g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-DS200TCCA-PANELTEST**

Test Procedure for a DS200TCCA in a MkV B Panel

DOCUMENT REVISION STATUS: Determined by the last entry in the "REV" and "DATE" column

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	J.Barton	2/11/15
B	Modified to test DS200TCCAG1A and DS200TCCAG2A in the "B" Panel	J.Barton	4/23/15
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
J.Barton			L. Groves
DATE	**DATE**	**DATE**	**DATE**
2/11/15			4/23/15

1. SCOPE

1.1 This is a functional testing procedure for a Card.

2. STANDARDS OF QUALITY

2.1 Refer to the current revision of the IPC-A-610 standard for workmanship standards.

3. APPLICABLE DOCUMENTS

3.1 The following document(s) shall form part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue shall apply.
3.1.1 Check board's electronic folder for more information

4. ENGINEERING REQUIREMENTS

4.1 Equipment Cleaning
4.1.1 Equipment should be clean and free of debris prior to applying power unless performing an initial check. Refer to site specific SRA's for cleaning guidelines.
4.2 Equipment Inspection
4.2.1 Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:
4.2.1.1 Wires - broken, cracked, or loosely connected
4.2.1.2 Terminal strips / connectors - broken or cracked
4.2.1.3 Components - visually damaged
4.2.1.4 Capacitors - bloated or leaking
4.2.1.5 Solder joints - damaged or cold
4.2.1.6 Circuit board - burned or de-laminated
4.2.1.7 Printed wire runs / Traces - burned or damaged

5. EQUIPMENT REQUIRED

5.1 The following equipment is required to perform the process requirements. Equipment may be substituted provided that all accuracy's and test ratios are equivalent or better.

Qty	Reference #	Description
1	H190143	MkV GT2 Panel
1	H190115	HMI GT2

6. Modifications/Upgrades

6.1 Fill out if applicable.

7. Testing Process

7.1 Prior to testing, verify which REVISION is in the Panel

7.1.1 IF the DS200TCCAG1B is in the Panel, no configuration changes need made

7.1.2 To test a DS200TCCAG*A in the panel

7.1.2.1.1 Install U8/U9 with DS200TCCAF1ADD Proms

7.1.2.1.1.1 If Testing a DS200TCCAG1A Install test PAL PLD68A9450AAEA01AA into U4

7.1.2.1.1.2 DO NOT FORGET to REPLACE ORIGINAL U4 back onto board prior to shipping!

7.1.2.1.2 Install Board to be tested

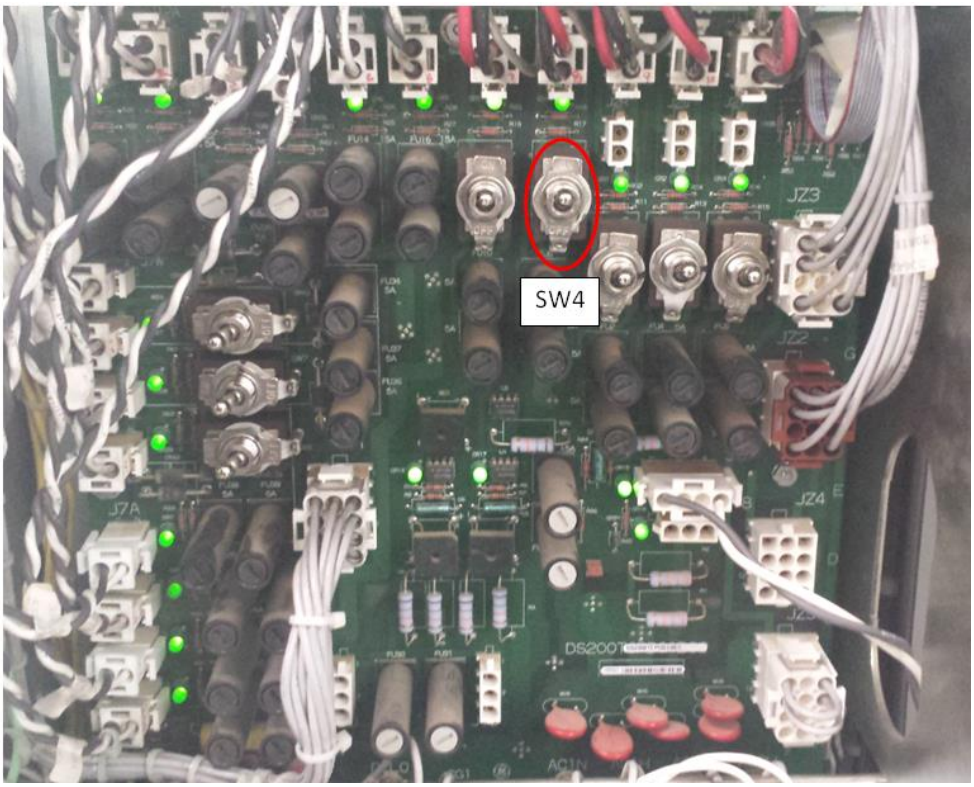
7.1.2.1.3 Using I/O CONFIG; Configure <C> core in panel with ADD Firmware

7.1.2.1.4 Upload USER files to <C>

7.1.2.1.5 Skip to 7.6

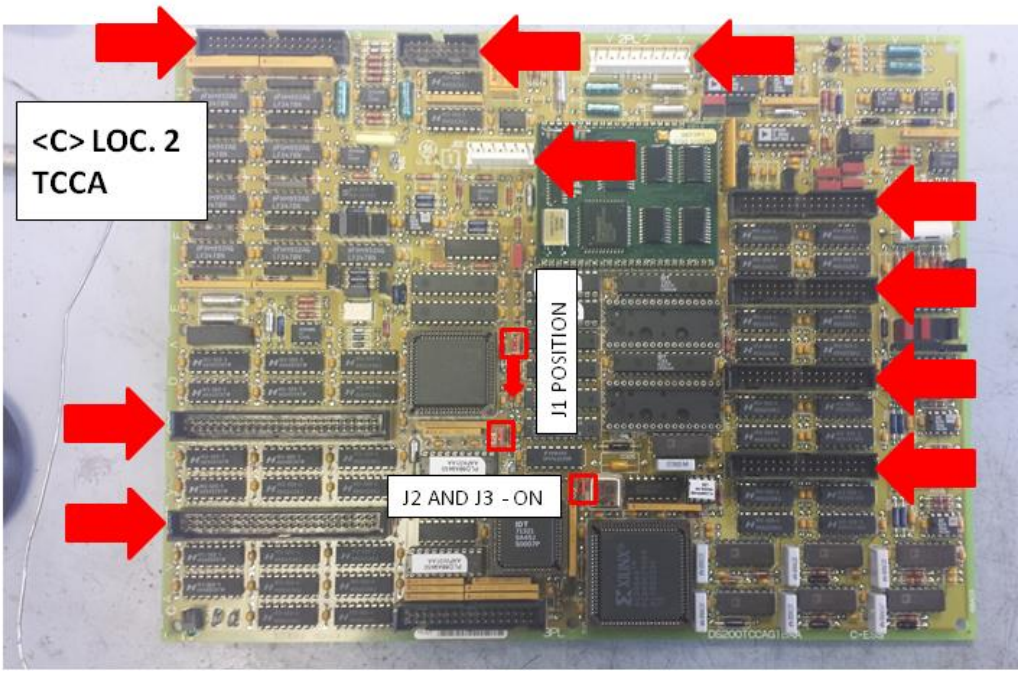
7.2 DS200TCCAG1B Installation and Panel Test

7.2.1 Power Down <C> Core at the TCPD using SW4 switch.

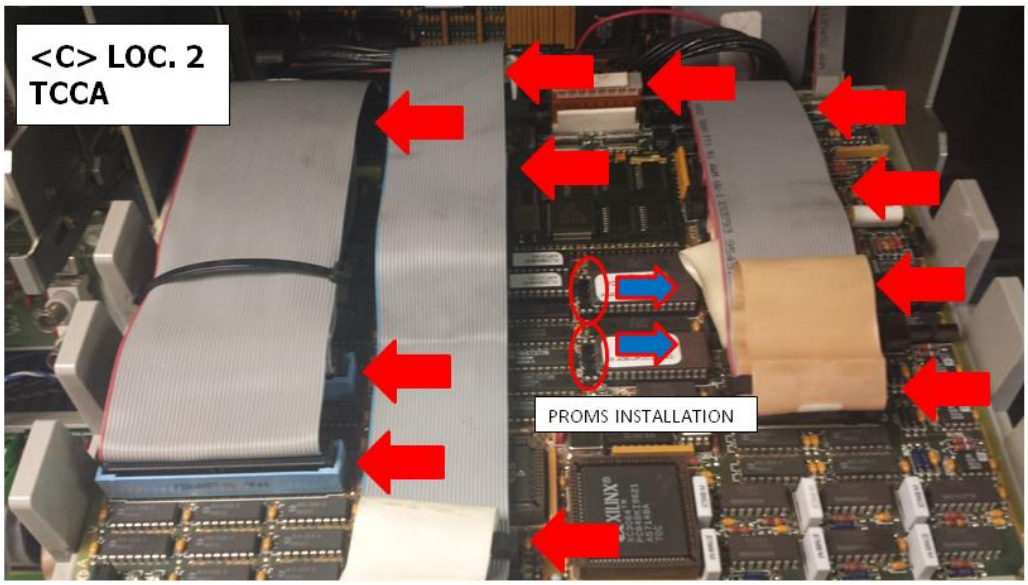


7.2.2 Remove original board from <C> Core (Top / Right Core location 2)

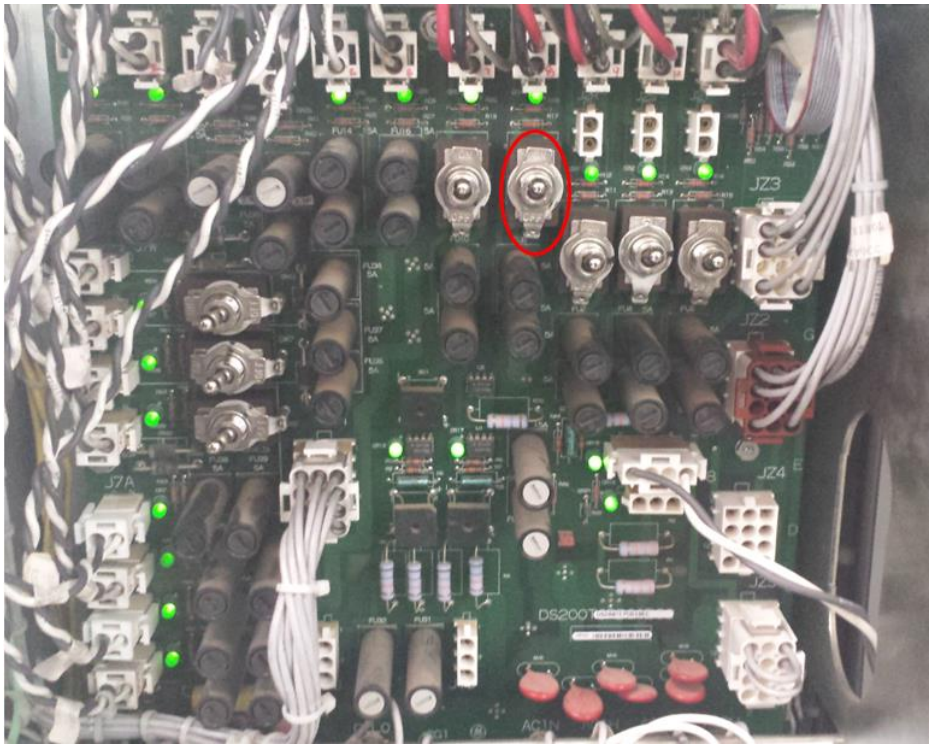
7.3 Install DS200TCCAF1BDF Firmware into board to be tested. (U8/9)From spare test PROM's or remove from original board.



7.4 Install UUT into panel. Verifying ALL Cables are connected

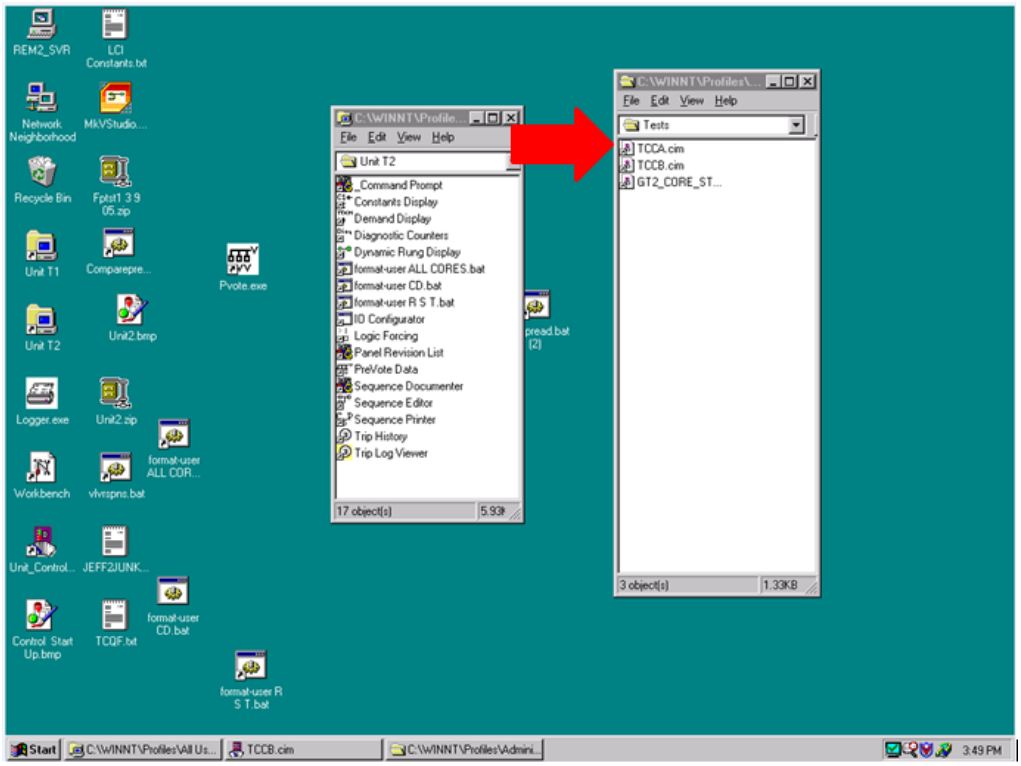


7.5 Power UP <C> Core at the TCPD using this switch.

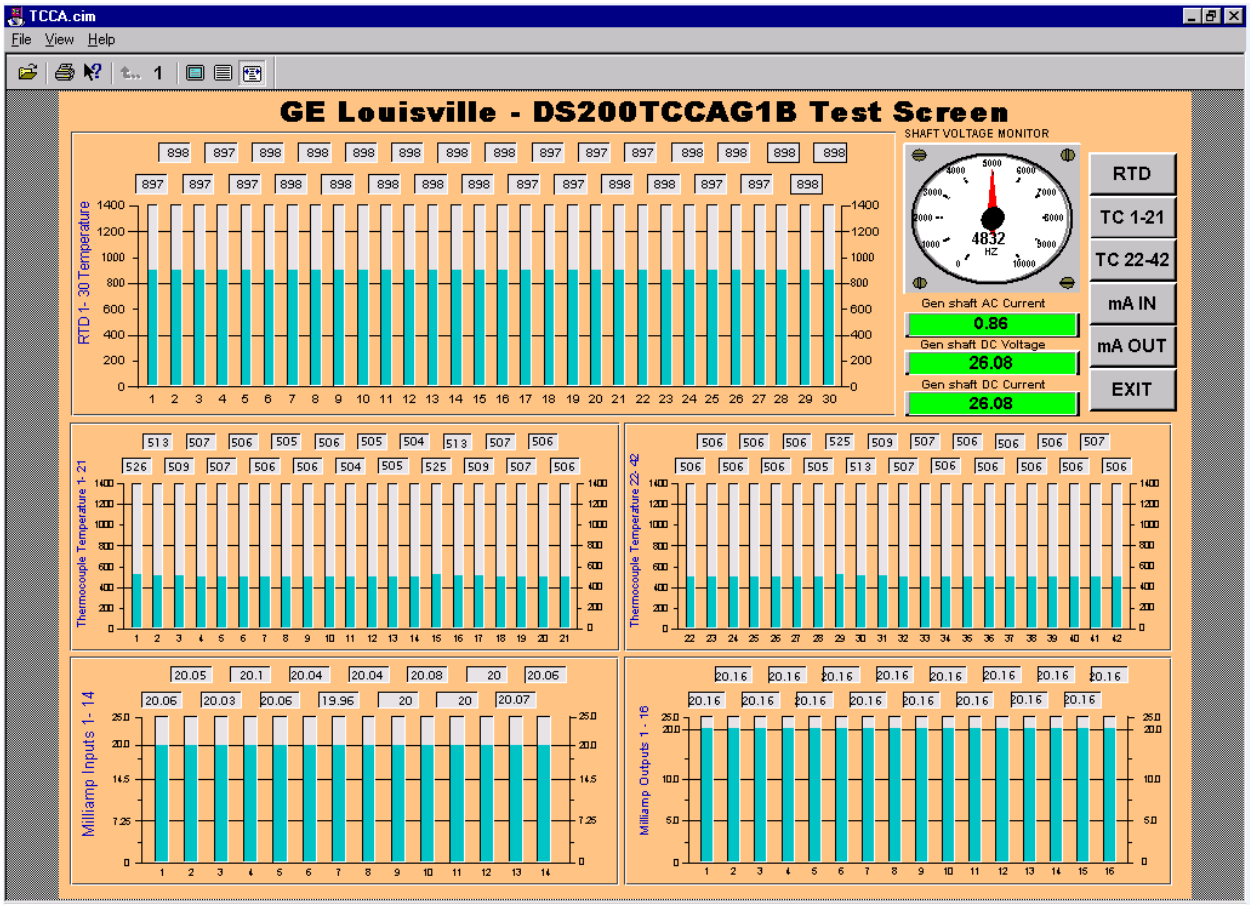


7.6 On HMI find the TEST Folder

7.6.1 Double Click on TCCA icon



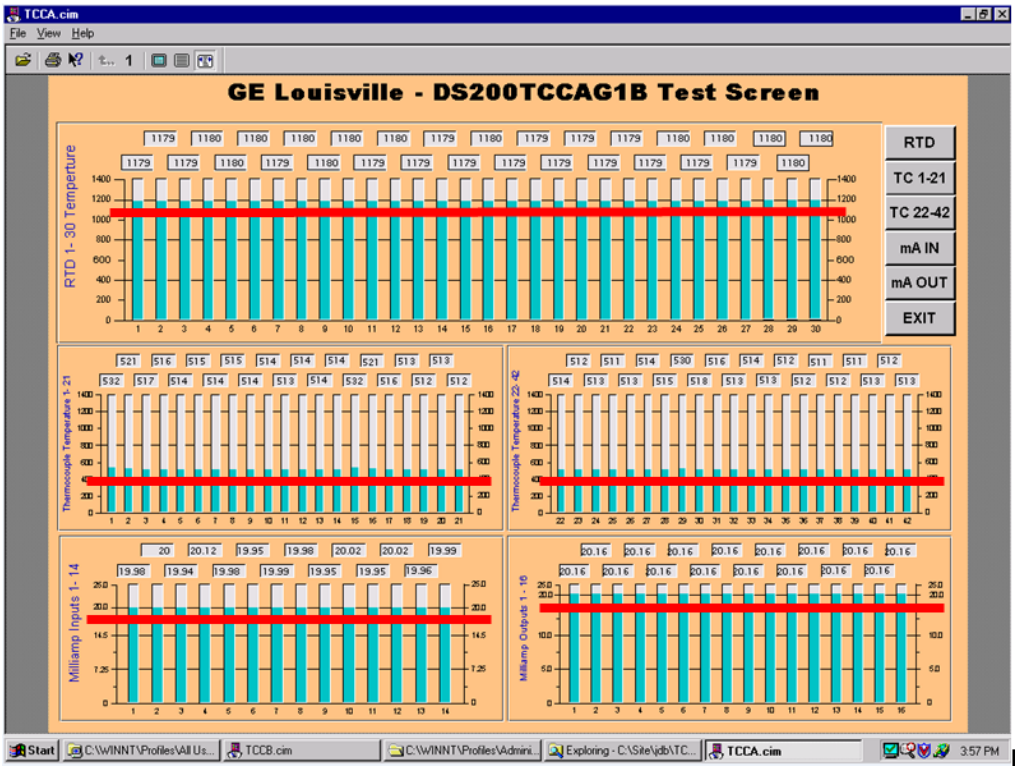
7.6.2 TCCA Test Screen will appear



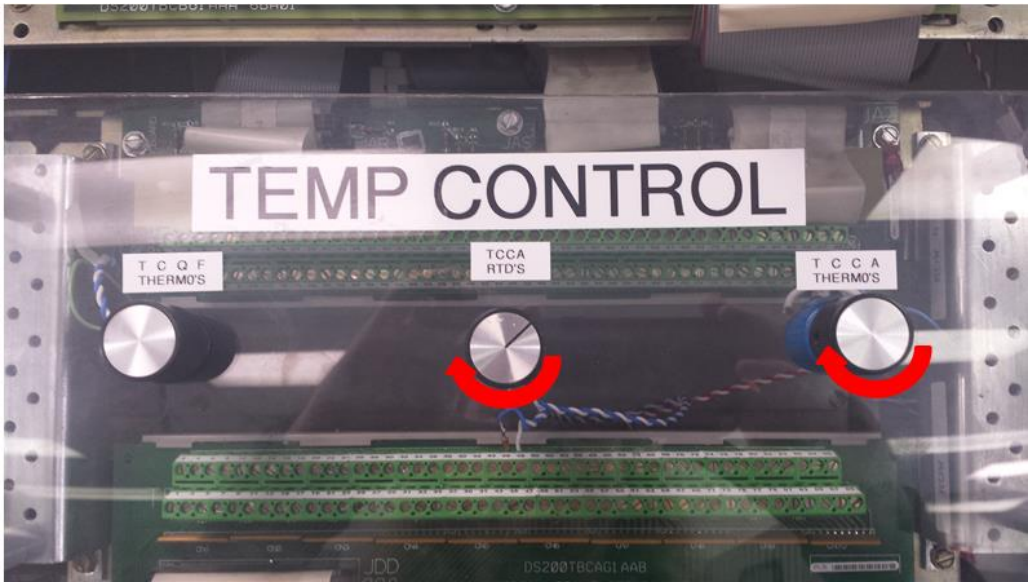
8. Testing Procedure

8.1 RTD and Thermocouple Tests:

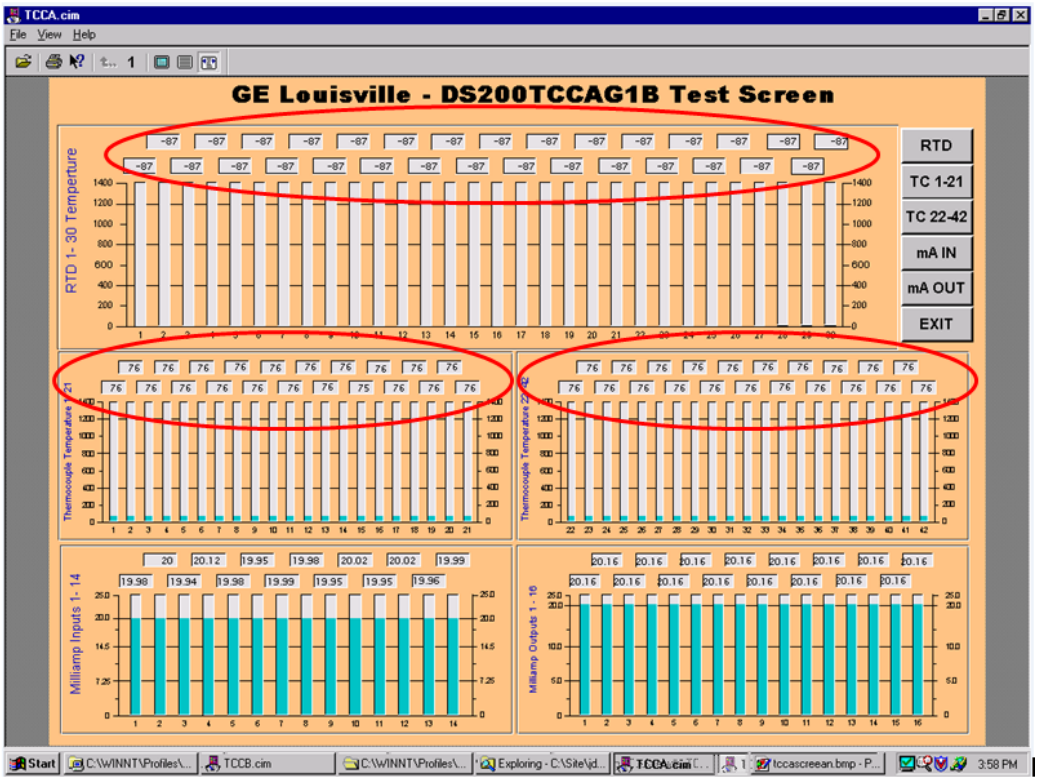
Verify that ALL Adjustable INPUTS are ~ Equal



8.1.1 At the TEMP CONTROL Station, adjust TCCA RTD and THEMO knobs to vary the “temperature” for ALL

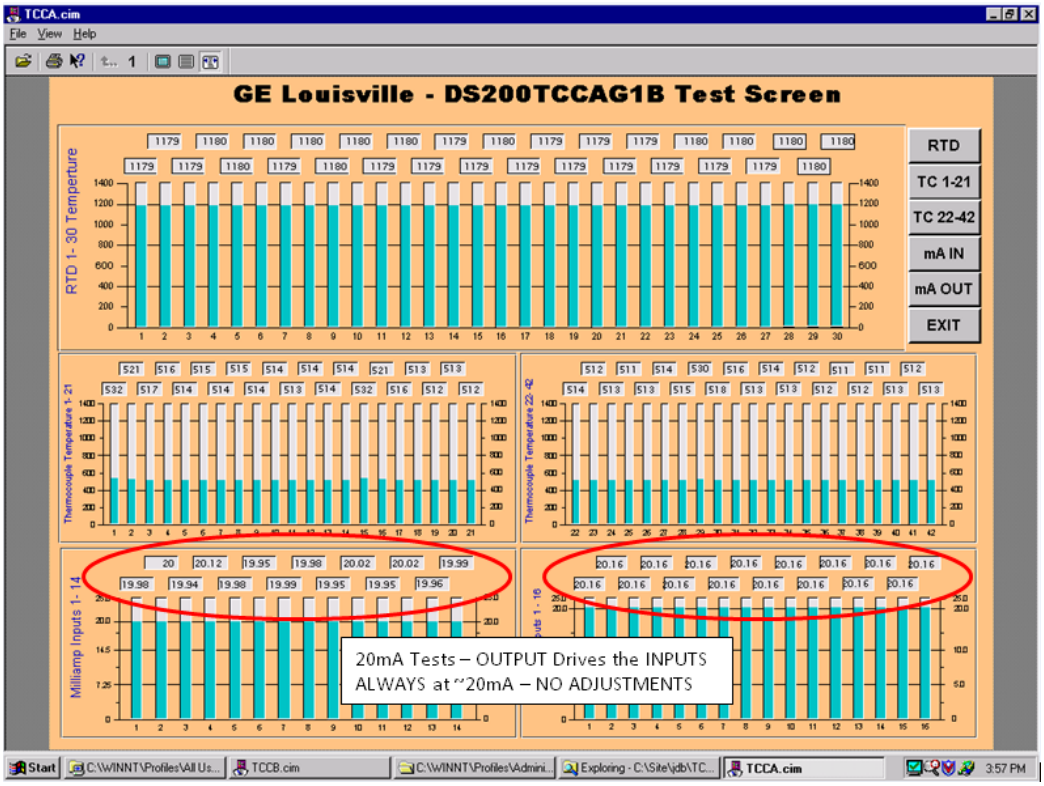


8.2 Verify that ALL ADJUSTABLE Inputs are ~ Equal again.



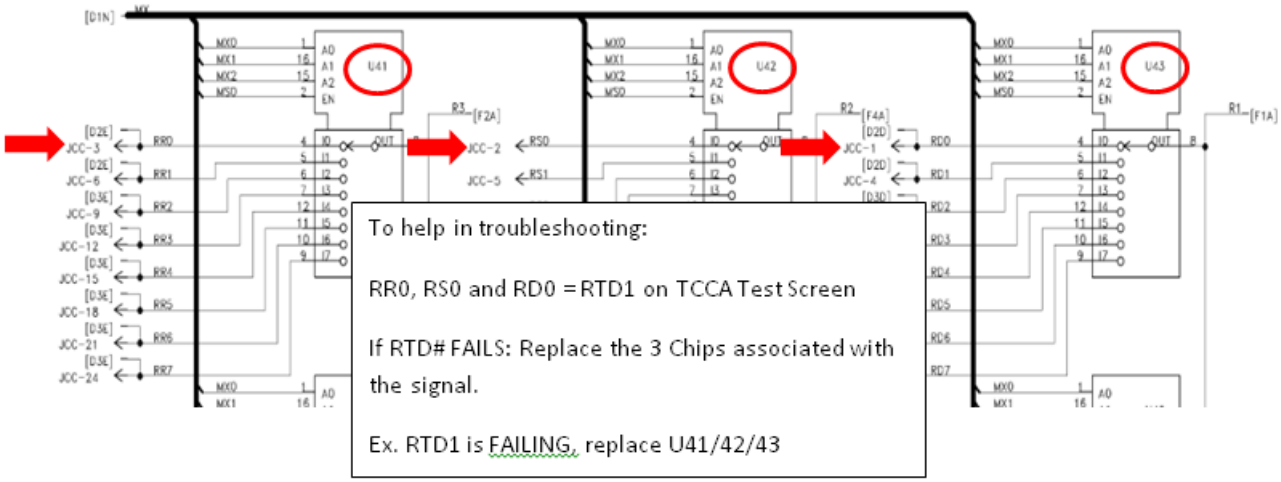
8.3 Milliamp Output and Input Test:

Verify that ALL 20mA Inputs are Equal and at ~20mA

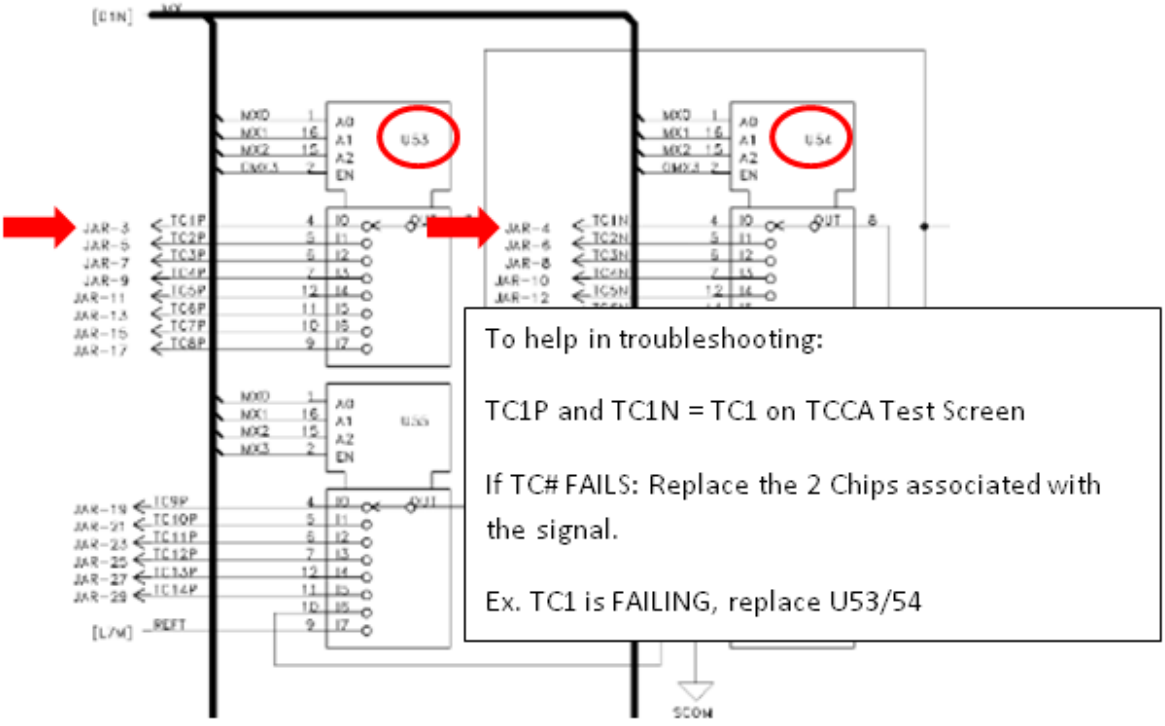


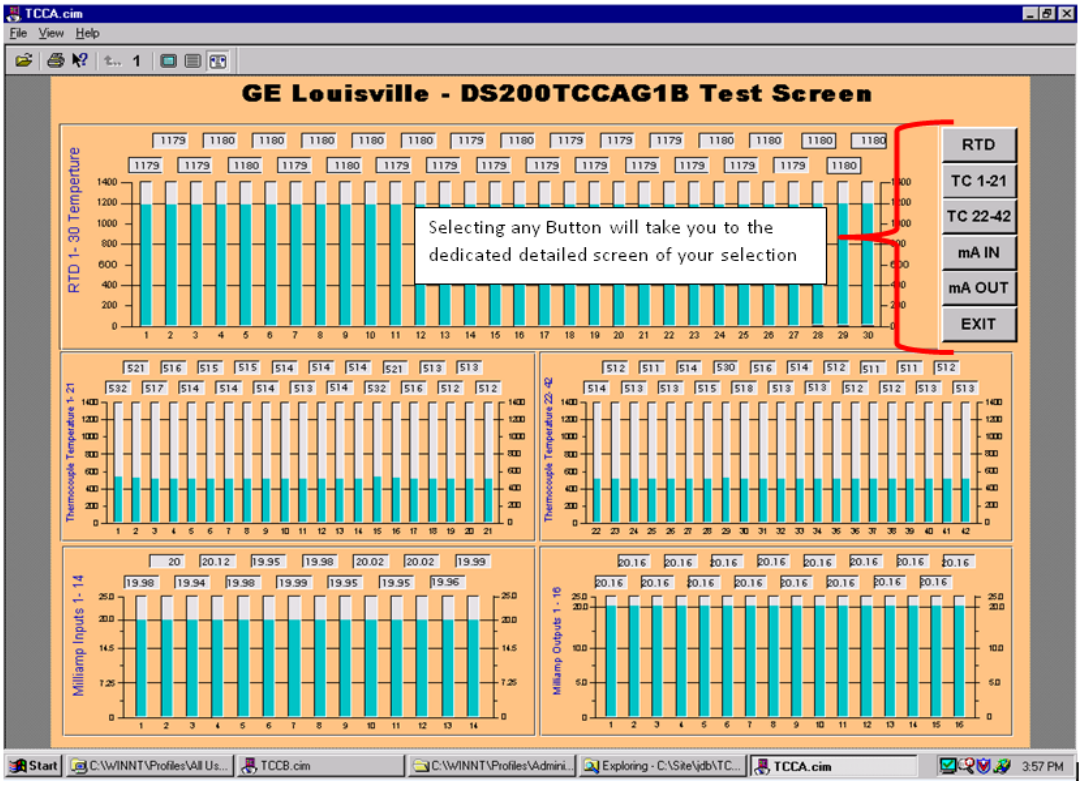
8.4 Remove UUT using 7.1 thru 7.4 Steps in reverse order

2. RTD Troubleshooting:



Thermocouple Troubleshooting:





8.4.1

Note:

8.5 Post Testing Burn-in **Required** ___ **Yes** ___ **No**

Note: All MARK I, II, & III Turbine related cards require a post testing burn-in of 100 hours.

8.5.1 Apply BUS or Operational power to the card for a period of 100 hours.

8.5.2 Re-test card while warm using the above procedure.

8.6 ***TEST COMPLETE ***

9. Notes

9.1 None at this time?

10. Attachments

10.1 None at this time?