Hybrid-144 Non-multiplexed Pin Card Tests

This chapter describes Hybrid-144 Non-multiplexed Pin Card tests for UnMux systems.

The Hybrid-144 Non-multiplexed Pin Card tests are numbered in the 14000s.

Control

Test 14017

Pin RAM

Test 14017 does a walking ones test and a pattern test of the pin RAM. The data is written to and then read back from the RAM.

Test 14018

Response RAM

Test 14018 does a walking ones test of the response RAM. The data is written to and then read back from the RAM.

Relays

Test 14020

Relay Buzz

Test 14020 prepares the relays for the relay tests by buzzing (repeatedly closing and opening) them. This test makes no measurements and will never fail. This test is a prerequisite to all the other relay tests.

Test 14021 and 14041

The following describes Test 14021 and Test 14041. Subtests 24 to 119 that were part of Test 14021 are now subtests 0 to 95 in Test 14041. See Table 11-1 (Test 14021) and Table 11-2 (Test 14041) for the subtests.

SUBMUX relays

This test verifies that the SUBMUX relays close ("opens" test) and open (the "stuck relay" test). The "opens" test closes each relay in a test path through the SUBMUX and makes a measurement expecting continuity. The "stuck relay" test opens one relay at a time and makes a measurement expecting an open. The setup for this test is shown in Figure 11-1.

Figure 11-1 Test 14021/14041 Test Path

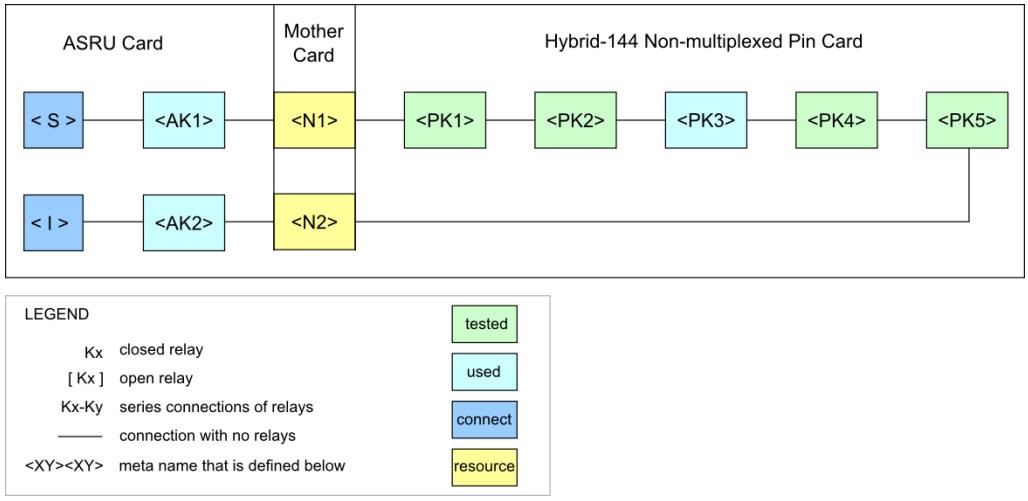

Table 11-1 Test 14021 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<PK5>	<N2>	<AK2>		Measured
0	S	K733	X1	KSA			KSAA	KAA	X2	K726	I	R close
1	S	K733	X1	[KSA]			KSAA	KAA	X2	K726	I	R open
2	S	K733	X1	KSA			[KSAA]	KAA	X2	K726	I	R open
3	S	K733	X1	KSA			KSAA	[KAA]	X2	K726	I	R open
4	S	K735	X3	KIA			KIBA	KBA	X4	K728	I	R close
5	S	K735	X3	[KIA]			KIBA	KBA	X4	K728	I	R open
6	S	K735	X3	KIA			[KIBA]	KBA	X4	K728	I	R open
7	S	K735	X3	KIA			KIBA	[KBA]	X4	K728	I	R open
8	L	K754-K753	XL	KLA	KGLA			KGA	XG	K752	G	R close
9	L	K754-K753	XL	[KLA]	KGLA			KGA	XG	K752	G	R open
10	L	K754-K753	XL	KLA	[KGLA]			KGA	XG	K752	G	R open
11	L	K754-K753	XL	KLA	KGLA			[KGA]	XG	K752	G	R open
12	S	K737	X5	KSB			KSAB	KAB	X6	K730	I	R close
13	S	K737	X5	[KSB]			KSAB	KAB	X6	K730	I	R open
14	S	K737	X5	KSB			[KSAB]	KAB	X6	K730	I	R open
15	S	K737	X5	KSB			KSAB	[KAB]	X6	K730	I	R open
16	S	K739	X7	KIB			KIBB	KBB	X8	K732	I	R close
17	S	K739	X7	[KIB]			KIBB	KBB	X8	K732	I	R open
18	S	K739	X7	KIB			[KIBB]	KBB	X8	K732	I	R open
19	S	K739	X7	KIB			KIBB	[KBB]	X8	K732	I	R open
20	L	K754-K753	XL	KLB	KGLB			KGB	XG	K752	G	R close
21	L	K754-K753	XL	[KLB]	KGLB			KGB	XG	K752	G	R open

Table 11-1 Test 14021 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<PK5>	<N2>	<AK2>		Measured
22	L	K754-K753	XL	KLB	[KGLB]			KGB	XG	K752	G	R open
23	L	K754-K753	XL	KLB	KGLB			[KGB]	XG	K752	G	R open

Table 11-2 Test 14041 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<PK5>	<N2>	<AK2>		Measured
0	S	K733	X1	KSA		SA_IA		KIA	X3	K727	I	R close
1	S	K733	X1	[KSA]		SA_IA		KIA	X3	K727	I	R open
2	S	K733	X1	KSA		SA_IA		[KIA]	X3	K727	I	R open
3	S	K733	X1	KSA		SA_IA	KIBA	KBA	X4	K728	I	R close
4	S	K733	X1	[KSA]		SA_IA	KIBA	KBA	X4	K728	I	R open
5	S	K733	X1	KSA		SA_IA	[KIBA]	KBA	X4	K728	I	R open
6	S	K733	X1	KSA		SA_IA	KIBA	[KBA]	X4	K728	I	R open
7	S	K734	X2	KAA	KSAA	SA_IA		KIA	X3	K727	I	R close
8	S	K734	X2	[KAA]	KSAA	SA_IA		KIA	X3	K727	I	R open
9	S	K734	X2	KAA	[KSAA]	SA_IA		KIA	X3	K727	I	R open
10	S	K734	X2	KAA	KSAA	SA_IA		[KIA]	X3	K727	I	R open
11	S	K734	X2	KAA	KSAA	SA_IA	KIBA	KBA	X4	K728	I	R close
12	S	K734	X2	[KAA]	KSAA	SA_IA	KIBA	KBA	X4	K728	I	R open
13	S	K734	X2	KAA	[KSAA]	SA_IA	KIBA	KBA	X4	K728	I	R open
14	S	K734	X2	KAA	KSAA	SA_IA	[KIBA]	KBA	X4	K728	I	R open
15	S	K734	X2	KAA	KSAA	SA_IA	KIBA	[KBA]	X4	K728	I	R open
16	S	K733	X1	KSA		SA_GA		KGA	XG	K752	G	R close

Table 11-2 Test 14041 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<PK5>	<N2>	<AK2>		Measured
17	S	K733	X1	[KSA]		SA_GA		KGA	XG	K752	G	R open
18	S	K733	X1	KSA		SA_GA		[KGA]	XG	K752	G	R open
19	L	K754-K753	XL	KLA	KGLA	SA_GA	KSA		X1	K725	I	R close
20	L	K754-K753	XL	[KLA]	KGLA	SA_GA	KSA		X1	K725	I	R open
21	L	K754-K753	XL	KLA	[KGLA]	SA_GA	KSA		X1	K725	I	R open
22	L	K754-K753	XL	KLA	KGLA	SA_GA	[KSA]		X1	K725	I	R open
23	S	K734	X2	KAA	KSAA	SA_GA	KGA		XG	K752	G	R close
24	S	K734	X2	[KAA]	KSAA	SA_GA	KGA		XG	K752	G	R open
25	S	K734	X2	KAA	[KSAA]	SA_GA	KGA		XG	K752	G	R open
26	S	K734	X2	KAA	KSAA	SA_GA	[KGA]		XG	K752	G	R open
27	L	K754-K753	XL	KLA	KGLA	SA_GA	KSAA	KAA	X2	K726	I	R close
28	L	K754-K753	XL	[KLA]	KGLA	SA_GA	KSAA	KAA	X2	K726	I	R open
29	L	K754-K753	XL	KLA	[KGLA]	SA_GA	KSAA	KAA	X2	K726	I	R open
30	L	K754-K753	XL	KLA	KGLA	SA_GA	[KSAA]	KAA	X2	K726	I	R open
31	L	K754-K753	XL	KLA	KGLA	SA_GA	KSAA	[KAA]	X2	K726	I	R open
32	S	K735	X3	KIA		IA_GA		KGA	XG	K752	G	R close
33	S	K735	X3	[KIA]		IA_GA		KGA	XG	K752	G	R open
34	S	K735	X3	KIA		IA_GA		[KGA]	XG	K752	G	R open
35	L	K754-K753	XL	KLA	KGLA	IA_GA		KIA	X3	K727	I	R close
36	L	K754-K753	XL	[KLA]	KGLA	IA_GA		KIA	X3	K727	I	R open
37	L	K754-K753	XL	KLA	[KGLA]	IA_GA		KIA	X3	K727	I	R open
38	L	K754-K753	XL	KLA	KGLA	IA_GA		[KIA]	X3	K727	I	R open

Table 11-2 Test 14041 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<PK5>	<N2>	<AK2>		Measured
39	S	K736	X4	KBA	KIBA	IA_GA		KGA	XG	K752	G	R close
40	S	K736	X4	[KBA]	KIBA	IA_GA		KGA	XG	K752	G	R open
41	S	K736	X4	KBA	[KIBA]	IA_GA		KGA	XG	K752	G	R open
42	S	K736	X4	KBA	KIBA	IA_GA		[KGA]	XG	K752	G	R open
43	L	K754-K753	XL	KLA	KGLA	IA_GA	KIBA	KBA	X4	K728	I	R close
44	L	K754-K753	XL	[KLA]	KGLA	IA_GA	KIBA	KBA	X4	K728	I	R open
45	L	K754-K753	XL	KLA	[KGLA]	IA_GA	KIBA	KBA	X4	K728	I	R open
46	L	K754-K753	XL	KLA	KGLA	IA_GA	[KIBA]	KBA	X4	K728	I	R open
47	L	K754-K753	XL	KLA	KGLA	IA_GA	KIBA	[KBA]	X4	K728	I	R open
48	S	K737	X5	KSB		SB_IB		KIB	X7	K731	I	R close
49	S	K737	X5	[KSB]		SB_IB		KIB	X7	K731	I	R open
50	S	K737	X5	KSB		SB_IB		[KIB]	X7	K731	I	R open
51	S	K737	X5	KSB		SB_IB	KIBB	KBB	X8	K732	I	R close
52	S	K737	X5	[KSB]		SB_IB	KIBB	KBB	X8	K732	I	R open
53	S	K737	X5	KSB		SB_IB	[KIBB]	KBB	X8	K732	I	R open
54	S	K737	X5	KSB		SB_IB	KIBB	[KBB]	X8	K732	I	R open
55	S	K738	X6	KAB	KSAB	SB_IB		KIB	X7	K731	I	R close
56	S	K738	X6	[KAB]	KSAB	SB_IB		KIB	X7	K731	I	R open
57	S	K738	X6	KAB	[KSAB]	SB_IB		KIB	X7	K731	I	R open
58	S	K738	X6	KAB	KSAB	SB_IB		[KIB]	X7	K731	I	R open
59	S	K738	X6	KAB	KSAB	SB_IB	KIBB	KBB	X8	K732	I	R close
60	S	K738	X6	[KAB]	KSAB	SB_IB	KIBB	KBB	X8	K732	I	R open

Table 11-2 Test 14041 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<PK5>	<N2>	<AK2>		Measured
61	S	K738	X6	KAB	[KSAB]	SB_IB	KIBB	KBB	X8	K732	I	R open
62	S	K738	X6	KAB	KSAB	SB_IB	[KIBB]	KBB	X8	K732	I	R open
63	S	K738	X6	KAB	KSAB	SB_IB	KIBB	[KBB]	X8	K732	I	R open
64	S	K737	X5	KSB		SB_GB		KGB	XG	K752	G	R close
65	S	K737	X5	[KSB]		SB_GB		KGB	XG	K752	G	R open
66	S	K737	X5	KSB		SB_GB		[KGB]	XG	K752	G	R open
67	L	K754-K753	XL	KLB	KGLB	SB_GB		KSB	X5	K729	I	R close
68	L	K754-K753	XL	[KLB]	KGLB	SB_GB		KSB	X5	K729	I	R open
69	L	K754-K753	XL	KLB	[KGLB]	SB_GB		KSB	X5	K729	I	R open
70	L	K754-K753	XL	KLB	KGLB	SB_GB		[KSB]	X5	K729	I	R open
71	S	K738	X6	KAB	KSAB	SB_GB		KGB	XG	K752	G	R close
72	S	K738	X6	[KAB]	KSAB	SB_GB		KGB	XG	K752	G	R open
73	S	K738	X6	KAB	[KSAB]	SB_GB		KGB	XG	K752	G	R open
74	S	K738	X6	KAB	KSAB	SB_GB		[KGB]	XG	K752	G	R open
75	L	K754-K753	XL	KLB	KGLB	SB_GB	KSAB	KAB	X6	K730	I	R close
76	L	K754-K753	XL	[KLB]	KGLB	SB_GB	KSAB	KAB	X6	K730	I	R open
77	L	K754-K753	XL	KLB	[KGLB]	SB_GB	KSAB	KAB	X6	K730	I	R open
78	L	K754-K753	XL	KLB	KGLB	SB_GB	[KSAB]	KAB	X6	K730	I	R open
79	L	K754-K753	XL	KLB	KGLB	SB_GB	KSAB	[KAB]	X6	K730	I	R open
80	S	K739	X7	KIB		IB_GB		KGB	XG	K752	G	R close
81	S	K739	X7	[KIB]		IB_GB		KGB	XG	K752	G	R open
82	S	K739	X7	KIB		IB_GB		[KGB]	XG	K752	G	R open

Table 11-2 Test 14041 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<PK5>	<N2>	<AK2>		Measured
83	L	K754-K753	XL	KLB	KGLB	IB_GB		KIB	X7	K731	I	R close
84	L	K754-K753	XL	[KLB]	KGLB	IB_GB		KIB	X7	K731	I	R open
85	L	K754-K753	XL	KLB	[KGLB]	IB_GB		KIB	X7	K731	I	R open
86	L	K754-K753	XL	KLB	KGLB	IB_GB		[KIB]	X7	K731	I	R open
87	S	K740	X8	KBB	KIBB	IB_GB		KGB	XG	K752	G	R close
88	S	K740	X8	[KBB]	KIBB	IB_GB		KGB	XG	K752	G	R open
89	S	K740	X8	KBB	[KIBB]	IB_GB		KGB	XG	K752	G	R open
90	S	K740	X8	KBB	KIBB	IB_GB		[KGB]	XG	K752	G	R open
91	L	K754-K753	XL	KLB	KGLB	IB_GB	KIBB	KBB	X8	K732	I	R close
92	L	K754-K753	XL	[KLB]	KGLB	IB_GB	KIBB	KBB	X8	K732	I	R open
93	L	K754-K753	XL	KLB	[KGLB]	IB_GB	KIBB	KBB	X8	K732	I	R open
94	L	K754-K753	XL	KLB	KGLB	IB_GB	[KIBB]	KBB	X8	K732	I	R open
95	L	K754-K753	XL	KLB	KGLB	IB_GB	KIBB	[KBB]	X8	K732	I	R open
96			X4	KAA				KBA	X2			
97			X4	KAA				KBA	X2			
98			X4	KAA				KBA	X2			
99			X1	KAA				KLA	X2			
100			X1	KAA				KLA	X2			
101			X1	KAA				KLA	X2			
102			X1	KBA				KLA	X4			
103			X1	KBA				KLA	X4			
104			X1	KBA				KLA	X4			

Table 11-2 Test 14041 Subtests

Subtest	[redacted]	<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<PK5>	<N2>	<AK2>	[redacted]	Measured
105			X8	KAB				KBB	X6			
106			X8	KAB				KBB	X6			
107			X8	KAB				KBB	X6			
108			X1	KAB				KLB	X6			
109			X1	KAB				KLB	X6			
110			X1	KAB				KLB	X6			
111			X1	KBB				KLB	X8			
112			X1	KBB				KLB	X8			
113			X1	KBB				KLB	X8			

Test 14022

Pin-MUX Relays

This test verifies that the pin-mux relays close (the “opens” test) and open (the “stuck relay” test). The “opens” test closes each relay in a test path through the pin-mux and makes a measurement expecting continuity. The “stuck relay” test opens one relay at a time and makes a measurement expecting an open. The setup for this test is shown in Figure 11-2.

Use Table 11-3 to determine the value of the variable i based on the pin being tested. Then use Table 11-4 to determine the subtests and hardware used for testing the pin.

Figure 11-2 Test 14022 Test Paths

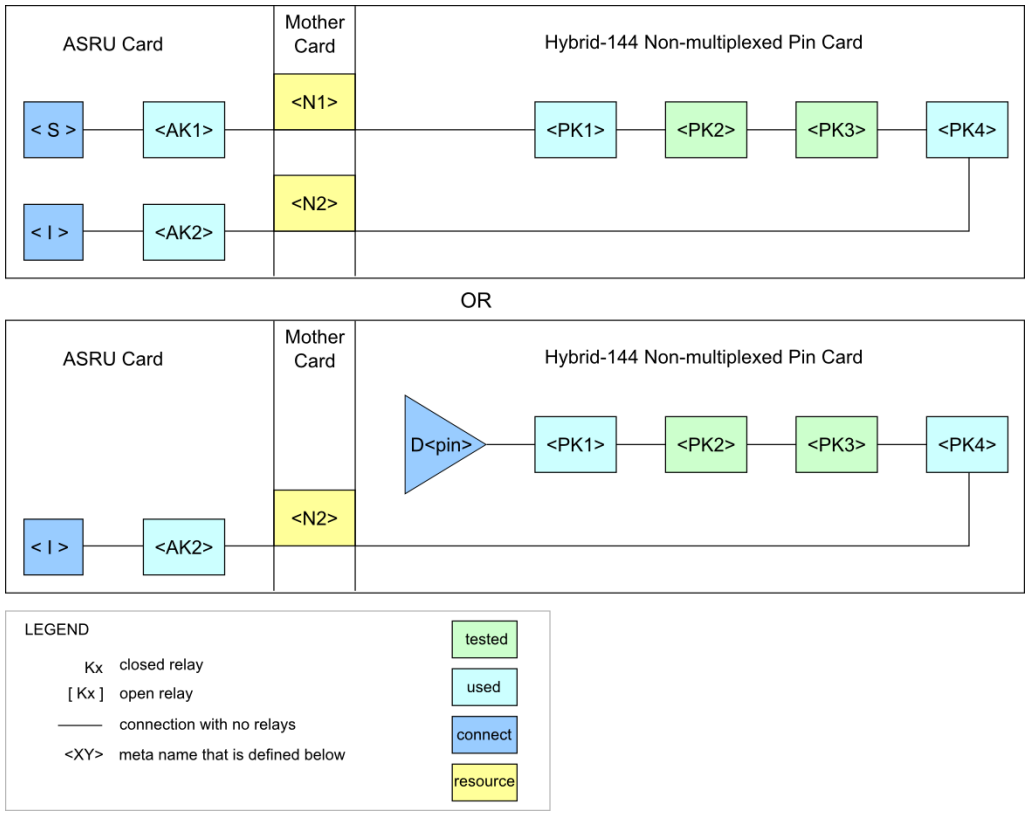

Table 11-3 Pin Number to Variable i Cross Reference

<pin>		i	<pin>		i	<pin>		i	<pin>		i
1	101	0	21	121	54	41	141	108	61	161	162
2	102	3	22	122	57	42	142	111	62	162	165
3	103	6	23	123	60	43	143	114	63	163	168
4	104	9	24	124	63	44	144	117	64	164	171
5	105	12	25	125	66	45	145	120	65	165	174
6	106	15	26	126	69	46	146	123	66	166	177
7	107	18	27	127	72	47	147	126	67	167	180
8	108	21	28	128	75	48	148	129	68	168	183
9	109	24	29	129	78	49	149	132	69	169	186
10	110	27	30	130	81	50	150	135	70	170	189
11	111	30	31	131	84	51	151	138	71	171	192
12	112	33	32	132	87	52	152	141	72	172	195
13	113	36	33	133	90	53	153	144	73	173	198
14	114	39	34	134	93	54	154	147	74	174	201
15	115	42	35	135	96	55	155	150	75	175	204
16	116	45	36	136	99	56	156	153	76	176	207
17	117	48	37	137	102	57	157	156	77	177	210
18	118	51	38	138	105	58	158	159	78	178	213

Table 11-4 Test 14022 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<N2>	<AK2>		< M >
i	S	K733	X1	KSA	KAS<pin>	KAI<pin>	KIA	X3	K727	I	R close
i + 1	S	K733	X1	KSA	[KAS<pin>]	KAI<pin>	KIA	X3	K727	I	R open
i + 2	S	K733	X1	KSA	KAS<pin>	[KAI<pin>]	KIA	X3	K727	I	R open
216 + i	S	K737	X5	KSB	KBS<pin>	KBI<pin>	KIB	X7	K731	I	R close
216 + i + 1	S	K737	X5	KSB	[KBS<pin>]	KBI<pin>	KIB	X7	K731	I	R open
216 + i + 2	S	K737	X5	KSB	KBS<pin>	[KBI<pin>]	KIB	X7	K731	I	R open
432 + i	D<pin>				KAD<pin>	KAG<pin>	KGA	XG		G	R close
432 + i + 1	D<pin>				[KAD<pin>]	KAG<pin>	KGA	XG		G	R open
432 + i + 2	D<pin>				KAD<pin>	[KAG<pin>]	KGA	XG		G	R open
648 + i	D<pin>				KBD<pin>	KBG<pin>	KGB	XG		G	R close
648 + i + 1	D<pin>				[KBD<pin>]	KBG<pin>	KGB	XG		G	R open
648 + i + 2	D<pin>				KBD<pin>	[KBG<pin>]	KGB	XG		G	R open
864 + i	S	K733	X1	KSA	KAS<pin>	KAG<pin>	KGA	XG		G	R close
864 + i + 1	S	K733	X1	KSA	[KAS<pin>]	KAG<pin>	KGA	XG		G	R open
864 + i + 2	S	K733	X1	KSA	KAS<pin>	[KAG<pin>]	KGA	XG		G	R open
1080 + i	S	K737	X5	KSB	KBS<pin>	KBG<pin>	KGB	XG		G	R close
1080 + i + 1	S	K737	X5	KSB	[KBS<pin>]	KBG<pin>	KGB	XG		G	R open
1080 + i + 2	S	K737	X5	KSB	KBS<pin>	[KBG<pin>]	KGB	XG		G	R open
1296 + i	I	K727	X3	KIA	KAI<pin>	KAG<pin>	KGA	XG		G	R close
1296 + i + 1	I	K727	X3	KIA	[KAI<pin>]	KAG<pin>	KGA	XG		G	R open
1296 + i + 2	I	K727	X3	KIA	KAI<pin>	[KAG<pin>]	KGA	XG		G	R open
1512 + i	I	K726	X7	KIB	KBI<pin>	KBG<pin>	KGB	XG		G	R close

Table 11-4 Test 14022 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<N2>	<AK2>		< M >
1512 + i + 1	I	K726	X7	KIB	[KBI<pin>]	KBG<pin>	KGB	XG		G	R open
1512 + i + 2	I	K726	X7	KIB	KBI<pin>	[KBG<pin>]	KGB	XG		G	R open
1728 + i	D<pin>				KAD<pin>	KAS<pin>	KSA	X1	K733	S	R close
1728 + i + 1	D<pin>				[KAD<pin>]	KAS<pin>	KSA	X1	K733	S	R open
1728 + i + 2	D<pin>				KAD<pin>	[KAS<pin>]	KSA	X1	K733	S	R open
1944 + i	D<pin>				KBD<pin>	KBS<pin>	KSB	X5	K735	S	R close
1944 + i + 1	D<pin>				[KBD<pin>]	KBS<pin>	KSB	X5	K735	S	R open
1944 + i + 2	D<pin>				KBD<pin>	[KBS<pin>]	KSB	X5	K735	S	R open
1728 + i	D<pin>				KAD<pin>	KAI<pin>	KIA	X3	K727	I	R close
1728 + i + 1	D<pin>				[KAD<pin>]	KAI<pin>	KIA	X3	K727	I	R open
1728 + i + 2	D<pin>				KAD<pin>	[KAI<pin>]	KIA	X3	K727	I	R open
1944 + i	D<pin>				KBD<pin>	KBI<pin>	KIB	X7	K731	I	R close
1944 + i + 1	D<pin>				[KBD<pin>]	KBI<pin>	KIB	X7	K731	I	R open
1944 + i + 2	D<pin>				KBD<pin>	[KBI<pin>]	KIB	X7	K731	I	R open

Test 14023

MINT Pin Continuity

Requires: Pin Verification Fixture

Test 14023 tests the paths through the MINT pins. It assumes all of the relays are functional and no shorts are present. The setup for this test is shown in Figure 11-3.

Figure 11-3 Test 14023 Test Path

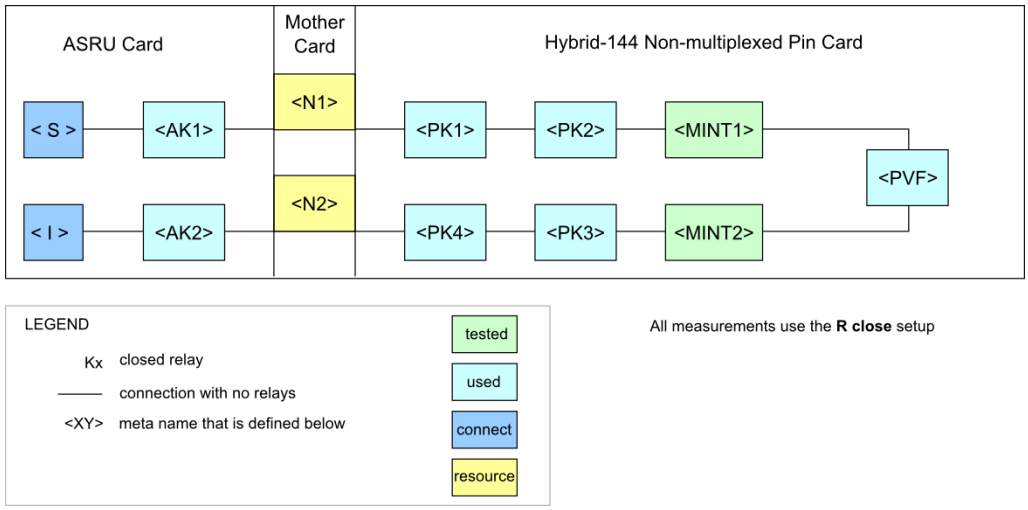

Table 11-5 Test 14023 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<MINT 1>	<PVF>	<MINT 2>	<PK3>	<PK4>	<N2>	<AK2>	
0	S	K733	X1	KSA	KAS01	pin001	strap A	pin002	KAI02	KIA	X3	K727	I
1	GND			KAGD19		pin019	strap A	pin001	KAS01	KSA	X1	K733	S
2	S	K733	X1	KSA	KAS01	pin001	strap A	pin021	KAI21	KIA	X3	K727	I
3	S	K733	X1	KSA	KAS01	pin001	strap A	pin022	KAI22	KIA	X3	K727	I
4	S	K733	X1	KSA	KAS01	pin001	strap A	pin041	KAI41	KIA	X3	K727	I
5	S	K733	X1	KSA	KAS01	pin001	strap A	pin042	KAI42	KIA	X3	K727	I
6	S	K733	X1	KSA	KAS01	pin001	strap A	pin061	KAI61	KIA	X3	K727	I
7	S	K733	X1	KSA	KAS01	pin001	strap A	pin062	KAI62	KIA	X3	K727	I
8	S	K733	X1	KSA	KAS03	pin003	strap B	pin004	KAI04	KIA	X3	K727	I
9	GND			KAGD20		pin020	strap B	pin003	KAS03	KSA	X1	K733	S
10	S	K733	X1	KSA	KAS03	pin003	strap B	pin023	KAI23	KIA	X3	K727	I
11	S	K733	X1	KSA	KAS03	pin003	strap B	pin024	KAI24	KIA	X3	K727	I
12	S	K733	X1	KSA	KAS03	pin003	strap B	pin043	KAI43	KIA	X3	K727	I
13	S	K733	X1	KSA	KAS03	pin003	strap B	pin044	KAI44	KIA	X3	K727	I
14	S	K733	X1	KSA	KAS03	pin003	strap B	pin063	KAI63	KIA	X3	K727	I
15	S	K733	X1	KSA	KAS03	pin003	strap B	pin064	KAI64	KIA	X3	K727	I
16	S	K733	X1	KSA	KAS05	pin005	strap C	pin006	KAI06	KIA	X3	K727	I
17	S	K733	X1	KSA	KAS05	pin005	strap C	pin025	KAI25	KIA	X3	K727	I
18	S	K733	X1	KSA	KAS05	pin005	strap C	pin026	KAI26	KIA	X3	K727	I
19	GND			KAGD39		pin039	strap C	pin005	KAS05	KSA	X1	K733	S
20	S	K733	X1	KSA	KAS05	pin005	strap C	pin045	KAI45	KIA	X3	K727	I
21	S	K733	X1	KSA	KAS05	pin005	strap C	pin046	KAI46	KIA	X3	K727	I

Table 11-5 Test 14023 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<MINT 1>	<PVF>	<MINT 2>	<PK3>	<PK4>	<N2>	<AK2>	
22	S	K733	X1	KSA	KAS05	pin005	strap C	pin065	KAI65	KIA	X3	K727	I
23	S	K733	X1	KSA	KAS05	pin005	strap C	pin066	KAI66	KIA	X3	K727	I
24	S	K733	X1	KSA	KAS07	pin007	strap D	pin008	KAI08	KIA	X3	K727	I
25	S	K733	X1	KSA	KAS07	pin007	strap D	pin027	KAI27	KIA	X3	K727	I
26	S	K733	X1	KSA	KAS07	pin007	strap D	pin028	KAI28	KIA	X3	K727	I
27	GND			KAGD40		pin040	strap D	pin007	KAS07	KSA	X1	K733	S
28	S	K733	X1	KSA	KAS07	pin007	strap D	pin047	KAI47	KIA	X3	K727	I
29	S	K733	X1	KSA	KAS07	pin007	strap D	pin048	KAI48	KIA	X3	K727	I
30	S	K733	X1	KSA	KAS07	pin007	strap D	pin067	KAI67	KIA	X3	K727	I
31	S	K733	X1	KSA	KAS07	pin007	strap D	pin068	KAI68	KIA	X3	K727	I
32	S	K733	X1	KSA	KAS09	pin009	strap E	pin010	KAI10	KIA	X3	K727	I
33	S	K733	X1	KSA	KAS09	pin009	strap E	pin029	KAI29	KIA	X3	K727	I
34	S	K733	X1	KSA	KAS09	pin009	strap E	pin030	KAI30	KIA	X3	K727	I
35	S	K733	X1	KSA	KAS09	pin009	strap E	pin049	KAI49	KIA	X3	K727	I
36	S	K733	X1	KSA	KAS09	pin009	strap E	pin050	KAI50	KIA	X3	K727	I
37	GND			KAGD59		pin059	strap E	pin009	KAS09	KSA	X1	K733	S
38	S	K733	X1	KSA	KAS09	pin009	strap E	pin069	KAI69	KIA	X3	K727	I
39	S	K733	X1	KSA	KAS09	pin009	strap E	pin070	KAI70	KIA	X3	K727	I
40	S	K733	X1	KSA	KAS11	pin011	strap F	pin012	KAI12	KIA	X3	K727	I
41	S	K733	X1	KSA	KAS11	pin011	strap F	pin031	KAI31	KIA	X3	K727	I
42	S	K733	X1	KSA	KAS11	pin011	strap F	pin032	KAI32	KIA	X3	K727	I
43	S	K733	X1	KSA	KAS11	pin011	strap F	pin051	KAI51	KIA	X3	K727	I

Table 11-5 Test 14023 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<MINT 1>	<PVF>	<MINT 2>	<PK3>	<PK4>	<N2>	<AK2>	
44	S	K733	X1	KSA	KAS11	pin011	strap F	pin052	KAI52	KIA	X3	K727	I
45	GND			KAGD60		pin060	strap F	pin011	KAS11	KSA	X1	K733	S
46	S	K733	X1	KSA	KAS11	pin011	strap F	pin071	KAI71	KIA	X3	K727	I
47	S	K733	X1	KSA	KAS11	pin011	strap F	pin072	KAI72	KIA	X3	K727	I
48	S	K733	X1	KSA	KAS13	pin013	strap G	pin014	KAI14	KIA	X3	K727	I
49	S	K733	X1	KSA	KAS13	pin013	strap G	pin033	KAI33	KIA	X3	K727	I
50	S	K733	X1	KSA	KAS13	pin013	strap G	pin034	KAI34	KIA	X3	K727	I
51	S	K733	X1	KSA	KAS13	pin013	strap G	pin053	KAI53	KIA	X3	K727	I
52	S	K733	X1	KSA	KAS13	pin013	strap G	pin054	KAI54	KIA	X3	K727	I
53	S	K733	X1	KSA	KAS13	pin013	strap G	pin073	KAI73	KIA	X3	K727	I
54	S	K733	X1	KSA	KAS13	pin013	strap G	pin074	KAI74	KIA	X3	K727	I
55	S	K733	X1	KSA	KAS15	pin015	strap H	pin016	KAI15	KIA	X3	K727	I
56	S	K733	X1	KSA	KAS15	pin015	strap H	pin035	KAI35	KIA	X3	K727	I
57	S	K733	X1	KSA	KAS15	pin015	strap H	pin036	KAI36	KIA	X3	K727	I
58	S	K733	X1	KSA	KAS15	pin015	strap H	pin055	KAI55	KIA	X3	K727	I
59	S	K733	X1	KSA	KAS15	pin015	strap H	pin056	KAI56	KIA	X3	K727	I
60	S	K733	X1	KSA	KAS15	pin015	strap H	pin075	KAI75	KIA	X3	K727	I
61	S	K733	X1	KSA	KAS15	pin015	strap H	pin076	KAI76	KIA	X3	K727	I
62	S	K733	X1	KSA	KAS17	pin017	strap I	pin018	KAI17	KIA	X3	K727	I
63	S	K733	X1	KSA	KAS17	pin017	strap I	pin037	KAI37	KIA	X3	K727	I
64	S	K733	X1	KSA	KAS17	pin017	strap I	pin038	KAI38	KIA	X3	K727	I
65	S	K733	X1	KSA	KAS17	pin017	strap I	pin057	KAI57	KIA	X3	K727	I

Table 11-5 Test 14023 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<MINT 1>	<PVF>	<MINT 2>	<PK3>	<PK4>	<N2>	<AK2>	
66	S	K733	X1	KSA	KAS17	pin017	strap I	pin058	KAI58	KIA	X3	K727	I
67	S	K733	X1	KSA	KAS17	pin017	strap I	pin077	KAI77	KIA	X3	K727	I
68	S	K733	X1	KSA	KAS17	pin017	strap I	pin078	KAI78	KIA	X3	K727	I
69	S	K737	X5	KSB	KBS01	pin101	strap A	pin102	KBI02	KIB	X7	K731	I
70	GND			KBGD19		pin119	strap A	pin101	KBS01	KSB	X5	K737	S
71	S	K737	X5	KSB	KBS01	pin101	strap A	pin121	KBI21	KIB	X7	K731	I
72	S	K737	X5	KSB	KBS01	pin101	strap A	pin122	KBI22	KIB	X7	K731	I
73	S	K737	X5	KSB	KBS01	pin101	strap A	pin141	KBI41	KIB	X7	K731	I
74	S	K737	X5	KSB	KBS01	pin101	strap A	pin142	KBI42	KIB	X7	K731	I
75	S	K737	X5	KSB	KBS01	pin101	strap A	pin161	KBI61	KIB	X7	K731	I
76	S	K737	X5	KSB	KBS01	pin101	strap A	pin162	KBI62	KIB	X7	K731	I
77	S	K737	X5	KSB	KBS03	pin103	strap B	pin104	KBI04	KIB	X7	K731	I
78	GND			KBGD20		pin120	strap B	pin103	KBS03	KSB	X5	K737	S
79	S	K737	X5	KSB	KBS03	pin103	strap B	pin123	KBI23	KIB	X7	K731	I
80	S	K737	X5	KSB	KBS03	pin103	strap B	pin124	KBI24	KIB	X7	K731	I
81	S	K737	X5	KSB	KBS03	pin103	strap B	pin143	KBI43	KIB	X7	K731	I
82	S	K737	X5	KSB	KBS03	pin103	strap B	pin144	KBI44	KIB	X7	K731	I
83	S	K737	X5	KSB	KBS03	pin103	strap B	pin163	KBI63	KIB	X7	K731	I
84	S	K737	X5	KSB	KBS03	pin103	strap B	pin164	KBI64	KIB	X7	K731	I
85	S	K737	X5	KSB	KBS05	pin105	strap C	pin106	KBI06	KIB	X7	K731	I
86	S	K737	X5	KSB	KBS05	pin105	strap C	pin125	KBI25	KIB	X7	K731	I
87	S	K737	X5	KSB	KBS05	pin105	strap C	pin126	KBI26	KIB	X7	K731	I

Table 11-5 Test 14023 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<MINT 1>	<PVF>	<MINT 2>	<PK3>	<PK4>	<N2>	<AK2>	
88	GND			KBGD39		pin139	strap C	pin105	KBS05	KSB	X5	K737	S
89	S	K737	X5	KSB	KBS05	pin105	strap C	pin145	KBI45	KIB	X7	K731	I
90	S	K737	X5	KSB	KBS05	pin105	strap C	pin146	KBI46	KIB	X7	K731	I
91	S	K737	X5	KSB	KBS05	pin105	strap C	pin165	KBI65	KIB	X7	K731	I
92	S	K737	X5	KSB	KBS05	pin105	strap C	pin166	KBI66	KIB	X7	K731	I
93	S	K737	X5	KSB	KBS07	pin107	strap D	pin108	KBI08	KIB	X7	K731	I
94	S	K737	X5	KSB	KBS07	pin107	strap D	pin127	KBI27	KIB	X7	K731	I
95	S	K737	X5	KSB	KBS07	pin107	strap D	pin128	KBI28	KIB	X7	K731	I
96	GND			KBGD40		pin140	strap D	pin107	KBS07	KSB	X5	K737	S
97	S	K737	X5	KSB	KBS07	pin107	strap D	pin147	KBI47	KIB	X7	K731	I
98	S	K737	X5	KSB	KBS07	pin107	strap D	pin148	KBI48	KIB	X7	K731	I
99	S	K737	X5	KSB	KBS07	pin107	strap D	pin167	KBI67	KIB	X7	K731	I
100	S	K737	X5	KSB	KBS07	pin107	strap D	pin168	KBI68	KIB	X7	K731	I
101	S	K737	X5	KSB	KBS09	pin109	strap E	pin110	KBI10	KIB	X7	K731	I
102	S	K737	X5	KSB	KBS09	pin109	strap E	pin129	KBI29	KIB	X7	K731	I
103	S	K737	X5	KSB	KBS09	pin109	strap E	pin130	KBI30	KIB	X7	K731	I
104	S	K737	X5	KSB	KBS09	pin109	strap E	pin149	KBI49	KIB	X7	K731	I
105	S	K737	X5	KSB	KBS09	pin109	strap E	pin150	KBI50	KIB	X7	K731	I
106	GND			KBGD59		pin159	strap E	pin109	KBS09	KSB	X5	K737	S
107	S	K737	X5	KSB	KBS09	pin109	strap E	pin169	KBI69	KIB	X7	K731	I
108	S	K737	X5	KSB	KBS09	pin109	strap E	pin170	KBI70	KIB	X7	K731	I
109	S	K737	X5	KSB	KAS11	pin111	strap F	pin112	KBI12	KIB	X7	K731	I

Table 11-5 Test 14023 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<MINT 1>	<PVF>	<MINT 2>	<PK3>	<PK4>	<N2>	<AK2>	
110	S	K737	X5	KSB	KAS11	pin111	strap F	pin131	KBI31	KIB	X7	K731	I
111	S	K737	X5	KSB	KAS11	pin111	strap F	pin132	KBI32	KIB	X7	K731	I
112	S	K737	X5	KSB	KAS11	pin111	strap F	pin151	KBI51	KIB	X7	K731	I
113	S	K737	X5	KSB	KAS11	pin111	strap F	pin152	KBI52	KIB	X7	K731	I
114	GND			KBGD60		pin160	strap F	pin111	KAS11	KSB	X5	K737	S
115	S	K737	X5	KSB	KAS11	pin111	strap F	pin171	KBI71	KIB	X7	K731	I
116	S	K737	X5	KSB	KAS11	pin111	strap F	pin172	KBI72	KIB	X7	K731	I
117	S	K737	X5	KSB	KBS13	pin113	strap G	pin114	KBI14	KIB	X7	K731	I
118	S	K737	X5	KSB	KBS13	pin113	strap G	pin133	KBI33	KIB	X7	K731	I
119	S	K737	X5	KSB	KBS13	pin113	strap G	pin134	KBI34	KIB	X7	K731	I
120	S	K737	X5	KSB	KBS13	pin113	strap G	pin153	KBI53	KIB	X7	K731	I
121	S	K737	X5	KSB	KBS13	pin113	strap G	pin154	KBI54	KIB	X7	K731	I
122	S	K737	X5	KSB	KBS13	pin113	strap G	pin173	KBI73	KIB	X7	K731	I
123	S	K737	X5	KSB	KBS13	pin113	strap G	pin174	KBI74	KIB	X7	K731	I
124	S	K737	X5	KSB	KBS15	pin115	strap H	pin116	KBI16	KIB	X7	K731	I
125	S	K737	X5	KSB	KBS15	pin115	strap H	pin135	KBI35	KIB	X7	K731	I
126	S	K737	X5	KSB	KBS15	pin115	strap H	pin136	KBI36	KIB	X7	K731	I
127	S	K737	X5	KSB	KBS15	pin115	strap H	pin155	KBI55	KIB	X7	K731	I
128	S	K737	X5	KSB	KBS15	pin115	strap H	pin156	KBI56	KIB	X7	K731	I
129	S	K737	X5	KSB	KBS15	pin115	strap H	pin175	KBI75	KIB	X7	K731	I
130	S	K737	X5	KSB	KBS15	pin115	strap H	pin176	KBI76	KIB	X7	K731	I
131	S	K737	X5	KSB	KBS17	pin117	strap I	pin118	KBI18	KIB	X7	K731	I

Table 11-5 Test 14023 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<MINT 1>	<PVF>	<MINT 2>	<PK3>	<PK4>	<N2>	<AK2>	
132	S	K737	X5	KSB	KBS17	pin117	strap I	pin137	KBI37	KIB	X7	K731	I
133	S	K737	X5	KSB	KBS17	pin117	strap I	pin138	KBI38	KIB	X7	K731	I
134	S	K737	X5	KSB	KBS17	pin117	strap I	pin157	KBI57	KIB	X7	K731	I
135	S	K737	X5	KSB	KBS17	pin117	strap I	pin158	KBI58	KIB	X7	K731	I
136	S	K737	X5	KSB	KBS17	pin117	strap I	pin177	KBI77	KIB	X7	K731	I
137	S	K737	X5	KSB	KBS17	pin117	strap I	pin178	KBI78	KIB	X7	K731	I

Test 14024

Test G/Gnd Relays Can be Closed & Opened

Test 14024 tests the G/Gnd relays. This test ensures that the relays close (the "opens" test) and open (the "stuck relay" test). Since these relays connect to system ground, resistance measurements cannot test the relays. The test applies a voltage from the ASRU Card source with a series resistor to the non-ground end of the relay. The ASRU detector measures the voltage between the non-grounded end of the relay and the test system's ground. A closed relay will measure close to 0V and an open relay will measure close to the source voltage setting. The "opens" test closes a relay and makes a measurement expecting continuity. The "stuck relay" test opens the relay and makes a measurement expecting an open.

Figure 11-4 Test 14024 Test Path

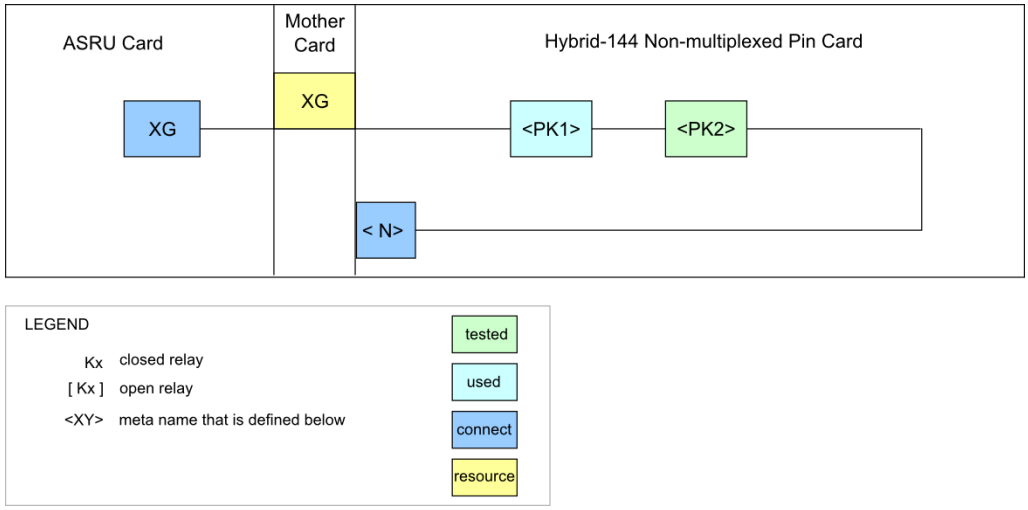

Table 11-6 Test 14024 Subtests

Subtest	<PK1>	<PK2>	< N>	< M >
0	KGA	KAGD01G	GND	R close
1	KGA	[KAGD01G]	GND	R open
2	KGA	KAGD02G	GND	R close
3	KGA	[KAGD02G]	GND	R open
4	KGA	KAGD03G	GND	R close
5	KGA	[KAGD03G]	GND	R open
6	KGA	KAGD04G	GND	R close
7	KGA	[KAGD04G]	GND	R open
8	KGA	KAGD05G	GND	R close

Table 11-6 Test 14024 Subtests

Subtest	<PK1>	<PK2>	< N>	< M >
9	KGA	[KAGD05G]	GND	R open
10	KGA	KAGD06G	GND	R close
11	KGA	[KAGD06G]	GND	R open
12	KGA	KAGD07G	GND	R close
13	KGA	[KAGD07G]	GND	R open
14	KGA	KAGD08G	GND	R close
15	KGA	[KAGD08G]	GND	R open
16	KGA	KAGD09G	GND	R close
17	KGA	[KAGD09G]	GND	R close
18	KGA	KAGD10G	GND	R close
19	KGA	[KAGD10G]	GND	R close
20	KGA	KAGD11G	GND	R close
21	KGA	[KAGD11G]	GND	R close
22	KGA	KAGD12G	GND	R close
23	KGA	[KAGD12G]	GND	R close
24	KGA	KAGD13G	GND	R close
25	KGA	[KAGD13G]	GND	R close
26	KGA	KAGD14G	GND	R close
27	KGA	[KAGD14G]	GND	R close
28	KGA	KAGD15G	GND	R close
29	KGA	[KAGD15G]	GND	R close
30	KGA	KAGD16G	GND	R close
31	KGA	[KAGD16G]	GND	R close
32	KGA	KAGD17G	GND	R close
33	KGA	[KAGD17G]	GND	R close
34	KGA	KAGD18G	GND	R close
35	KGA	[KAGD18G]	GND	R close
36	KGB	KBGD01G	GND	R close
37	KGB	[KBGD01G]	GND	R close
38	KGB	KBGD02G	GND	R close

Table 11-6 Test 14024 Subtests

Subtest	<PK1>	<PK2>	< N>	< M >
39	KGB	[KBGD02G]	GND	R close
40	KGB	KBGD03G	GND	R close
41	KGB	[KBGD03G]	GND	R close
42	KGB	KBGD04G	GND	R close
43	KGB	[KBGD04G]	GND	R close
44	KGB	KBGD05G	GND	R close
45	KGB	[KBGD05G]	GND	R close
46	KGB	KBGD06G	GND	R close
47	KGB	[KBGD06G]	GND	R close
48	KGB	KBGD07G	GND	R close
49	KGB	[KBGD07G]	GND	R close
50	KGB	KBGD08G	GND	R close
51	KGB	[KBGD08G]	GND	R close
52	KGB	KBGD09G	GND	R close
53	KGB	[KBGD09G]	GND	R close
54	KGB	KBGD10G	GND	R close
55	KGB	[KBGD10G]	GND	R close
56	KGB	KBGD11G	GND	R close
57	KGB	[KBGD11G]	GND	R close
58	KGB	KBGD12G	GND	R close
59	KGB	[KBGD12G]	GND	R close
60	KGB	KBGD13G	GND	R close
61	KGB	[KBGD13G]	GND	R close
62	KGB	KBGD14G	GND	R close
63	KGB	[KBGD14G]	GND	R close
64	KGB	KBGD15G	GND	R close
65	KGB	[KBGD15G]	GND	R close
66	KGB	KBGD16G	GND	R close
67	KGB	[KBGD16G]	GND	R close
68	KGB	KBGD17G	GND	R close

Table 11-6 Test 14024 Subtests

Subtest	<PK1>	<PK2>	< N>	< M >
69	KGB	[KBGD17G]	GND	R close
70	KGB	KBGD18G	GND	R close
71	KGB	[KBGD18G]	GND	R close

Test 14025

Test Fixed Ground Relays Can be Closed and Opened

Requires: Pin Verification Fixture

Test 14025 tests the fixed ground relays. This test ensures that the relays close ("opens" test) and open ("stuck relay" test). Since these relays connect to system ground, resistance measurements cannot test the relays. The test applies a voltage from the ASRU Card source with a series resistor to the non-ground end of the relay. The ASRU detector measures the voltage between the non-grounded end of the relay and the test system's ground. A closed relay will measure close to 0V and an open relay will measure close to the source voltage setting. The "opens" test closes a relay and makes a measurement expecting continuity. The "stuck relay" test opens the relay and makes a measurement expecting an open.

Figure 11-5 Test 14025 Test Path

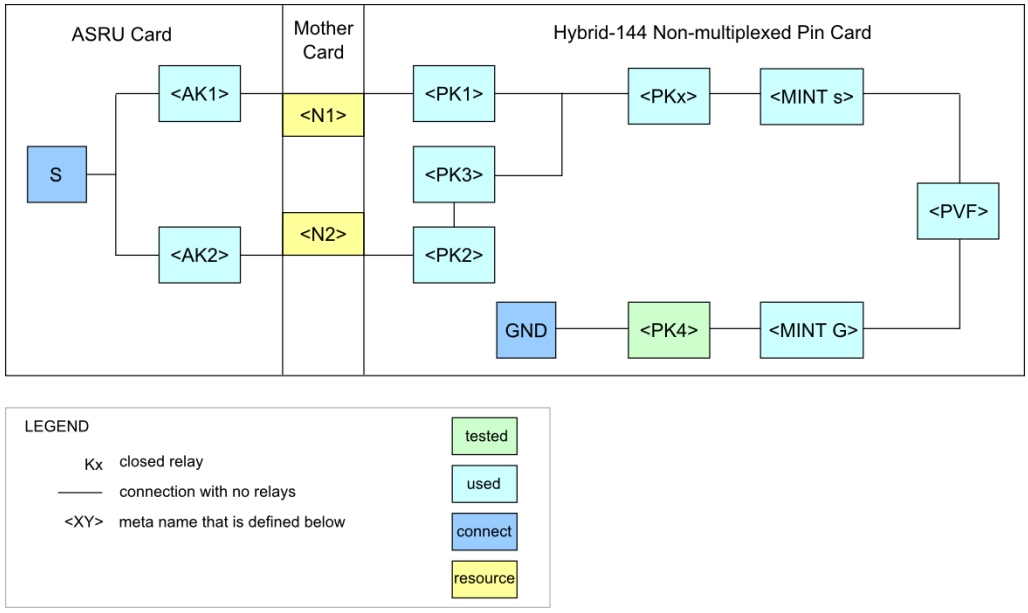

Table 11-7 Test 14025 Subtests

ST	<AK1>	<AK2>	<N1>	<N2>	<PK1>	<PK2>	<PK3>	<PKx>	<MINTs>	<PVF>	<MINT G>	<PK4>
0	K733	K734	X1	X2	KSA	KAA	KSAA	KAS[0246][12]	pin0[0246][12]	strap A	pin019	KAGD19
1	K733	K734	X1	X2	KSA	KAA	KSAA	KAS[0246][12]	pin0[0246][12]	strap A	pin019	[KAGD1]
2	K733	K734	X1	X2	KSA	KAA	KSAA	KAS[0246][34]	pin0[0246][34]	strap B	pin020	KAGD20
3	K733	K734	X1	X2	KSA	KAA	KSAA	KAS[0246][34]	pin0[0246][34]	strap B	pin020	[KAGD20]
4	K733	K734	X1	X2	KSA	KAA	KSAA	KAS[0246][56]	pin0[0246][56]	strap C	pin039	KAGD39
5	K733	K734	X1	X2	KSA	KAA	KSAA	KAS[0246][56]	pin0[0246][56]	strap C	pin039	[KAGD39]
6	K733	K734	X1	X2	KSA	KAA	KSAA	KAS[0246][78]	pin0[0246][78]	strap D	pin040	KAGD40
7	K733	K734	X1	X2	KSA	KAA	KSAA	KAS[0246][78]	pin0[0246][78]	strap D	pin040	[KAGD40]
8	K733	K734	X1	X2	KSA	KAA	KSAA	KAS([0246]9)([1357]0)	pin0([0246]9)([1357]0)	strap E	pin059	KAGD59
9	K733	K734	X1	X2	KSA	KAA	KSAA	KAS([0246]9)([1357]0)	pin0([0246]9)([1357]0)	strap E	pin059	[KAGD59]
10	K733	K734	X1	X2	KSA	KAA	KSAA	KAS[1357][23]	pin0[1357][23]	strap F	pin060	KAGD60
11	K733	K734	X1	X2	KSA	KAA	KSAA	KAS[1357][23]	pin0[1357][23]	strap F	pin060	[KAGD60]
12	K737	K738	X5	X6	KSB	KAB	KSAB	KBS[0246][12]	pin1[0246][12]	strap A	pin119	KBGD19
13	K737	K738	X5	X6	KSB	KAB	KSAB	KBS[0246][12]	pin1[0246][12]	strap A	pin119	[KBGD19]
14	K737	K738	X5	X6	KSB	KAB	KSAB	KBS[0246][34]	pin1[0246][34]	strap B	pin120	KBGD20
15	K737	K738	X5	X6	KSB	KAB	KSAB	KBS[0246][34]	pin1[0246][34]	strap B	pin120	[KBGD20]
16	K737	K738	X5	X6	KSB	KAB	KSAB	KBS[0246][56]	pin1[0246][56]	strap C	pin139	KBGD39
17	K737	K738	X5	X6	KSB	KAB	KSAB	KBS[0246][56]	pin1[0246][56]	strap C	pin139	[KBGD39]
18	K737	K738	X5	X6	KSB	KAB	KSAB	KBS[0246][78]	pin1[0246][78]	strap D	pin140	KBGD40
19	K737	K738	X5	X6	KSB	KAB	KSAB	KBS[0246][78]	pin1[0246][78]	strap D	pin140	[KBGD40]
20	K737	K738	X5	X6	KSB	KAB	KSAB	KBS([0246]9)([1357]0)	pin1([0246]9)([1357]0)	strap E	pin159	KBGD59
21	K737	K738	X5	X6	KSB	KAB	KSAB	KBS([0246]9)([1357]0)	pin1([0246]9)([1357]0)	strap E	pin159	[KBGD59]

Table 11-7 Test 14025 Subtests

ST	<AK1>	<AK2>	<N1>	<N2>	<PK1>	<PK2>	<PK3>	<PKx>	<MINTs>	<PVF>	<MINT G>	<PK4>
22	K737	K738	X5	X6	KSB	KAB	KSAB	KBS[1357][23]	pin1[1357][23]	strap F	pin160	KBGD60
23	K737	K738	X5	X6	KSB	KAB	KSAB	KBS[1357][23]	pin1[1357][23]	strap F	pin160	[KBGD60]

Test 14026

Inter-X-bus Shorts

This test uses sub-mux relay partial paths to detect shorts between X-buses.

Test 14027

Inter-Pin-MUX Shorts

This test uses pin-mux relay partial paths to detect shorts between MINT pins. If test 14027 fails, run Test 14028 to isolate the short.

Test 14028

Isolate Inter-Pin-MUX Shorts

This test uses pin-mux relay partial paths to isolate shorts between MINT pins. This test only runs from **Test Number Entry**.

Test 14030

Load Resistor Common Side Shorts

Test 14030 tests that the relays that tie the load resistors to ground or +5 volts are not stuck closed. The setup for this test is shown in Figure 11-6.

Figure 11-6 Test 14030 Test Path

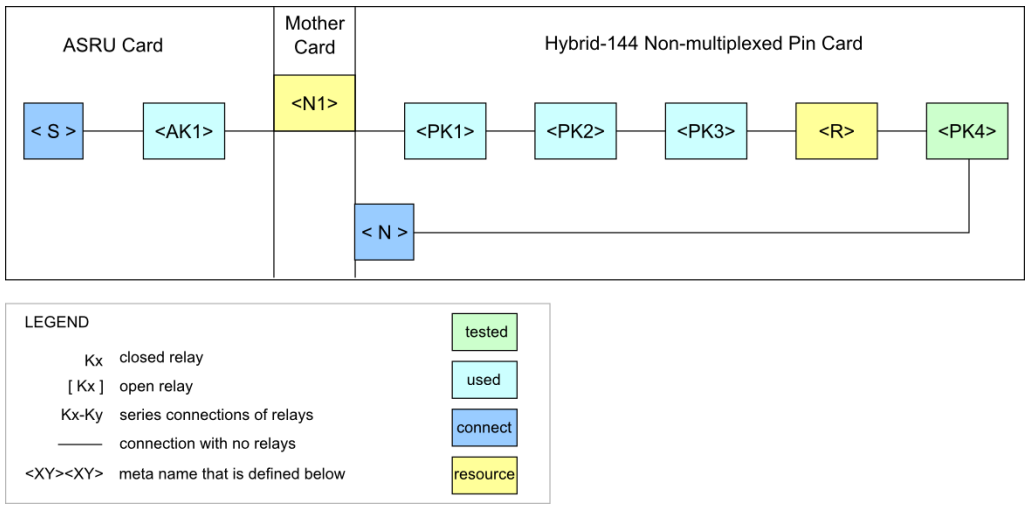

Table 11-8 Test 14030 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<R> ohms	<PK4>		< M >
0	S	K734	X2	KAA	KADCAA	KTCOMMA		[KT5/GNDA]	+5V/GND	R open
1	S	K734	X2	KAA	KADCAA	KT6_5MA	6.5 (A)	[KT5/GNDA]	+5V/GND	R open
2	S	K734	X2	KAA	KADCAA	KT50MA	50 (A)	[KT5/GNDA]	+5V/GND	R open
3	S	K736	X4	KBA	KADCBA	KTCOMMA		[KT5/GNDA]	+5V/GND	R open
4	S	K736	X4	KBA	KADCBA	KT6_5MA	6.5 (A)	[KT5/GNDA]	+5V/GND	R open
5	S	K736	X4	KBA	KADCBA	KT50MA	50 (A)	[KT5/GNDA]	+5V/GND	R open
6	L	K754-K753	XL	KLA	KADCLA	KTCOMMA		[KT5/GNDA]	+5V/GND	R open
7	L	K754-K753	XL	KLA	KADCLA	KT6_5MA	6.5 (A)	[KT5/GNDA]	+5V/GND	R open
8	L	K754-K753	XL	KLA	KADCLA	KT50MA	50 (A)	[KT5/GNDA]	+5V/GND	R open
9	S	K738	X6	KAB	KADCAB	KTCOMMB		[KT5/GNDA]	+5V/GND	R open
10	S	K738	X6	KAB	KADCAB	KT6_5MB	6.5 (B)	[KT5/GNDA]	+5V/GND	R open
11	S	K738	X6	KAB	KADCAB	KT50MB	50 (B)	[KT5/GNDA]	+5V/GND	R open
12	S	K740	X8	KBB	KADCBB	KTCOMMB		[KT5/GNDA]	+5V/GND	R open
13	S	K740	X8	KBB	KADCBB	KT6_5MB	6.5 (B)	[KT5/GNDA]	+5V/GND	R open
14	S	K740	X8	KBB	KADCBB	KT50MB	50 (B)	[KT5/GNDA]	+5V/GND	R open
15	L	K754-K753	XL	KLB	KADCLB	KTCOMMB		[KT5/GNDA]	+5V/GND	R open
16	L	K754-K753	XL	KLB	KADCLB	KT6_5MB	6.5 (B)	[KT5/GNDA]	+5V/GND	R open
17	L	K754-K753	XL	KLB	KADCLB	KT50MB	50 (B)	[KT5/GNDA]	+5V/GND	R open

Test 14031

5V and Ground Load Resistor Relays

Test 14031 tests the relays that tie the common side of the load resistors to either ground or +5 volts. This test ensures the relays close ("opens" test) and open ("stuck relay" test). The setup for this test is shown in Figure 11-7.

Figure 11-7 Test 14031 Test Path

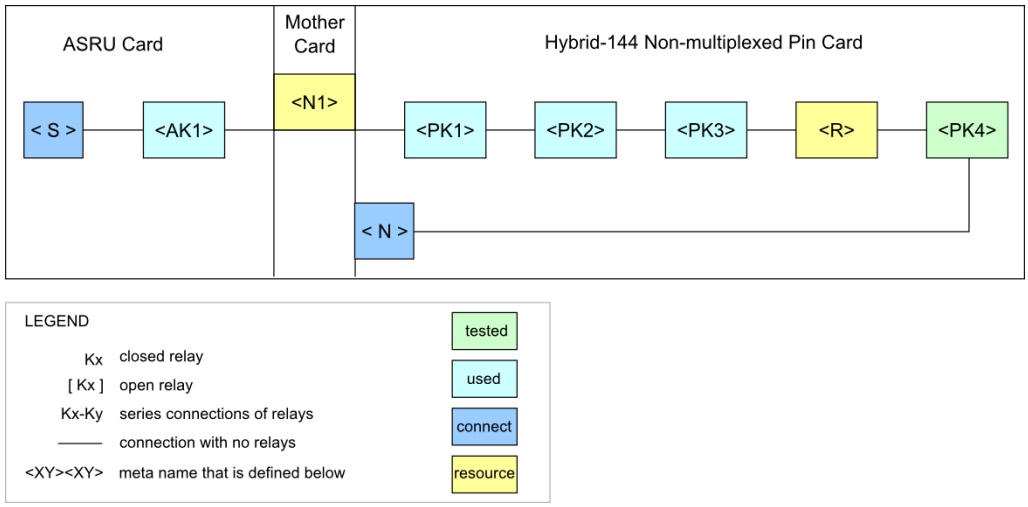

Table 11-9 Test 14031 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<R> ohms	<PK4>		< M >
0	S	K734	X2	KAA	KADCAA	KTCOMMA		KTGNDA	GND	R close
1	S	K734	X2	KAA	KADCAA	KTCOMMA		[KTGNDA]	GND	R open
2	S	K736	X4	KBA	KADCBA	KTCOMMA		KTGNDA	GND	R close
3	S	K736	X4	KBA	KADCBA	KTCOMMA		[KTGNDA]	GND	R open
4	L	K754-K753	XL	KLA	KADCLA	KTCOMMA		KTGNDA	GND	R close
5	L	K754-K753	XL	KLA	KADCLA	KTCOMMA		[KTGNDA]	GND	R open
6	S	K734	X2	KAA	KADCAA	KT6_5MA	6.5 (A)	KTGNDA	GND	R close
7	S	K734	X2	KAA	KADCAA	KT6_5MA	6.5 (A)	[KTGNDA]	GND	R open
8	S	K736	X4	KBA	KADCBA	KT6_5MA	6.5 (A)	KTGNDA	GND	R close
9	S	K736	X4	KBA	KADCBA	KT6_5MA	6.5 (A)	[KTGNDA]	GND	R open
10	L	K754-K753	XL	KLA	KADCLA	KT6_5MA	6.5 (A)	KTGNDA	GND	R close
11	L	K754-K753	XL	KLA	KADCLA	KT6_5MA	6.5 (A)	[KTGNDA]	GND	R open
12	S	K734	X2	KAA	KADCAA	KT50MA	50 (A)	KTGNDA	GND	R close
13	S	K734	X2	KAA	KADCAA	KT50MA	50 (A)	[KTGNDA]	GND	R open
14	S	K736	X4	KBA	KADCBA	KT50MA	50 (A)	KTGNDA	GND	R close
15	S	K736	X4	KBA	KADCBA	KT50MA	50 (A)	[KTGNDA]	GND	R open
16	L	K754-K753	XL	KLA	KADCLA	KT50MA	50 (A)	KTGNDA	GND	R close
17	L	K754-K753	XL	KLA	KADCLA	KT50MA	50 (A)	[KTGNDA]	GND	R open
18	S	K734	X2	KAA	KADCAA	KTCOMMA		KT5VA	+5V	R close
19	S	K734	X2	KAA	KADCAA	KTCOMMA		[KT5VA]	+5V	R open
20	S	K736	X4	KBA	KADCBA	KTCOMMA		KT5VA	+5V	R close
21	S	K736	X4	KBA	KADCBA	KTCOMMA		[KT5VA]	+5V	R open

Table 11-9 Test 14031 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<R> ohms	<PK4>		< M >
22	L	K754-K753	XL	KLA	KADCLA	KTCOMMA		KT5VA	+5V	R close
23	L	K754-K753	XL	KLA	KADCLA	KTCOMMA		[KT5VA]	+5V	R open
24	S	K734	X2	KAA	KADCAA	KT6_5MA	6.5 (A)	KT5VA	+5V	R close
25	S	K734	X2	KAA	KADCAA	KT6_5MA	6.5 (A)	[KT5VA]	+5V	R open
26	S	K736	X4	KBA	KADCBA	KT6_5MA	6.5 (A)	KT5VA	+5V	R close
27	S	K736	X4	KBA	KADCBA	KT6_5MA	6.5 (A)	[KT5VA]	+5V	R open
28	L	K754-K753	XL	KLA	KADCLA	KT6_5MA	6.5 (A)	KT5VA	+5V	R close
29	L	K754-K753	XL	KLA	KADCLA	KT6_5MA	6.5 (A)	[KT5VA]	+5V	R open
30	S	K734	X2	KAA	KADCAA	KT50MA	50 (A)	KT5VA	+5V	R close
31	S	K734	X2	KAA	KADCAA	KT50MA	50 (A)	[KT5VA]	+5V	R open
32	S	K736	X4	KBA	KADCBA	KT50MA	50 (A)	KT5VA	+5V	R close
33	S	K736	X4	KBA	KADCBA	KT50MA	50 (A)	[KT5VA]	+5V	R open
34	L	K754-K753	XL	KLA	KADCLA	KT50MA	50 (A)	KT5VA	+5V	R close
35	L	K754-K753	XL	KLA	KADCLA	KT50MA	50 (A)	[KT5VA]	+5V	R open
36	S	K738	X6	KAB	KADCAB	KTCOMMB		KTGNDB	GND	R close
37	S	K738	X6	KAB	KADCAB	KTCOMMB		[KTGNDB]	GND	R open
38	S	K740	X8	KBB	KADCBB	KTCOMMB		KTGNDB	GND	R close
39	S	K740	X8	KBB	KADCBB	KTCOMMB		[KTGNDB]	GND	R open
40	L	K754-K753	XL	KLB	KADCLB	KTCOMMB		KTGNDB	GND	R close
41	L	K754-K753	XL	KLB	KADCLB	KTCOMMB		[KTGNDB]	GND	R open
42	S	K738	X6	KAB	KADCAB	KT6_5MB	6.5 ? (B)	KTGNDB	GND	R close
43	S	K738	X6	KAB	KADCAB	KT6_5MB	6.5 (B)	[KTGNDB]	GND	R open

Table 11-9 Test 14031 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<R> ohms	<PK4>		< M >
44	S	K740	X8	KBB	KADCBB	KT6_5MB	6.5 (B)	KTGNDB	GND	R close
45	S	K740	X8	KBB	KADCBB	KT6_5MB	6.5 (B)	[KTGNDB]	GND	R open
46	L	K754-K753	XL	KLB	KADCLB	KT6_5MB	6.5 (B)	KTGNDB	GND	R close
47	L	K754-K753	XL	KLB	KADCLB	KT6_5MB	6.5 (B)	[KTGNDB]	GND	R open
48	S	K738	X6	KAB	KADCAB	KT50MB	50 (B)	KTGNDB	GND	R close
49	S	K738	X6	KAB	KADCAB	KT50MB	50 (B)	[KTGNDB]	GND	R open
50	S	K740	X8	KBB	KADCBB	KT50MB	50 (B)	KTGNDB	GND	R close
51	S	K740	X8	KBB	KADCBB	KT50MB	50 (B)	[KTGNDB]	GND	R open
52	L	K754-K753	XL	KLB	KADCLB	KT50MB	50 (B)	KTGNDB	GND	R close
53	L	K754-K753	XL	KLB	KADCLB	KT50MB	50 (B)	[KTGNDB]	GND	R open
54	S	K738	X6	KAB	KADCAB	KTCOMMB		KT5VB	+5V	R close
55	S	K738	X6	KAB	KADCAB	KTCOMMB		[KT5VB]	+5V	R open
56	S	K740	X8	KBB	KADCBB	KTCOMMB		KT5VB	+5V	R close
57	S	K740	X8	KBB	KADCBB	KTCOMMB		[KT5VB]	+5V	R open
58	L	K754-K753	XL	KLB	KADCLB	KTCOMMB		KT5VB	+5V	R close
59	L	K754-K753	XL	KLB	KADCLB	KTCOMMB		[KT5VB]	+5V	R open
60	S	K738	X6	KAB	KADCAB	KT6_5MB	6.5 (B)	KT5VB	+5V	R close
61	S	K738	X6	KAB	KADCAB	KT6_5MB	6.5 (B)	[KT5VB]	+5V	R open
62	S	K740	X8	KBB	KADCBB	KT6_5MB	6.5 (B)	KT5VB	+5V	R close
63	S	K740	X8	KBB	KADCBB	KT6_5MB	6.5 (B)	[KT5VB]	+5V	R open
64	L	K754-K753	XL	KLB	KADCLB	KT6_5MB	6.5 (B)	KT5VB	+5V	R close
65	L	K754-K753	XL	KLB	KADCLB	KT6_5MB	6.5 (B)	[KT5VB]	+5V	R open

Table 11-9 Test 14031 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<R> ohms	<PK4>		< M >
66	S	K738	X6	KAB	KADCAB	KT50MB	50 (B)	KT5VB	+5V	R close
67	S	K738	X6	KAB	KADCAB	KT50MB	50 (B)	[KT5VB]	+5V	R open
68	S	K740	X8	KBB	KADCBB	KT50MB	50 (B)	KT5VB	+5V	R close
69	S	K740	X8	KBB	KADCBB	KT50MB	50 (B)	[KT5VB]	+5V	R open
70	L	K754-K753	XL	KLB	KADCLB	KT50MB	50 (B)	KT5VB	+5V	R close
71	L	K754-K753	XL	KLB	KADCLB	KT50MB	50 (B)	[KT5VB]	+5V	R open

Test 1032

S-bus Load Resistor Relays

Test 14032 tests the load resistor relays and the load resistors on the S-bus. The test includes the relays that tie the common side of the load resistors to either ground or +5 volts. This test ensures the relays close (“opens” test), open (“stuck relay” test), and that the load resistor is the correct value. The setup for this test is shown in Figure 11-8.

Figure 11-8 Test 14032 Test Path

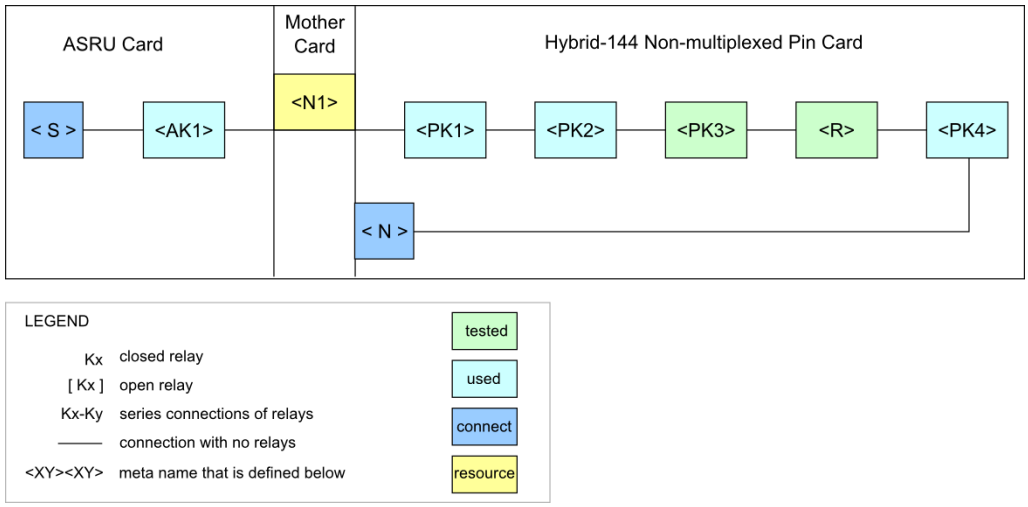

Table 11-10 Test 14032 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<R> ohms	<PK4>		< M >
0	S	K733	X1	KSA		KT6_5SA	6.5 (A)	KTGNDA	GND	R close
1	S	K733	X1	KSA		[KT6_5SA]	6.5 (A)	KTGNDA	GND	R open
2	S	K734	X2	KAA	KSAA	KT6_5SA	6.5 (A)	KTGNDA	GND	R close
3	S	K734	X2	KAA	KSAA	[KT6_5SA]	6.5 (A)	KTGNDA	GND	R open
4	S	K733	X1	KSA		KT50SA	50 (A)	KTGNDA	GND	R close
5	S	K733	X1	KSA		[KT50SA]	50 (A)	KTGNDA	GND	R open
6	S	K734	X2	KAA	KSAA	KT50SA	50 (A)	KTGNDA	GND	R close
7	S	K734	X2	KAA	KSAA	[KT50SA]	50 (A)	KTGNDA	GND	R open
8	S	K733	X1	KSA		KT1KSA	1K (A)	KTGNDA	GND	R close
9	S	K733	X1	KSA		[KT1KSA]	1K (A)	KTGNDA	GND	R open
10	S	K734	X2	KAA	KSAA	KT1KSA	1K (A)	KTGNDA	GND	R close
11	S	K734	X2	KAA	KSAA	[KT1KSA]	1K (A)	KTGNDA	GND	R open
12	S	K733	X1	KSA		KT6_5SA	6.5 (A)	KT5VA	+5V	R close
13	S	K733	X1	KSA		[KT6_5SA]	6.5 (A)	KT5VA	+5V	R open
14	S	K734	X2	KAA	KSAA	KT6_5SA	6.5 (A)	KT5VA	+5V	R close
15	S	K734	X2	KAA	KSAA	[KT6_5SA]	6.5 (A)	KT5VA	+5V	R open
16	S	K733	X1	KSA		KT50SA	50 (A)	KT5VA	+5V	R close
17	S	K733	X1	KSA		[KT50SA]	50 (A)	KT5VA	+5V	R open
18	S	K734	X2	KAA	KSAA	KT50SA	50 (A)	KT5VA	+5V	R close
19	S	K734	X2	KAA	KSAA	[KT50SA]	50 (A)	KT5VA	+5V	R open
20	S	K733	X1	KSA		KT1KSA	1K (A)	KT5VA	+5V	R close
21	S	K733	X1	KSA		[KT1KSA]	1K (A)	KT5VA	+5V	R open

Table 11-10 Test 14032 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<R> ohms	<PK4>		< M >
22	S	K734	X2	KAA	KSAA	KT1KSA	1K (A)	KT5VA	+5V	R close
23	S	K734	X2	KAA	KSAA	[KT1KSA]	1K (A)	KT5VA	+5V	R open
24	S	K737	X5	KSB		KT6_5SB	6.5 (B)	KTGNDB	GND	R close
25	S	K737	X5	KSB		[KT6_5SB]	6.5 (B)	KTGNDB	GND	R open
26	S	K738	X6	KAB	KSAB	KT6_5SB	6.5 (B)	KTGNDB	GND	R close
27	S	K738	X6	KAB	KSAB	[KT6_5SB]	6.5 (B)	KTGNDB	GND	R open
28	S	K737	X5	KSB		KT50SB	50 (B)	KTGNDB	GND	R close
29	S	K737	X5	KSB		[KT50SB]	50 (B)	KTGNDB	GND	R open
30	S	K738	X6	KAB	KSAB	KT50SB	50 (B)	KTGNDB	GND	R close
31	S	K738	X6	KAB	KSAB	[KT50SB]	50 (B)	KTGNDB	GND	R open
32	S	K737	X5	KSB		KT1KSB	1K (B)	KTGNDB	GND	R close
33	S	K737	X5	KSB		[KT1KSB]	1K (B)	KTGNDB	GND	R open
34	S	K738	X6	KAB	KSAB	KT1KSB	1K (B)	KTGNDB	GND	R close
35	S	K738	X6	KAB	KSAB	[KT1KSB]	1K (B)	KTGNDB	GND	R open
36	S	K737	X5	KSB		KT6_5SB	6.5 (B)	KT5VB	+5V	R close
37	S	K737	X5	KSB		[KT6_5SB]	6.5 (B)	KT5VB	+5V	R open
38	S	K738	X6	KAB	KSAB	KT6_5SB	6.5 (B)	KT5VB	+5V	R close
39	S	K738	X6	KAB	KSAB	[KT6_5SB]	6.5 (B)	KT5VB	+5V	R open
40	S	K737	X5	KSB		KT50SB	50 (B)	KT5VB	+5V	R close
41	S	K737	X5	KSB		[KT50SB]	50 (B)	KT5VB	+5V	R open
42	S	K738	X6	KAB	KSAB	KT50SB	50 (B)	KT5VB	+5V	R close
43	S	K738	X6	KAB	KSAB	[KT50SB]	50 (B)	KT5VB	+5V	R open

Table 11-10 Test 14032 Subtests

Subtest		<AK1>	<N1>	<PK1>	<PK2>	<PK3>	<R> ohms	<PK4>		< M >
44	S	K737	X5	KSB		KT1KSB	1K (B)	KT5VB	+5V	R close
45	S	K737	X5	KSB		[KT1KSB]	1K (B)	KT5VB	+5V	R open
46	S	K738	X6	KAB	KSAB	KT1KSB	1K (B)	KT5VB	+5V	R close
47	S	K738	X6	KAB	KSAB	[KT1KSB]	1K (B)	KT5VB	+5V	R open

Test 14033

Analog to Digital Convertors (ADCs)

This test verifies the that the ADCs are functioning and that the relays that connect them to the A, B & L buses close and open. The setup for this test is shown in Figure 11-9.

Figure 11-9 Test 14033 Test Path

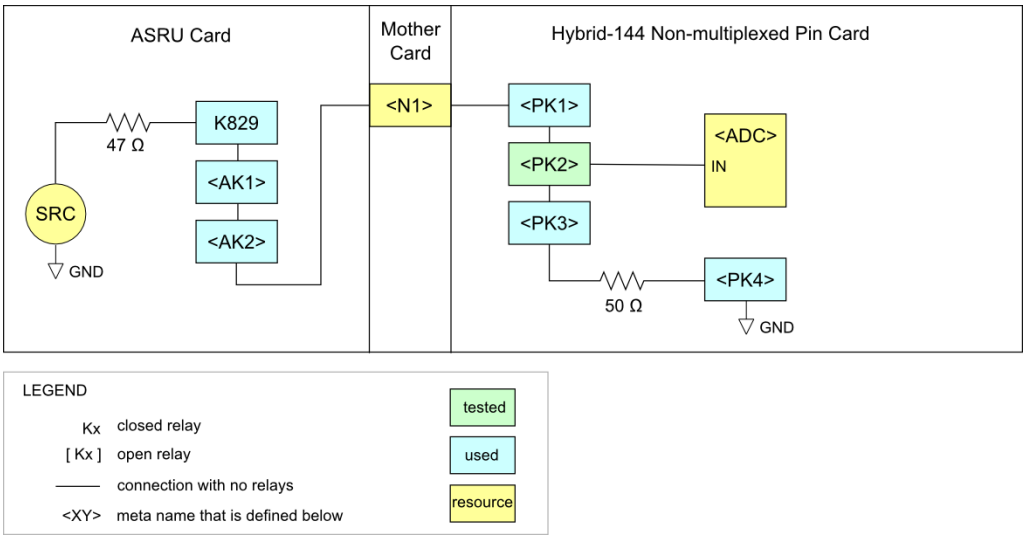

Table 11-11 Test 14033 Subtests

Subtest	<AK1>	<AK2>	<N1>	<PK1>	<PK2>	<PK3>	<PK4>	<ADC>
0	K734		X2	KAA	KADCAA	KT50MA	KTGNDA	ADC A
1	K734		X2	KAA	[KADCAA]	KT50MA	KTGNDA	ADC A
2	K736		X4	KBA	KADCBA	KT50MA	KTGNDA	ADC A
3	K736		X4	KBA	[KADCBA]	KT50MA	KTGNDA	ADC A
4	K751	K753	XL	KLA	KADCLA	KT50MA	KTGNDA	ADC A
5	K751	K753	XL	KLA	[KADCLA]	KT50MA	KTGNDA	ADC A
6	K738		X6	KAB	KADCAB	KT50MB	KTGNDB	ADC B
7	K738		X6	KAB	[KADCAB]	KT50MB	KTGNDB	ADC B
8	K740		X8	KBB	KADCBB	KT50MB	KTGNDB	ADC B
9	K740		X8	KBB	[KADCBB]	KT50MB	KTGNDB	ADC B
10	K751	K753	XL	KLB	KADCLB	KT50MB	KTGNDB	ADC B
11	K751	K753	XL	KLB	[KADCLB]	KT50MB	KTGNDB	ADC B

Test 14034

Digital to Analog Convertors (DACs)

This test verifies the that the DACs are functioning and that the relays that connect them to the S bus close and open. The setup for this test is shown in Figure 11-10.

Figure 11-10 Test 14034 Test Path

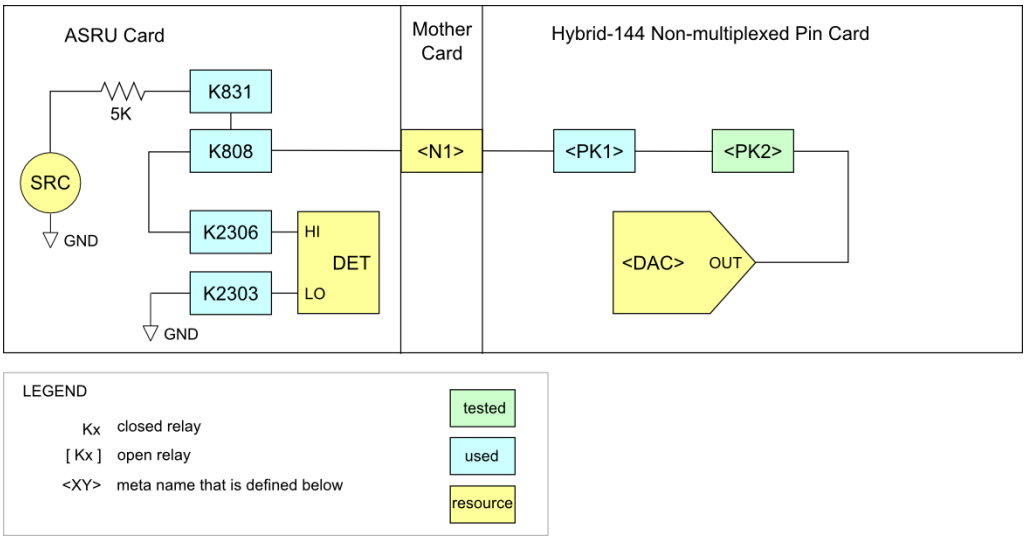

Table 11-12 Test 14034 Subtests

Subtest	<N1>	<PK1>	<PK2>	<DAC>
0	X1	KSA	KDACSA	DAC A
1	X1	KSA	[KDACSA]	DAC A
2	X5	KSB	KDACSB	DAC B
3	X5	KSB	[KDACSB]	DAC B

Test 14035

ConnectCheck Sources

This test verifies the that the ConnectCheck Sources are functioning and that the relays that connect them to the S bus close and open. The setup for this test is shown in Figure 11-11.

Figure 11-11 Test 14035 Test Path

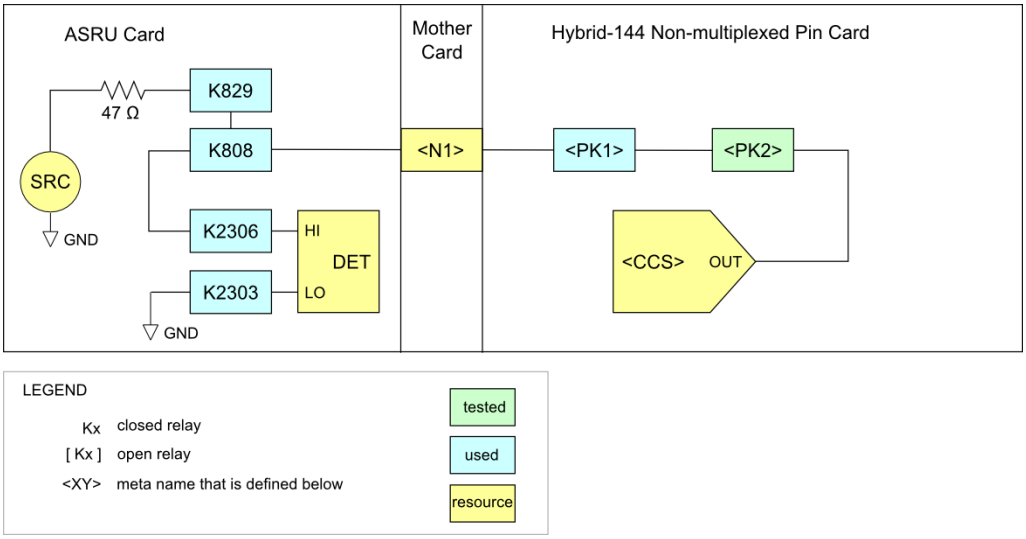

Table 11-13 Test 14035 Subtests

Subtest	<N1>	<PK1>	<PK2>	<CCS>
0	X1	KSA	KCCSRCSA	CC SRC A
1	X1	KSA	[KCCSRCSA]	CC SRC A
2	X5	KSB	KCCSRCSB	CC SRC B
3	X5	KSB	[KCCSRCSB]	CC SRC B

Test 14036

Discharge Relays can be Closed and Opened

This test verifies the that the relays that connect the Discharge Circuits to the S bus can close and open. The setup for this test is shown in Figure 11-12.

Figure 11-12 Test 14036 Test Path

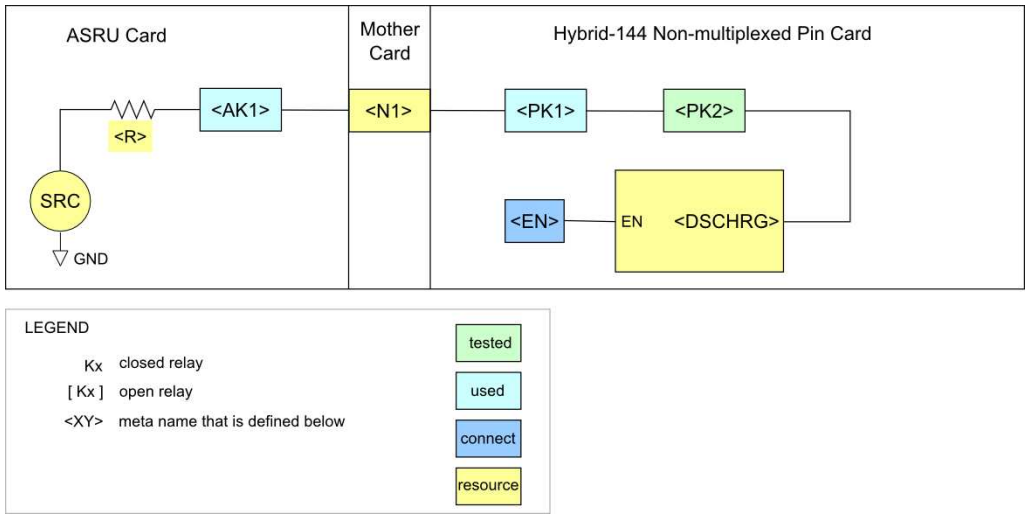

Table 11-14 Test 14035 Subtests

Subtest	<v>	<i>	<R>	<AK1>	<N1>	<PK1>	<PK2>	<DSCHRG>		<m>
0	7.0 V	150 mA	47 ohm	K829	X1	KSA	KDSCHRGSA	DSCH A	enable	xxxx xxxx xxxx x110
1	7.0 V	150 mA	47 ohm	K829	X1	KSA	[KDSCHRGSA]	DSCH A	enable	xxxx xxxx xxxx x111
2	7.0 V	150 mA	47 ohm	K829	X5	KSB	KDSCHRGSB	DSCH B	enable	xxxx xxxx xxxx x110
3	7.0 V	150 mA	47 ohm	K829	X5	KSB	[KDSCHRGSB]	DSCH B	enable	xxxx xxxx xxxx x111
4	8.0 V	30 mA	5K ohm	K831	X1	KSA	KDSCHRGSA	DSCH A	disable	xxxx xxxx xxxx x000
5	8.0 V	30 mA	5K ohm	K831	X1	KSA	[KDSCHRGSA]	DSCH A	disable	xxxx xxxx xxxx x011
6	8.0 V	30 mA	5K ohm	K831	X5	KSB	KDSCHRGSB	DSCH B	disable	xxxx xxxx xxxx x000
7	8.0 V	30 mA	5K ohm	K831	X5	KSB	[KDSCHRGSB]	DSCH B	disable	xxxx xxxx xxxx x011

Test 14037

Discharge Circuits

Requires: Pin Verification Fixture

This test verifies the that the Discharge Circuits are functioning. The setup for this test is shown in Figure 11-13.

Figure 11-13 Test 14037 Test Paths

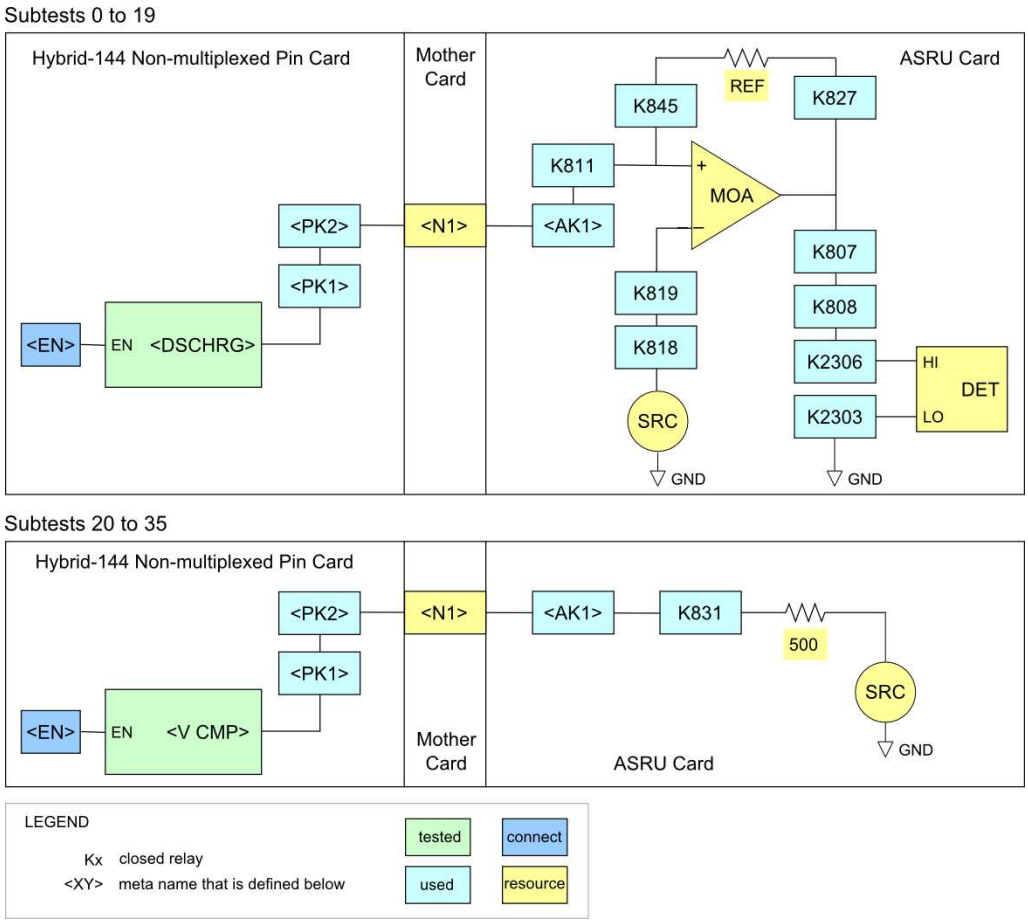

Table 11-15 Test 14037 Subtests

Subtest	[redacted]	<m>	<DSCHRG>	<PK1>	<PK2>	<N1>	<AK1>	<v>
0	enable		DSCH A	KDSCHRGSA	KSA	X1	K725	1.0 V
1	enable		DSCH A	KDSCHRGSA	KSA	X1	K725	2.0 V
2	enable		DSCH A	KDSCHRGSA	KSA	X1	K725	3.0 V
3	enable		DSCH A	KDSCHRGSA	KSA	X1	K725	4.0 V
4	enable		DSCH A	KDSCHRGSA	KSA	X1	K725	5.0 V
5	enable		DSCH A	KDSCHRGSA	KSA	X1	K725	-1.0 V
6	enable		DSCH A	KDSCHRGSA	KSA	X1	K725	-2.0 V
7	enable		DSCH A	KDSCHRGSA	KSA	X1	K725	-3.0 V
8	enable		DSCH A	KDSCHRGSA	KSA	X1	K725	-4.0 V
9	enable		DSCH A	KDSCHRGSA	KSA	X1	K725	-5.0 V
10	enable		DSCH B	KDSCHRGSB	KSB	X5	K729	1.0 V
11	enable		DSCH B	KDSCHRGSB	KSB	X5	K729	2.0 V
12	enable		DSCH B	KDSCHRGSB	KSB	X5	K729	3.0 V
13	enable		DSCH B	KDSCHRGSB	KSB	X5	K729	4.0 V
14	enable		DSCH B	KDSCHRGSB	KSB	X5	K729	5.0 V
15	enable		DSCH B	KDSCHRGSB	KSB	X5	K729	-1.0 V
16	enable		DSCH B	KDSCHRGSB	KSB	X5	K729	-2.0 V
17	enable		DSCH B	KDSCHRGSB	KSB	X5	K729	-3.0 V
18	enable		DSCH B	KDSCHRGSB	KSB	X5	K729	-4.0 V
19	enable		DSCH B	KDSCHRGSB	KSB	X5	K729	-5.0 V
20	disable	xxxx xxxx xxxx x000	DSCH A	KDSCHRGSA	KSA	X1	K733	+6.30 V
21	disable	xxxx xxxx xxxx x011	DSCH A	KDSCHRGSA	KSA	X1	K733	+5.60 V
22	disable	xxxx xxxx xxxx x010	DSCH A	KDSCHRGSA	KSA	X1	K733	+0.25 V
23	disable	xxxx xxxx xxxx x011	DSCH A	KDSCHRGSA	KSA	X1	K733	+0.05 V
24	disable	xxxx xxxx xxxx x011	DSCH A	KDSCHRGSA	KSA	X1	K733	-0.05 V
25	disable	xxxx xxxx xxxx x0x0	DSCH A	KDSCHRGSA	KSA	X1	K733	-0.25 V
26	disable	xxxx xxxx xxxx x01x	DSCH A	KDSCHRGSA	KSA	X1	K733	-0.20 V
27	disable	xxxx xxxx xxxx x000	DSCH A	KDSCHRGSA	KSA	X1	K733	-0.40 V
28	disable	xxxx xxxx xxxx x01x	[DSCH A]	KDSCHRGSA	KSA	X1	K733	+6.80 V

Table 11-15 Test 14037 Subtests

Subtest	[redacted]	<m>	<DSCHRG>	<PK1>	<PK2>	<N1>	<AK1>	<v>
29	disable	xxxx xxxx xxxx x01x	[DSCH A]	KDSCHRGSA	KSA	X1	K733	-0.80 V
30	enable	xxxx xxxx xxxx x111	[DSCH A]	KDSCHRGSA	KSA	X1	K733	+6.80 V
31	enable	xxxx xxxx xxxx x111	[DSCH A]	KDSCHRGSA	KSA	X1	K733	-0.80 V
32	disable	xxxx xxxx xxxx x000	DSCH B	KDSCHRGSB	KSB	X5	K737	+6.30 V
33	disable	xxxx xxxx xxxx x011	DSCH B	KDSCHRGSB	KSB	X5	K737	+5.60 V
34	disable	xxxx xxxx xxxx x010	DSCH B	KDSCHRGSB	KSB	X5	K737	+0.25 V
35	disable	xxxx xxxx xxxx x011	DSCH B	KDSCHRGSB	KSB	X5	K737	+0.05 V
36	disable	xxxx xxxx xxxx x011	DSCH B	KDSCHRGSB	KSB	X5	K737	-0.05 V
37	disable	xxxx xxxx xxxx x0x0	DSCH B	KDSCHRGSB	KSB	X5	K737	-0.25 V
38	disable	xxxx xxxx xxxx x01x	DSCH B	KDSCHRGSB	KSB	X5	K737	-0.20 V
39	disable	xxxx xxxx xxxx x000	DSCH B	KDSCHRGSB	KSB	X5	K737	-0.40 V
40	disable	xxxx xxxx xxxx x01x	[DSCH B]	KDSCHRGSB	KSB	X5	K737	+6.80 V

Test 14038

Timing Calibration

Requires: Pin Verification Fixture

This test verifies the that the timing calibration relays close and open. The setup for this test is shown in Figure 11-14.

Figure 11-14 Test 14038 Test Path

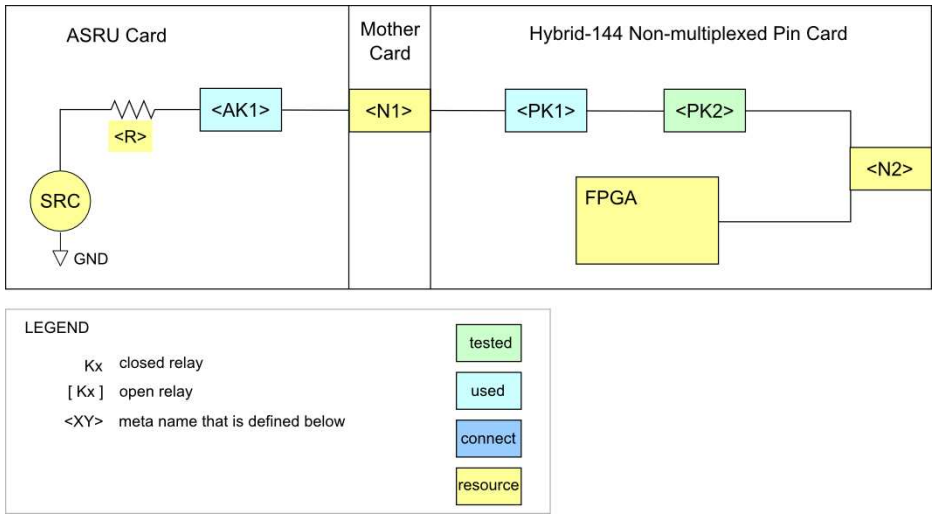

Table 11-16 Test 14038 Subtests

Subtest	<v>	<i>	<R>	<AK1>	<N1>	<PK1>	<PK2>	<N2>	<m>
0	0.0 volts	150 mA	47 ohm	K829	X1	KSA	KTCALA	TCAL A	xxxx xxxx xxxx xxx0
1	0.0 volts	150 mA	47 ohm	K829	X1	KSA	[KTCALA]	TCAL A	xxxx xxxx xxxx xxx1
2	0.0 volts	150 mA	47 ohm	K829	X5	KSB	KTCALB	TCAL B	xxxx xxxx xxxx xxx0
3	0.0 volts	150 mA	47 ohm	K829	X5	KSB	[KTCALB]	TCAL B	xxxx xxxx xxxx xxx1

Test 14041

SUBMUX relays

Refer to Test 14021 and 14041 on page 11-4.

Drivers / Receivers

Test 14261

Driver High/Low Voltage

Test 14261 tests the digital driver output voltage levels. It tests both drive high (one) and drive low (zero).

Test 14271

Driver Source/Sink Current

Test 14271 tests the digital driver output voltage levels while driving a large amount of current (~667 mA). It tests both drive high (one) and drive low (zero).

Test 14361

Receiver Threshold Voltage

Test 14361 tests the digital receiver input voltage levels. It tests both receive high (one) and receive low (zero).

Test 14461

Driver/Receiver Leakage Current

Test 14461 tests the combined digital driver leakage current (while disabled) and the digital receiver input bias current. It makes one measurement with the digital disconnect relay closed and another measurement with the digital disconnect relay open and calculates the difference in current.

Test 14471

Driver/Receiver Pull-Up Resistance and Voltage

The Driver/Receiver pull-up resistor connects the D/R to the drive high reference voltage. The pull-up is controllable on a per channel basis. This test verifies the resistor is of the correct value and connects to the correct voltage when pull-up is enabled.

Test 14472

Driver/Receiver Pull-Down Resistance and Voltage

The Driver/Receiver pull-down resistor connects the D/R to the drive low reference voltage (0 V.). The pull-down is controllable on a per channel basis. This test verifies the resistor is of the correct value and connects to the correct voltage when pull-down is enabled.

Test 14511

Driver Rise Time

Test 14511 tests the rise time of the driver. The clock (DUTCLK) is routed to the driver using adrv0. The output of the receiver is routed to the TIC using arcv0. The TIC makes a sequence of time interval measurements between the rising edge of DUTCLK (input A) and the rising edge of arcv0. The receiver is set to a low threshold (the start of the rise time) and the time interval is measured and stored in the testhead. The receiver is set to a high threshold (the end of the rise time) and the

time interval is measured and stored in the testhead. The difference between the two time intervals is calculated. This is the rise time.

Test 14512

Driver Fall Time

Test 14512 tests the fall time of the driver. The clock (DUTCLK) is routed to the driver using adrv0. The output of the receiver is routed to the TIC using arcv0. The TIC makes a sequence of time interval measurements between the rising edge of DUTCLK (input A) and the rising edge of arcv0. The receiver is set to a low threshold and the time interval is measured and stored in the testhead. The receiver is set to a high threshold and the time interval is measured and stored in the testhead. The difference between the two time intervals in calculated. This is the fall time.

Test 14531

Driver Delay

This test verifies the drive strobe delay line within the control logic. This delay allows the timing calibration to align the drive edges at the driver output across all the cards in the system.

Test 14541

Driver Data and TSP Sources

Test 14541 tests all combinations of the static0/1 and adrv0/1 control lines as driver data and enable sources.

Test 14631

Receiver Delay

This test verifies the receiver's receive strobe delay line.

Test 14641

Receiver Mask

Test 14641 tests that the receiver enable is able to turn off the comparison of expected with actual receive data.

Test 14643

Receiver Observability

Test 14643 tests that arcv0 is able to observe synchronous receive data, expected receive data and expected receive enable.

Test 14647

Receiver CRC

The expected data stream from each receiver can be compressed into 32 bit CRCs (independent CRC for each channel/pin). The bits of the data stream routed to the CRC are selectable on a per vector basis. The purpose of this test is to validate the functionality of the CRCEN signal.

Test 14649

Receiver State Capture Enable

Test 14649 tests the state capture RAM by running a digital test and capturing values from selected vectors while the test runs.

Test 14721

Driver/Receiver Frequency

Test 14721 tests that the driver/receiver pin electronics will pass a clock of a given frequency. The clock (DUTCLK) is routed to the driver using adrv0. The receiver output is routed to the TIC using arcv0.

Test 14722

Driver/Receiver Frequency

Test 14722 tests that the driver/receiver pin electronics will pass a clock of a given frequency. The clock (DUTCLK) is routed to the driver using adrv1. The receiver output is routed to the TIC using arcv0.

Test 14723

Driver/Receiver Frequency

Test 14723 tests that the driver/receiver pin electronics will pass a clock of a given frequency. The clock (DUTCLK) is routed to the driver using adrv0. The receiver output is routed to the TIC using arcv1.

Test 14724

Driver/Receiver Frequency

Test 14724 tests that the driver/receiver pin electronics will pass a clock of a given frequency. The clock (DUTCLK) is routed to the driver using adrv1. The receiver output is routed to the TIC using arcv1.

Test 14731

Driver/Receiver Data

Test 14731 runs a set of both passing and failing vector based tests. These tests use all data values (0, 1, k, t, z/x) and (legal) sequences 1, 2 and 3 vectors deep.

Test 14732

20M Vector Toggle with pull-downs on

Test 14732 runs a passing vector based test that toggles all drivers in phase for 20,000,000 vectors with pull-downs on.

Test 14733

20M Vector Toggle with pull-ups on

Test 14733 runs a passing vector based test that toggles all drivers in phase for 20,000,000 vectors with pull-ups on.

Test 14734

20M Vector Toggle without pull-downs or pull-ups

Test 14734 runs a passing vector based test that toggles all drivers in phase for 20,000,000 vectors with pull-downs and pull-ups off.

Test 14741

Driver Drive Check

Requires: Pin Verification Fixture

Test 14741 tests the drvie check circuitry. Drive check uses the receiver to monitor the driver's output.