RADIATION TEST REPORT

PRODUCT:	AD6645ASQ/QMLL
GAMMA/TM:	37.5k, 52.03k, 98.67k, 150k /TM1019 Condition D
GAMMA SOURCE:	Co60
DOSE RATE:	9.2mRad(si)/s
FACILITIES:	University of Massachusetts @ Lowell
TESTED:	2008/2009

The RADTEST[SM] DATA SERVICE is a compilation of radiation test results on Analog Devices' Space grade products. It is designed to assist customers in selecting the right product for applications where radiation is a consideration. Many products manufactured by Analog Devices, Inc. have been shown to be radiation tolerant to most tactical radiation environments. Analog Devices, Inc. does not make any claim to maintain or guarantee these levels of radiation tolerance without lot qualification test.

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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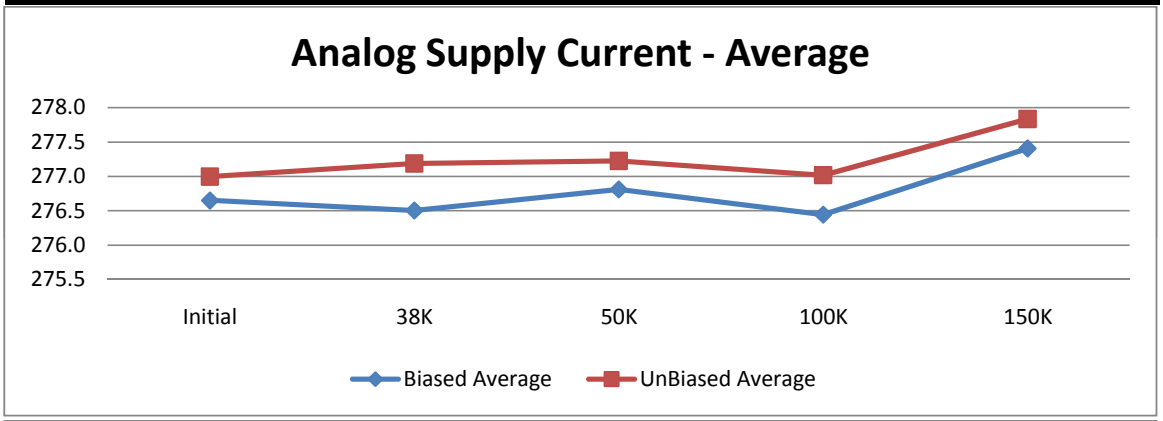
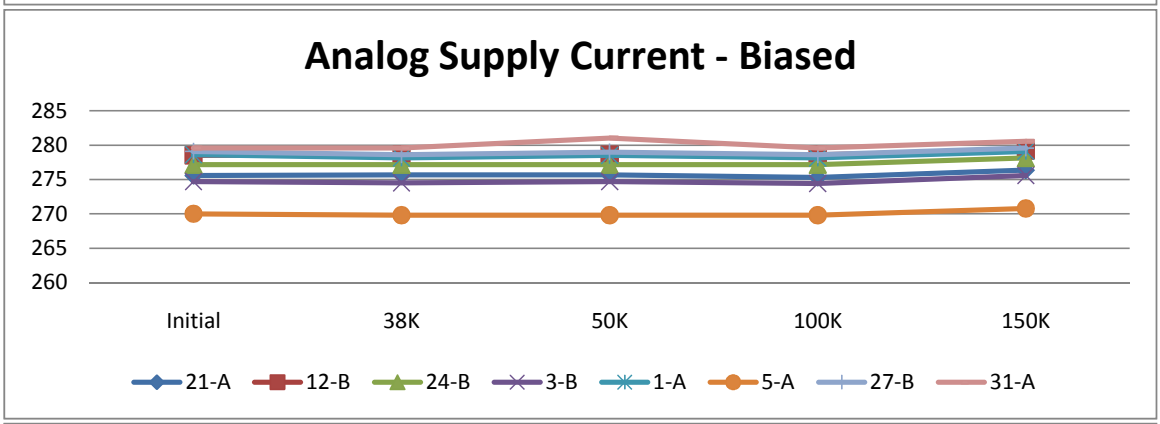
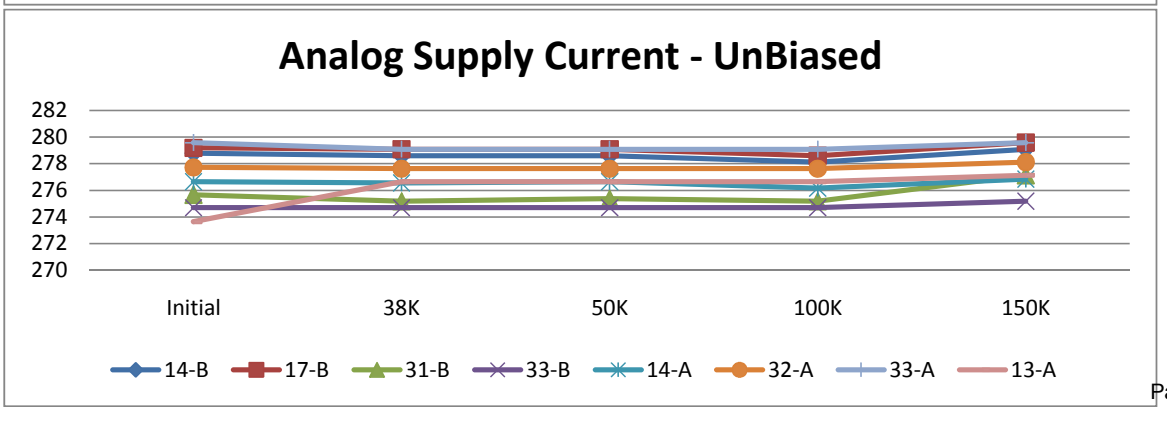
ANALOG DEVICES

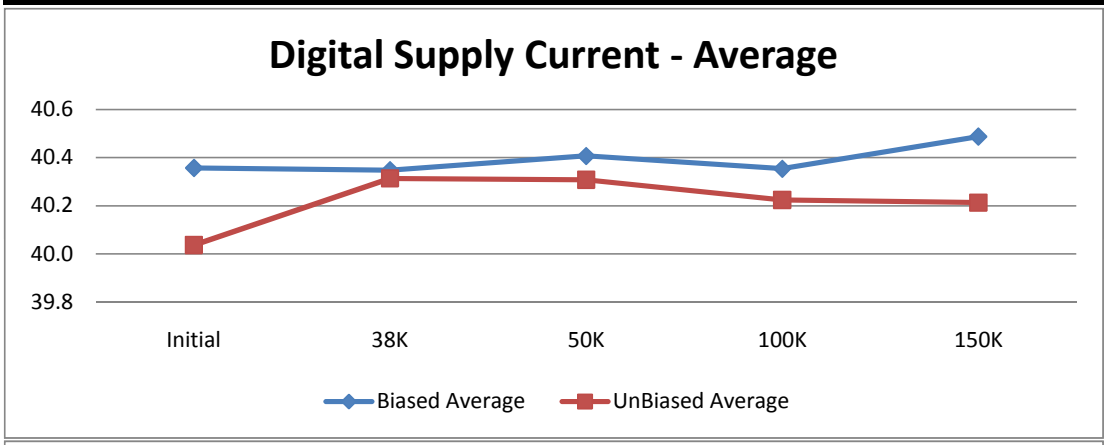
	1	AVCCI @5V					mA
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	278.1162		278.1162	277.7256	278.6046	<320
Biased	21-A	275.5769	275.6745	275.6745	275.2838	276.3582	
	12-B	278.5070	278.6046	278.6046	278.6046	279.1906	
	24-B	277.1396	277.1396	277.1396	277.1396	278.1162	
	3-B	274.6978	274.5025	274.6978	274.4047	275.5769	
	1-A	278.6046	278.1162	278.507	278.1162	279.0930	
	5-A	270.0096	269.8143	269.8143	269.8143	270.7910	
	27-B	279.0930	278.6046	278.9953	278.6046	279.5813	
	31-A	279.5813	279.5813	281.0464	279.5813	280.5580	
	min	270.0096	269.8143	269.8143	269.8143	270.7910	
	max	279.5813	279.5813	281.0464	279.5813	280.5580	
	average	276.6512	276.5047	276.8099	276.4436	277.4082	
UnBiased	14-B	278.7999	278.6046	278.6046	278.1162	279.0930	
	17-B	279.1906	279.0930	279.093	278.6046	279.5813	
	31-B	275.6745	275.1862	275.3814	275.1862	277.1396	
	33-B	274.6978	274.6978	274.6978	274.6978	275.1862	
	14-A	276.6512	276.5536	276.6512	276.1628	276.8465	
	32-A	277.7256	277.6279	277.6279	277.6279	278.1162	
	33-A	279.5813	279.0930	279.093	279.0930	279.5813	
	13-A	273.6497	276.6512	276.6512	276.6512	277.1396	
	min	273.6497	274.6978	274.6978	274.6978	275.1862	
	max	279.5813	279.0930	279.093	279.0930	279.5813	
	average	276.9963	277.1884	277.225013	277.0175	277.8355	

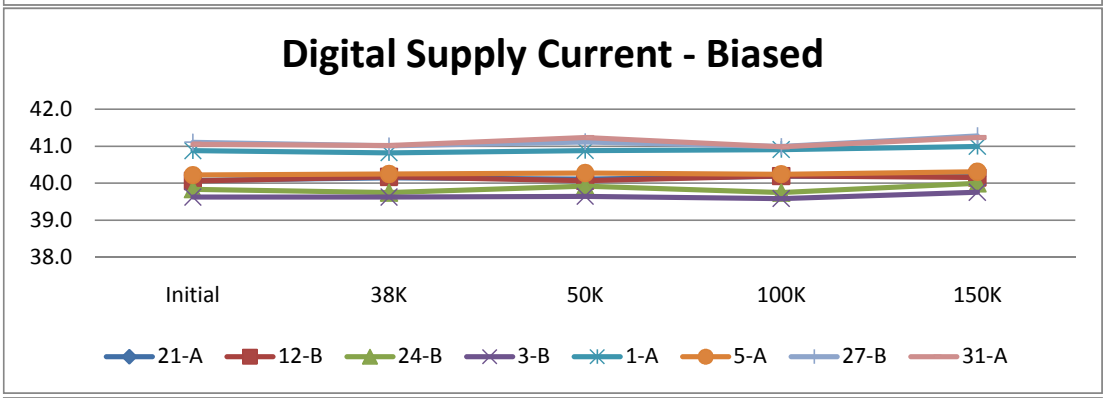


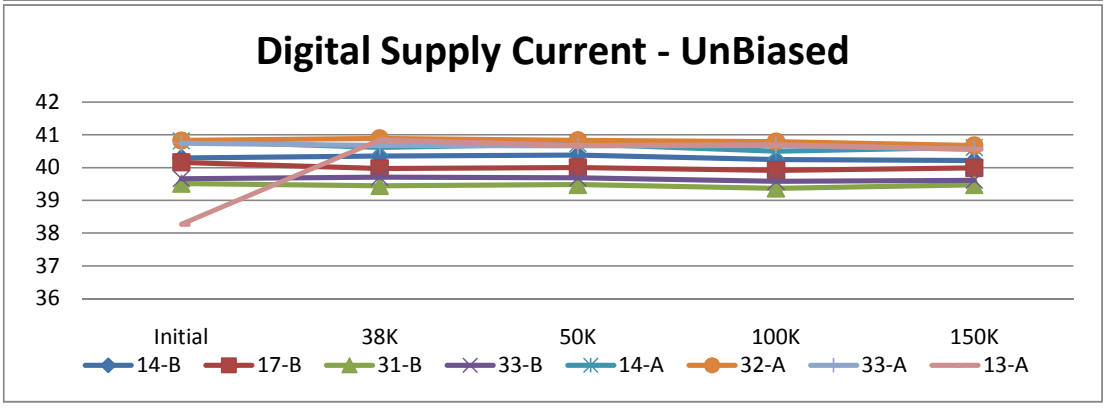




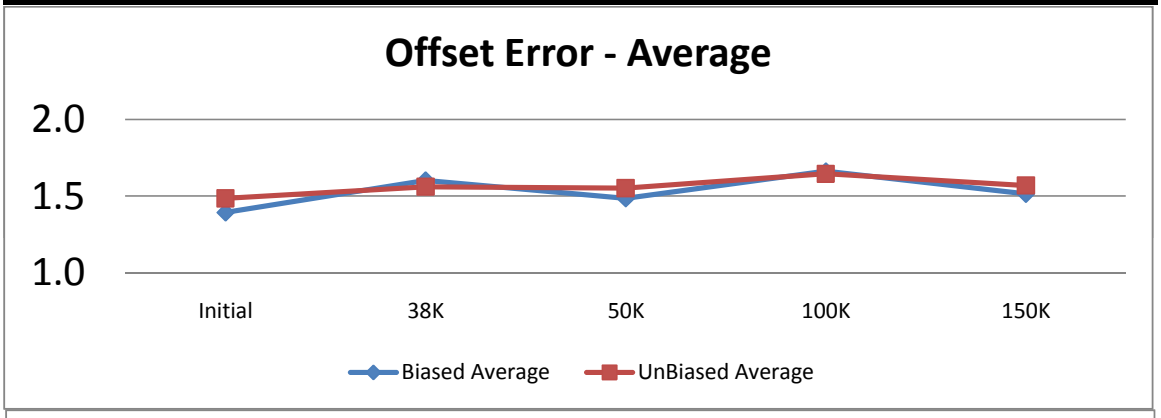
	2	DVCCI @3.3V					mA
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	40.45260		40.55116	40.42179	40.48340	<45
Biased	21-A	40.07681	40.14458	40.11377	40.18769	40.18154	
	12-B	40.05833	40.16922	40.06449	40.19385	40.15073	
	24-B	39.83655	39.74414	39.92280	39.74414	39.99672	
	3-B	39.62710	39.62710	39.64558	39.58398	39.75647	
	1-A	40.87767	40.82223	40.88383	40.90847	40.99471	
	5-A	40.21850	40.24930	40.27394	40.24314	40.31091	
	27-B	41.10561	41.00704	41.11792	40.98855	41.27810	
	31-A	41.05632	41.01936	41.23497	40.98240	41.23497	
	min	39.62710	39.62710	39.64558	39.58398	39.75647	
	max	41.10561	41.01936	41.23497	40.98855	41.27810	
	average	40.35711	40.34787	40.40716	40.35403	40.48802	
UnBiased	14-B	40.29243	40.35403	40.38484	40.24930	40.21234	
	17-B	40.16305	39.97208	40.00288	39.91663	39.99057	
	31-B	39.51620	39.44844	39.47924	39.36836	39.47309	
	33-B	39.66405	39.70719	39.68870	39.58398	39.61478	
	14-A	40.81607	40.61277	40.72982	40.50188	40.61277	
	32-A	40.82838	40.88999	40.83454	40.79758	40.67437	
	33-A	40.74214	40.68053	40.66205	40.68053	40.56348	
	13-A	38.26848	40.84687	40.68053	40.69286	40.56348	
	min	38.26848	39.44844	39.47924	39.36836	39.47309	
	max	40.82838	40.88999	40.83454	40.79758	40.67437	
	average	40.03635	40.31399	40.30783	40.22389	40.21311	

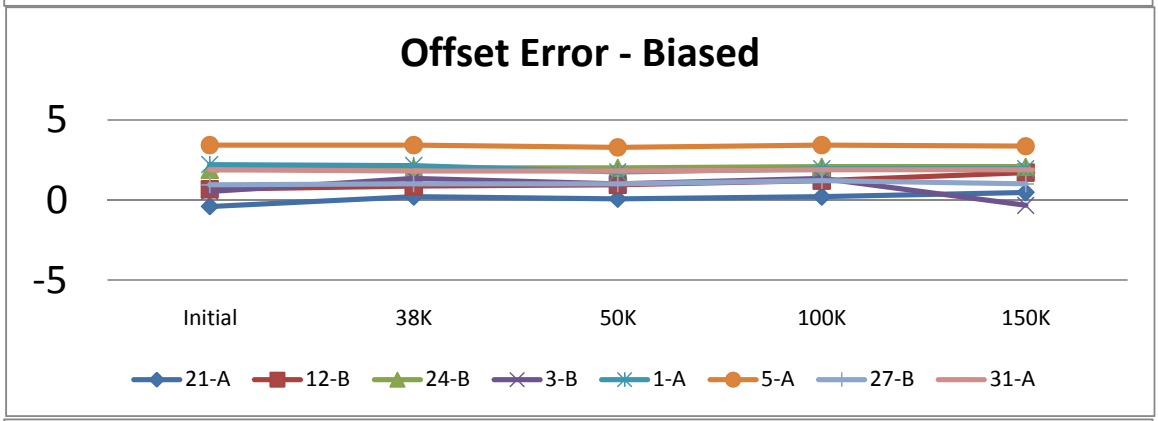


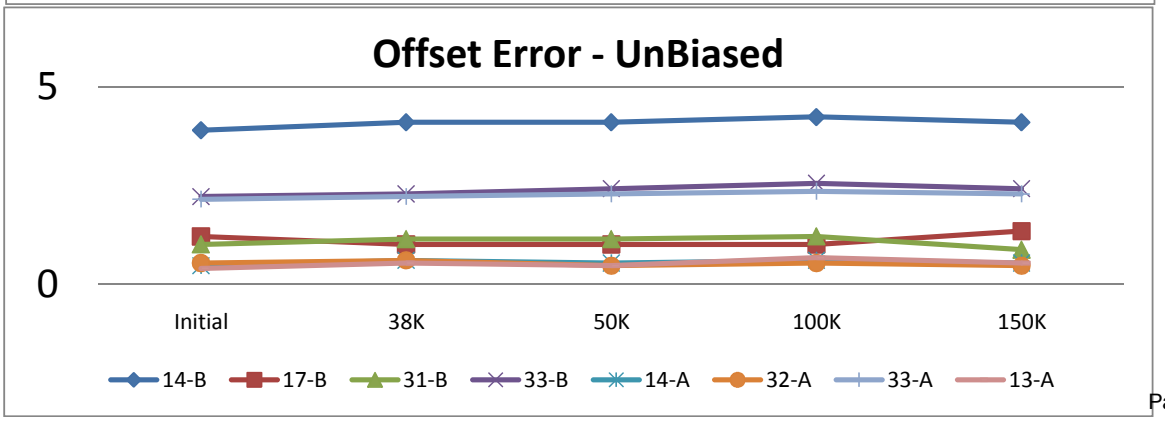




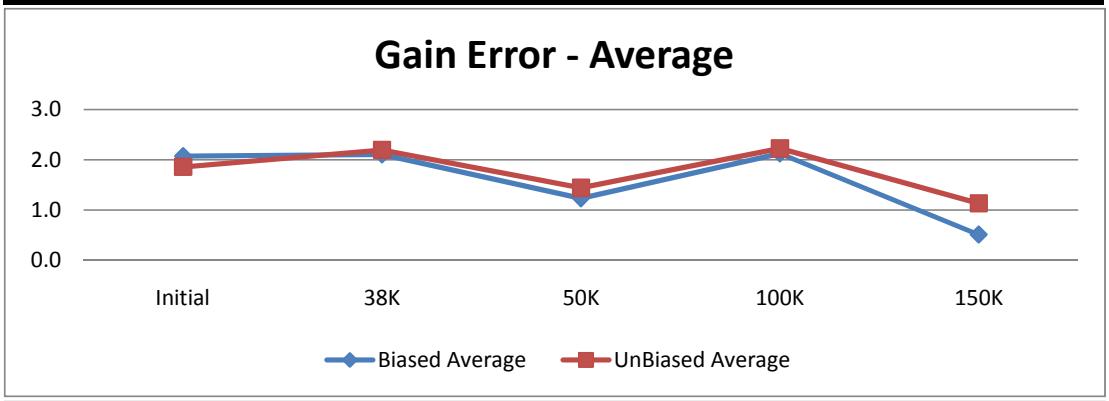
	3	Offset Error					mV
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	**0.46998**		**0.73854**	**1.00710**	0.60426	+/-10
Biased	21-A	-0.40284	0.20142	0.06714	0.20142	0.47000	
	12-B	0.67140	0.87282	0.93996	1.20852	1.70420	
	24-B	1.87992	2.01420	2.01420	2.08134	2.08134	
	3-B	0.53712	1.34280	1.00710	1.34280	-0.33570	
	1-A	2.21562	2.14848	1.74564	1.94706	1.94706	
	5-A	3.42414	3.42414	3.28986	3.42414	3.35700	
	27-B	0.93996	1.00710	1.00710	1.20852	1.00710	
	31-A	1.87992	1.81278	1.81278	1.87992	1.87992	
	min	-0.40284	0.20142	0.06714	0.20142	-0.33570	
	max	3.42414	3.42414	3.28986	3.42414	3.35700	
	average	1.39316	1.60297	1.48547	1.66172	1.51387	
UnBiased	14-B	3.89412	4.09554	4.09554	4.22982	4.09554	
	17-B	1.20852	1.00710	1.00710	1.00710	1.34280	
	31-B	1.00710	1.14138	1.14138	1.20852	0.87282	
	33-B	2.21562	2.28276	2.41704	2.55132	2.41704	
	14-A	0.46998	0.60426	0.53712	0.60426	0.53712	
	32-A	0.53712	0.60426	0.46998	0.53712	0.46998	
	33-A	2.14848	2.21562	2.28276	2.34990	2.28276	
	13-A	0.40284	0.53712	0.46998	0.67140	0.53712	
	min	0.40284	0.53712	0.46998	0.53712	0.46998	
	max	3.89412	4.09554	4.09554	4.22982	4.09554	
	average	1.48547	1.56101	1.55261	1.64493	1.56940	

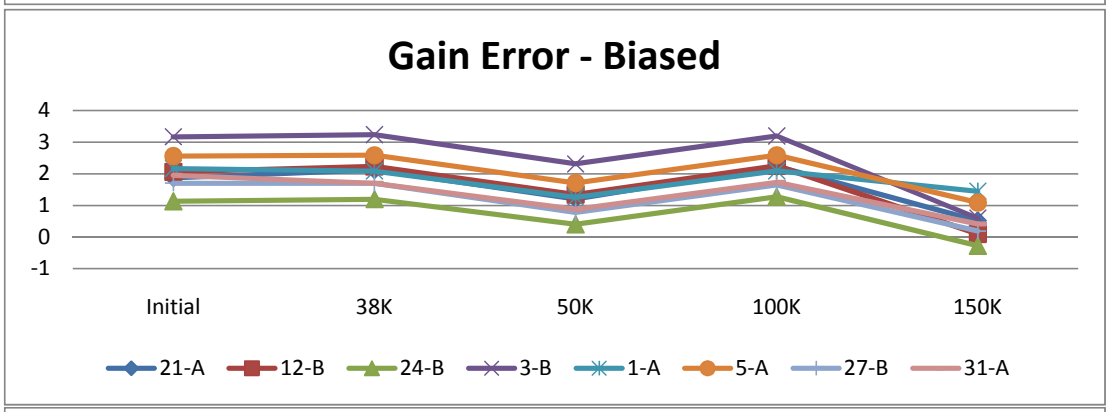


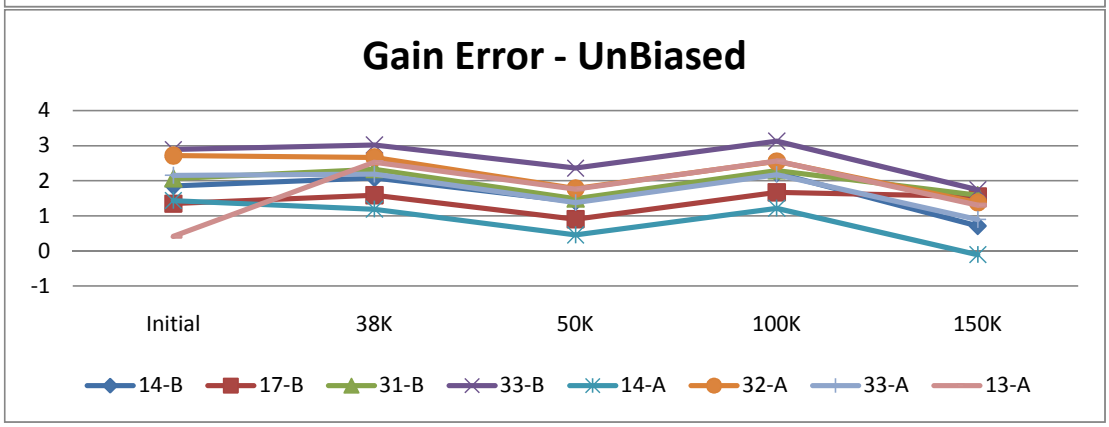




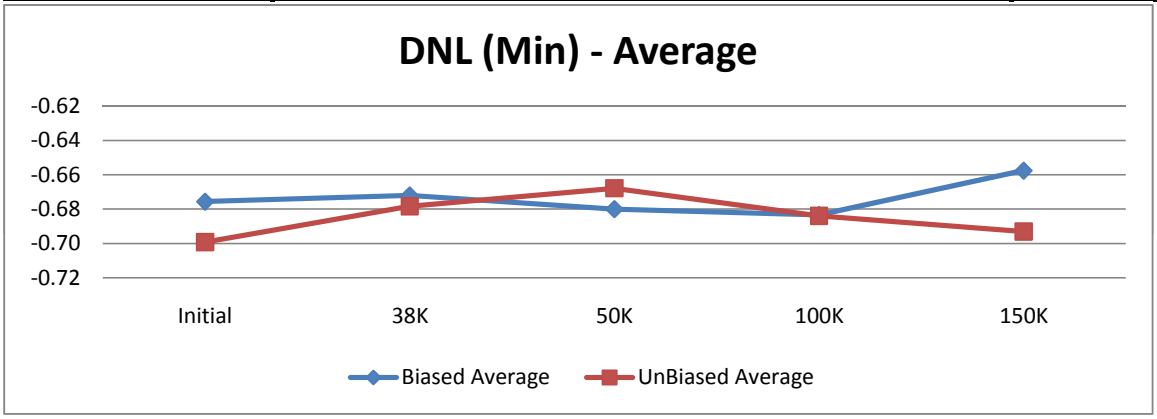
	4	Gain Error					%FS
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	2.77864		1.84728	2.64168	1.45008	+/-10
Biased	21-A	1.86783	2.12121	1.20354	2.23078	0.51870	
	12-B	2.05958	2.23078	1.34736	2.25133	0.10100	
	24-B	1.12821	1.19670	0.40230	1.27203	-0.27568	
	3-B	3.16899	3.23748	2.31296	3.19639	0.60090	
	1-A	2.16230	2.08697	1.25148	2.09382	1.45008	
	5-A	2.55950	2.58689	1.71032	2.58689	1.08712	
	27-B	1.70347	1.69662	0.77895	1.64868	0.19000	
	31-A	1.95000	1.69662	0.87483	1.73086	0.41599	
	min	1.12821	1.19670	0.40230	1.27203	-0.27568	
	max	3.16899	3.23748	2.31296	3.19639	1.45008	
	average	2.07499	2.10666	1.23522	2.12635	0.51101	
UnBiased	14-B	1.85413	2.08012	1.40899	2.21709	0.71047	
	17-B	1.34736	1.58705	0.90222	1.66923	1.55281	
	31-B	2.06642	2.32666	1.49117	2.29242	1.58705	
	33-B	2.88822	3.01833	2.36090	3.12790	1.74456	
	14-A	1.43639	1.18985	0.45708	1.21724	-0.10447	
	32-A	2.71701	2.66907	1.77880	2.55265	1.38160	
	33-A	2.15545	2.18969	1.37475	2.17600	0.89537	
	13-A	0.41599	2.52526	1.76510	2.56635	1.30627	
	min	0.41599	1.18985	0.45708	1.21724	-0.10447	
	max	2.88822	3.01833	2.36090	3.12790	1.74456	
	average	1.86012	2.19825	1.44238	2.22736	1.13421	

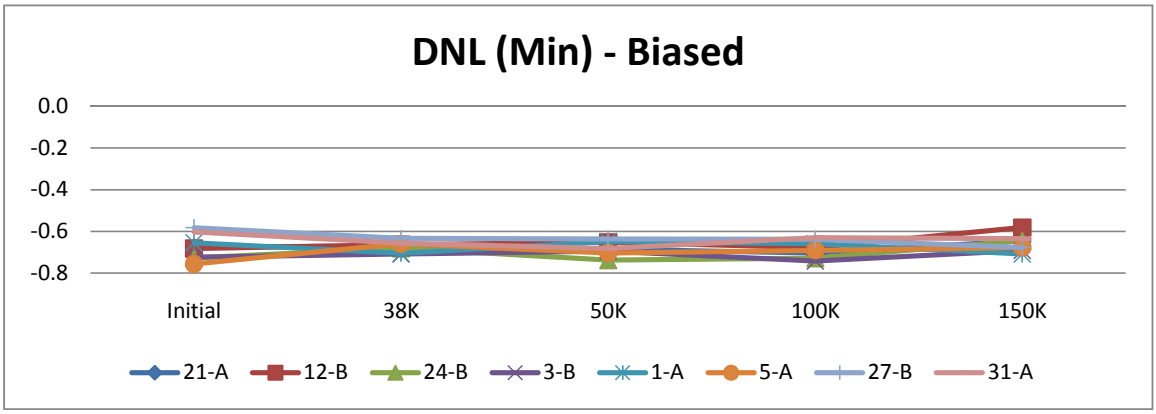


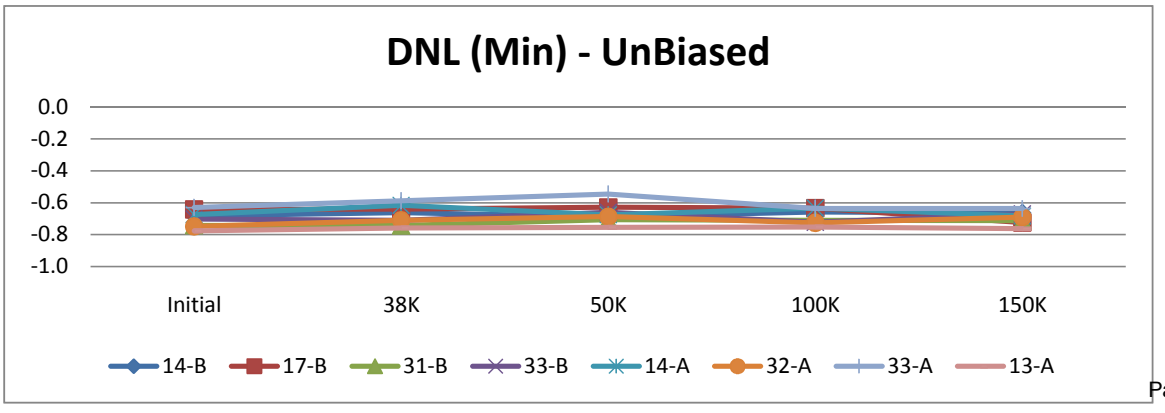




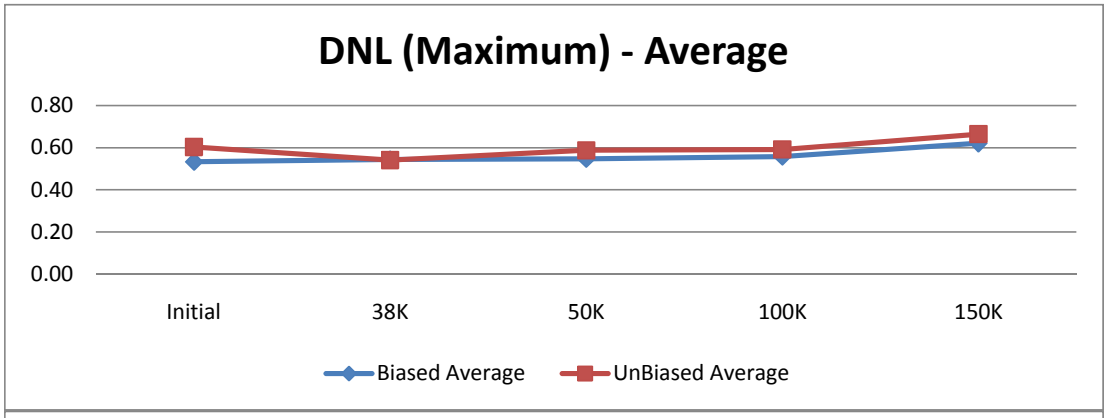
	5	DNL min - Biased					LSB
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	-0.65321		-0.63232	-0.64941	-0.71626	>-1
Biased	21-A	-0.67662	-0.66838	-0.68560	-0.70294	-0.64600	
	12-B	-0.68200	-0.66320	-0.65197	-0.67695	-0.58130	
	24-B	-0.72655	-0.68034	-0.73705	-0.72857	-0.64435	
	3-B	-0.72418	-0.70866	-0.69506	-0.74237	-0.69175	
	1-A	-0.65465	-0.70565	-0.64827	-0.65867	-0.70804	
	5-A	-0.75571	-0.65955	-0.70321	-0.69084	-0.67686	
	27-B	-0.58214	-0.63372	-0.63586	-0.63724	-0.67696	
	31-A	-0.60298	-0.65624	-0.68257	-0.62928	-0.63522	
	min	-0.75571	-0.70866	-0.73705	-0.74237	-0.70804	
	max	-0.58214	-0.63372	-0.63586	-0.62928	-0.58130	
	average	-0.67560	-0.67197	-0.67995	-0.68336	-0.65756	
UnBiased	14-B	-0.68101	-0.66162	-0.68784	-0.65828	-0.66468	
	17-B	-0.64158	-0.63980	-0.62854	-0.63402	-0.72479	
	31-B	-0.74123	-0.74288	-0.70608	-0.70965	-0.71255	
	33-B	-0.70217	-0.71049	-0.65895	-0.72156	-0.67034	
	14-A	-0.67370	-0.61675	-0.67511	-0.63436	-0.68269	
	32-A	-0.74757	-0.70980	-0.68678	-0.72629	-0.68974	
	33-A	-0.63011	-0.58801	-0.54541	-0.63610	-0.63677	
	13-A	-0.77620	-0.75735	-0.75412	-0.75119	-0.76281	
	min	-0.77620	-0.75735	-0.75412	-0.75119	-0.76281	
	max	-0.63011	-0.58801	-0.54541	-0.63402	-0.63677	
	average	-0.69920	-0.67834	-0.66785	-0.68393	-0.69305	

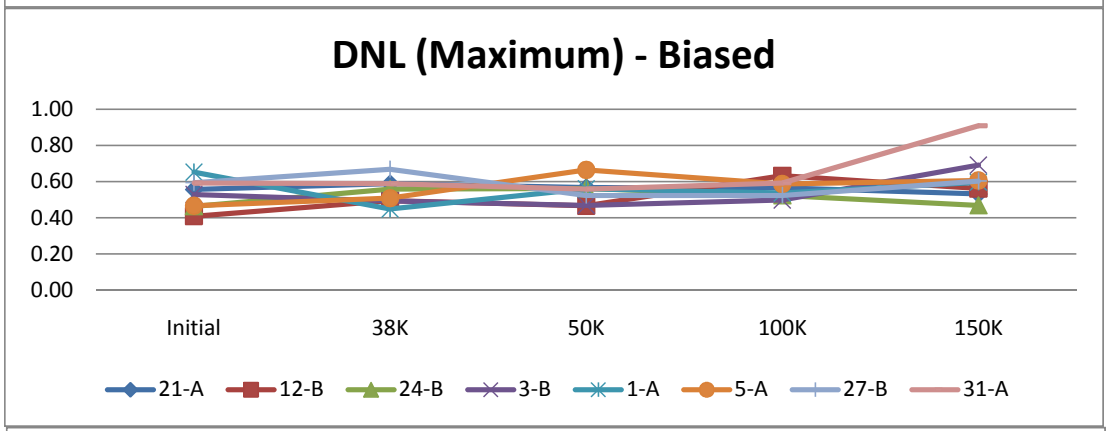


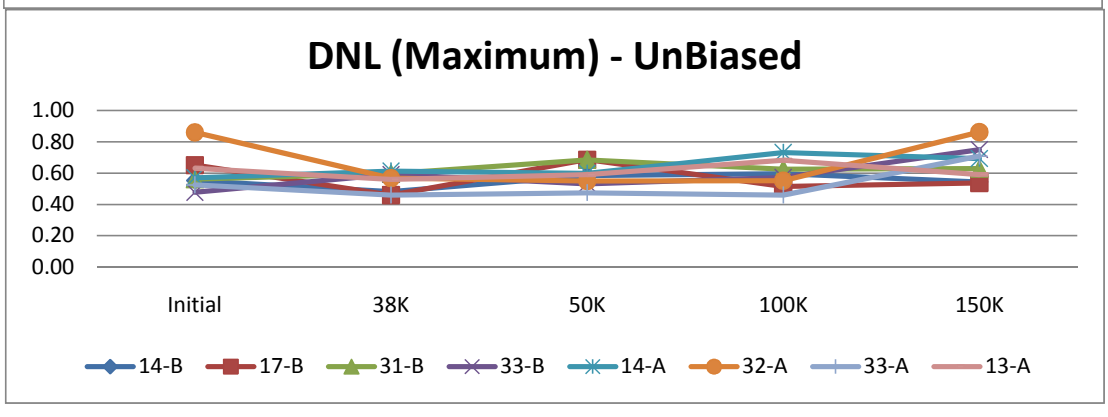




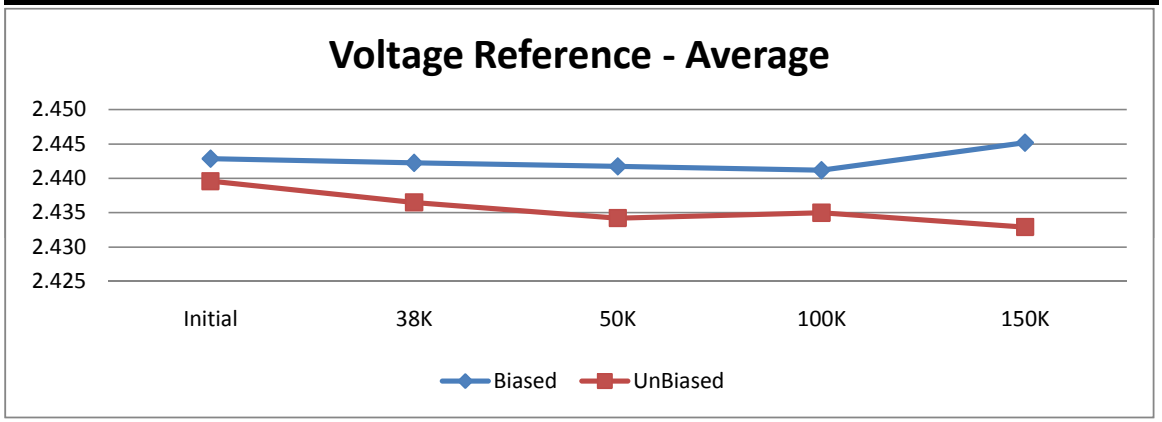
	6	DNL max					LSB
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	**0.51665**		**0.48769**	**0.60748**	0.50610	<1.5
Biased	21-A	0.55607	0.58935	0.56699	0.56560	0.53130	
	12-B	0.40888	0.49502	0.46600	0.63223	0.56160	
	24-B	0.46374	0.55873	0.56272	0.52407	0.46835	
	3-B	0.52881	0.49343	0.46935	0.49876	0.69128	
	1-A	0.65247	0.44923	0.56084	0.53700	0.59632	
	5-A	0.46627	0.50863	0.66480	0.58696	0.60640	
	27-B	0.59462	0.66846	0.52387	0.52413	0.60332	
	31-A	0.59253	0.58869	0.55935	0.59291	0.90862	
	min	0.40888	0.44923	0.46600	0.49876	0.46835	
	max	0.65247	0.66846	0.66480	0.63223	0.90862	
	average	0.53292	0.54394	0.54674	0.55771	0.62090	
UnBiased	14-B	0.55222	0.48134	0.58446	0.59595	0.54365	
	17-B	0.65108	0.45989	0.68577	0.51386	0.53757	
	31-B	0.56093	0.59599	0.68475	0.62562	0.62897	
	33-B	0.47688	0.59140	0.53193	0.57235	0.75048	
	14-A	0.57052	0.61369	0.59800	0.73130	0.69305	
	32-A	0.86047	0.56822	0.54966	0.55139	0.86224	
	33-A	0.52464	0.45941	0.47442	0.45924	0.70844	
	13-A	0.63133	0.56018	0.58977	0.68326	0.59126	
	min	0.47688	0.45941	0.47442	0.45924	0.53757	
	max	0.86047	0.61369	0.68577	0.73130	0.86224	
	average	0.60351	0.54127	0.58735	0.59162	0.66446	

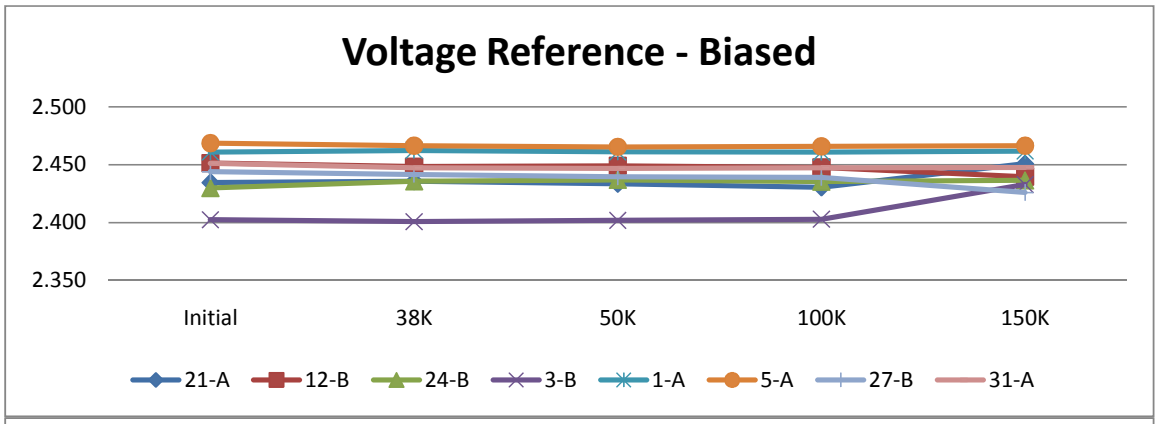


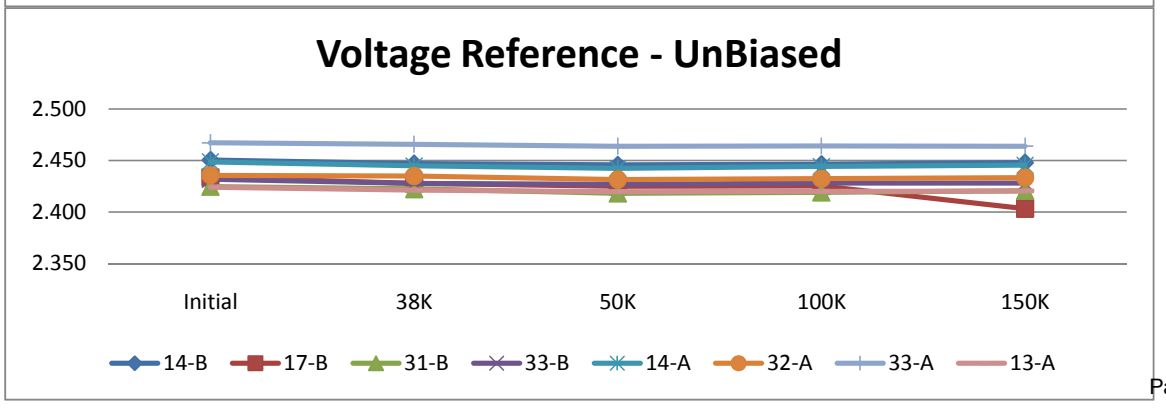




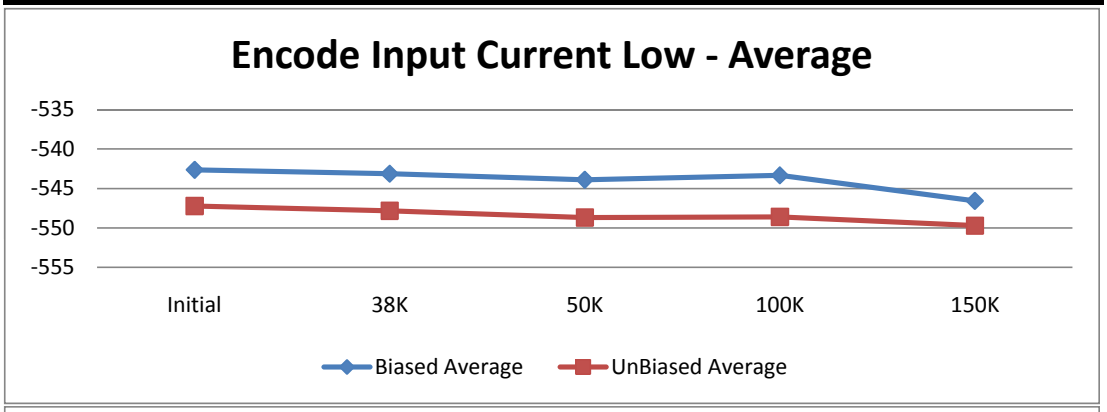
	7	Vref					V
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	**2.43440**		**2.43440**	**2.43462**	**2.43558**	
Biased	21-A	2.43454	2.43564	2.43345	2.43042	2.45080	
	12-B	2.45138	2.44834	2.44899	2.44761	2.43960	
	24-B	2.42984	2.43561	2.43691	2.43544	2.43640	
	3-B	2.40237	2.40076	2.40182	2.40291	2.43284	
	1-A	2.46098	2.46238	2.46104	2.46085	2.46180	
	5-A	2.46856	2.46638	2.46539	2.46584	2.46640	
	27-B	2.44389	2.44158	2.43946	2.43907	2.42594	
	31-A	2.45131	2.44731	2.44690	2.44741	2.44768	
	min	2.40237	2.40076	2.40182	2.40291	2.42594	
	max	2.46856	2.46638	2.46539	2.46584	2.46640	
	average	2.44286	2.44225	2.44175	2.44119	2.44518	
UnBiased	14-B	2.45059	2.44705	2.44585	2.44634	2.44796	
	17-B	2.43361	2.42782	2.42506	2.42551	2.40329	
	31-B	2.42475	2.42243	2.41829	2.41927	2.42074	
	33-B	2.43179	2.42795	2.42677	2.42804	2.42810	
	14-A	2.44878	2.44483	2.44231	2.44422	2.44540	
	32-A	2.43571	2.43499	2.43165	2.43239	2.43342	
	33-A	2.46722	2.46570	2.46393	2.46404	2.46397	
	13-A	2.42426	2.42122	2.41993	2.42010	2.42048	
	min	2.42426	2.42122	2.41829	2.41927	2.40329	
	max	2.46722	2.46570	2.46393	2.46404	2.46397	
	average	2.43959	2.43650	2.43422	2.43499	2.43292	

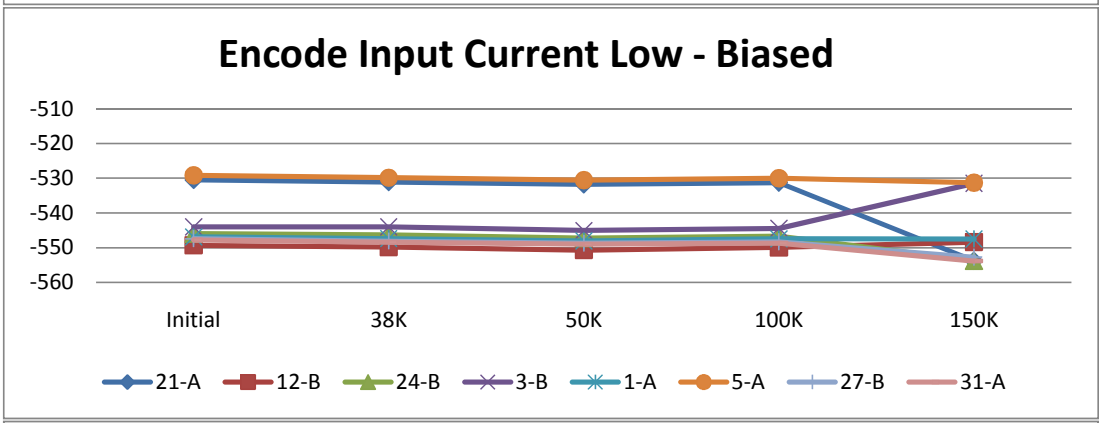


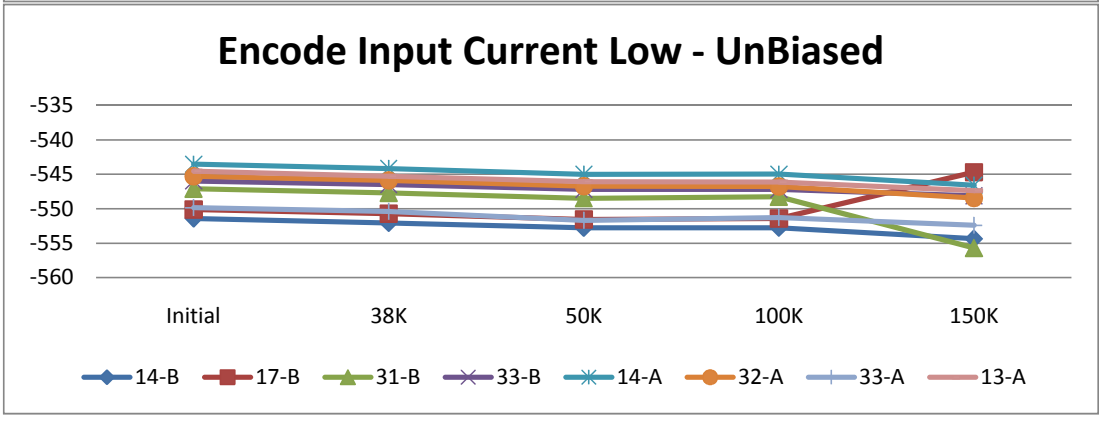




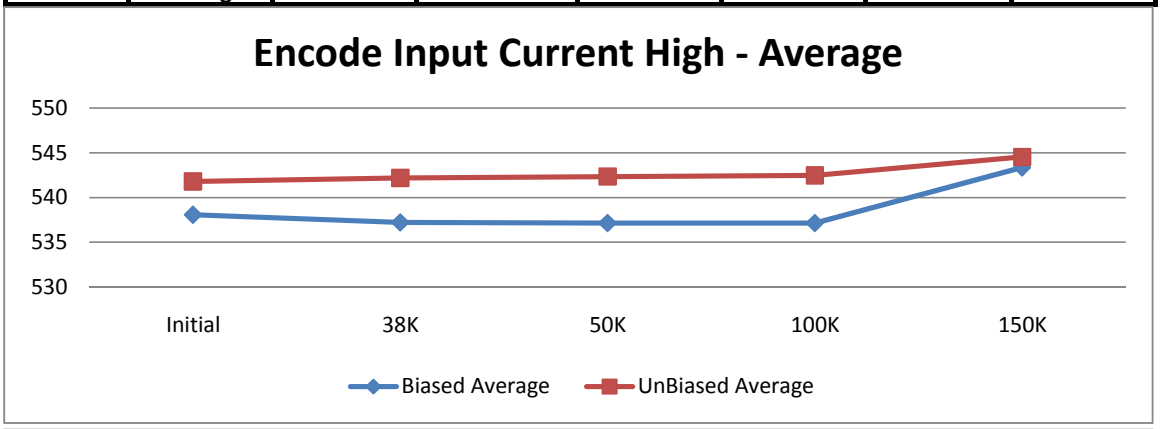
	8	Encode Iil					uA
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	**-546.6255**		**-547.3333**	**-546.5820**	-546.7757	
Biased	21-A	-530.4751	-531.1422	-531.7769	-531.2952	-553.7480	
	12-B	-549.3156	-549.7828	-550.686	-549.9343	-548.3847	
	24-B	-545.9632	-546.2961	-547.1992	-546.6490	-553.7479	
	3-B	-544.0188	-544.0163	-545.0535	-544.4365	-531.4905	
	1-A	-546.8937	-547.3689	-548.0709	-547.4536	-547.5132	
	5-A	-529.1929	-529.8682	-530.5699	-530.0213	-531.2894	
	27-B	-547.4301	-548.1064	-548.7414	-548.3252	-552.7423	
	31-A	-547.7653	-548.4417	-549.0097	-548.6604	-553.8149	
	min	-549.3156	-549.7828	-550.686	-549.9343	-553.8149	
	max	-529.1929	-529.8682	-530.5699	-530.0213	-531.2894	
	average	-542.6318	-543.1278	-543.8884	-543.3469	-546.5914	
UnBiased	14-B	-551.3941	-552.0625	-552.7646	-552.7503	-554.3513	
	17-B	-550.1202	-550.7215	-551.5577	-551.4094	-544.6975	
	31-B	-547.1030	-547.7042	-548.4732	-548.2581	-555.6921	
	33-B	-545.9632	-546.4972	-547.1992	-547.1854	-548.1165	
	14-A	-543.5413	-544.1504	-544.9865	-544.9728	-546.5746	
	32-A	-545.2845	-545.8937	-546.7298	-546.7831	-548.4517	
	33-A	-549.8438	-550.3863	-551.6918	-551.2753	-552.4071	
	13-A	-544.5493	-545.2902	-546.0593	-546.1127	-547.3791	
	min	-551.3941	-552.0625	-552.7646	-552.7503	-555.6921	
	max	-543.5413	-544.1504	-544.9865	-544.9728	-544.6975	
	average	-547.2249	-547.8383	-548.6828	-548.5934	-549.7087	

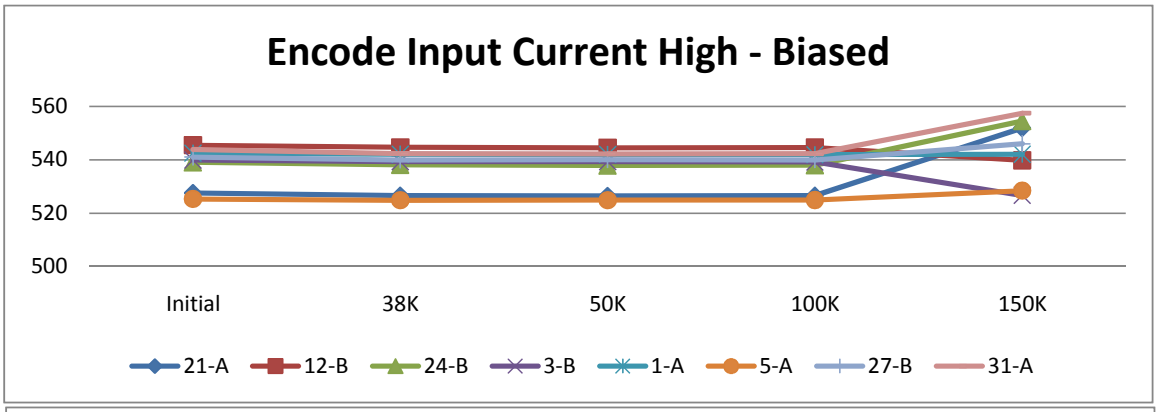


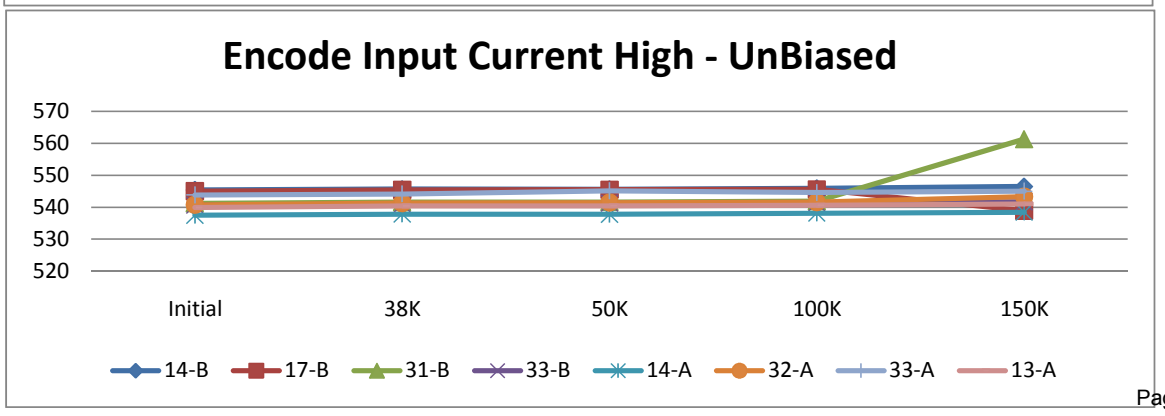




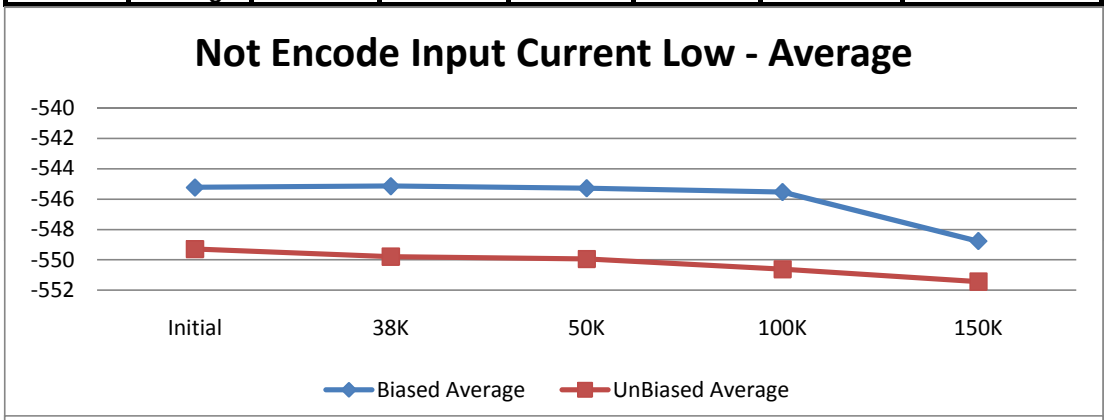
	9	Encode Iih - Biased					uA
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	541.88189		541.98661	541.96513	541.72805	
Biased	21-A	527.51100	526.58119	526.43020	526.54429	551.91820	
	12-B	545.47988	544.68529	544.46759	544.57993	539.78930	
	24-B	539.04328	538.11417	537.82930	537.94228	554.53274	
	3-B	539.91488	539.32110	539.30446	539.14916	526.64406	
	1-A	542.48533	542.07025	541.98661	541.89807	542.06327	
	5-A	525.32088	524.83781	524.88793	524.93514	528.45414	
	27-B	541.01023	539.92460	540.04206	539.95370	546.01865	
	31-A	543.89331	542.33847	542.25483	542.30035	557.48248	
	min	525.32088	524.83781	524.88793	524.93514	526.64406	
	max	545.47988	544.68529	544.46759	544.57993	557.48248	
	average	538.08235	537.23411	537.15037	537.16287	543.36286	
UnBiased	14-B	545.41283	545.69112	545.60753	545.92092	546.48792	
	17-B	545.01055	545.42290	545.47342	545.58564	538.91237	
	31-B	541.25587	541.60092	541.65133	541.89807	561.30381	
	33-B	540.65243	540.99743	541.24906	541.42874	541.72805	
	14-A	537.45671	537.84595	537.76224	538.14345	538.44310	
	32-A	540.74207	541.33270	541.45016	541.62985	543.33702	
	33-A	543.82632	544.14890	545.13814	544.57993	545.01306	
	13-A	539.93252	540.39399	540.44439	540.62420	541.05767	
	min	537.45671	537.84595	537.76224	538.14345	538.44310	
	max	545.41283	545.69112	545.60753	545.92092	561.30381	
	average	541.78616	542.17924	542.34703	542.47635	544.53538	

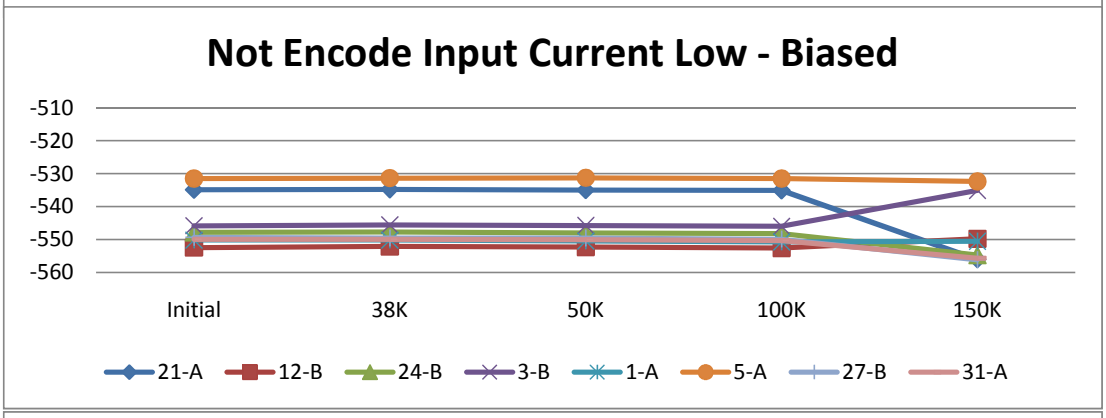


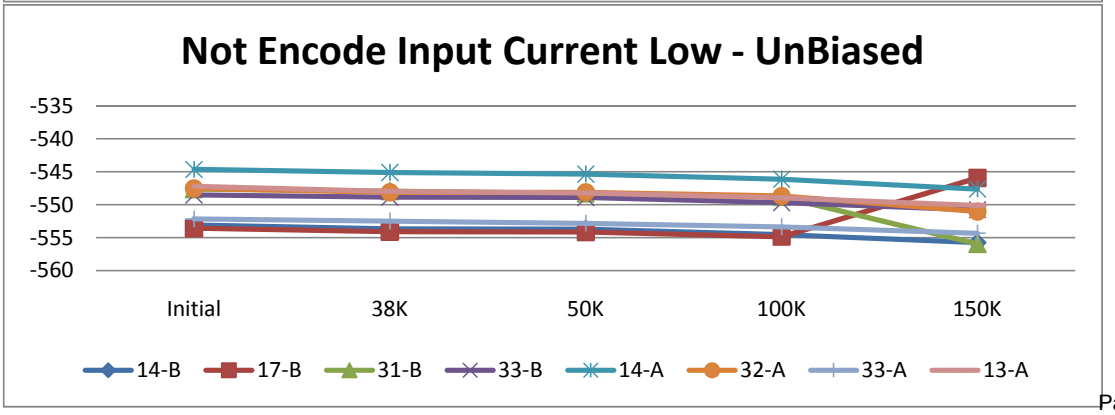




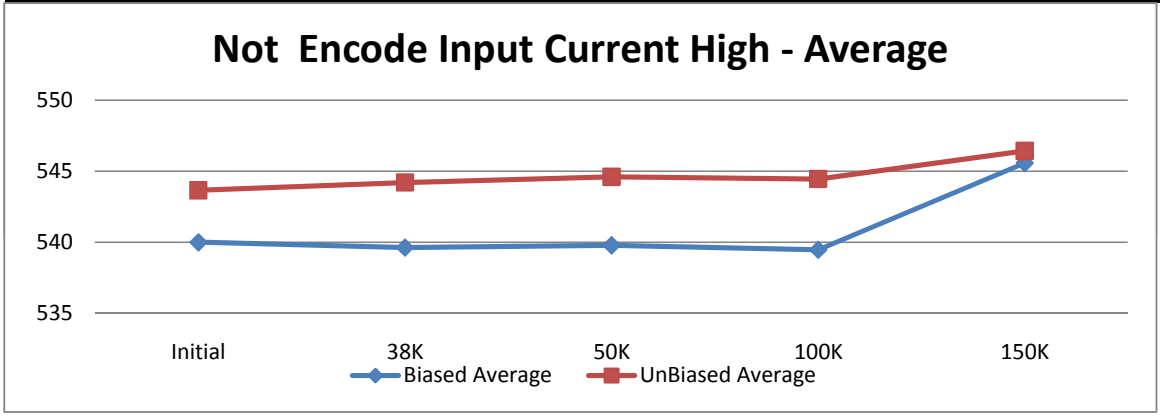
	10	Encode_B lil					uA
	S/N	Initial	38K	50K	100K	150K	
Control	1-B	**-549.7465**		**-549.8548**	**-549.9501**	-550.0308	
Biased	21-A	-534.8785	-534.7705	-535.0131	-535.1101	-556.0060	
	12-B	-552.4048	-552.0965	-552.2725	-552.5689	-549.7622	
	24-B	-547.8386	-547.6643	-547.9744	-548.2042	-554.6635	
	3-B	-545.8241	-545.5825	-545.7582	-545.9883	-535.0583	
	1-A	-550.1494	-550.1491	-550.4593	-550.6887	-550.5008	
	5-A	-531.4814	-531.3456	-531.2522	-531.4840	-532.3727	
	27-B	-549.3436	-549.5446	-549.5191	-549.8829	-556.1407	
	31-A	-549.8808	-549.9476	-549.9892	-550.2858	-555.6707	
	min	-552.4048	-552.0965	-552.2725	-552.5689	-556.1407	
	max	-531.4814	-531.3456	-531.2522	-531.4840	-532.3727	
	average	-545.2251	-545.1376	-545.2798	-545.5266	-548.7719	
UnBiased	14-B	-553.0763	-553.6411	-553.6828	-554.5162	-555.7378	
	17-B	-553.5464	-554.1112	-554.1529	-554.8520	-545.9352	
	31-B	-547.6371	-547.9329	-548.3102	-548.8085	-555.9392	
	33-B	-548.5101	-548.8731	-548.9147	-549.6815	-550.7694	
	14-A	-544.6430	-545.1124	-545.3553	-546.1226	-547.6137	
	32-A	-547.5305	-548.1344	-548.1088	-548.6743	-551.0380	
	33-A	-552.1639	-552.4995	-552.8098	-553.3747	-554.3279	
	13-A	-547.2202	-548.0001	-548.2431	-548.9428	-550.0980	
	min	-553.5464	-554.1112	-554.1529	-554.8520	-555.9392	
	max	-544.6430	-545.1124	-545.3553	-546.1226	-545.9352	
	average	-549.2909	-549.7881	-549.9472	-550.6216	-551.4324	

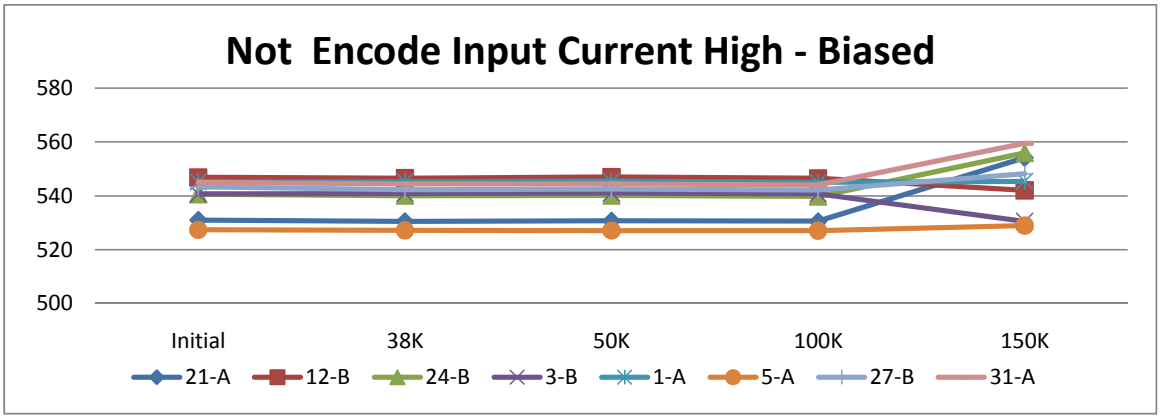


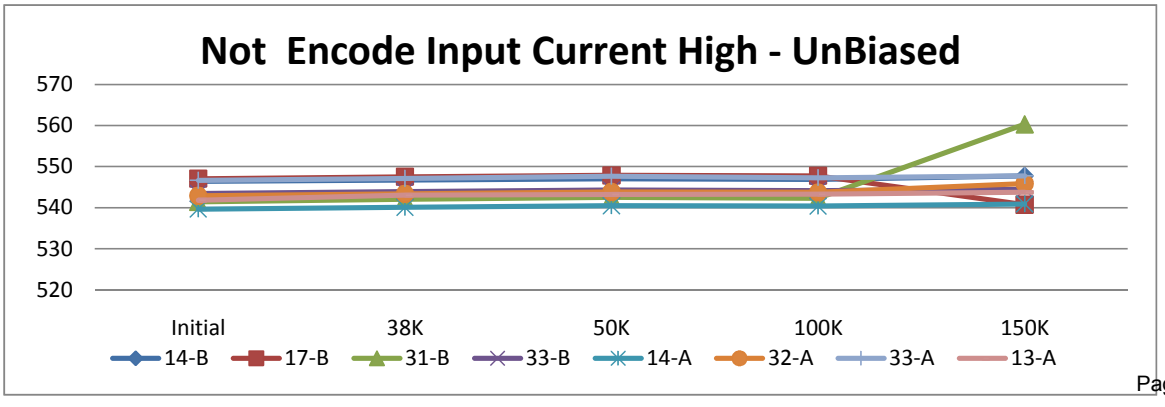




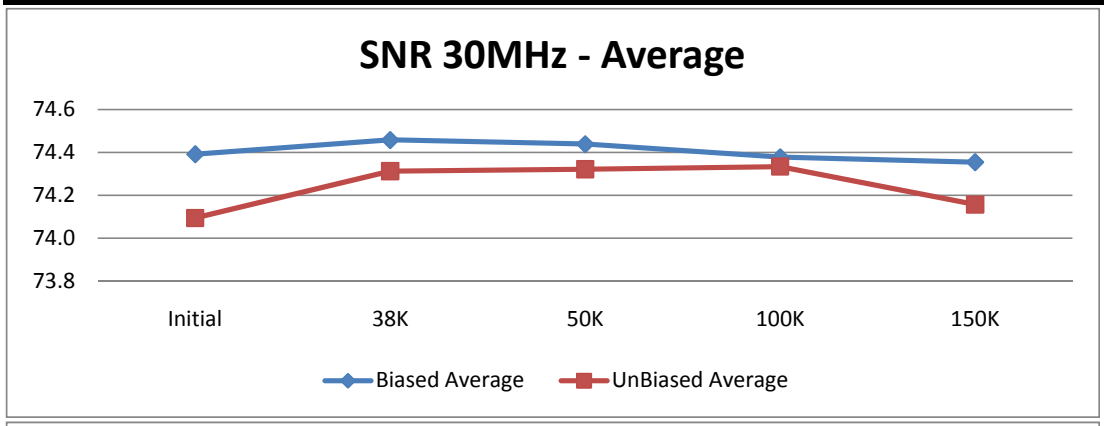
	11	Encode_B Iih - Biased					uA
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	544.29204		544.69984	544.13214	544.12184	
Biased	21-A	531.00957	530.52901	530.73111	530.56795	554.12590	
	12-B	546.85702	546.57907	546.98321	546.48239	542.04050	
	24-B	540.61203	540.06506	540.13316	539.76744	555.93869	
	3-B	540.74638	540.87088	541.07339	540.77466	530.49217	
	1-A	545.16504	545.23599	545.43861	544.93791	545.39752	
	5-A	527.36991	527.17124	527.10465	527.07619	528.94792	
	27-B	543.28475	542.28114	542.48370	542.18480	548.15027	
	31-A	545.03069	544.36299	544.43121	544.06497	559.49716	
	min	527.36991	527.17124	527.10465	527.07619	528.94792	
	max	546.85702	546.57907	546.98321	546.48239	559.49716	
	average	540.00942	539.63692	539.79738	539.48204	545.57377	
UnBiased	14-B	546.38699	546.71342	547.05038	546.88525	547.74748	
	17-B	547.05847	547.51924	547.85627	547.75819	540.69766	
	31-B	541.41786	542.01251	542.48370	542.25198	560.30287	
	33-B	543.43237	543.89291	544.29693	544.13214	544.45752	
	14-A	539.65859	540.06506	540.46896	540.37175	540.89905	
	32-A	542.88184	543.35565	543.82684	543.72923	545.86749	
	33-A	546.64235	547.11633	547.65481	547.28816	547.74748	
	13-A	541.82502	543.01985	543.22241	543.25920	543.71898	
	min	539.65859	540.06506	540.46896	540.37175	540.69766	
	max	547.05847	547.51924	547.85627	547.75819	560.30287	
	average	543.66294	544.21187	544.60754	544.45949	546.42982	

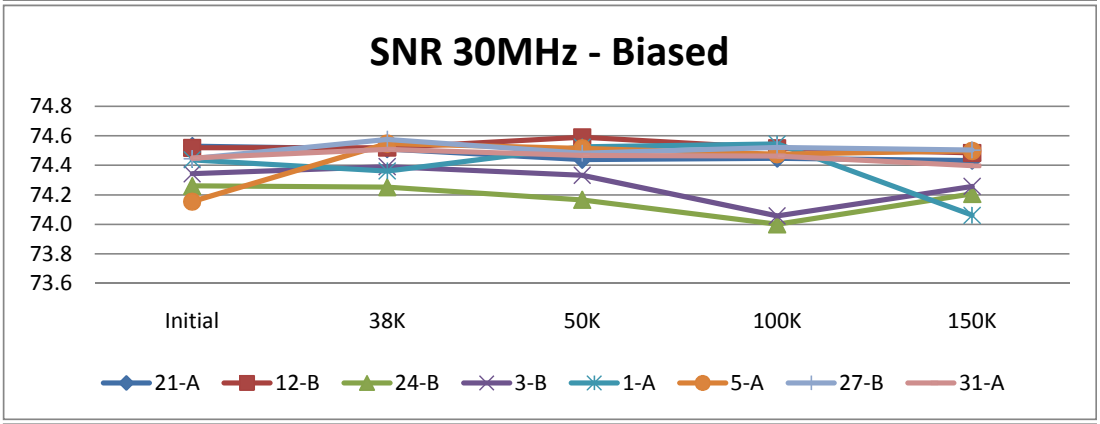


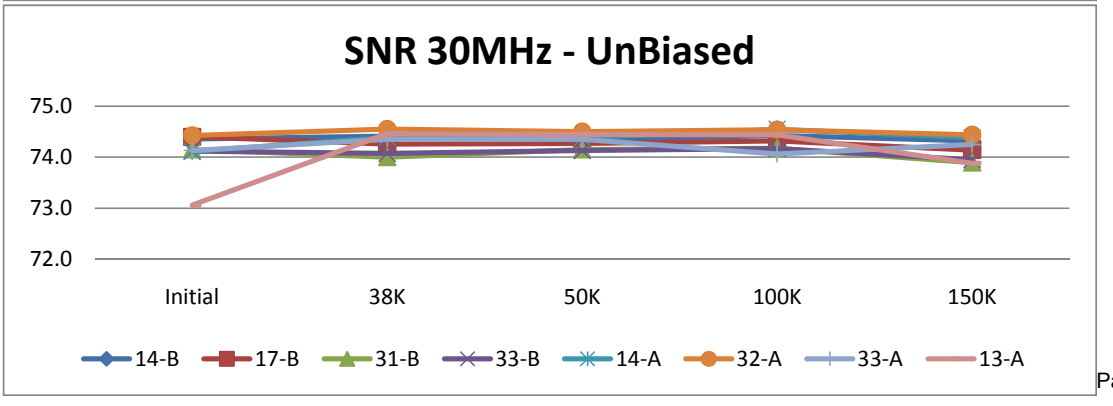




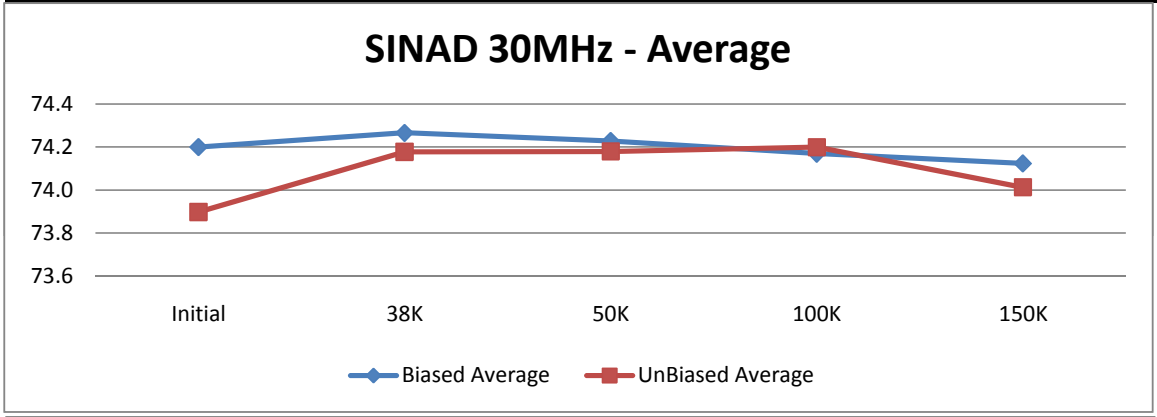
	12	SNR 30MHz					dB
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	**74.13655**		**74.33985**	**74.32635**	**74.10054**	>72
Biased	21-A	74.53092	74.51037	74.43835	74.44664	74.43256	
	12-B	74.51820	74.52006	74.58998	74.51646	74.48379	
	24-B	74.26025	74.25321	74.16650	73.99989	74.20725	
	3-B	74.34251	74.39138	74.33273	74.05696	74.25740	
	1-A	74.43765	74.36183	74.52522	74.54465	74.06076	
	5-A	74.15376	74.54770	74.51501	74.47607	74.49731	
	27-B	74.44498	74.57635	74.48167	74.52222	74.50378	
	31-A	74.44880	74.50864	74.46739	74.46232	74.39696	
	min	74.15376	74.25321	74.16650	73.99989	74.06076	
	max	74.53092	74.57635	74.58998	74.54465	74.50378	
	average	74.39213	74.45869	74.43961	74.37815	74.35498	
UnBiased	14-B	74.35880	74.41502	74.33986	74.42523	74.31982	
	17-B	74.39969	74.25732	74.26719	74.31679	74.13982	
	31-B	74.15051	74.00156	74.15122	74.17425	73.89624	
	33-B	74.11911	74.07486	74.13077	74.16717	73.95136	
	14-A	74.11094	74.39112	74.38721	74.54774	74.38008	
	32-A	74.42806	74.55248	74.50401	74.54234	74.43871	
	33-A	74.13460	74.35349	74.34827	74.06354	74.24960	
	13-A	73.05575	74.45708	74.44682	74.43839	73.88036	
	min	73.05575	74.00156	74.13077	74.06354	73.88036	
	max	74.42806	74.55248	74.50401	74.54774	74.43871	
	average	74.09468	74.31287	74.32192	74.33443	74.15700	

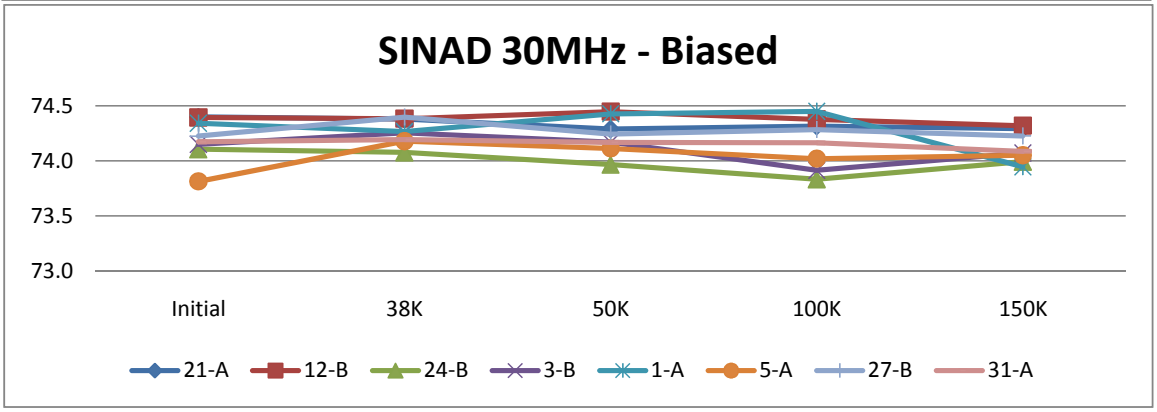


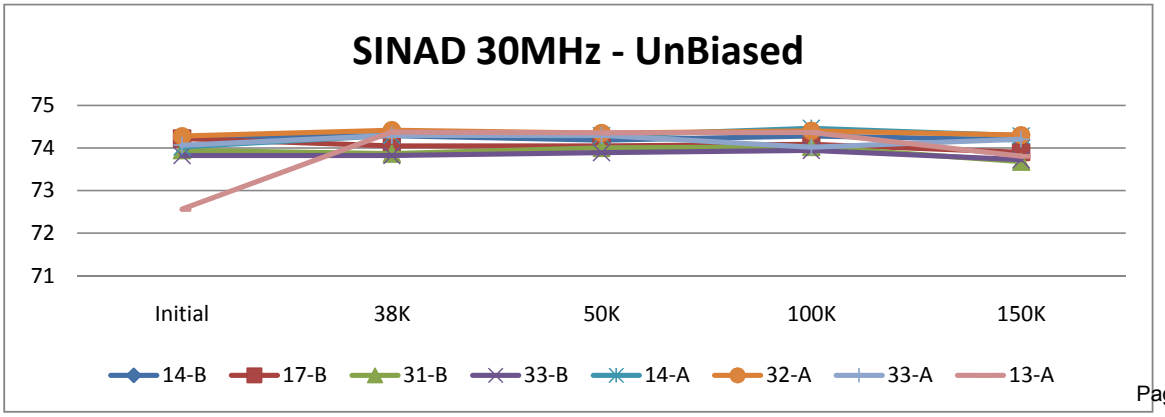




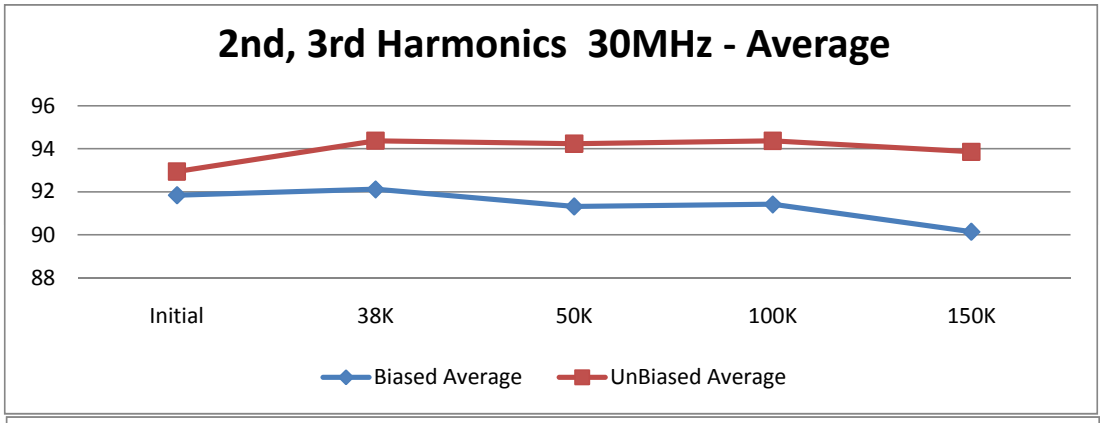
	13	SINAD 30MHz					dB
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	74.04340		74.24561	74.23463	73.98933	>71.5
Biased	21-A	74.39912	74.37939	74.29015	74.31710	74.29346	
	12-B	74.39354	74.38330	74.44788	74.37655	74.31977	
	24-B	74.10513	74.07729	73.96731	73.83288	73.99357	
	3-B	74.14986	74.25415	74.16949	73.91344	74.07213	
	1-A	74.34249	74.26579	74.42745	74.44870	73.94579	
	5-A	73.81373	74.17945	74.11313	74.02020	74.05130	
	27-B	74.22526	74.39722	74.24445	74.28408	74.22585	
	31-A	74.17297	74.19408	74.16792	74.16332	74.08745	
	min	73.81373	74.19408	73.96731	73.83288	73.94579	
	max	74.39912	74.39722	74.44788	74.44870	74.31977	
	average	74.20026	74.26633	74.22847	74.16953	74.12367	
UnBiased	14-B	74.25512	74.28752	74.18872	74.28431	74.19339	
	17-B	74.22102	74.05225	74.04859	74.08723	73.90152	
	31-B	73.94775	73.86844	74.00710	74.02523	73.67792	
	33-B	73.82445	73.82399	73.89149	73.94566	73.72664	
	14-A	74.02823	74.29903	74.29118	74.46401	74.28798	
	32-A	74.28048	74.41840	74.35297	74.40451	74.30317	
	33-A	74.06693	74.29446	74.29611	74.01734	74.20470	
	13-A	72.55861	74.37378	74.35940	74.36601	73.80595	
	min	72.55861	73.82399	73.89149	73.94566	73.67792	
	max	74.28048	74.41840	74.35940	74.46401	74.30317	
	average	73.89782	74.17723	74.17945	74.19929	74.01266	

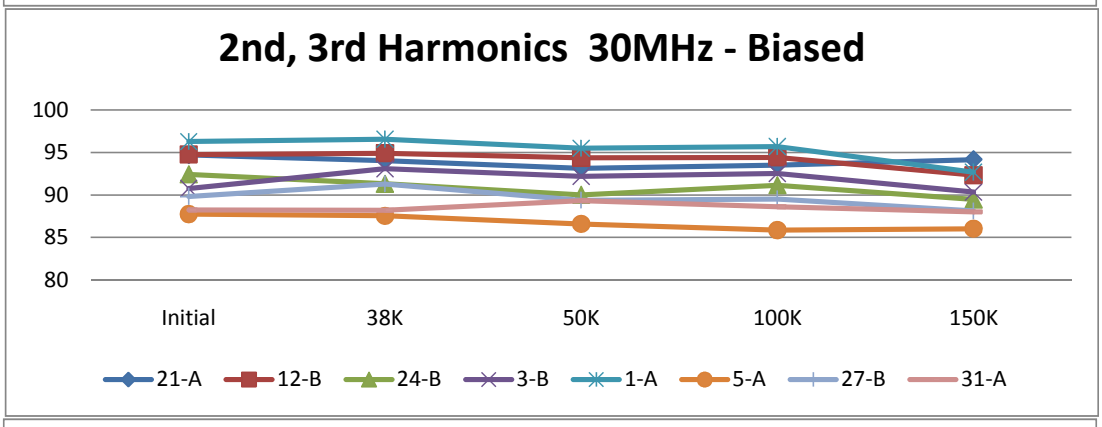


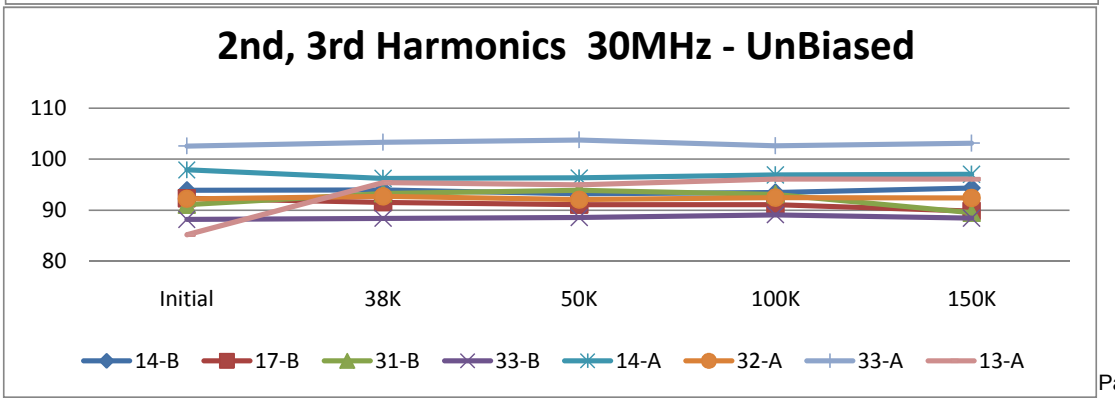




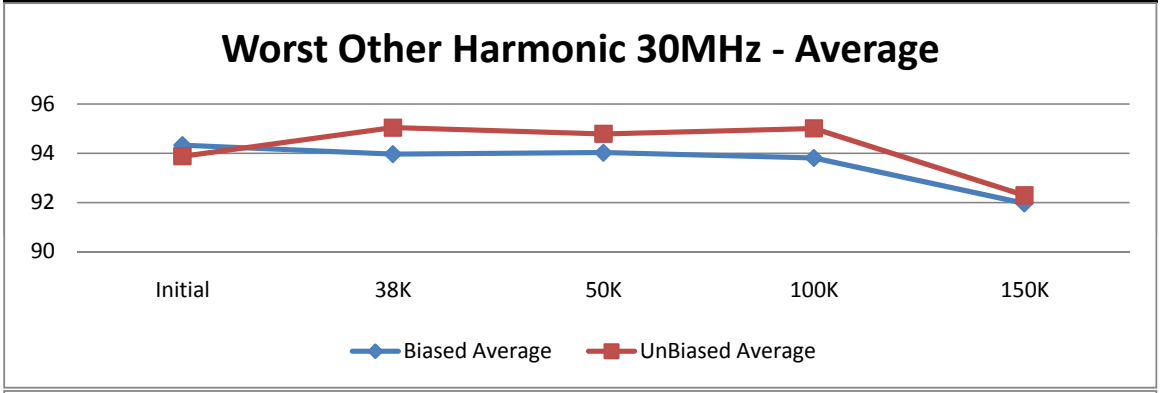
	14	2nd, 3rd Harmonics 30MHz					dB
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	**95.05551**		**95.83051**	**95.37868**	**93.34030**	>82
Biased	21-A	94.70426	94.04279	93.14594	93.52570	94.16705	
	12-B	94.76632	94.91082	94.37181	94.42980	92.32813	
	24-B	92.43197	91.31065	90.01687	91.14503	89.46577	
	3-B	90.76044	93.07741	92.19923	92.53117	90.33197	
	1-A	96.27898	96.54867	95.48514	95.69555	92.67258	
	5-A	87.74531	87.54071	86.59877	85.86201	86.03414	
	27-B	89.81692	91.30395	89.38509	89.52518	88.11156	
	31-A	88.24300	88.20446	89.33038	88.62183	88.01466	
	min	87.74531	88.20446	86.59877	85.86201	86.03414	
	max	96.27898	96.54867	95.48514	95.69555	94.16705	
	average	91.84340	92.11743	91.31665	91.41703	90.14073	
UnBiased	14-B	93.92512	93.99508	93.19489	93.48014	94.36591	
	17-B	92.35149	91.55732	91.06428	91.10172	89.83564	
	31-B	91.08334	93.28958	93.90118	93.12183	89.49157	
	33-B	88.19800	88.42107	88.56604	89.11277	88.46622	
	14-A	97.90675	96.24371	96.33460	96.92366	97.06018	
	32-A	92.24034	92.73031	92.07551	92.48236	92.41000	
	33-A	102.59750	103.33810	103.78270	102.63760	103.14790	
	13-A	85.21986	95.43217	94.99877	96.08065	96.08176	
	min	85.21986	88.42107	88.56604	89.11277	88.46622	
	max	102.59750	103.33810	103.78270	102.63760	103.14790	
	average	92.94030	94.37592	94.23975	94.36759	93.85740	

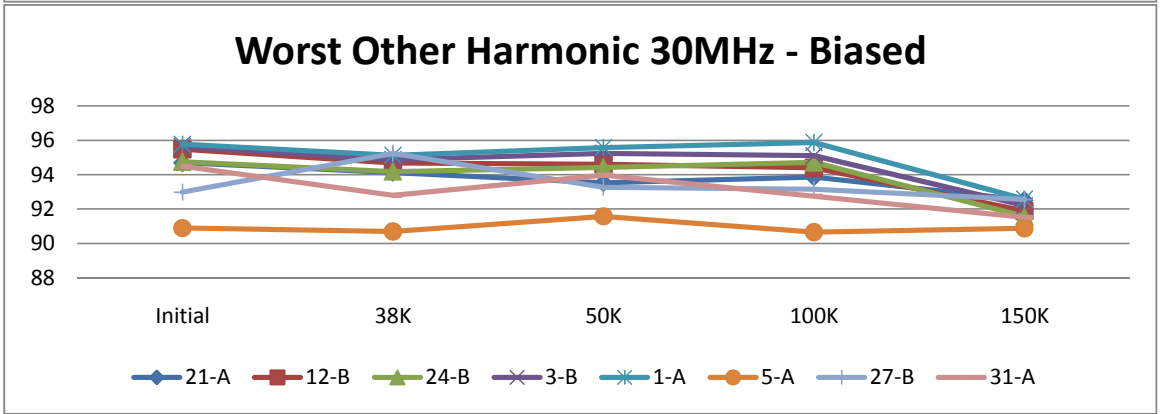


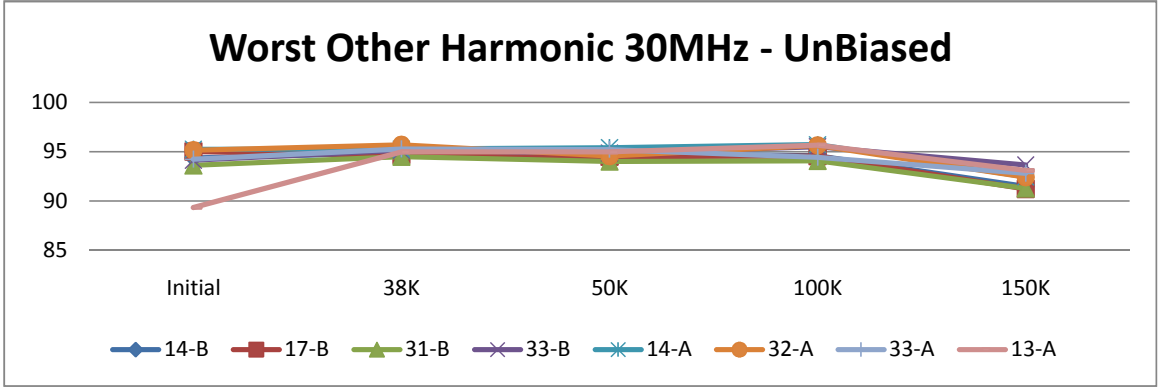




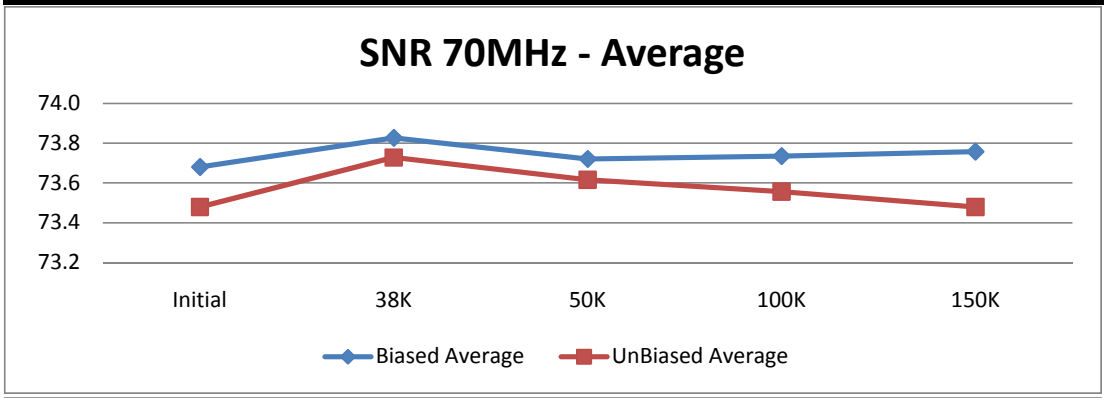
	15	Worst other Harmonic 30MHz					dB
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	**95.45490**		**95.28864**	**95.99677**	**92.14194**	**>84**
Biased	21-A	94.68924	94.12504	93.52804	93.86382	92.51385	
	12-B	95.47337	94.67491	94.61215	94.39854	91.88026	
	24-B	94.75344	94.18420	94.41187	94.71199	91.56973	
	3-B	95.63197	94.87182	95.24356	95.09814	92.19746	
	1-A	95.77190	95.13200	95.57957	95.87070	92.57762	
	5-A	90.89090	90.69854	91.57800	90.65576	90.87442	
	27-B	92.97749	95.24337	93.26649	93.14738	92.54741	
	31-A	94.48956	92.79559	93.96976	92.74721	91.51815	
	min	90.89090	90.69854	91.57800	90.65576	90.87442	
	max	95.77190	95.24337	95.57957	95.87070	92.57762	
	average	94.33473	93.96568	94.02368	93.81169	91.95986	
UnBiased	14-B	94.37389	94.86578	94.80784	94.57175	91.46655	
	17-B	95.00622	94.63345	94.48289	94.54933	91.20193	
	31-B	93.60645	94.49683	94.00694	94.05126	91.27680	
	33-B	94.11902	95.13041	94.86014	95.49979	93.64665	
	14-A	95.23949	95.25483	95.41303	95.71104	92.42471	
	32-A	95.13394	95.69663	94.55879	95.63900	92.40279	
	33-A	94.22263	95.27701	95.21677	94.41730	92.79498	
	13-A	89.32835	94.97707	94.96355	95.65732	93.07889	
	min	89.32835	94.49683	94.00694	94.05126	91.20193	
	max	95.23949	95.69663	95.41303	95.71104	93.64665	
	average	93.87875	95.04150	94.78874	95.01210	92.28666	

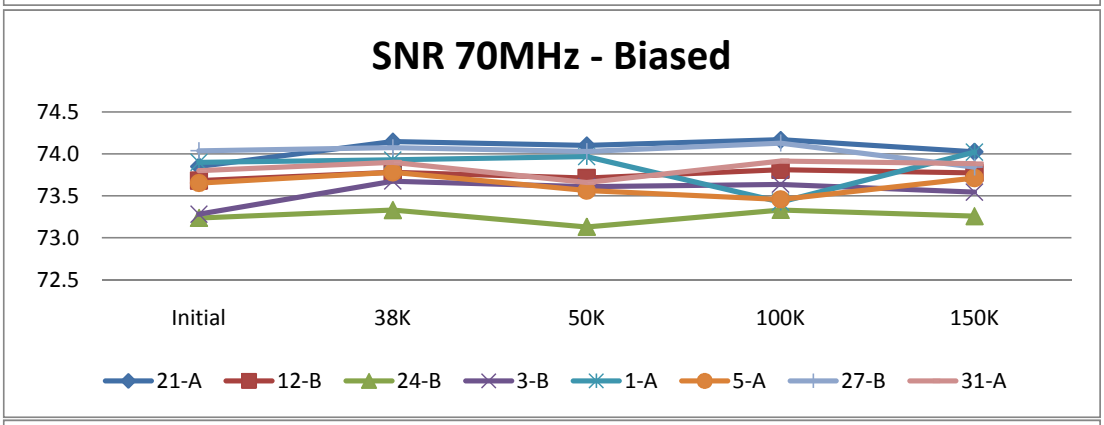


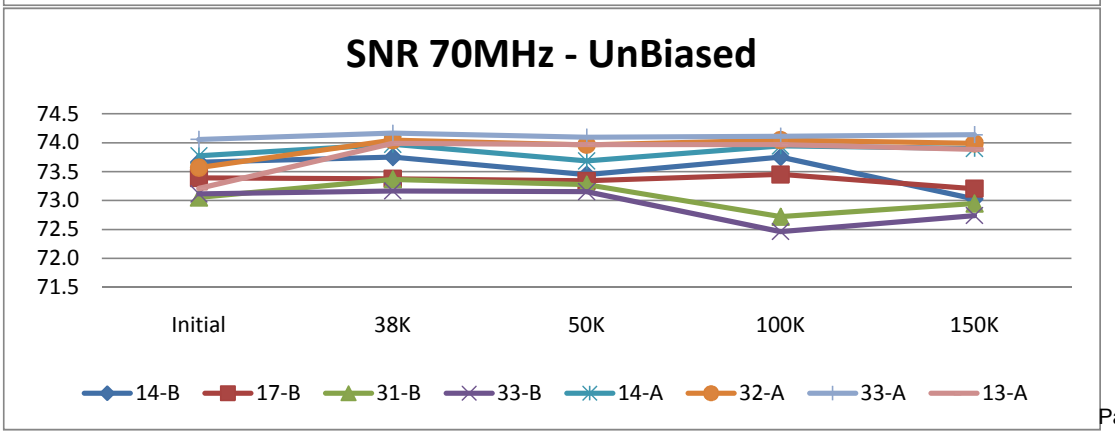




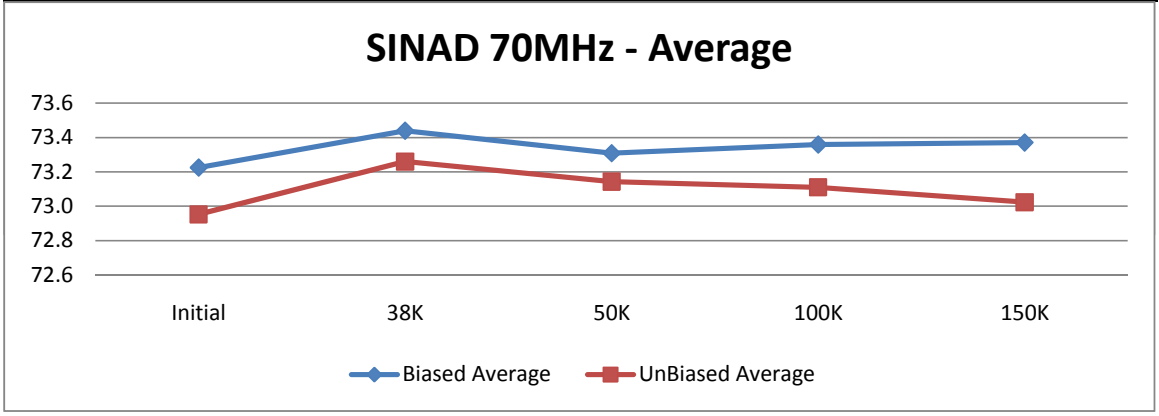
	16	SNR 70MHz					dB
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	72.19266		73.66185	73.78726	73.67387	>71.5
Biased	21-A	73.84967	74.14733	74.10186	74.16894	74.02590	
	12-B	73.68224	73.78179	73.71178	73.81129	73.77340	
	24-B	73.23622	73.33117	73.13013	73.33220	73.25838	
	3-B	73.28011	73.67542	73.61063	73.63777	73.54388	
	1-A	73.89993	73.92882	73.96880	73.42578	74.02083	
	5-A	73.65317	73.78040	73.56211	73.45858	73.71342	
	27-B	74.03872	74.07386	74.02840	74.12839	73.84275	
	31-A	73.80216	73.89999	73.65739	73.91673	73.88253	
	min	73.23622	73.33117	73.13013	73.33220	73.25838	
	max	74.03872	74.14733	74.10186	74.16894	74.02590	
	average	73.68028	73.82735	73.72139	73.73496	73.75764	
UnBiased	14-B	73.66087	73.74888	73.44521	73.75050	73.02611	
	17-B	73.39111	73.37733	73.33912	73.45107	73.20558	
	31-B	73.05332	73.36598	73.27564	72.72068	72.95029	
	33-B	73.11488	73.16692	73.15388	72.46369	72.74016	
	14-A	73.77589	73.97258	73.68483	73.94267	73.90162	
	32-A	73.56850	74.04274	73.96385	74.04414	73.98944	
	33-A	74.05666	74.16459	74.09454	74.11231	74.13783	
	13-A	73.21128	73.98709	73.96890	73.96558	73.88212	
	min	73.05332	73.16692	73.15388	72.46369	72.74016	
	max	74.05666	74.16459	74.09454	74.11231	74.13783	
	average	73.47906	73.72826	73.61575	73.55633	73.47914	

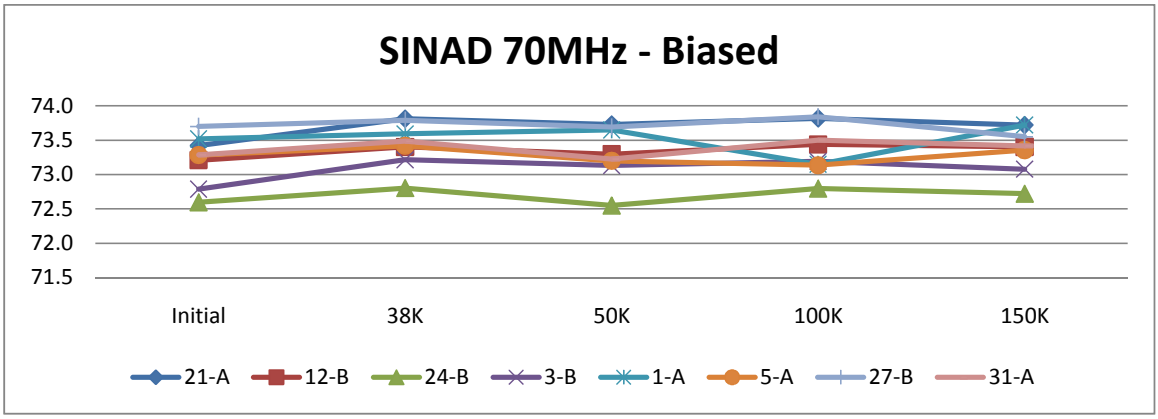


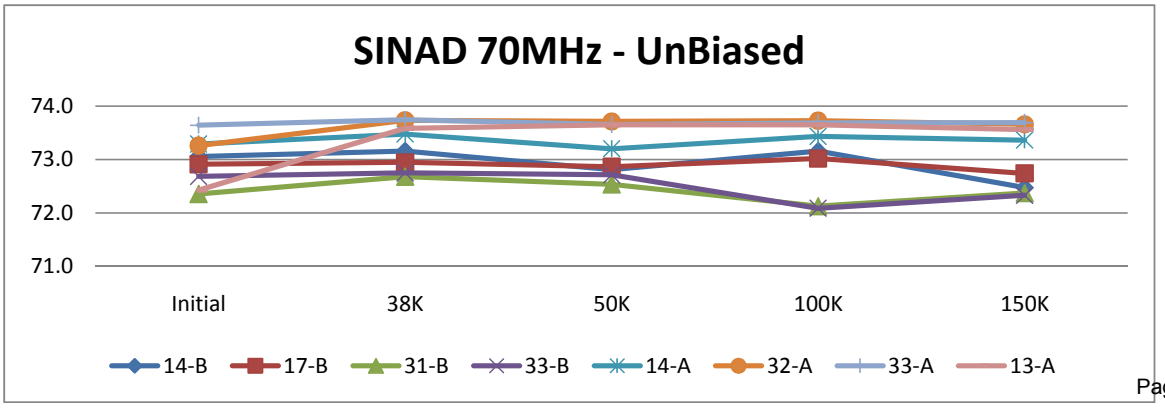




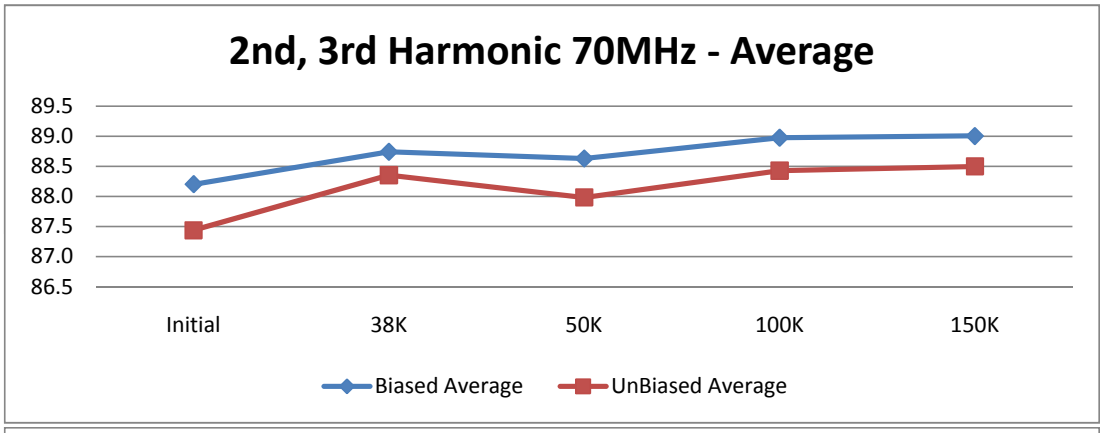
	17	SINAD 70MHz - Biased					dB
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	71.82214		73.16704	73.28680	73.15390	>71
Biased	21-A	73.42180	73.81187	73.72775	73.81770	73.72100	
	12-B	73.20892	73.40052	73.29433	73.43803	73.40300	
	24-B	72.59770	72.80422	72.54935	72.79725	72.72209	
	3-B	72.78872	73.21394	73.13069	73.19125	73.07819	
	1-A	73.51819	73.59184	73.64970	73.14860	73.72036	
	5-A	73.28313	73.41853	73.19896	73.13545	73.35555	
	27-B	73.69939	73.78912	73.69231	73.84147	73.55003	
	31-A	73.28627	73.48438	73.22617	73.50220	73.41697	
	min	72.59770	72.80422	72.54935	72.79725	72.72209	
	max	73.69939	73.81187	73.72775	73.84147	73.72100	
	average	73.22552	73.43930	73.30866	73.35899	73.37090	
UnBiased	14-B	73.05820	73.15991	72.80970	73.15595	72.47150	
	17-B	72.90958	72.94562	72.86534	73.01828	72.74053	
	31-B	72.35458	72.67692	72.53400	72.12648	72.36921	
	33-B	72.68303	72.74980	72.71365	72.08612	72.32761	
	14-A	73.29010	73.47731	73.20184	73.43506	73.36460	
	32-A	73.26121	73.73460	73.71391	73.72643	73.65943	
	33-A	73.64111	73.74834	73.65351	73.68625	73.69109	
	13-A	72.42409	73.58405	73.65009	73.64819	73.56180	
	min	72.35458	72.67692	72.53400	72.08612	72.32761	
	max	73.64111	73.74834	73.71391	73.72643	73.69109	
	average	72.95274	73.25957	73.14276	73.11035	73.02322	

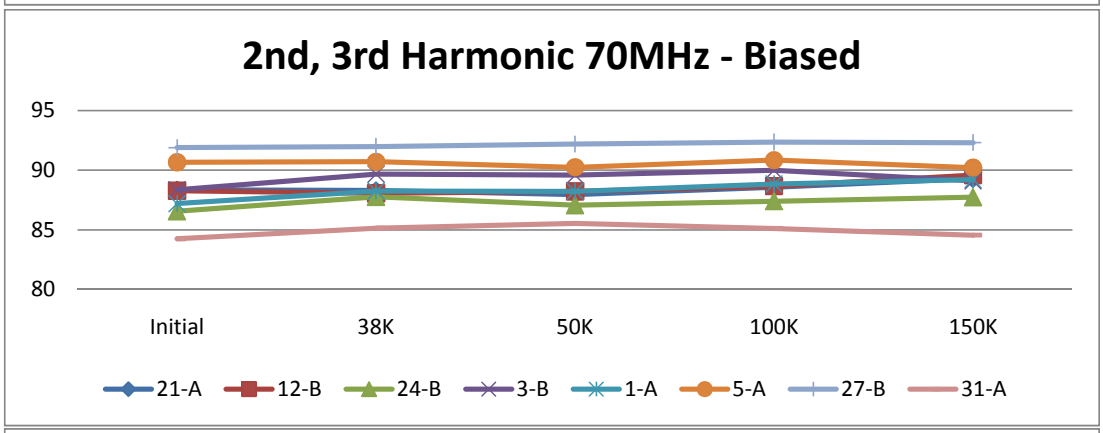


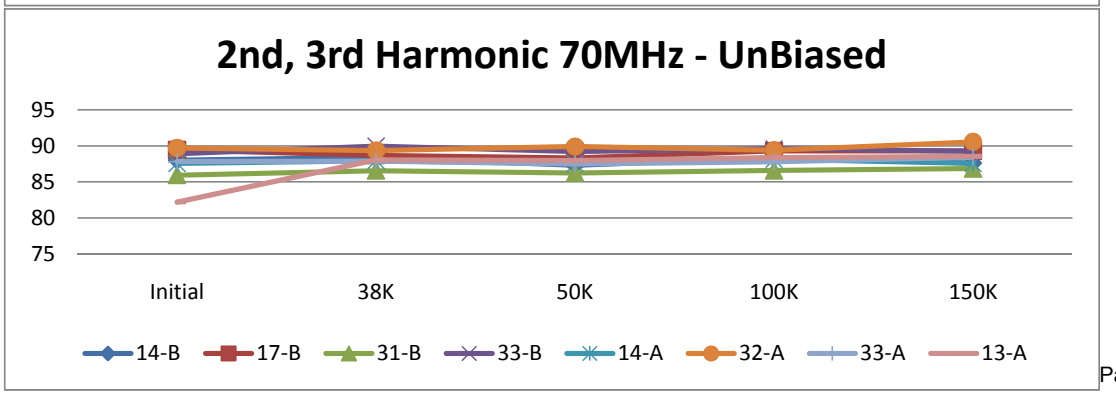




	18	2nd 3rd Harmonics 70MHz					dB
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	89.43176		89.50517	89.34262	88.70126	>82
Biased	21-A	88.36879	88.31419	87.95595	88.57596	89.29405	
	12-B	88.28505	88.07097	88.23240	88.67109	89.58556	
	24-B	86.56570	87.77423	87.07686	87.40885	87.74699	
	3-B	88.37286	89.68364	89.58955	90.00152	89.10410	
	1-A	87.20010	88.26012	88.23607	88.84322	89.22210	
	5-A	90.67451	90.71593	90.25327	90.84621	90.22321	
	27-B	91.89407	91.98988	92.18565	92.36067	92.31615	
	31-A	84.26282	85.13825	85.53424	85.12579	84.56490	
	min	84.26282	85.13825	85.53424	85.12579	84.56490	
	max	91.89407	91.98988	92.18565	92.36067	92.31615	
	average	88.20299	88.74340	88.63300	88.97916	89.00713	
UnBiased	14-B	88.01889	88.38618	87.27771	88.35226	87.59911	
	17-B	89.42182	88.68897	88.30402	89.27738	89.27460	
	31-B	85.93245	86.56107	86.23310	86.57417	86.83405	
	33-B	88.87901	89.95599	89.20757	89.59026	89.24898	
	14-A	87.54418	87.93491	87.53353	88.11832	87.54593	
	32-A	89.68523	89.35640	89.90446	89.39574	90.55560	
	33-A	87.81555	87.89099	87.45675	87.76769	88.39790	
	13-A	82.20415	88.05877	87.95486	88.36199	88.54790	
	min	82.20415	86.56107	86.23310	86.57417	86.83405	
	max	89.68523	89.95599	89.90446	89.59026	90.55560	
	average	87.43766	88.35416	87.98400	88.42973	88.50051	







	19	Worst Other Harmonic 70MHz					dB
	S/N	Initial	38K	50K	100K	150K	Limit
Control	1-B	86.21001		86.59853	86.90173	85.84150	>84
Biased	21-A	90.76851	91.54039	92.07640	91.77791	91.14121	
	12-B	87.48685	88.91223	87.98090	89.07079	88.05757	
	24-B	85.36477	87.15001	86.08374	86.92829	85.91232	
	3-B	85.86485	87.67979	87.34817	87.50370	86.99393	
	1-A	91.61939	92.43530	93.45332	93.10469	92.01058	
	5-A	88.05238	89.28792	88.68535	89.18400	88.08459	
	27-B	89.53478	90.60268	89.74828	91.02389	89.16351	
	31-A	90.98053	92.83199	89.80015	93.55807	91.85870	
	min	85.36477	87.15001	86.08374	86.92829	85.91232	
	max	91.61939	92.83199	93.45332	93.55807	92.01058	
	average	88.70901	90.05504	89.39704	90.26892	89.15280	
UnBiased	14-B	86.22012	86.73450	85.75332	86.49049	85.54469	
	17-B	87.83926	88.59607	87.92587	88.20866	86.93133	
	31-B	84.11189	84.61742	84.43761	84.80301	85.45569	
	33-B	86.62772	86.53027	86.39598	86.30626	86.13245	
	14-A	88.39592	88.55757	88.36147	88.18243	87.47697	
	32-A	89.51281	90.31980	92.38779	90.80376	90.95066	
	33-A	91.48950	91.30773	90.58254	90.97772	89.56297	
	13-A	87.46858	90.40228	91.39811	91.80645	90.00037	
	min	84.11189	84.61742	84.43761	84.80301	85.45569	
	max	91.48950	91.30773	92.38779	91.80645	90.95066	
	average	87.70823	88.38321	88.40534	88.44735	87.75689