

Video Board Test Results-VB2

1. Attach video board, do smoke test, measure basic voltages (same as driver). Measure on boards and at connectors.

Table 1: Power Supply Voltages

	+5V	+15V	-15V	+24V
Run LSE	0.347 A	0.102A	0.094 A	0.001 A

1. Set the DAC's using vdm60f.fpg (most likely already done as part of the driver board testing). Record the set values from vdm60f and calculate the expected values in Table

Table 2: DAC Set values and Expected Output Voltages

DAC SET	Set (Hex)	Set (Dec)	/4096	Expected Value
OG	0940	2368	.578125	1.908
IG1	06FB	1787	0.436279296875	1.440
IG2	0730	1840	0.44921875	1.482421875
SCP	0CD9	3289	0.802978515625	2.6498291015625
RD	0CC4	3268	0.7978515625	2.63291015625
BS	0000	0	0	0
SUB	0ED8	3800	0.927734375	3.0615234375
DR-A	0CDE	3294	0.80419921875	2.653857421875
DR-B	0CDE	3294	0.80419921875	2.653857421875
DR-C	0CDE	3294	0.80419921875	2.653857421875
DR-D	0CDE	3294	0.80419921875	2.653857421875

2. Check DACs: Measure voltage of each output of the DACs. Value should be within 1% TBR of expected values.

DAC	CCD1	CCD2	CCD3	CCD4
REF	3.310	3.306	3.304	3.304
OG	1.905	1.922	1.909	1.881
IG1	1.433	1.448	1.458	1.449
IG2	1.495	1.473	1.486	1.494
SCP	2.655	2.659	2.652	2.666
RD	2.620	2.649	2.628	2.652
BS	0.000	0.008	0.000	0.002
SUB	3.055	3.076	3.049	3.073
DR-A	2.669	2.655	2.656	2.644
DR-B	2.665	2.660	2.683	2.674
DR-C	2.655	2.658	2.632	2.662
DR-D	2.658	2.667	2.638	2.682

3. Measure to actual voltages corresponding to each of the parameters above and record in Table

DAC	CCD1	CCD2	CCD3	CCD4
OG	-1.094	-1.027	-1.057	-1.187
IG1	-2.821	-2.757	-2.715	-2.753
IG2	-2.596	-2.673	-2.629	-2.567
SCP	12.14	12.11	12.06	12.19
RD	11.89	12.09	12.01	11.98
BS	0.003	0.011	0.003	0.003
SUB	-44.74	-44.74	-44.73	-44.73
DR-A	19.94	20.12	20.05	20.04
DR-B	19.91	20.19	20.08	20.01
DR-C	19.87	20.08	19.93	20.02
DR-D	19.88	20.08	20.04	19.96

4. Using the LSE, query each of the housekeeping values for each of the video board voltages and record below.

DAC	CCD1	CCD2	CCD3	CCD4
OG	-1.13	-0.99	-1.05	-1.16
IG1	-2.81	-2.74	-2.71	-2.72
IG2	-2.57	-2.65	-2.62	-2.53
SCP	12.17	12.13	12.05	12.15
RD	11.82	12.04	11.95	11.94
BS	0	0	-0.01	-0.01
SUB	-44.16	-44.88	-44.56	-44.44
DR-A	20.21	20.04	19.97	20.02
DR-B	20.15	20.33	20.26	20.26
DR-C	20.17	20.26	20.09	20.17
DR-D	20.08	20.13	20.06	20.14

5. Use a scope on each of the A/D signals and verify the proper function of each of the signal and record the proper functioning below.

SIG	CCD1	CCD2	CCD3	CCD4
SCLK	Y	Y	Y	Y
CNV	Y	Y	Y	Y
SDO-A	Y	Y	Y	Y
SDO-B	Y	Y	Y	Y
SDO-C	Y	Y	Y	Y
SDO-D	Y	Y	Y	Y