

12W, 12W2 & 12W3 CBPM Failure Analysis

Firmware Revisions																					
		12W	12W2	12W3																	
RTEMS Kernal		4.8.0	5.2.0	5.2.0																	
CBI_NET Server		0.98.4	0.99.4	0.99.4																	
DSP		5.8	5.13	5.13																	
DSP Type		unknown	BPM_4nS	BPM_4nS																	
							Vcom														
CBPM 12W			J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14		
CARD 0 TOP INSIDE	CHAN A	DC AC																			
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70		
	CHAN B	DC AC																			
				J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14	
CARD 1 BOTTOM INSIDE	CHAN A	DC AC																			
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70		
	CHAN B	DC AC																			
				J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14	
CARD 2 BOTTOM OUTSIDE	CHAN A	DC AC																			
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70		
	CHAN B	DC AC																			
				J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14	
CARD 3 TOP OUTSIDE	CHAN A	DC AC																			
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70		
	CHAN B	DC AC																			
Regulator Voltage readings:																					
			Card 0:	ADC 0			ADC 1			+Va		Card 2:	ADC 0			ADC 1			+Va		
				U1	U3	U4	U6	U11				U1	U3	U4	U6	U11					
				TP1	TP2	TP3	TP4	C123				TP1	TP2	TP3	TP4	C123					
				0	0	0	0	0				0	0	0	0	0					
			Card 1:	ADC 0			ADC 1			+Va		Card 3:	ADC 0			ADC 1			+Va		
				U1	U3	U4	U6	U11				U1	U3	U4	U6	U11					
				TP1	TP2	TP3	TP4	C123				TP1	TP2	TP3	TP4	C123					
				0	0	0	0	0				0	0	0	0	0					

			Vcom																
CBPM 12W2			J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14
CARD 0 TOP INSIDE	CHAN A	DC AC																	
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70
	CHAN B	DC AC																	
			J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14
CARD 1 BOTTOM INSIDE	CHAN A	DC AC																	
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70
	CHAN B	DC AC																	
			J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14
CARD 2 BOTTOM OUTSIDE	CHAN A	DC AC																	
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70
	CHAN B	DC AC																	
			J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14
CARD 3 TOP OUTSIDE	CHAN A	DC AC																	
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70
	CHAN B	DC AC																	

Regulator Voltage readings:

Card 0:	ADC 0		ADC 1		+Va
	U1	U3	U4	U6	U11
	TP1	TP2	TP3	TP4	C123
	0	0	0	0	0
Card 1:	ADC 0		ADC 1		+Va
	U1	U3	U4	U6	U11
	TP1	TP2	TP3	TP4	C123
	0	0	0	0	0
Card 2:	ADC 0		ADC 1		+Va
	U1	U3	U4	U6	U11
	TP1	TP2	TP3	TP4	C123
	0	0	0	0	0
Card 3:	ADC 0		ADC 1		+Va
	U1	U3	U4	U6	U11
	TP1	TP2	TP3	TP4	C123
	0	0	0	0	0

			J2	SPLITTER	U14-5	U14-1	R58	Vcom T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14
CBPM 12W3			J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14
CARD 0 TOP INSIDE Good	CHAN A	DC	0	0	4.543	4.443	0	2.502	2.502	2.502	1.286	1.284	4.5	4.564	3.602	4.483	4.507	3.606	1.701
		AC																	
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70
Good	CHAN B	DC			4.562	4.493	0	2.5	2.5	2.5	1.315	1.279	4.473	4.551	3.588	4.463	4.56	3.593	1.705
		AC																	
CARD 1 BOTTOM INSIDE Good			J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14
Good	CHAN A	DC																	
		AC																	
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70
Good	CHAN B	DC																	
		AC																	
CARD 2 BOTTOM OUTSIDE Bad			J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14
Bad	CHAN A	DC	0	0	4.372	4.345	0	2.387	2.386	2.386	1.168	1.167	4.312	4.355	3.505	4.307	4.347	3.506	1.707
		AC																	
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70
Bad	CHAN B	DC			4.332	4.282	0	2.387	2.387	2.387	1.164	1.163	4.257	4.297	3.5	4.303	4.335	3.501	1.714
		AC																	
CARD 3 TOP OUTSIDE Bad			J2	SPLITTER	U14-5	U14-1	R58	T1-2	U12-3	U12-4	U12-8	U12-7	U13-1	U13-5	ADC0_Inp	U15-1	U15-5	ADC0_Inn	C14
Bad	CHAN A	DC	0	0	4.519	4.483	0	2.496	2.496	2.496	1.298	1.303	4.49	4.523	3.55	4.534	4.57	3.547	1.716
		AC																	
			NA	NA	U21-5	U21-1	R84	T3-2	U18-3	U18-4	U18-8	U18-7	U19-1	U19-5	ADC1_Inp	U23-1	U23-5	ADC1_INn	C70
Bad	CHAN B	DC			4.551	4.512	0	2.496	2.496	2.496	1.307	1.304	4.502	4.533	3.607	4.505	4.546	3.603	1.7
		AC																	

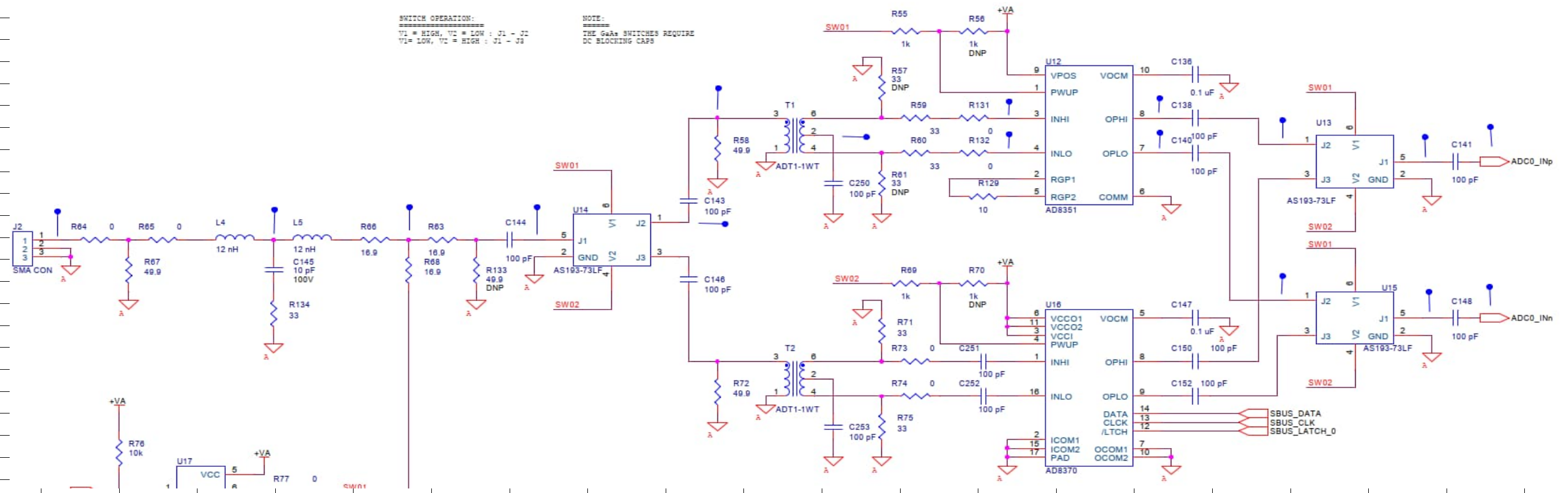
Regulator Voltage readings:

Card 0:	ADC 0		ADC 1		+Va
	U1	U3	U4	U6	U11
	TP1	TP2	TP3	TP4	C123
	3.29	4.939	3.28	4.959	4.98
Card 1:	ADC 0		ADC 1		+Va
	U1	U3	U4	U6	U11
	TP1	TP2	TP3	TP4	C123
	0	0	0	0	0
Card 2:	ADC 0		ADC 1		+Va
	U1	U3	U4	U6	U11
	TP1	TP2	TP3	TP4	C123
	3.134	4.751	3.119	4.755	4.766
Card 3:	ADC 0		ADC 1		+Va
	U1	U3	U4	U6	U11
	TP1	TP2	TP3	TP4	C123
	3.185	4.92	3.273	4.973	4.985

CHANNEL A

SWITCH OPERATION:
 V1 = HIGH, V2 = LOW : J1 - J2
 V1 = LOW, V2 = HIGH : J1 - J3

NOTE:
 THE GsAs SWITCHES REQUIRE
 DC BLOKING CAPS



CHANNEL B

