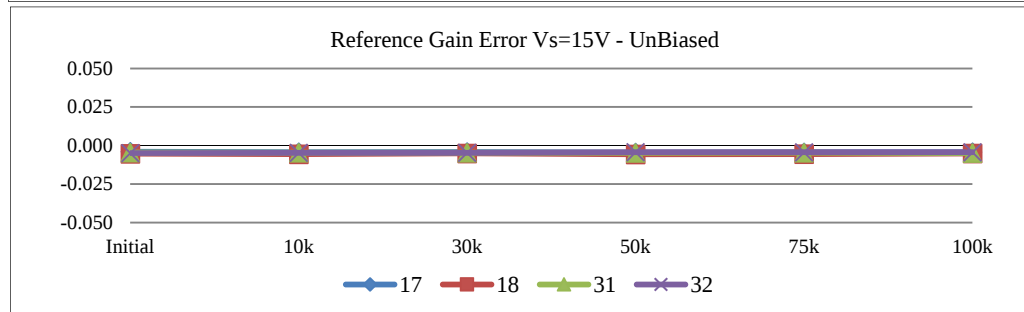
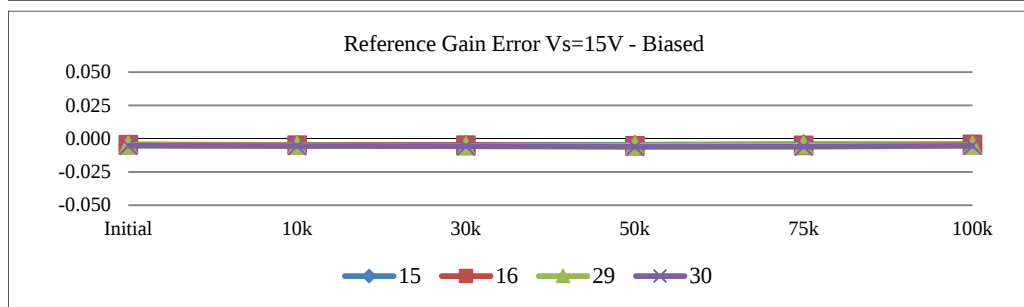
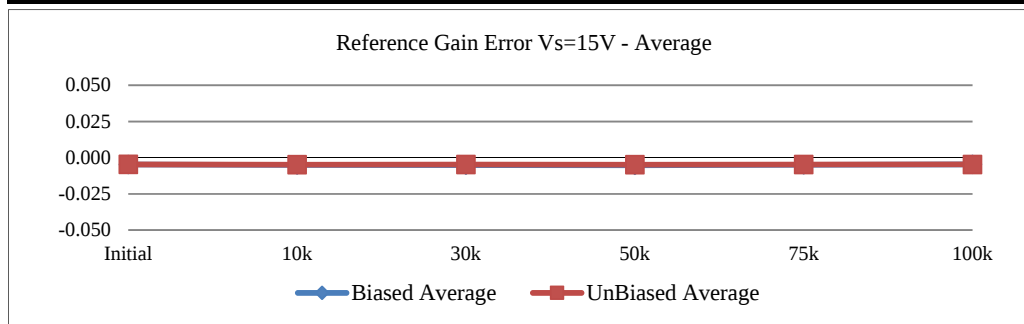
	T#16	VOL 10K 15V						V
	SN	Initial	10k	30k	50k	75k	100k	Limit
Control	10	1.47476	1.47961	1.48277	1.48156	1.49573	1.48896	<1.7
	48	1.47118	1.47850	1.48229	1.47880	1.49405	1.48638	
Biased	15	1.47213	1.48155	1.47802	1.48199	1.48452	1.47148	
	16	1.47152	1.48152	1.48023	1.48378	1.48500	1.46814	
	29	1.47242	1.48158	1.48213	1.48441	1.48628	1.47341	
	30	1.47273	1.47833	1.48113	1.48281	1.48287	1.47756	
	Min	1.47152	1.47833	1.47802	1.48199	1.48287	1.46814	
	Max	1.47273	1.48158	1.48213	1.48441	1.48628	1.47756	
	Average	1.47220	1.48075	1.48038	1.48325	1.48467	1.47265	
UnBiased	17	1.46797	1.48233	1.48345	1.48792	1.48984	1.48071	
	18	1.46634	1.47910	1.48170	1.48887	1.48895	1.47948	
	31	1.47436	1.48199	1.48281	1.48884	1.49134	1.48285	
	32	1.47374	1.48155	1.48280	1.48336	1.49354	1.47454	
	Min	1.46634	1.47910	1.48170	1.48336	1.48895	1.47454	
	Max	1.47436	1.48233	1.48345	1.48887	1.49354	1.48285	
	Average	1.47060	1.48124	1.48269	1.48725	1.49092	1.47940	



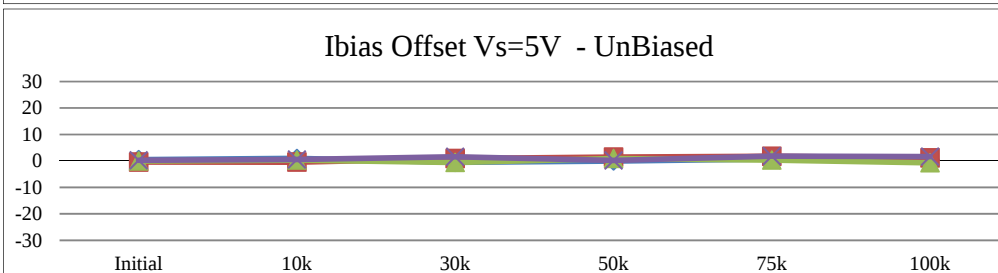
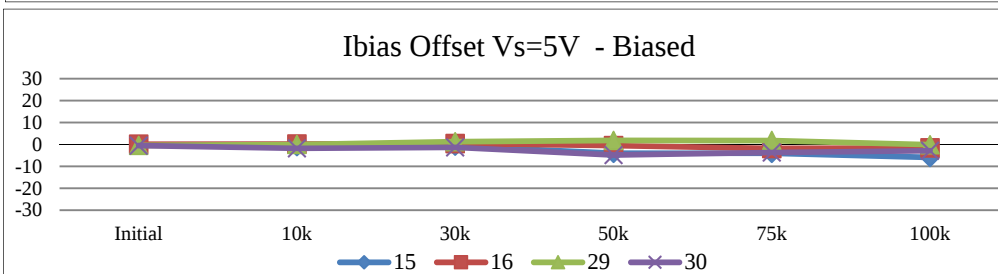
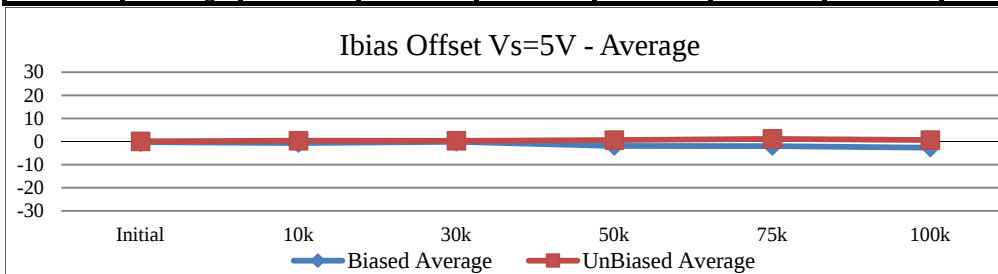
T#18		Reference Gain Error 5V						%
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	-0.00453	-0.00498	-0.00501	-0.00513	-0.00507	-0.00518	+/-0.05
	48	-0.00365	-0.00401	-0.00420	-0.00406	-0.00416	-0.00388	
Biased	15	-0.00411	-0.00456	-0.00460	-0.00450	-0.00424	-0.00385	
	16	-0.00452	-0.00499	-0.00500	-0.00515	-0.00534	-0.00435	
	29	-0.00467	-0.00514	-0.00563	-0.00518	-0.00467	-0.00471	
	30	-0.00540	-0.00559	-0.00564	-0.00610	-0.00603	-0.00542	
	Min	-0.00540	-0.00559	-0.00564	-0.00610	-0.00603	-0.00542	
	Max	-0.00411	-0.00456	-0.00460	-0.00450	-0.00424	-0.00385	
	Average	-0.00468	-0.00507	-0.00522	-0.00523	-0.00507	-0.00458	
UnBiased	17	-0.00413	-0.00395	-0.00415	-0.00447	-0.00459	-0.00448	
	18	-0.00526	-0.00578	-0.00527	-0.00576	-0.00562	-0.00545	
	31	-0.00460	-0.00454	-0.00472	-0.00495	-0.00467	-0.00500	
	32	-0.00491	-0.00485	-0.00469	-0.00449	-0.00430	-0.00452	
	Min	-0.00526	-0.00578	-0.00527	-0.00576	-0.00562	-0.00545	
	Max	-0.00413	-0.00395	-0.00415	-0.00447	-0.00430	-0.00448	
	Average	-0.00473	-0.00478	-0.00471	-0.00492	-0.00480	-0.00486	



T#19		Reference Gain Error 15V						%
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	-0.00442	-0.00483	-0.00488	-0.00504	-0.00498	-0.00515	+/-0.05
	48	-0.00368	-0.00384	-0.00409	-0.00417	-0.00407	-0.00386	
Biased	15	-0.00419	-0.00469	-0.00458	-0.00451	-0.00404	-0.00406	
	16	-0.00448	-0.00484	-0.00486	-0.00531	-0.00494	-0.00428	
	29	-0.00472	-0.00494	-0.00541	-0.00501	-0.00466	-0.00489	
	30	-0.00534	-0.00557	-0.00572	-0.00616	-0.00604	-0.00534	
	Min	-0.00534	-0.00557	-0.00572	-0.00616	-0.00604	-0.00534	
	Max	-0.00419	-0.00469	-0.00458	-0.00451	-0.00404	-0.00406	
	Average	-0.00468	-0.00501	-0.00514	-0.00525	-0.00492	-0.00464	
UnBiased	17	-0.00396	-0.00431	-0.00421	-0.00446	-0.00437	-0.00430	
	18	-0.00526	-0.00560	-0.00511	-0.00567	-0.00553	-0.00512	
	31	-0.00453	-0.00464	-0.00466	-0.00475	-0.00466	-0.00492	
	32	-0.00488	-0.00473	-0.00472	-0.00431	-0.00437	-0.00434	
	Min	-0.00526	-0.00560	-0.00511	-0.00567	-0.00553	-0.00512	
	Max	-0.00396	-0.00431	-0.00421	-0.00431	-0.00437	-0.00430	
	Average	-0.00466	-0.00482	-0.00468	-0.00480	-0.00473	-0.00467	

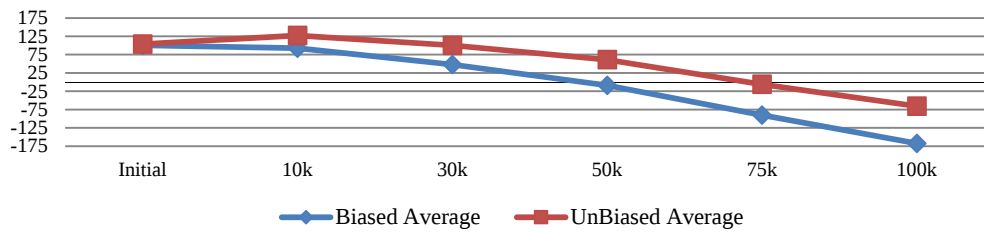


T#20		Ibias Offset 5V						nA
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	0.18422	0.25280	0.13791	0.08914	0.19723	0.15920	+/-30
	48	-1.43356	-1.45635	-1.46958	-1.29414	-1.38396	-1.33973	
Biased	15	-0.14402	-1.00526	-0.80839	-4.03899	-4.08354	-5.94727	
	16	0.06838	0.14871	0.40031	-0.54515	-1.84766	-1.60846	
	29	-0.45358	-0.06885	1.22455	1.79305	1.76479	-0.16203	
	30	-0.54619	-1.81607	-1.38165	-4.84612	-3.72500	-2.89974	
	Min	-0.54619	-1.81607	-1.38165	-4.84612	-4.08354	-5.94727	
	Max	0.06838	0.14871	1.22455	1.79305	1.76479	-0.16203	
	Average	-0.26885	-0.68537	-0.14130	-1.90930	-1.97285	-2.65438	
UnBiased	17	0.52105	0.93893	-0.53560	-0.01100	0.72594	0.52717	
	18	-0.40025	-0.42676	0.92106	1.47212	1.74269	1.13843	
	31	-0.01495	0.34064	-0.59496	0.93464	0.29625	-0.70838	
	32	0.27492	0.58931	1.58316	0.19706	1.83273	1.65945	
	Min	-0.40025	-0.42676	-0.59496	-0.01100	0.29625	-0.70838	
	Max	0.52105	0.93893	1.58316	1.47212	1.83273	1.65945	
	Average	0.09519	0.36053	0.34342	0.64821	1.14940	0.65417	

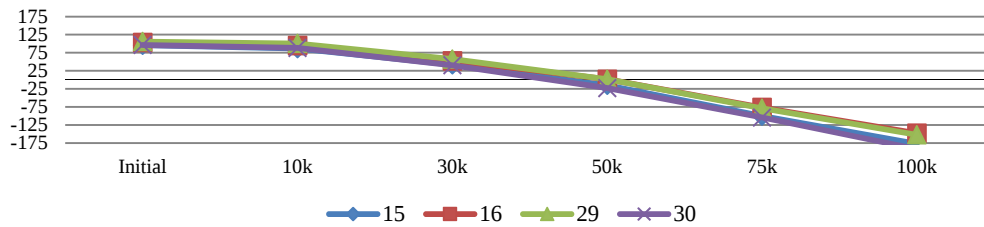


		T#21	Non-Inverting Ibias 5V					nA
		SN	Initial	10k	30k	50k	75k	100k
Control	10	100.130	100.760	100.997	100.799	102.158	101.348	+/-175
	48	102.685	103.269	103.713	103.132	104.603	103.943	
Biased	15	95.918	86.653	41.856	-15.127	-100.311	-177.168	
	16	103.329	94.740	52.561	1.547	-76.570	-147.785	
	29	105.971	100.602	57.254	1.442	-78.800	-152.193	
	30	96.468	88.472	40.252	-22.883	-104.244	-191.889	
	Min	95.918	86.653	40.252	-22.883	-104.244	-191.889	
	Max	105.971	100.602	57.254	1.547	-76.570	-147.785	
	Average	100.421	92.617	47.981	-8.755	-89.981	-167.259	
UnBiased	17	109.095	129.898	100.496	62.212	-7.657	-67.616	
	18	94.011	113.887	86.130	43.250	-22.886	-84.460	
	31	106.383	131.668	106.495	67.487	0.492	-57.607	
	32	106.284	133.728	108.810	72.471	6.697	-52.030	
	Min	94.011	113.887	86.130	43.250	-22.886	-84.460	
	Max	109.095	133.728	108.810	72.471	6.697	-52.030	
	Average	103.943	127.295	100.483	61.355	-5.838	-65.428	

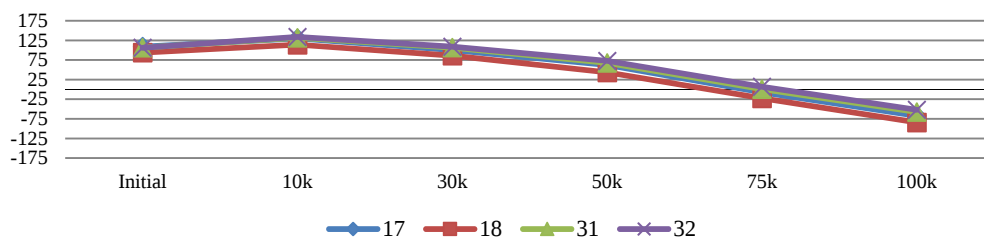
Non-Inverting Ibias Vs=5V - Average



Non-Inverting Ibias Vs=5V - Biased

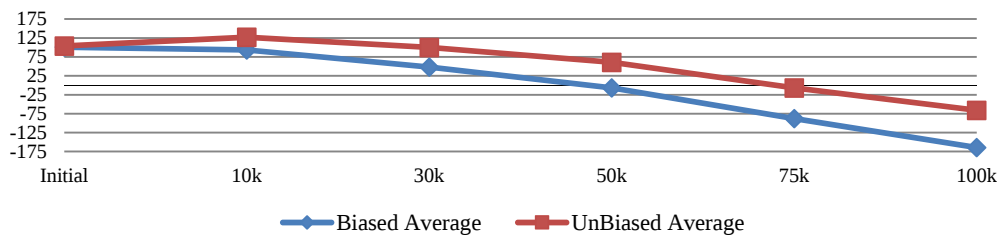


Non-Inverting Ibias Vs=5V - UnBiased

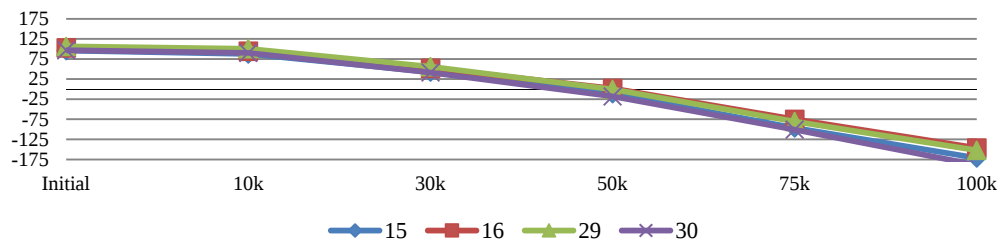


T#23		Inverting IBias 5V						nA
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	99.946	100.507	100.859	100.710	101.961	101.189	+/-175
	48	104.118	104.725	105.182	104.426	105.987	105.283	
Biased	15	96.062	87.659	42.664	-11.088	-96.227	-171.221	
	16	103.261	94.592	52.161	2.092	-74.722	-146.177	
	29	106.424	100.671	56.030	-0.351	-80.565	-152.031	
	30	97.014	90.289	41.633	-18.036	-100.519	-188.989	
	Min	96.062	87.659	41.633	-18.036	-100.519	-188.989	
	Max	106.424	100.671	56.030	2.092	-74.722	-146.177	
	Average	100.690	93.302	48.122	-6.846	-88.008	-164.604	
UnBiased	17	108.574	128.959	101.031	62.223	-8.383	-68.143	
	18	94.411	114.314	85.209	41.778	-24.629	-85.598	
	31	106.398	131.327	107.090	66.552	0.196	-56.899	
	32	106.009	133.139	107.226	72.274	4.865	-53.690	
	Min	94.411	114.314	85.209	41.778	-24.629	-85.598	
	Max	108.574	133.139	107.226	72.274	4.865	-53.690	
	Average	103.848	126.935	100.139	60.707	-6.988	-66.083	

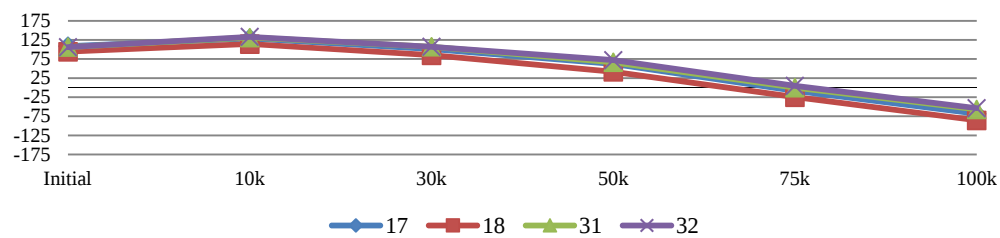
Inverting IBias Vs=5V - Average



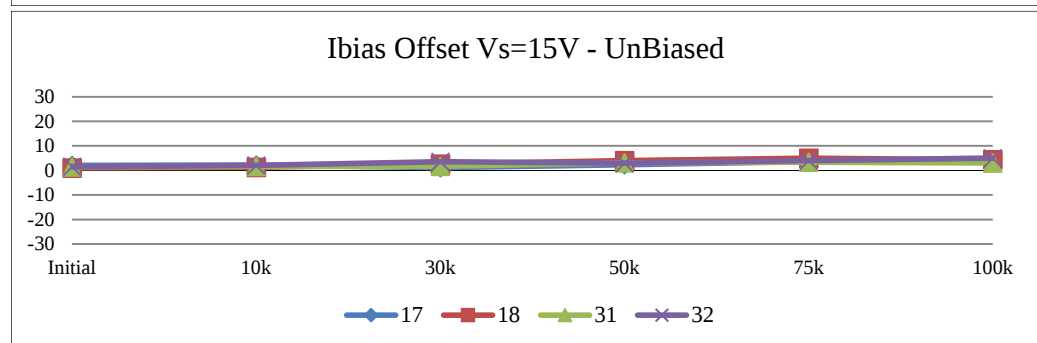
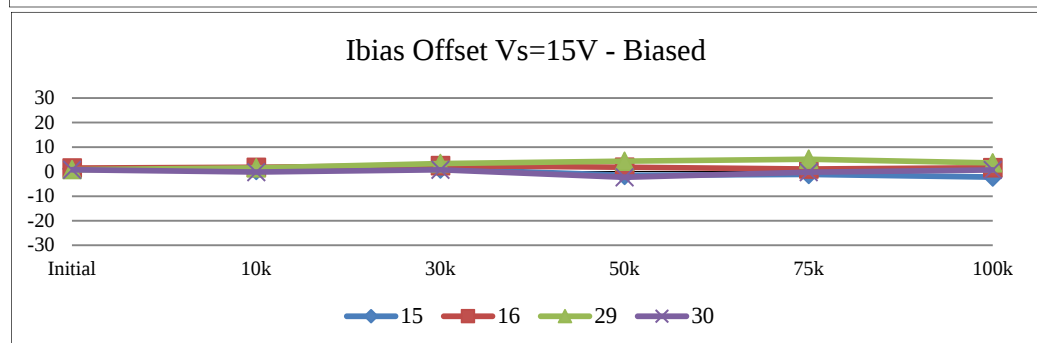
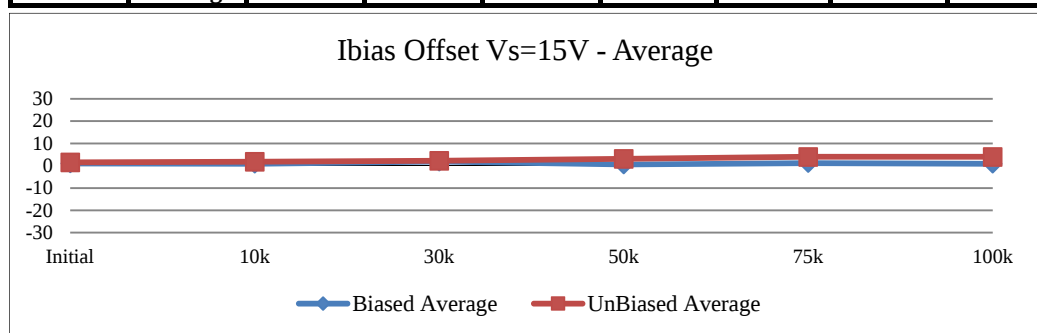
Inverting IBias Vs=5V - Biased



Inverting IBias Vs=5V - UnBiased

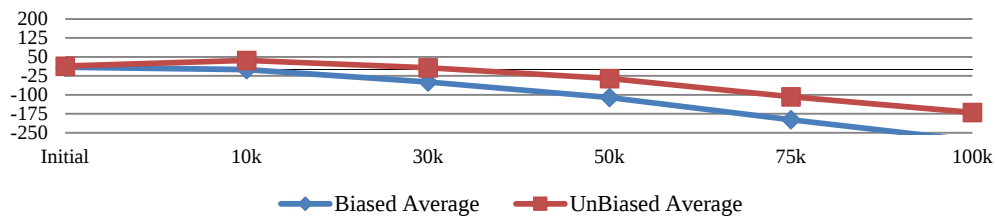


		T#24	Ibias Offset 15V					nA
		SN	Initial	10k	30k	50k	75k	100k
Control	10	1.566	1.754	1.614	1.547	1.730	1.717	+/-30
	48	-0.238	-0.240	-0.273	-0.152	-0.180	-0.177	
Biased	15	1.137	0.450	1.056	-1.510	-1.165	-2.217	
	16	1.435	1.745	2.445	1.775	1.057	1.607	
	29	0.775	1.524	3.282	4.224	5.049	3.542	
	30	0.756	-0.204	0.714	-2.299	-0.251	0.690	
	Min	0.756	-0.204	0.714	-2.299	-1.165	-2.217	
	Max	1.435	1.745	3.282	4.224	5.049	3.542	
	Average	1.025	0.879	1.874	0.547	1.173	0.905	
UnBiased	17	2.058	2.194	1.182	2.351	3.638	3.613	
	18	1.046	1.303	2.573	4.000	4.981	4.388	
	31	1.459	1.692	1.653	3.101	3.375	3.073	
	32	1.532	2.070	3.542	2.959	4.057	5.026	
	Min	1.046	1.303	1.182	2.351	3.375	3.073	
	Max	2.058	2.194	3.542	4.000	4.981	5.026	
	Average	1.524	1.815	2.238	3.103	4.013	4.025	

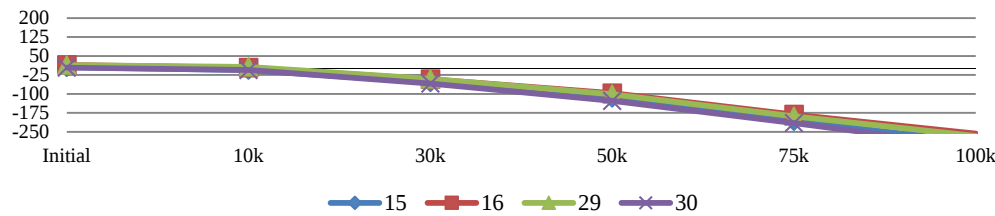


		T#25	Non-Inverting Ibias 15V					nA
		SN	Initial	10k	30k	50k	75k	100k
Control	10	13.426	13.694	13.889	13.858	14.328	13.964	+/-250
	48	12.697	13.102	13.227	13.074	13.238	12.942	
Biased	15	5.202	-5.627	-54.450	-115.830	-207.830	-289.672	
	16	14.469	3.888	-41.652	-97.277	-181.496	-257.071	
	29	13.948	6.898	-40.932	-101.384	-188.634	-266.321	
	30	3.998	-5.422	-58.829	-127.375	-215.256	-308.842	
	Min	3.998	-5.627	-58.829	-127.375	-215.256	-308.842	
	Max	14.469	6.898	-40.932	-97.277	-181.496	-257.071	
	Average	9.404	-0.066	-48.966	-110.467	-198.304	-280.476	
UnBiased	17	20.614	40.993	8.662	-32.995	-106.556	-168.756	
	18	4.130	23.164	-6.656	-52.830	-122.869	-188.167	
	31	16.166	40.397	12.904	-29.576	-100.828	-162.312	
	32	14.425	41.078	13.719	-25.827	-97.615	-158.870	
	Min	4.130	23.164	-6.656	-52.830	-122.869	-188.167	
	Max	20.614	41.078	13.719	-25.827	-97.615	-158.870	
	Average	13.834	36.408	7.157	-35.307	-106.967	-169.526	

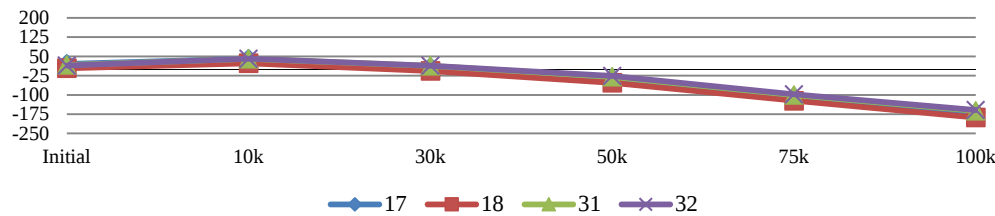
Non-Inverting Ibias Vs=15V - Average



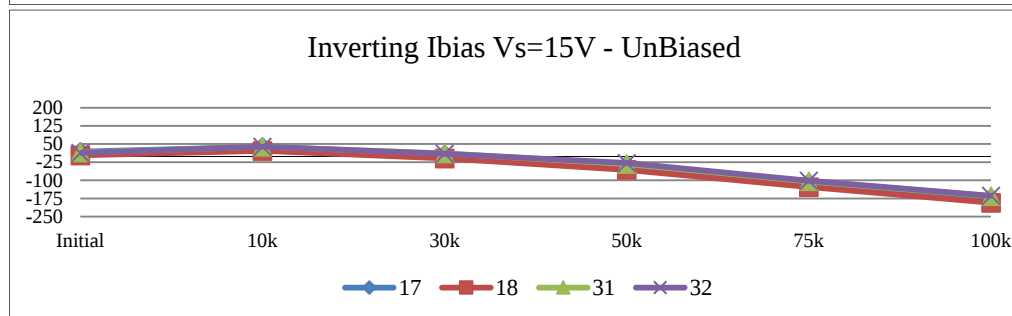
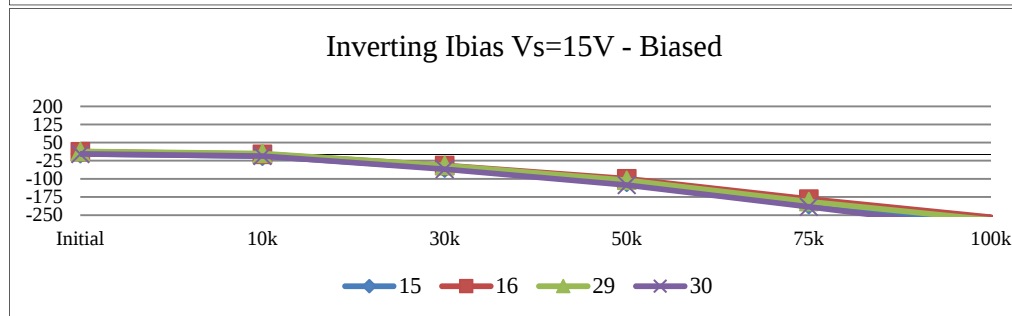
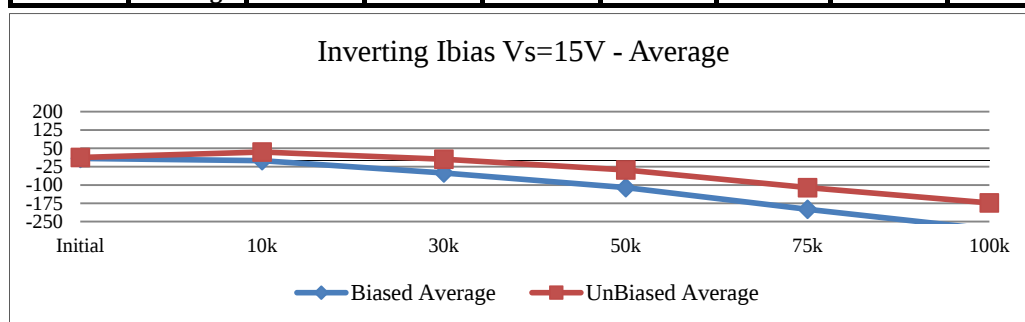
Non-Inverting Ibias Vs=15V - Biased



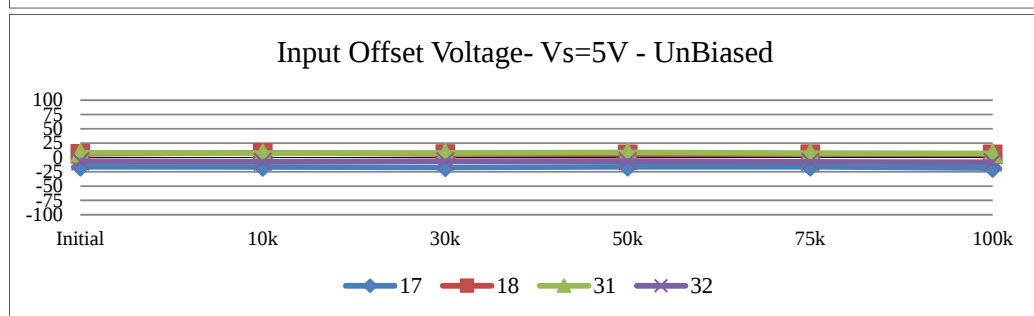
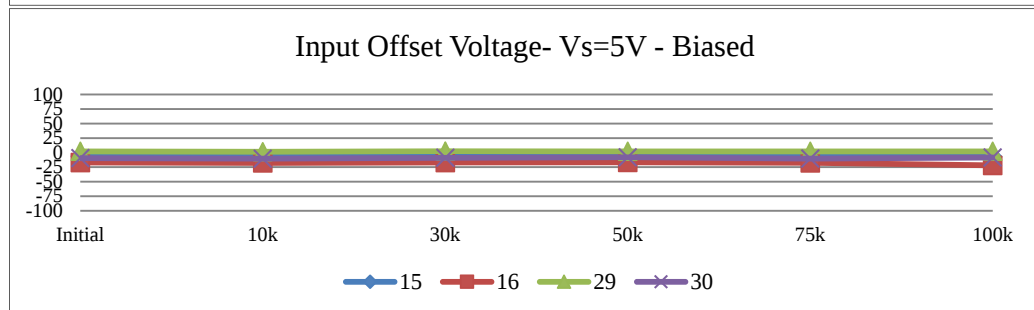
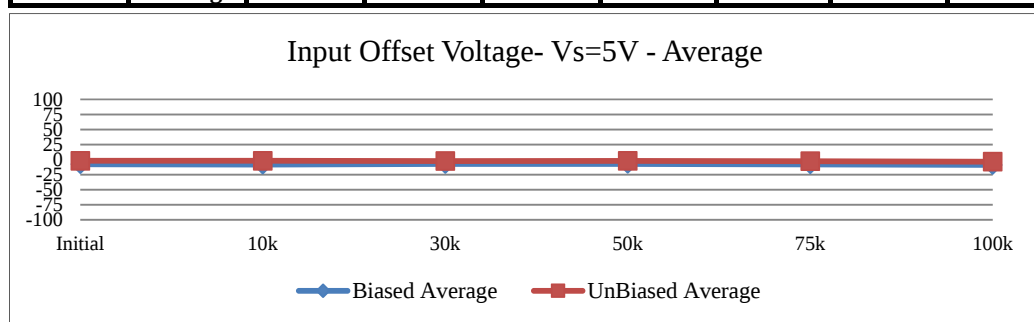
Non-Inverting Ibias Vs=15V - UnBiased



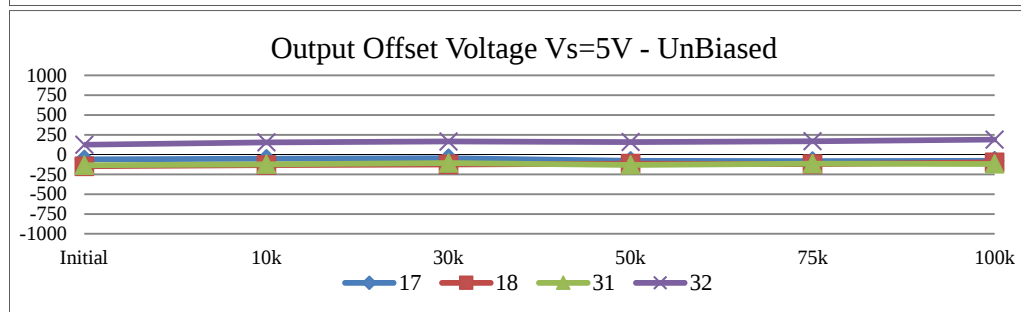
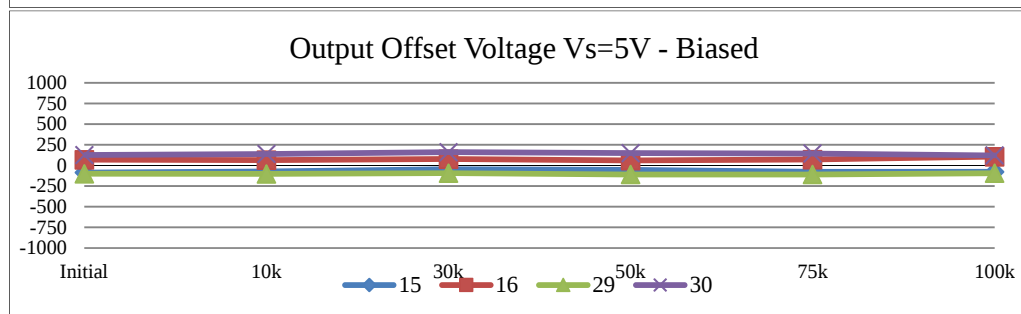
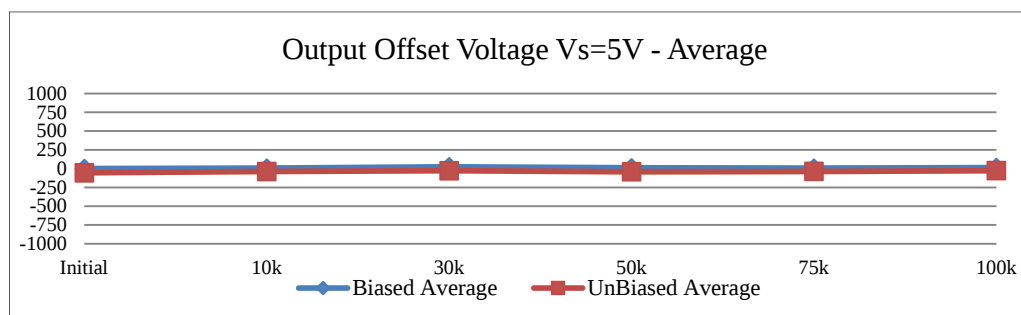
T#26		Inverting Ibias 15V						nA
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	11.860	11.940	12.275	12.312	12.598	12.247	+/-250
	48	12.935	13.342	13.500	13.226	13.419	13.119	
Biased	15	4.065	-6.078	-55.506	-114.320	-206.665	-287.454	
	16	13.034	2.143	-44.097	-99.052	-182.553	-258.678	
	29	13.173	5.374	-44.214	-105.608	-193.683	-269.863	
	30	3.242	-5.218	-59.543	-125.077	-215.005	-309.532	
	Min	3.242	-6.078	-59.543	-125.077	-215.005	-309.532	
	Max	13.173	5.374	-44.097	-99.052	-182.553	-258.678	
	Average	8.379	-0.945	-50.840	-111.014	-199.476	-281.382	
UnBiased	17	18.556	38.798	7.480	-35.346	-110.194	-172.369	
	18	3.084	21.861	-9.230	-56.830	-127.850	-192.555	
	31	14.707	38.705	11.251	-32.677	-104.203	-165.385	
	32	12.892	39.008	10.177	-28.786	-101.672	-163.896	
	Min	3.084	21.861	-9.230	-56.830	-127.850	-192.555	
	Max	18.556	39.008	11.251	-28.786	-101.672	-163.896	
	Average	12.310	34.593	4.920	-38.410	-110.980	-173.551	



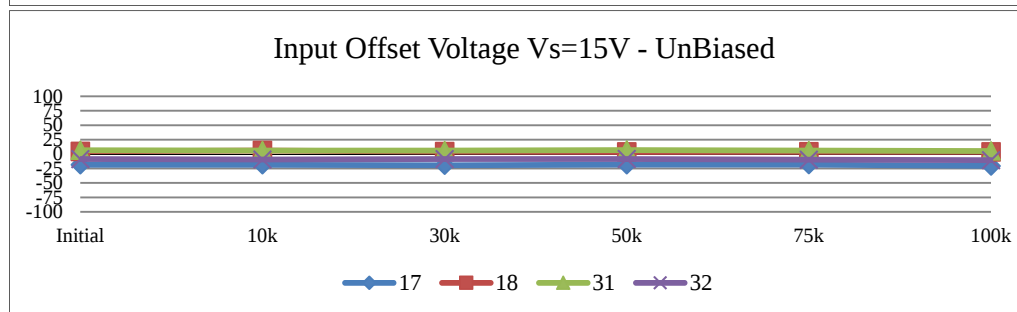
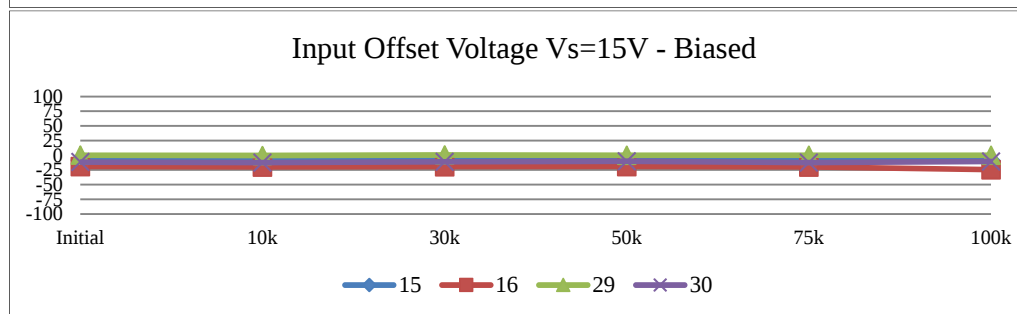
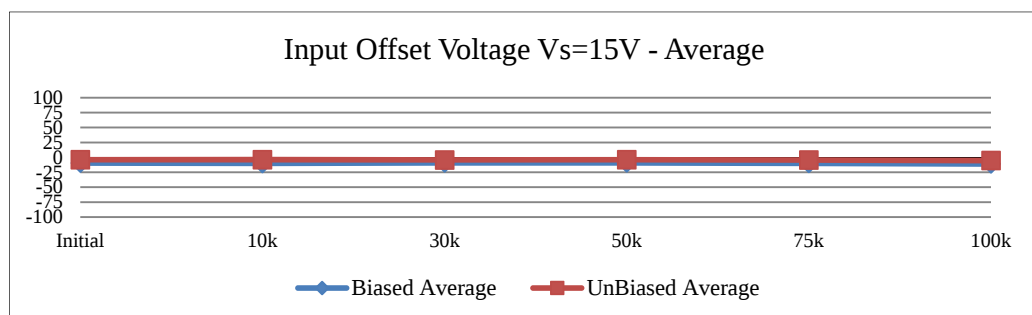
T#27		Vosi Vs= 5V						uV
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	4.724	3.863	4.838	4.322	5.541	5.255	+/-100
	48	-15.656	-14.643	-15.088	-16.530	-13.552	-15.636	
Biased	15	-6.320	-6.548	-5.900	-6.059	-6.405	-7.147	
	16	-17.043	-17.790	-16.997	-16.744	-17.567	-22.020	
	29	2.065	1.414	2.427	2.051	2.088	2.028	
	30	-9.435	-10.394	-8.936	-8.003	-10.198	-8.345	
	Min	-17.043	-17.790	-16.997	-16.744	-17.567	-22.020	
	Max	2.065	1.414	2.427	2.051	2.088	2.028	
	Average	-7.683	-8.330	-7.351	-7.189	-8.020	-8.871	
UnBiased	17	-16.423	-16.482	-17.292	-16.276	-16.315	-18.498	
	18	6.663	8.237	6.280	5.623	5.882	5.875	
	31	8.294	7.805	7.957	8.801	7.706	7.144	
	32	-6.597	-7.428	-6.575	-6.479	-7.707	-8.404	
	Min	-16.423	-16.482	-17.292	-16.276	-16.315	-18.498	
	Max	8.294	8.237	7.957	8.801	7.706	7.144	
	Average	-2.016	-1.967	-2.407	-2.083	-2.608	-3.471	



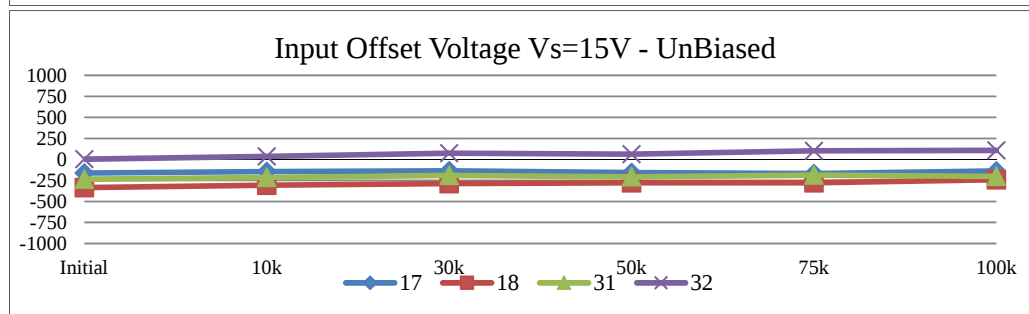
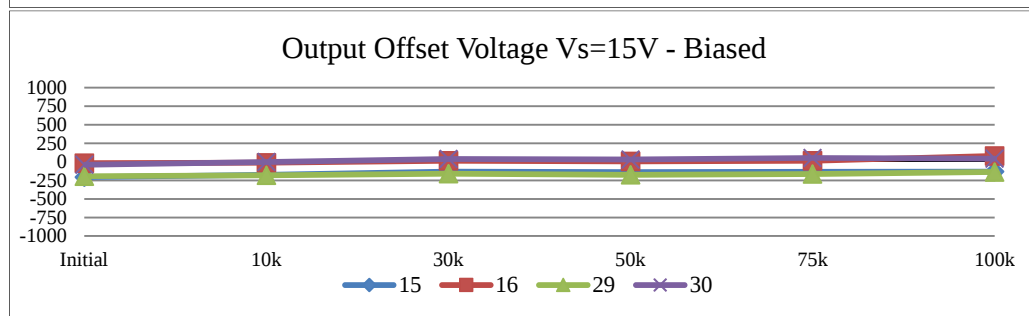
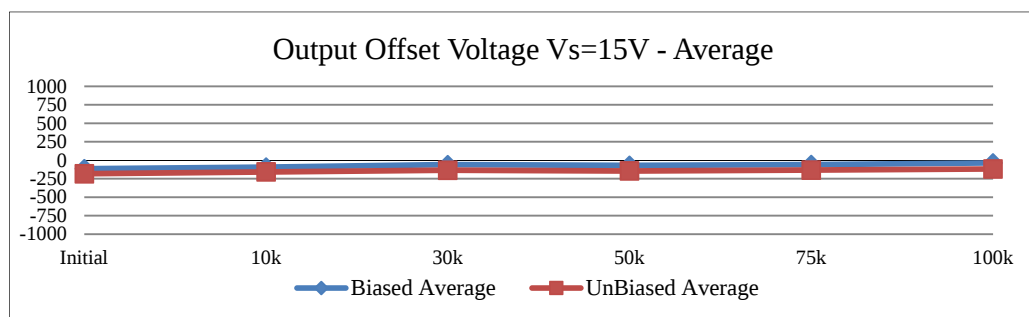
		T#28	Voso Vs=5V					uV
		SN	Initial	10k	30k	50k	75k	100k
Control	10	144.982	140.228	143.960	141.584	122.325	132.288	+/-1000
	48	281.293	275.976	273.498	278.941	262.689	271.628	
Biased	15	-86.595	-73.887	-44.788	-53.824	-77.764	-77.419	
	16	70.187	64.963	77.650	60.059	71.143	106.682	
	29	-100.939	-103.193	-93.700	-109.627	-109.065	-93.775	
	30	126.205	138.455	161.163	149.482	143.900	121.317	
	Min	-100.939	-103.193	-93.700	-109.627	-109.065	-93.775	
	Max	126.205	138.455	161.163	149.482	143.900	121.317	
	Average	2.214	6.584	25.082	11.523	7.053	14.201	
UnBiased	17	-60.082	-52.499	-44.726	-78.609	-81.956	-77.255	
	18	-148.251	-131.725	-124.488	-114.358	-119.645	-97.780	
	31	-134.830	-122.269	-106.923	-130.108	-114.900	-118.175	
	32	124.511	154.840	165.536	158.434	168.746	189.562	
	Min	-148.251	-131.725	-124.488	-130.108	-119.645	-118.175	
	Max	124.511	154.840	165.536	158.434	168.746	189.562	
	Average	-54.663	-37.913	-27.650	-41.160	-36.939	-25.912	



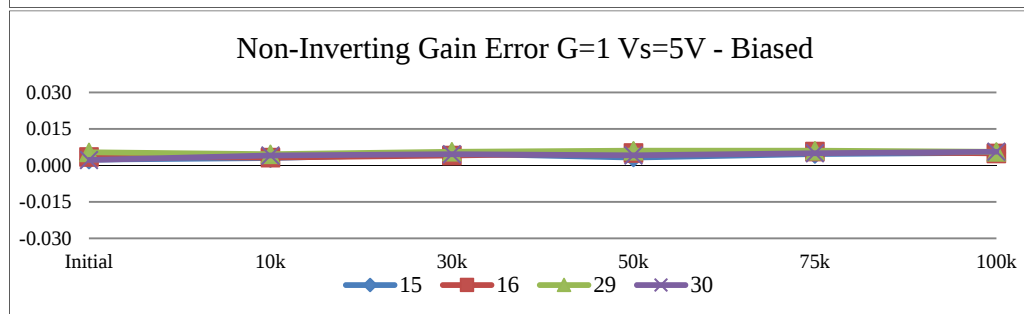
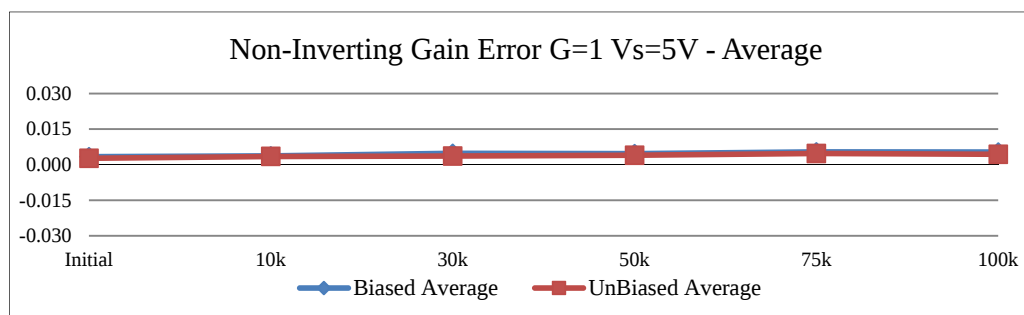
T#29		Vosi Vs=15V						uV
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	2.965	2.108	3.148	2.624	2.656	3.678	+/-100
	48	-17.614	-16.568	-16.941	-18.460	-15.349	-17.434	
Biased	15	-8.370	-8.535	-8.034	-8.207	-8.541	-9.390	
	16	-19.080	-19.840	-19.118	-18.866	-19.774	-24.391	
	29	0.250	-0.384	0.574	0.168	0.117	-0.011	
	30	-11.459	-12.432	-10.992	-10.120	-12.326	-10.483	
	Min	-19.080	-19.840	-19.118	-18.866	-19.774	-24.391	
	Max	0.250	-0.384	0.574	0.168	0.117	-0.011	
	Average	-9.665	-10.298	-9.392	-9.256	-10.131	-11.069	
UnBiased	17	-18.470	-18.468	-19.302	-18.289	-18.242	-20.488	
	18	4.586	6.201	4.239	3.694	3.929	3.901	
	31	6.542	6.062	6.098	7.022	6.018	5.348	
	32	-8.653	-9.473	-8.643	-8.480	-9.681	-10.554	
	Min	-18.470	-18.468	-19.302	-18.289	-18.242	-20.488	
	Max	6.542	6.201	6.098	7.022	6.018	5.348	
	Average	-3.999	-3.920	-4.402	-4.013	-4.494	-5.448	



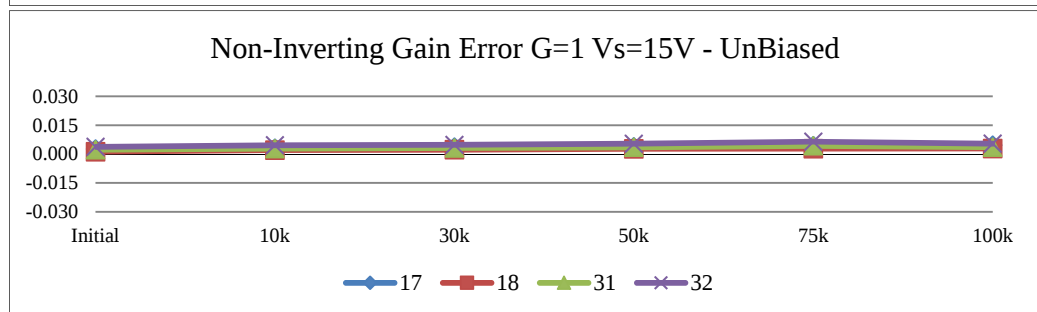
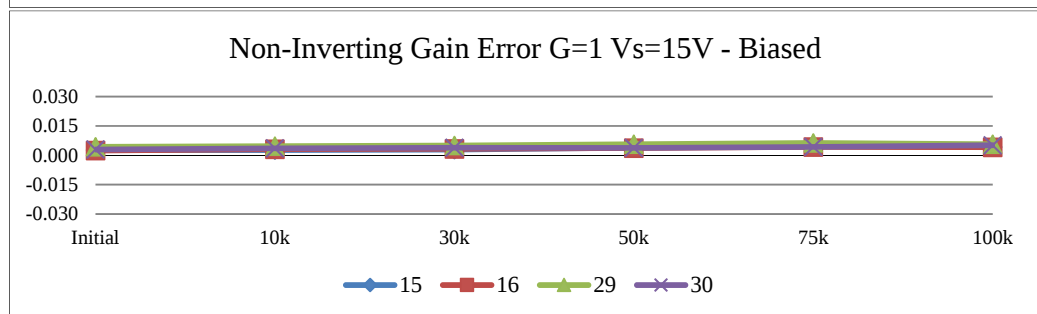
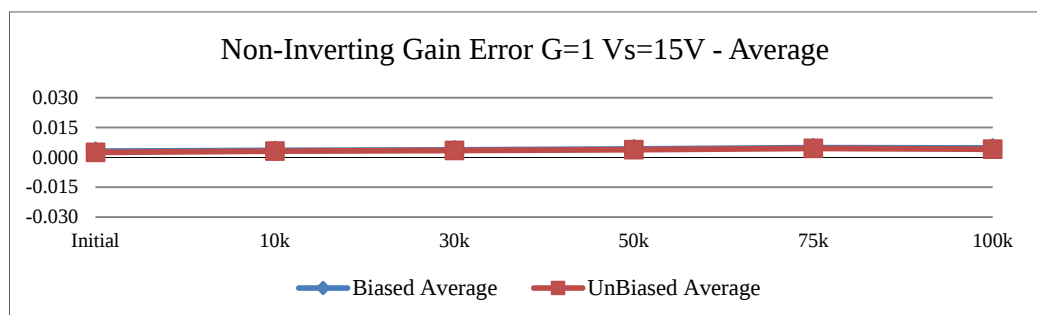
		T#30	Voso Vs=15V					uV
		SN	Initial	10k	30k	50k	75k	100k
Control	10	142.488	132.006	141.017	140.498	124.383	126.482	+/-1000
	48	225.203	218.704	219.010	218.076	202.598	201.624	
Biased	15	-206.676	-175.569	-132.174	-139.133	-133.321	-131.558	
	16	-17.736	-11.732	15.275	5.700	14.351	80.408	
	29	-194.320	-180.753	-159.350	-175.285	-164.106	-136.907	
	30	-39.045	-2.303	39.343	31.010	51.782	42.495	
	Min	-206.676	-180.753	-159.350	-175.285	-164.106	-136.907	
	Max	-17.736	-2.303	39.343	31.010	51.782	80.408	
	Average	-114.445	-92.590	-59.226	-69.427	-57.823	-36.391	
UnBiased	17	-161.123	-145.097	-136.125	-156.257	-169.191	-137.958	
	18	-335.358	-306.555	-287.156	-277.534	-278.801	-241.243	
	31	-235.659	-215.079	-190.881	-207.197	-187.148	-202.675	
	32	2.817	36.546	74.704	63.376	101.760	107.895	
	Min	-335.358	-306.555	-287.156	-277.534	-278.801	-241.243	
	Max	2.817	36.546	74.704	63.376	101.760	107.895	
	Average	-182.331	-157.546	-134.865	-144.403	-133.345	-118.495	



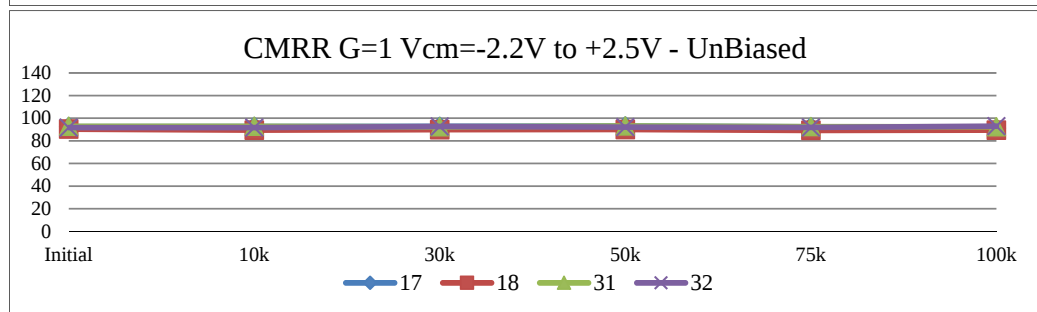
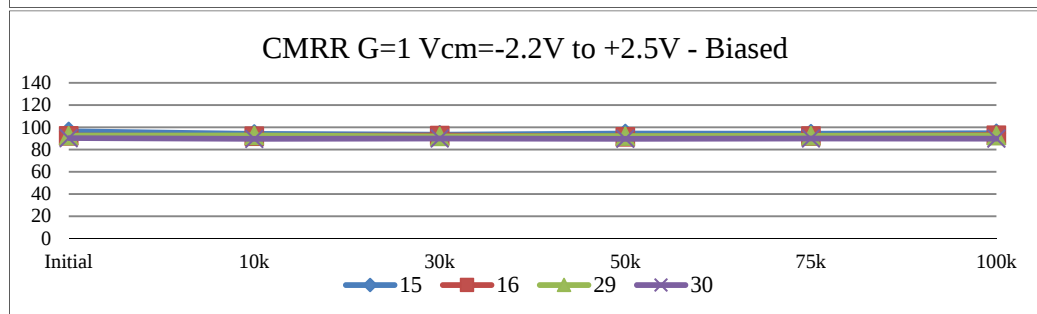
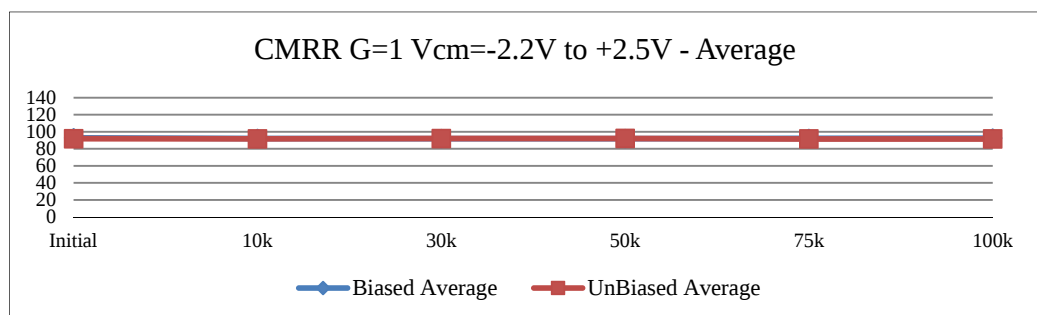
		T#31	Non-Inverting Gain Error G=1 Vs=5V					%
		SN	Initial	10k	30k	50k	75k	100k
Control	10	0.00618	0.00745	0.00819	0.00601	0.00755	0.00751	+/-0.03
	48	0.00725	0.00768	0.00909	0.00815	0.00961	0.00921	
Biased	15	0.00240	0.00302	0.00487	0.00326	0.00469	0.00518	
	16	0.00356	0.00325	0.00411	0.00516	0.00576	0.00497	
	29	0.00538	0.00460	0.00562	0.00603	0.00605	0.00557	
	30	0.00225	0.00409	0.00462	0.00415	0.00504	0.00564	
	Min	0.00225	0.00302	0.00411	0.00326	0.00469	0.00497	
	Max	0.00538	0.00460	0.00562	0.00603	0.00605	0.00564	
	Average	0.00340	0.00374	0.00481	0.00465	0.00539	0.00534	
UnBiased	17	0.00340	0.00359	0.00361	0.00321	0.00463	0.00505	
	18	0.00010	0.00221	0.00278	0.00387	0.00283	0.00298	
	31	0.00283	0.00350	0.00402	0.00376	0.00440	0.00324	
	32	0.00455	0.00470	0.00431	0.00510	0.00714	0.00645	
	Min	0.00010	0.00221	0.00278	0.00321	0.00283	0.00298	
	Max	0.00455	0.00470	0.00431	0.00510	0.00714	0.00645	
	Average	0.00272	0.00350	0.00368	0.00399	0.00475	0.00443	



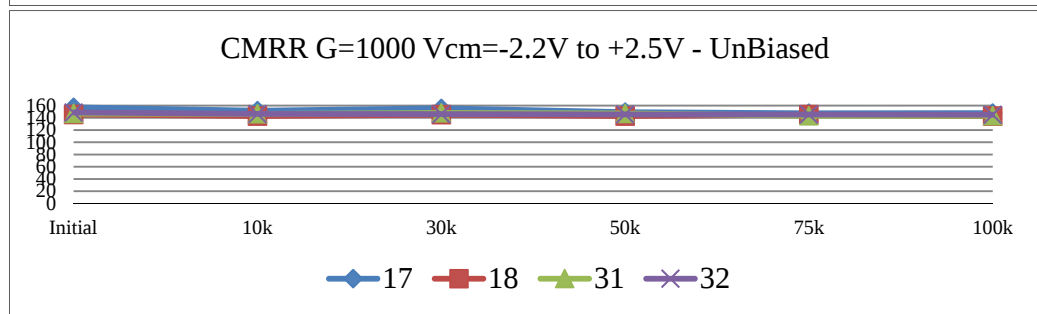
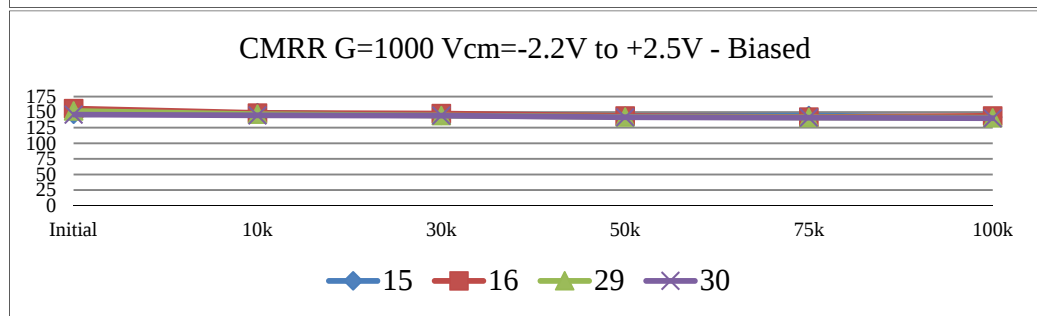
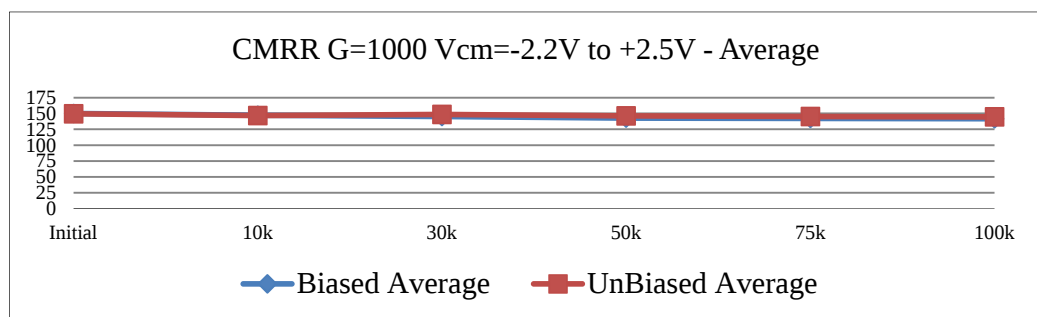
		T#32	Non-Inverting Gain Error G=1 Vs=15V					%
		SN	Initial	10k	30k	50k	75k	100k
Control	10	0.00661	0.00695	0.00689	0.00726	0.00773	0.00702	+/-0.03
	48	0.00794	0.00796	0.00867	0.00872	0.00947	0.00906	
Biased	15	0.00268	0.00267	0.00288	0.00384	0.00453	0.00416	
	16	0.00244	0.00316	0.00332	0.00373	0.00431	0.00413	
	29	0.00436	0.00466	0.00500	0.00565	0.00632	0.00565	
	30	0.00293	0.00354	0.00391	0.00378	0.00427	0.00513	
	Min	0.00244	0.00267	0.00288	0.00373	0.00427	0.00413	
	Max	0.00436	0.00466	0.00500	0.00565	0.00632	0.00565	
	Average	0.00310	0.00351	0.00378	0.00425	0.00486	0.00477	
UnBiased	17	0.00265	0.00307	0.00367	0.00383	0.00441	0.00461	
	18	0.00126	0.00206	0.00227	0.00270	0.00280	0.00288	
	31	0.00223	0.00281	0.00312	0.00353	0.00426	0.00357	
	32	0.00376	0.00461	0.00483	0.00539	0.00645	0.00542	
	Min	0.00126	0.00206	0.00227	0.00270	0.00280	0.00288	
	Max	0.00376	0.00461	0.00483	0.00539	0.00645	0.00542	
	Average	0.00248	0.00314	0.00347	0.00386	0.00448	0.00412	



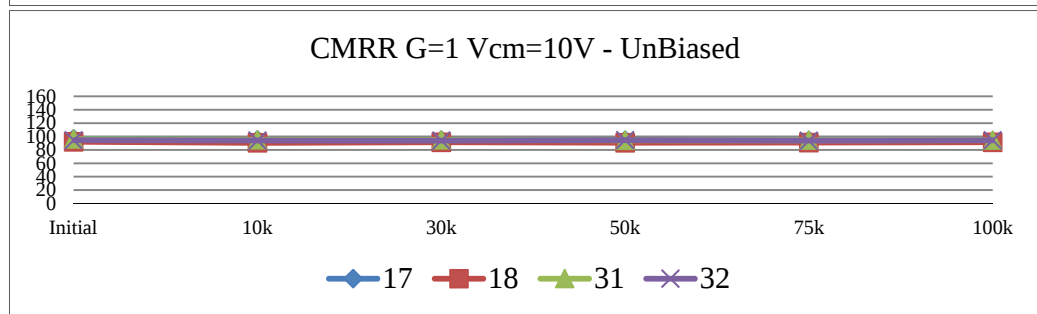
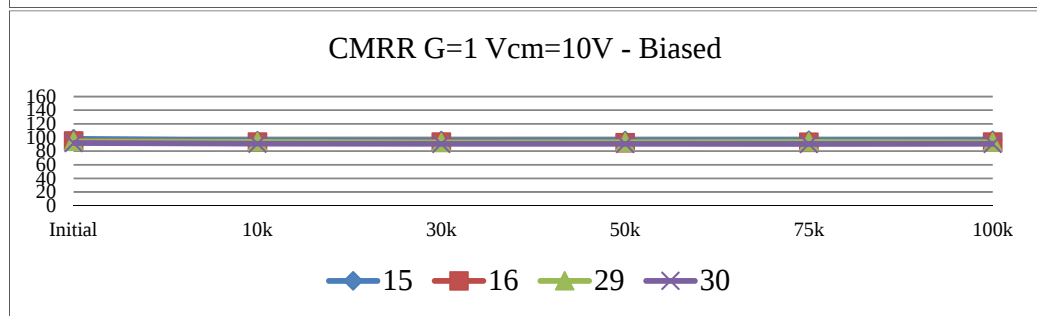
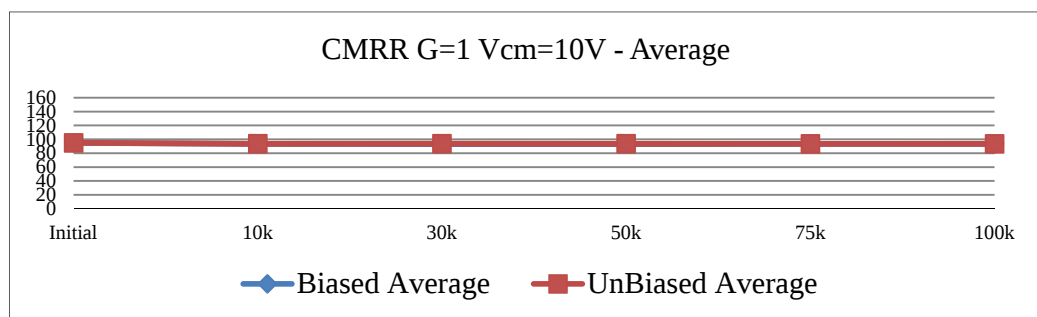
		T#33	CMRR G=1 Vcm=-2.2V to +2.5V					dB
		SN	Initial	10k	30k	50k	75k	100k
Control	10	92.765	91.911	92.499	91.209	91.460	91.198	>86
	48	94.798	94.951	93.821	93.169	92.857	93.910	
Biased	15	96.326	94.059	93.293	94.431	94.209	94.590	
	16	92.470	92.175	92.678	91.588	92.283	93.047	
	29	92.520	92.703	91.830	92.103	92.382	92.601	
	30	90.227	89.565	89.963	89.647	89.893	89.785	
	Min	90.227	89.565	89.963	89.647	89.893	89.785	
	Max	96.326	94.059	93.293	94.431	94.209	94.590	
	Average	92.886	92.125	91.941	91.942	92.192	92.506	
UnBiased	17	92.546	92.677	92.861	93.114	92.420	91.220	
	18	90.414	89.413	89.953	90.095	89.269	89.494	
	31	92.804	92.886	92.386	93.155	92.584	92.436	
	32	91.710	91.724	92.756	92.103	91.862	93.007	
	Min	90.414	89.413	89.953	90.095	89.269	89.494	
	Max	92.804	92.886	92.861	93.155	92.584	93.007	
	Average	91.868	91.675	91.989	92.117	91.534	91.539	



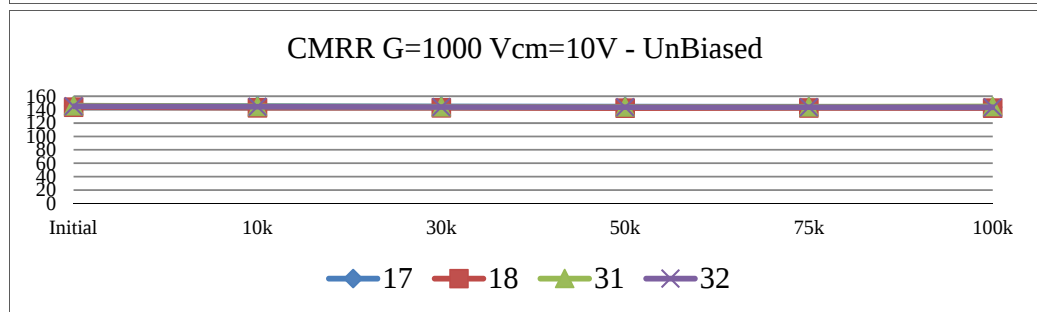
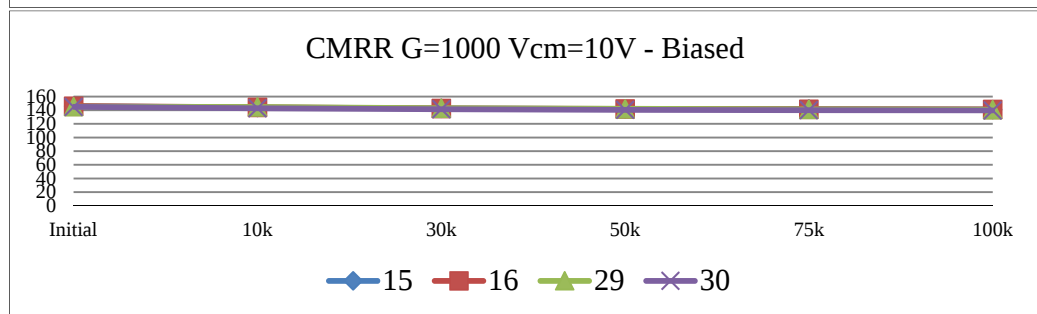
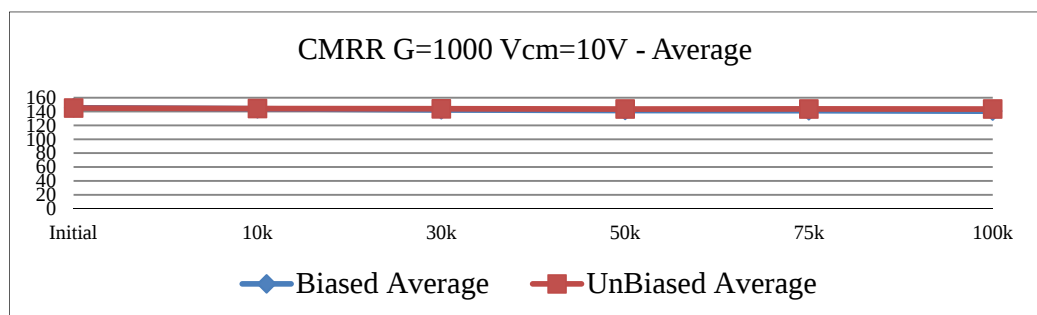
		T#34	CMRR G=1000 Vcm=-2.2V to +2.5V					dB
		SN	Initial	10k	30k	50k	75k	100k
Control	10	144.584	148.532	147.273	146.898	157.989	147.548	>134
	48	151.287	150.348	148.912	147.026	150.821	151.606	
Biased	15	146.487	149.095	144.892	143.472	144.452	142.025	
	16	155.771	148.676	147.774	143.903	142.204	144.010	
	29	151.938	146.785	144.491	142.327	141.487	141.020	
	30	146.026	144.802	144.468	141.666	141.132	140.256	
	Min	146.026	144.802	144.468	141.666	141.132	140.256	
	Max	155.771	149.095	147.774	143.903	144.452	144.010	
	Average	150.055	147.339	145.406	142.842	142.319	141.827	
UnBiased	17	157.187	151.671	155.465	149.263	147.530	147.736	
	18	145.555	142.949	145.072	142.858	145.104	142.724	
	31	146.887	146.378	148.021	147.140	143.175	143.343	
	32	148.635	146.294	146.069	145.627	145.359	145.024	
	Min	145.555	142.949	145.072	142.858	143.175	142.724	
	Max	157.187	151.671	155.465	149.263	147.530	147.736	
	Average	149.566	146.823	148.657	146.222	145.292	144.707	



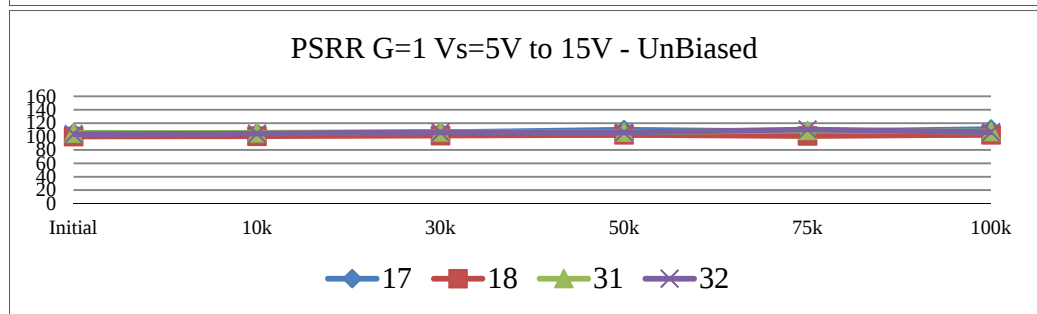
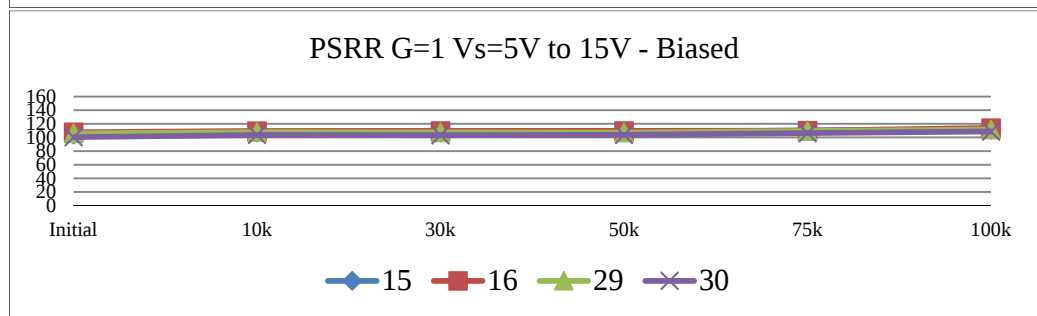
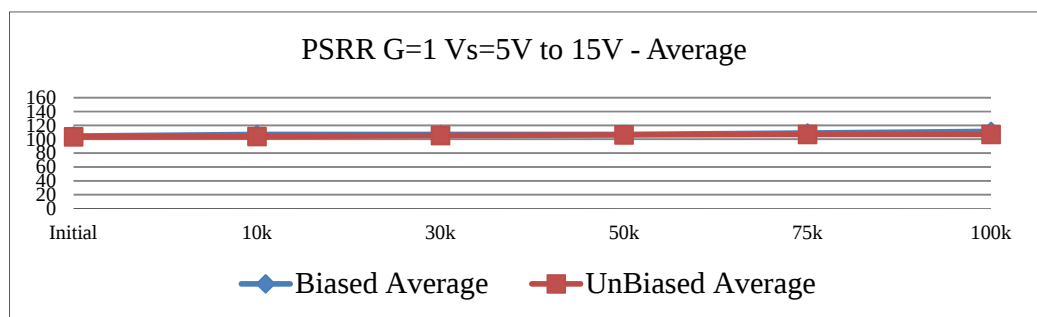
		T#35	CMRR G=1 Vcm=10V					dB
		SN	Initial	10k	30k	50k	75k	100k
Control	10	94.980	94.157	94.267	93.431	93.234	93.571	>86
	48	98.017	98.541	97.177	95.667	96.423	96.721	
Biased	15	98.091	95.405	95.599	95.667	96.102	96.012	
	16	95.020	93.520	93.458	92.551	93.173	93.431	
	29	94.332	93.621	92.797	93.097	93.598	93.290	
	30	91.869	90.777	90.576	90.592	90.480	90.679	
	Min	91.869	90.777	90.576	90.592	90.480	90.679	
	Max	98.091	95.405	95.599	95.667	96.102	96.012	
	Average	94.828	93.330	93.107	92.977	93.338	93.353	
UnBiased	17	96.521	94.893	94.670	94.571	94.285	93.649	
	18	92.192	90.577	91.460	90.705	90.987	91.363	
	31	96.147	94.924	94.851	94.362	94.407	94.601	
	32	94.507	94.040	93.914	94.628	93.861	94.395	
	Min	92.192	90.577	91.460	90.705	90.987	91.363	
	Max	96.521	94.924	94.851	94.628	94.407	94.601	
	Average	94.842	93.608	93.724	93.566	93.385	93.502	



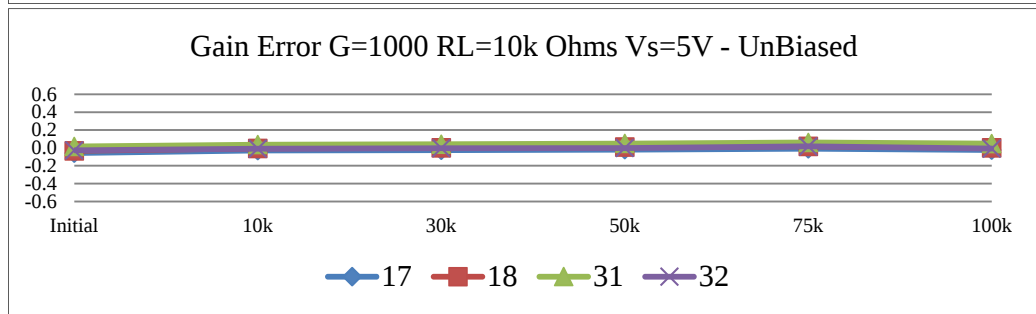
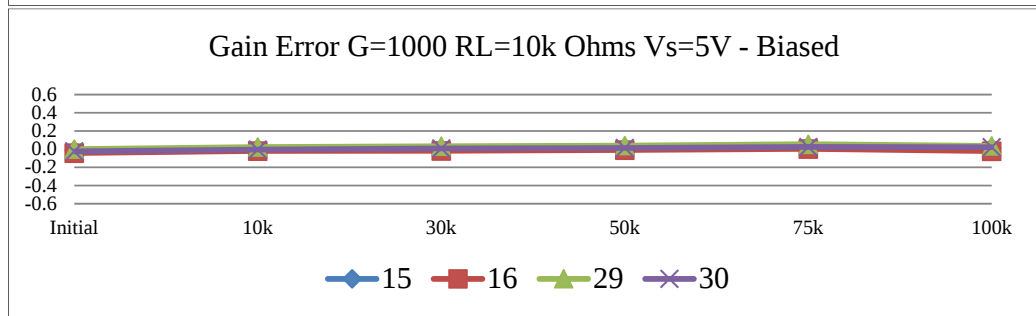
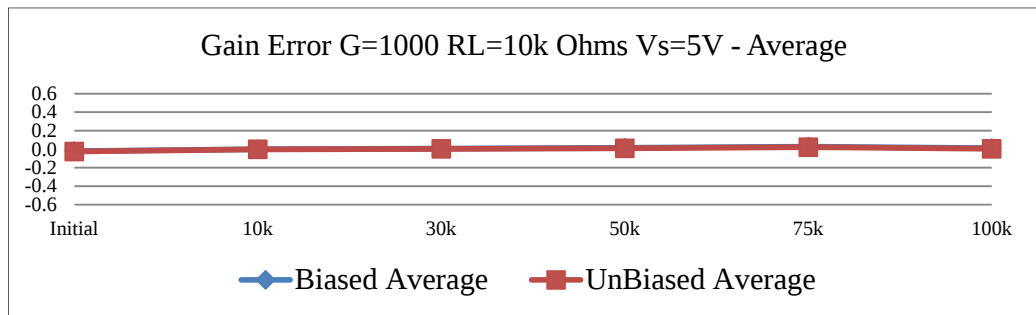
T#36		CMRR G=1000 Vcm=10V						dB
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	146.133	145.968	145.861	145.024	146.001	145.018	>134
	48	146.039	146.662	146.309	145.467	145.827	146.187	
Biased	15	145.847	143.881	142.676	141.763	141.692	140.917	
	16	146.094	144.336	142.710	141.983	141.491	141.172	
	29	145.177	144.710	142.925	142.019	141.239	140.746	
	30	144.859	142.925	141.507	140.474	140.049	139.601	
	Min	144.859	142.925	141.507	140.474	140.049	139.601	
	Max	146.094	144.710	142.925	142.019	141.692	141.172	
	Average	145.494	143.963	142.454	141.560	141.118	140.609	
UnBiased	17	145.431	145.291	144.773	144.508	144.209	143.682	
	18	143.915	142.806	142.807	142.297	142.537	142.496	
	31	145.864	144.684	144.207	144.068	144.248	144.737	
	32	144.923	144.356	143.846	143.660	143.609	143.475	
	Min	143.915	142.806	142.807	142.297	142.537	142.496	
	Max	145.864	145.291	144.773	144.508	144.248	144.737	
	Average	145.033	144.284	143.908	143.633	143.650	143.597	



		T#37	PSRR G=1 Vs=5V to 15V					dB
		SN	Initial	10k	30k	50k	75k	100k
Control	10	127.873	118.333	141.855	135.835	127.878	118.933	>87
	48	107.701	108.051	112.028	108.987	109.601	108.231	
Biased	15	104.236	107.048	107.207	107.370	110.493	110.975	
	16	107.701	109.390	109.599	109.600	110.036	113.897	
	29	106.004	107.876	107.535	107.208	109.392	111.753	
	30	100.488	103.685	103.267	103.794	106.294	108.792	
	Min	100.488	103.685	103.267	103.794	106.294	108.792	
	Max	107.701	109.390	109.599	109.600	110.493	113.897	
	Average	104.607	107.000	106.902	106.993	109.054	111.354	
UnBiased	17	105.594	105.205	106.438	110.260	107.209	111.226	
	18	99.984	100.491	101.514	102.580	100.951	102.580	
	31	105.075	105.597	106.738	106.439	109.188	107.370	
	32	103.470	104.354	106.438	106.008	110.493	106.587	
	Min	99.984	100.491	101.514	102.580	100.951	102.580	
	Max	105.594	105.597	106.738	110.260	110.493	111.226	
	Average	103.531	103.912	105.282	106.322	106.960	106.941	



T#38		Gain Error G=1000 RL=10k Ohms Vs=5V						%
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	-0.04003	-0.02880	-0.02359	-0.02800	-0.00361	-0.01479	+/-0.6
	48	-0.01614	-0.00381	0.00201	-0.00463	0.01860	0.00817	
Biased	15	-0.01542	0.00502	0.00726	0.01657	0.03050	0.01467	
	16	-0.04351	-0.02123	-0.01862	-0.00938	0.00271	-0.02196	
	29	0.00071	0.02260	0.03188	0.03898	0.05364	0.03625	
	30	-0.02498	-0.00494	0.00694	0.01300	0.02382	0.02117	
	Min	-0.04351	-0.02123	-0.01862	-0.00938	0.00271	-0.02196	
	Max	0.00071	0.02260	0.03188	0.03898	0.05364	0.03625	
	Average	-0.02080	0.00036	0.00687	0.01479	0.02767	0.01253	
UnBiased	17	-0.05770	-0.02911	-0.02599	-0.01923	-0.00882	-0.02315	
	18	-0.03216	-0.00524	0.00025	0.00996	0.01748	0.00127	
	31	0.01593	0.03615	0.04087	0.04878	0.06069	0.04729	
	32	-0.02671	-0.00863	-0.00316	-0.00118	0.01759	-0.00775	
	Min	-0.05770	-0.02911	-0.02599	-0.01923	-0.00882	-0.02315	
	Max	0.01593	0.03615	0.04087	0.04878	0.06069	0.04729	
	Average	-0.02516	-0.00171	0.00299	0.00958	0.02174	0.00442	



T#39		Gain Error G=1000 RL=10k Ohms Vs=15V						%
SN		Initial	10k	30k	50k	75k	100k	Limit
Control	10	-0.05136	-0.03973	-0.03496	-0.03891	-0.01474	-0.02577	+/-0.6
	48	-0.02695	-0.01477	-0.00937	-0.01588	0.00744	-0.00313	
Biased	15	-0.02929	-0.00897	-0.00608	0.00238	0.01715	0.00078	
	16	-0.05935	-0.03729	-0.03434	-0.02483	-0.01279	-0.03840	
	29	-0.01108	0.01126	0.02040	0.02698	0.04206	0.02447	
	30	-0.03809	-0.01835	-0.00657	-0.00045	0.01060	0.00728	
	Min	-0.05935	-0.03729	-0.03434	-0.02483	-0.01279	-0.03840	
	Max	-0.01108	0.01126	0.02040	0.02698	0.04206	0.02447	
	Average	-0.03445	-0.01334	-0.00665	0.00102	0.01426	-0.00147	
UnBiased	17	-0.07194	-0.04349	-0.04002	-0.03343	-0.02297	-0.03801	
	18	-0.04688	-0.02010	-0.01415	-0.00477	0.00362	-0.01297	
	31	0.00391	0.02455	0.02955	0.03734	0.04924	0.03630	
	32	-0.03754	-0.01914	-0.01430	-0.01250	0.00608	-0.01848	
	Min	-0.07194	-0.04349	-0.04002	-0.03343	-0.02297	-0.03801	
	Max	0.00391	0.02455	0.02955	0.03734	0.04924	0.03630	
	Average	-0.03811	-0.01455	-0.00973	-0.00334	0.00899	-0.00829	

