A/D Converter Measurement for LIHU S/N 31 (HuskySat-1 Flight Model)

Note: The voltage and reading measurements are done with a variable power supply and volt meter. The "Exp4 Reading" is direct to the A/D converter via the EXP4 Temp line on the bus. The Voltage/4 is measuring the Vbus voltage which is run through a 24/99 voltage divider. The column labelled 'linear' is the ADC value we would expect if the ADC were strictly linear and the resistors were perfect. Diff is the difference between measured and calculated.

These two columns show what you get using the measured ADC value first with a linear conversion and then using an offset (50 in this case) close to what was calculated under "diff"

Voltage	Exp4 Reading	.1V Delta	Linear	Diff
3.3	4095		4095	0
3.2	3998		3970	-28
3.1	3875	123	3846	-29
3	3753	122	3722	-31
2.7	3372	127	3350	-22
2.6	3253	119	3226	-27
2.5	3127	126	3102	-25
2	2502	125	2481	-21
1.5	1876	125.2	1861	-15
1	1246	126	1240	-6
0.5	621	125	620	-1
0.0152	20	123.96864686	18	-2
0	0		0	

Bus Voltage	Voltage/4	Vbat/4 Reading	Linear		Linear		Calculated Linear	Calculated linear with offset
6.4	1.55136	1972	1925	-47	1975	3	6.55527472527473	6.38906593406593
6.3	1.52712	1941	1895	-46	1945	4	6.45222527472528	6.28601648351648
6.2	1.50288	1913	1864	-49	1914	1	6.35914835164835	6.19293956043956
6.1	1.47864	1884	1834	-50	1884	0	6.26274725274725	6.09653846153846
6	1.4544	1855	1804	-51	1854	-1	6.16634615384615	6.00013736263736
5.9	1.43016	1827	1774	-53	1824	-3	6.07326923076923	5.90706043956044
5.5	1.3332	1706	1654	-52	1704	-2	5.67104395604396	5.50483516483516
5	1.212	1556	1503	-53	1553	-3	5.17241758241758	5.00620879120879
4.5	1.0908	1411	1353	-58	1403	-8	4.69041208791209	4.5242032967033
4	0.9696	1264	1203	-61	1253	-11	4.20175824175824	4.03554945054945
3.5	0.8484	1115	1052	-63	1102	-13	3.70645604395604	3.54024725274725
3.3	0.79992	1079	992	-87	1042	-37	3.58678571428571	3.42057692307692