

# Checklist of CEM L1102\_TSF RL3

QDTF/TR/543/2023

Test report for CEM L110-2 FM07

## 8.1.5 TSF-RL3 Module

Sl no.	Test Points	Description	Expected	Observed	
				ISRC	FSRC
1	PO-1 wrt RO-1	CMD No: 1 Output	1.5Ω-1.8Ω	1.629Ω	1.629Ω
2	PO-3 wrt RO-3	CMD No: 3 Output	1Ω-1.3Ω	1.109Ω	1.109Ω
3	PO-7 wrt RO-7	CMD No: 5 Output	2Ω-2.4Ω	2.183Ω	2.183Ω
4	PO-8 wrt RO-8	CMD No: 6 Output	2Ω-2.3Ω	2.085Ω	2.085Ω
5	PO-2 wrt RO-2	CMD No: 2 Output	1Ω-1.4Ω	1.133Ω	1.133Ω
6	PO-6 wrt RO-6	CMD No: 4 Output	3Ω-3.4Ω	3.184Ω	3.184Ω
7	TMR1-1 wrt TMR1-9	TMR1 coil live	<100mΩ	6mΩ	10mΩ
8	TMR2-1 wrt TMR2-9	TMR2 coil live	<100mΩ	7mΩ	9mΩ
9	TMR3-1 wrt TMR3-9	TMR3 coil live	<100mΩ	7mΩ	8mΩ
10	TMR1-1 wrt TMR1-2	CMD No: 1	320Ω ±32Ω	321.141Ω	321.299Ω
11	TMR2-1 wrt TMR2-2	CMD No: 1	320Ω ±32Ω	320.941Ω	321.088Ω
12	TMR3-1 wrt TMR3-2	CMD No: 1	320Ω ±32Ω	323.333Ω	323.537Ω
13	TMR1-1 wrt TMR1-3	CMD No: 2	320Ω ±32Ω	324.301Ω	324.516Ω
14	TMR2-1 wrt TMR2-3	CMD No: 2	320Ω ±32Ω	324.029Ω	324.252Ω
15	TMR3-1 wrt TMR3-3	CMD No: 2	320Ω ±32Ω	323.686Ω	323.829Ω
16	TMR1-1 wrt TMR1-4	CMD No: 3	320Ω ±32Ω	325.747Ω	325.840Ω
17	TMR2-1 wrt TMR2-4	CMD No: 3	320Ω ±32Ω	323.924Ω	324.101Ω
18	TMR3-1 wrt TMR3-4	CMD No: 3	320Ω ±32Ω	321.307Ω	321.494Ω
19	TMR1-1 wrt TMR1-5	CMD No: 4	320Ω ±32Ω	324.229Ω	324.369Ω
20	TMR2-1 wrt TMR2-5	CMD No: 4	320Ω ±32Ω	320.860Ω	321.068Ω
21	TMR3-1 wrt TMR3-5	CMD No: 4	320Ω ±32Ω	323.751Ω	323.957Ω
22	TMR1-1 wrt TMR1-6	CMD No: 5	320Ω ±32Ω	323.306Ω	323.489Ω
23	TMR2-1 wrt TMR2-6	CMD No: 5	320Ω ±32Ω	321.127Ω	321.351Ω
24	TMR3-1 wrt TMR3-6	CMD No: 5	320Ω ±32Ω	323.556Ω	323.729Ω
25	TMR1-1 wrt TMR1-7	CMD No: 6	320Ω ±32Ω	323.875Ω	324.005Ω
26	TMR2-1 wrt TMR2-7	CMD No: 6	320Ω ±32Ω	320.589Ω	320.720Ω
27	TMR3-1 wrt TMR3-7	CMD No: 6	320Ω ±32Ω	325.421Ω	325.604Ω
28	TMR1-1 wrt TMR2-1	Isolation between coil lives	>100MΩ	>100MΩ	>100MΩ
29	TMR2-1 wrt TMR3-1	Isolation between coil lives	>100MΩ	>100MΩ	>100MΩ
30	TMR1-1 wrt TMR3-1	Isolation between coil lives	>100MΩ	>100MΩ	>100MΩ
31	TMR1-1 wrt PO-1	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
32	TMR1-1 wrt PO-2	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
33	TMR1-1 wrt PO-3	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
34	TMR1-1 wrt PO-6	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
35	TMR1-1 wrt PO-7	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
36	TMR1-1 wrt PO-8	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
37	TMR1-1 wrt MON-1	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
38	TMR1-1 wrt MON-2	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
39	TMR1-1 wrt MON-3	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
40	TMR1-1 wrt MON-4	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ

Sl no.	Test Points	Description	Expected	Observed	
				ISRC	FSRC
41	TMR1-1 wrt MON-5	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
42	TMR1-1 wrt MON-6	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
43	TMR1-1 wrt MON-7	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
44	TMR1-1 wrt MON-8	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
45	TMR1-1 wrt MON-9	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
46	TMR1-1 wrt MON-10	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
47	TMR1-1 wrt MON-11	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
48	TMR1-1 wrt MON-12	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
49	TMR1-1 wrt *PO-40	Coil lives wrt Contact i/p-P	>100MΩ	>100MΩ	>100MΩ
50	TMR1-1 wrt *RO-40	Coil lives wrt Contact i/p-R	>100MΩ	>100MΩ	>100MΩ
51	TMR2-1 wrt PO-1	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
52	TMR2-1 wrt PO-2	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
53	TMR2-1 wrt PO-3	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
54	TMR2-1 wrt PO-6	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
55	TMR2-1 wrt PO-7	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
56	TMR2-1 wrt PO-8	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
57	TMR2-1 wrt MON-1	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
58	TMR2-1 wrt MON-2	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
59	TMR2-1 wrt MON-3	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
60	TMR2-1 wrt MON-4	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
61	TMR2-1 wrt MON-5	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
62	TMR2-1 wrt MON-6	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
63	TMR2-1 wrt MON-7	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
64	TMR2-1 wrt MON-8	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
65	TMR2-1 wrt MON-9	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
66	TMR2-1 wrt MON-10	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
67	TMR2-1 wrt MON-11	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
68	TMR2-1 wrt MON-12	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
69	TMR2-1 wrt *PO-40	Coil lives wrt Contact i/p-P	>100MΩ	>100MΩ	>100MΩ
70	TMR2-1 wrt *RO-40	Coil lives wrt Contact i/p-R	>100MΩ	>100MΩ	>100MΩ
71	TMR3-1 wrt PO-1	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
72	TMR3-1 wrt PO-2	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
73	TMR3-1 wrt PO-3	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
74	TMR3-1 wrt PO-6	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
75	TMR3-1 wrt PO-7	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
76	TMR3-1 wrt PO-8	28V Coil Live points wrt outputs	>100MΩ	>100MΩ	>100MΩ
77	TMR3-1 wrt MON-1	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
78	TMR3-1 wrt MON-2	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
79	TMR3-1 wrt MON-3	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
80	TMR3-1 wrt MON-4	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
81	TMR3-1 wrt MON-5	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
82	TMR3-1 wrt MON-6	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ

Sl no.	Test Points	Description	Expected	Observed	
				ISRC	FSRC
83	TMR3-1 wrt MON-7	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
84	TMR3-1 wrt MON-8	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
85	TMR3-1 wrt MON-9	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
86	TMR3-1 wrt MON-10	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
87	TMR3-1 wrt MON-11	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
88	TMR3-1 wrt MON-12	28V Coil Live points wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
89	TMR3-1 wrt *PO-40	Coil lives wrt Contact i/p-P	>100MΩ	>100MΩ	>100MΩ
90	TMR3-1 wrt *RO-40	Coil lives wrt Contact i/p-R	>100MΩ	>100MΩ	>100MΩ
91	*PO-40 wrt TMR1-1	Contact i/p-P wrt Coil lives	>100MΩ	>100MΩ	>100MΩ
92	*PO-40 wrt TMR2-1	Contact i/p-P wrt Coil lives	>100MΩ	>100MΩ	>100MΩ
93	*PO-40 wrt TMR3-1	Contact i/p-P wrt Coil lives	>100MΩ	>100MΩ	>100MΩ
94	*PO-40 wrt PO-1	Contact i/p-P wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
95	*PO-40 wrt PO-2	Contact i/p-P wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
96	*PO-40 wrt PO-3	Contact i/p-P wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
97	*PO-40 wrt PO-6	Contact i/p-P wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
98	*PO-40 wrt PO-7	Contact i/p-P wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
99	*PO-40 wrt PO-8	Contact i/p-P wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
100	*PO-40 wrt MON-1	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
101	*PO-40 wrt MON-2	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
102	*PO-40 wrt MON-3	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
103	*PO-40 wrt MON-4	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
104	*PO-40 wrt MON-5	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
105	*PO-40 wrt MON-6	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
106	*PO-40 wrt MON-7	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
107	*PO-40 wrt MON-8	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
108	*PO-40 wrt MON-9	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
109	*PO-40 wrt MON-10	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
110	*PO-40 wrt MON-11	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
111	*PO-40 wrt MON-12	Contact i/p-P wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
112	*RO-40 wrt TMR1-1	Contact i/p-R wrt Coil lives	>100MΩ	>100MΩ	>100MΩ
113	*RO-40 wrt TMR2-1	Contact i/p-R wrt Coil lives	>100MΩ	>100MΩ	>100MΩ
114	*RO-40 wrt TMR3-1	Contact i/p-R wrt Coil lives	>100MΩ	>100MΩ	>100MΩ
115	*RO-40 wrt PO-1	Contact i/p-R wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
116	*RO-40 wrt PO-2	Contact i/p-R wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
117	*RO-40 wrt PO-3	Contact i/p-R wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
118	*RO-40 wrt PO-6	Contact i/p-R wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
119	*RO-40 wrt PO-7	Contact i/p-R wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
120	*RO-40 wrt PO-8	Contact i/p-R wrt Functional O/ps	>100MΩ	>100MΩ	>100MΩ
121	*RO-40 wrt MON-1	Contact i/p-R wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
122	*RO-40 wrt MON-2	Contact i/p-R wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
123	*RO-40 wrt MON-3	Contact i/p-R wrt Midpoints	>100MΩ	>100MΩ	>100MΩ
124	*RO-40 wrt MON-4	Contact i/p-R wrt Midpoints	>100MΩ	>100MΩ	>100MΩ

Sl no.	Test Points	Description	Expected	Observed	
				ISRC	FSRC
125	*RO-40 wrt MON-5	Contact i/p-R wrt Midpoints	>100M $\Omega$	>100M $\Omega$	>100M $\Omega$
126	*RO-40 wrt MON-6	Contact i/p-R wrt Midpoints	>100M $\Omega$	>100M $\Omega$	>100M $\Omega$
127	*RO-40 wrt MON-7	Contact i/p-R wrt Midpoints	>100M $\Omega$	>100M $\Omega$	>100M $\Omega$
128	*RO-40 wrt MON-8	Contact i/p-R wrt Midpoints	>100M $\Omega$	>100M $\Omega$	>100M $\Omega$
129	*RO-40 wrt MON-9	Contact i/p-R wrt Midpoints	>100M $\Omega$	>100M $\Omega$	>100M $\Omega$
130	*RO-40 wrt MON-10	Contact i/p-R wrt Midpoints	>100M $\Omega$	>100M $\Omega$	>100M $\Omega$
131	*RO-40 wrt MON-11	Contact i/p-R wrt Midpoints	>100M $\Omega$	>100M $\Omega$	>100M $\Omega$
132	*RO-40 wrt MON-12	Contact i/p-R wrt Midpoints	>100M $\Omega$	>100M $\Omega$	>100M $\Omega$
133	All pins with respect to chassis		>100M $\Omega$	>100M $\Omega$	>100M $\Omega$
134	All connector mounting posts wrt chassis		<100m $\Omega$	<100m $\Omega$	<100m $\Omega$

\*PO-40, RO-40 are connectors of BAT-LIVE module

### List of Connectors in the package

1. TMR1, TMR2 and TMR3=15 pin Male
2. PO, RO and MON=15 pin Female