

## 9 Annexure-1 (Passive tests)

### 9.1 Continuity & Isolation Tests

Note: SHORT specified implies a resistance of < 100mΩ & OPEN specified implies a resistance of >100MΩ, unless specified otherwise

#### 9.1.1 BAT Card

Sl no.	Test Points	Description	Expected	Observed	
				ISRC	FSRC
1	BIP-1 wrt BIP-2	PYRO BATT HIGH (PRIME)	<100mΩ	6m Ω	6mΩ
2	BIP-1 wrt BIP-3	PYRO BATT HIGH (PRIME)	<100mΩ	8m Ω	8mΩ
3	BIP-1 wrt BIP-4	PYRO BATT HIGH (PRIME)	<100mΩ	8m Ω	8mΩ
4	BIR-1 wrt BIR-2	PYRO BATT HIGH (RED)	<100mΩ	6m Ω	6mΩ
5	BIR-1 wrt BIR-3	PYRO BATT HIGH (RED)	<100mΩ	8m Ω	8mΩ
6	BIR-1 wrt BIR-4	PYRO BATT HIGH (RED)	<100mΩ	8m Ω	8mΩ
7	BIP-8 wrt BIR-8	MATING STAT (P&R)	<100mΩ	10m Ω	10mΩ
8	BIP-6 wrt BIR-6	Dry contact i/p	<200 mΩ	175m Ω	175mΩ
9	CIP-1 wrt CIR-1	CMD 35 HIGH (P&R)	<200 mΩ	104m Ω	104mΩ
10	CIP-2 wrt CIR-2	CMD BAR 35 HIGH (P&R)	<100mΩ	57m Ω	57mΩ
11	CIP-3 wrt CIR-3	CMD 15.5 HIGH (P&R)	<100mΩ	58m Ω	58mΩ
12	CIP-4 wrt CIR-4	CMD BAR 15.5 HIGH (P&R)	<200 mΩ	99m Ω	100mΩ
13	CIP-5 wrt CIR-5	Cmd 15.5 INPUT HIGH (P&R)	<100mΩ	57m Ω	57mΩ
14	CIP-9 wrt CIP-11	BAT NC OUT& BAT POLE OUT	<200 mΩ	143m Ω	143mΩ
15	CIP-11 wrt CIP-12	BAT POLE OUT	<100mΩ	53m Ω	53mΩ
16	CIP-13 wrt CIP-25	28V I/P DC/DC HIGH	<100mΩ	18m Ω	18mΩ
17	CIR-13 wrt CIR-25	28V I/P DC/DC HIGH	<100mΩ	19m Ω	19mΩ
18	CIP-14 wrt CIP-15	28V O/P HIGH-P	<100mΩ	24m Ω	24mΩ
19	CIP-14 wrt CIP-16	28V O/P HIGH-P	<100mΩ	42m Ω	42mΩ
20	CIP-14 wrt CIP-17	28V O/P HIGH-P	<100mΩ	42m Ω	42mΩ
21	CIP-14 wrt CIP-18	28V O/P HIGH-P	<100mΩ	30m Ω	30mΩ
22	CIP-14 wrt CIP-19	28V O/P HIGH-P	<100mΩ	30m Ω	30mΩ
23	CIP-14 wrt CIP-20	28V O/P HIGH-P	<100mΩ	35m Ω	35mΩ
24	CIP-14 wrt CIP-21	28V O/P HIGH-P	<100mΩ	35m Ω	35mΩ
25	CIP-14 wrt CIP-22	28V O/P HIGH-P	<100mΩ	32m Ω	32mΩ
26	CIP-14 wrt CIP-23	28V O/P HIGH-P	<100mΩ	32m Ω	32mΩ
27	CIR-14 wrt CIR-15	28V O/P HIGH-R	<100mΩ	13m Ω	13mΩ

SI no.	Test Points	Description	Expected	Observed	
				ISRC	FSRC
28	CIR-14 wrt CIR-16	28V O/P HIGH-R	<100mΩ	32m Ω	32mΩ
29	CIR-14 wrt CIR-17	28V O/P HIGH-R	<100mΩ	33m Ω	33mΩ
30	CIR-14 wrt CIR-18	28V O/P HIGH-R	<100mΩ	18m Ω	18mΩ
31	CIR-14 wrt CIR-19	28V O/P HIGH-R	<100mΩ	18m Ω	18mΩ
32	CIR-14 wrt CIR-20	28V O/P HIGH-R	<100mΩ	29m Ω	29mΩ
33	CIR-14 wrt CIR-21	28V O/P HIGH-R	<100mΩ	29m Ω	29mΩ
34	CIR-14 wrt CIR-22	28V O/P HIGH-R	<100mΩ	21m Ω	21mΩ
35	CIR-14 wrt CIR-23	28V O/P HIGH-R	<100mΩ	21m Ω	21mΩ
36	PO-1 wrt RO-1	CMD 35 (P) OUTPUT HIGH-P	<200 mΩ	95m Ω	95mΩ
37	PO-2 wrt RO-2	CMD 35 (P) OUTPUT HIGH	<200 mΩ	93m Ω	93mΩ
38	PO-3 wrt RO-3	CMD 35 (P) OUTPUT HIGH	<200 mΩ	85m Ω	85mΩ
39	PO-4 wrt RO-4	CMD 35 (P) OUTPUT HIGH	<200 mΩ	95m Ω	94mΩ
40	PO-5 wrt RO-5	CMD 35 (P) OUTPUT HIGH	<200 mΩ	79m Ω	79mΩ
41	PO-6 wrt RO-6	CMD 35 (P) OUTPUT HIGH	<200 mΩ	62m Ω	62mΩ
42	PO-7 wrt RO-7	CMD 35 (R) OUTPUT HIGH	<200 mΩ	113m Ω	113mΩ
43	PO-8 wrt RO-8	CMD 35 (R) OUTPUT HIGH	<200 mΩ	101m Ω	101mΩ
44	PO-9 wrt RO-9	CMD 35 (R) OUTPUT HIGH	<200 mΩ	112m Ω	112mΩ
45	PO-10 wrt RO-10	CMD 35 (R) OUTPUT HIGH	<200 mΩ	135m Ω	135mΩ
46	PO-11 wrt RO-11	CMD 35 (R) OUTPUT HIGH	<200 mΩ	55m Ω	54mΩ
47	PO-12 wrt RO-12	CMD 35 (R) OUTPUT HIGH	<200 mΩ	82m Ω	81mΩ
48	PO-13 wrt RO-13	CMD 15.5 OUTPUT HIGH	<200 mΩ	177m Ω	176mΩ
49	PO-14 wrt RO-14	CMD 15.5 OUTPUT HIGH	<200 mΩ	107m Ω	107mΩ
50	CIR-9 wrt CIR-11	SEQ NC IN wrt SEQ NC OUT	0.3-0.6Ω	506m Ω	505mΩ
51	CIR-9 wrt CIR-10	SEQ NC IN wrt SEQ NC OUT	>100MΩ	>100M Ω	>100MΩ
52	CIR-10 wrt CIR-12	SEQ NO IN wrt SEQ NO OUT	>100MΩ	>100M Ω	>100MΩ
53	PO-15 wrt RO-15	CONN. Matting STS	<100mΩ	11m Ω	11mΩ
54	PO-1 wrt PO-2	CMD 35 (P) OUTPUT HIGH-P	2Ω -2.3Ω	2.080 Ω	2.080 Ω
55	PO-1 wrt PO-3	CMD 35 (P) OUTPUT HIGH-P	2Ω -2.3Ω	2.081 Ω	2.081 Ω
56	PO-1 wrt PO-4	CMD 35 (P) OUTPUT HIGH-P	2Ω -2.3Ω	2.093 Ω	2.093 Ω
57	PO-1 wrt PO-5	CMD 35 (P) OUTPUT HIGH-P	2Ω -2.3Ω	2.090 Ω	2.090 Ω
58	PO-1 wrt PO-6	CMD 35 (P) OUTPUT HIGH-P	2Ω -2.3Ω	2.072 Ω	2.071 Ω
59	PO-7 wrt PO-8	CMD 35 (R) OUTPUT HIGH-P	2Ω -2.3Ω	2.108 Ω	2.108 Ω
60	PO-7 wrt PO-9	CMD 35 (P) OUTPUT HIGH-P	2Ω -2.3Ω	2.119 Ω	2.119 Ω
61	PO-7 wrt PO-10	CMD 35 (P) OUTPUT HIGH-P	2Ω -2.3Ω	2.127 Ω	2.127 Ω
62	PO-7 wrt PO-11	CMD 35 (P) OUTPUT HIGH-P	2Ω -2.3Ω	2.082 Ω	2.081 Ω
63	PO-7 wrt PO-12	CMD 35 (P) OUTPUT HIGH-P	2Ω -2.3Ω	2.089 Ω	2.089 Ω

<b>Issue Sqb Battery ON command (Apply 28V pulsed at CHI-1 wrt 2)</b>					
64	BIR-5 wrt BIR-1	BAT VOL MON O/P HIGH BAT ON I/P HIGH	26.46kΩ - 27.54kΩ	27.436kΩ	27.43kΩ
65	BIP-5 wrt BIP-1	BAT VOL MON O/P HIGH BAT ON I/P HIGH	26.46kΩ - 27.54kΩ	27.456kΩ	27.45kΩ
<b>Issue Sqb Battery OFF command (Apply 28V pulsed at CHI-3 wrt 2)</b>					
66	BIP-1 wrt BIR-1	Battery Oring diodes	>100MΩ	>100MΩ	>100MΩ
67	BIR-1 wrt BIP-1	Battery Oring diodes	>100MΩ	>100MΩ	>100MΩ
68	BIP-5 wrt BIR-5	Contact – P T/M wrt R T/M	>100MΩ	>100MΩ	>100MΩ
69	BIR-5 wrt BIP-5	Contact – R T/M wrt P T/M	>100MΩ	>100MΩ	>100MΩ
70	CHI-2 wrt BIP-1	Bat Coil rtn wrt Contact-P	>100MΩ	>100MΩ	>100MΩ
71	CHI-2 wrt BIP-5	Bat Coil rtn wrt Contact-P T/M	>100MΩ	>100MΩ	>100MΩ
72	CHI-2 wrt BIR-1	Bat Coil rtn wrt Contact-R	>100MΩ	>100MΩ	>100MΩ
73	CHI-2 wrt BIR-5	Bat Coil rtn wrt Contact-R T/M	>100MΩ	>100MΩ	>100MΩ
74	CHI-2 wrt CIP-11	Bat Coil rtn wrt T/M mon rtn	>100MΩ	>100MΩ	>100MΩ
75	CHI-7 wrt CIP-13	S/A coil rtn wrt 28V DC-DC i/p	>100MΩ	>100MΩ	>100MΩ
76	CHI-7 wrt CIP-18	S/A coil rtn wrt 28V DC-DC out	>100MΩ	>100MΩ	>100MΩ
77	CHI-7 wrt CIR-9	S/A coil rtn wrt Seq NC IN	>100MΩ	>100MΩ	>100MΩ
78	CHI-7 wrt CIR-10	S/A coil rtn wrt Seq NO IN	>100MΩ	>100MΩ	>100MΩ
79	CHI-7 wrt CIR-11	S/A coil rtn wrt Seq NC OUT	>100MΩ	>100MΩ	>100MΩ
80	CHI-7 wrt CIR-12	S/A coil rtn wrt Seq NO OUT	>100MΩ	>100MΩ	>100MΩ
81	CHI-7 wrt CIR-13	S/A coil rtn wrt 28V DC-DC IN	>100MΩ	>100MΩ	>100MΩ
82	CHI-7 wrt CIR-14	S/A coil rtn wrt 28V DC-DC out	>100MΩ	>100MΩ	>100MΩ
83	CIP-14 wrt CIP-5	Coil-P wrt Cmd 15.5 contact i/p	>100MΩ	>100MΩ	>100MΩ
84	CIP-14 wrt CP-9	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
85	CIP-14 wrt CP-10	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
86	CIP-14 wrt CP-11	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
87	CIP-14 wrt CP-12	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
88	CIP-14 wrt PO-14	Coil-P wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
89	CIP-14 wrt PO-13	Coil-P wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
90	CIP-14 wrt CP-1	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
91	CIP-14 wrt CP-2	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
92	CIP-14 wrt CP-3	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
93	CIP-14 wrt CP-4	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
94	CIP-14 wrt CP-5	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
95	CIP-14 wrt CP-6	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
96	CIP-14 wrt CP-7	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ

SI no.	Test Points	Description	Expected	Observed	
				ISRC	FSRC
97	CIP-14 wrt CP-8	Coil-P wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
98	CIP-14 wrt PO-1	Coil-P wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
99	CIP-14 wrt PO-7	Coil-P wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
100	CIR-14 wrt CIP-5	Coil-R wrt Cmd15.5 contact i/p	>100MΩ	>100MΩ	>100MΩ
101	CIR-14 wrt PO-1	Coil-R wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
102	CIR-14 wrt PO-7	Coil-R wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
103	CIR-14 wrt PO-13	Coil-R wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
104	CIR-14 wrt PO-14	Coil-R wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
100	CIR-14 wrt CIP-5	Coil-R wrt Cmd15.5 contact i/p	>100MΩ	>100MΩ	>100MΩ
101	CIR-14 wrt PO-1	Coil-R wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
102	CIR-14 wrt PO-7	Coil-R wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
103	CIR-14 wrt PO-13	Coil-R wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
104	CIR-14 wrt PO-14	Coil-R wrt contact o/ps	>100MΩ	>100MΩ	>100MΩ
105	CIR-14 wrt CP-1	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
106	CIR-14 wrt CP-2	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
107	CIR-14 wrt CP-3	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
108	CIR-14 wrt CP-4	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
109	CIR-14 wrt CP-5	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
110	CIR-14 wrt CP-6	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
111	CIR-14 wrt CP-7	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
112	CIR-14 wrt CP-8	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
113	CIR-14 wrt CP-9	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
114	CIR-14 wrt CP-10	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
115	CIR-14 wrt CP-11	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
116	CIR-14 wrt CP-12	Coil-R wrt contact CPs	>100MΩ	>100MΩ	>100MΩ
117	CIP-14 wrt CIR-14	Coil-P wrt Coil-R	>100MΩ	>100MΩ	>100MΩ
118	CIR-14 wrt CIP-14	Coil-R wrt Coil-P	>100MΩ	>100MΩ	>100MΩ
119	BIP-1 wrt BIP-6	Sqb P contact wrt Dry contact i/p	>100MΩ	>100MΩ	>100MΩ
120	BIR-1 wrt BIR-6	Sqb R contact wrt Dry contact i/p	>100MΩ	>100MΩ	>100MΩ
121	CHI-1 wrt CHI-2	Sqb Battery ON	*68-83Ω #101-123 Ω	113.740Ω	113.613Ω
122	CHI-3 wrt CHI-2	Sqb Battery OFF	*68-83Ω #101-123 Ω	114.240Ω	114.112Ω

123	CHI-6 wrt CHI-7	Seq ARM	*135-165Ω #203-247Ω	227.472Ω	227.231Ω
124	CHI-9 wrt CHI-7	Seq SAFE	*135-165Ω #203-247 Ω	224.491Ω	224.243Ω
125	All connector mounting posts wrt chassis		<100mΩ	<100mΩ	<100mΩ
126	All pins wrt chassis		>100MΩ	>100MΩ	>100MΩ

**List of Connectors in the package**

#EL415 relays are wired **1. CIP and CIR=25 pin Female , 3.PO,RO=32 pin Female D3899**

**2.BIP and BIR=8 pin M D3899 ,4.CP=15 pin Female,**

**9.1.2 Pyro-1 Module**

**5.CH1-9 pin Female**

Sl no.	Test Points	Description	Expected	Observed	
				ISRC	FSRC
1	CIP-1 wrt CIR-1	CMD 20 (RETRO) I/P HIGH-P&R	0.4-0.7Ω	572mΩ	572mΩ
2	CIP-7 wrt CIR-7	CMD BAR 20 I/P HIGH-P&R	0.3-0.5Ω	405mΩ	405mΩ
3	CIP-2 wrt CIR-2	CMD 13 GS2 IGN I/P HIGH-P&R	0.75-1.1Ω	930mΩ	928mΩ
4	CIP-8 wrt CIR-8	CMD BAR 13 GS2 IGN I/P HIGH-P wrt R	0.4-0.7Ω	524mΩ	524mΩ
5	CIP-3 wrt CIR-3	CMD 19 GS2 SHUT DOWN I/P HIGH-P wrt R	0.5-0.75Ω	609mΩ	608mΩ
6	CIP-9 wrt CIR-9	CMD BAR 19 I/P HIGH-P wrt R	0.25-0.55Ω	371mΩ	372mΩ
7	CIP-4 wrt CIR-4	CMD 17.1 POGO ON I/P HIGH-P wrt R	0.2-0.4Ω	291mΩ	291mΩ
8	CIP-10 wrt CIR-10	CMD BAR 17.1 POGO ON I/P HIGH-P wrt R	0.3-0.55Ω	465mΩ	465mΩ
9	CIP-5 wrt CIR-5	CMD 17.1A POGO OFF I/P HIGH-P wrt R	0.2-0.4Ω	323mΩ	324mΩ
10	CIP-11 wrt CIR-11	CMD BAR 17.1A POGO OFF I/P HIGH-P wrt R	0.25-0.45Ω	352mΩ	352mΩ
11	CIP-6 wrt CIR-6	CMD Spare I/P P wrt R	0.75-1.1Ω	961mΩ	960mΩ
12	CIP-12 wrt CIR-12	CMD BAR Spare I/P P wrt R	0.65-1Ω	794mΩ	794mΩ
13	CIP-16 wrt CIR-16	CMD 13.1 VIS I/P HIGH-P wrt R	0.75-1Ω	916mΩ	914mΩ
14	CIP-17 wrt CIR-17	CMD BAR 13.1 VIS I/P HIGH-P wrt R	0.7-1Ω	830mΩ	829mΩ
15	CIP-24 wrt CIP-25	28 V COIL SUPPLY I/P HIGH-P wrt R	<100mΩ	9mΩ	9mΩ
16	CIR-24 wrt CIR-25	28 V COIL SUPPLY I/P HIGH-R	<200mΩ	153mΩ	152mΩ
17	PO-24 wrt PO-25	28 V CONTACT SUPPLY I/P HIGH-P	<100mΩ	5mΩ	5mΩ
18	RO-24 wrt RO-25	28 V CONTACT SUPPLY I/P HIGH-R	<300mΩ	222mΩ	221mΩ