g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-DS200TCSA**

Test Procedure for a DS200TCSAG1Axx board.

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	J. Francis	4/20/2011
B			
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
J, Francis			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
04/20/2011			4/20/2011

1. SCOPE

1.1 This is a functional testing procedure for a DS200TCSAG1Axx 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
2		Tenma Dual Power Supplies
1		Tenma Function Generator
1		Fluke 87 or equivalent Multimeter
1		2 Channel O-Scope

6. TESTING PROCESS

6.1 Setup

Note: Do not apply power to unit until setup connections complete.

6.1.1 Connect +24VDC to P2-1 and connect +24VDC return to P2-6 (DCOM).

6.1.2 Connect –24VDC to P2-2 and connect –24VDC return to DCOM (P2-6).

6.1.3 Connect +15VDC to P2-7 and +15VDC return to DCOM (P2-6).

6.1.4 Connect –15VDC to P2-8 and –15VDC return to DCOM.

6.1.5 Connect +5VDC to P2-4 and +5VDC return to DCOM.

6.1.6 Connect O-Scope ground to DCOM.

6.1.7 Connect function generator output positive lead to P1-1 and negative lead to P2-6.

6.1.8 Connect 1st O-Scope channel positive lead to P1-1 and O-Scope ground to P2-6. Adjust function generator output to 375Khz at 5 Vp-p.

6.1.9 Connect P3-3 to P3-5.

6.1.10 Connect P3-4 to P3-6.

6.1.11 Connect P3-9 to P3-11.

6.1.12 Connect P3-10 to P3-12.

6.2 Testing Procedure

6.2.1 Power Supply Checks

6.2.1.1 Apply power from all connected power supplies to unit and power on function generator.

6.2.1.1.1 Verify +12VDC (P12VA) between P3-1 (**+**) and P3-2 (**-**) with Multimeter.

6.2.1.1.2 Verify +12VDC (P12VB) between P3-7 (**+**) and P3-8 (**-**) with Multimeter.

6.2.1.1.3 Verify +12VDC (P12VC) between P4-1 (**+**) and P4-2 (**-**) with Multimeter.

6.2.1.1.4 Verify +12VDC (P12VD) between P4-3 (**+**) and P4-4 (**-**) with Multimeter.

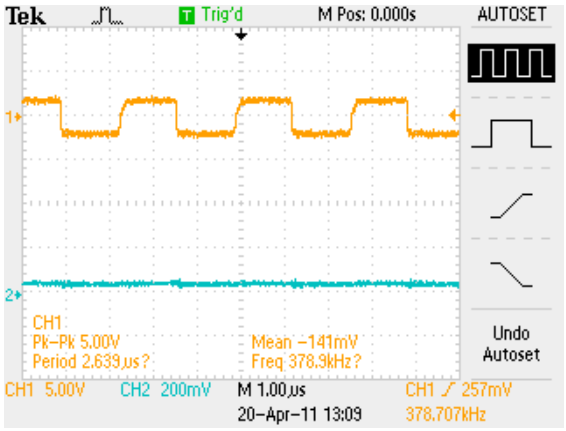
6.2.1.1.5 Verify +12VDC (P12VE) between P4-5 (**+**) and P4-6 (**-**) with Multimeter.

6.2.1.1.6 Verify +12VDC (P12VF) between P4-7 (**+**) and P4-8 (**-**) with Multimeter.

6.2.1.1.7 Verify +8VDC (**P8**) from Diode D1 Cathode to E1 (GND) connector.

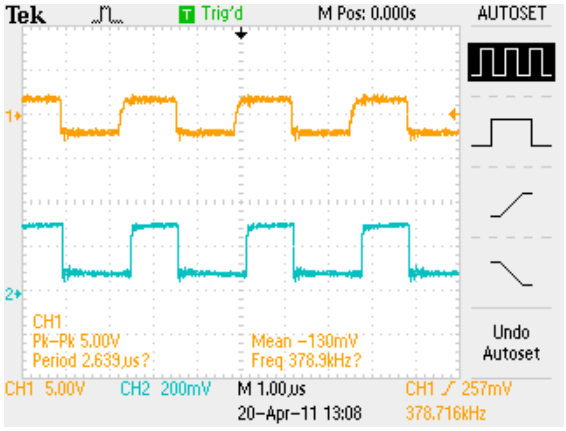
6.2.1.2 Communications Verification.

6.2.1.2.1 With power supplies verified in working order and the function generator connected, the O-Scope should display the following waveforms:



6.2.1.2.1.1

6.2.1.2.2 Connect P1-3 to P2-6. The O-Scope should display the following waveforms:



6.2.1.2.2.1

6.2.1.2.3 Disconnect P1-3 from P2-6 and observe the same waveforms as displayed in **6.2.1.2.1.1**

6.2.1.2.4 Connect P1-4 to P2-6. The O-Scope should display the same waveforms as displayed in **6.2.1.2.2.1**.

6.2.1.2.5 Disconnect P1-4 to P2-6. The O-Scope should display the same waveforms as displayed in **6.2.1.2.1.1**.

6.3 ***TEST COMPLETE ***

7. NOTES

7.1 None at this time.