Parts & Repair Services *Louisville, KY*	**LOU-GED-DS3800NLCA**

Test Procedure for a DS3800NLCA

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	Steve Pharris	6/28/2010
B	Amended test to increase reliability, steps 6.2.28, 6.2.33, & 6.2.35	Steve Pharris	8/01/2013
C			

PREPARED BY Steve Pharris	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL *Charlie Wade*
DATE 06/28/10	DATE	DATE	DATE 6/30/2010

1. ## SCOPE

    1.1 This is a functional testing procedure for a DS3800NLCA.

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		Fluke 87 DMM (or Equivalent)
1		Rainbow Box
1		DS3800 Power Supply
1		Connector Box
1		Millivolt Source

6. **TESTING PROCESS**

    6.1 **Setup**

        6.1.1 Connect PA1-PA9

        6.1.2 Apply power

    6.2 **Testing Procedure**

        6.2.1 Verify "IMOK" LED = on

        6.2.2 Connect PA2 and PA12 to Com

        6.2.3 Using mV source apply –5V to PA8

        6.2.4 Verify PA13=-5VDC

        6.2.5 Verify PA6=-5VDC

        6.2.6 Verify PA11=5VDC

        6.2.7 Move –5V at PA8 to PA2 and connect PA8 to Com (switch leads between PA2 and PA8)

        6.2.8 Verify PA11=-5VDC

        6.2.9 Verify PA14=5VDC

        6.2.10 Verify PA4=-5VDC

        6.2.11 Move –5V at PA2 to PA12 and connect PA2 to Com (switch leads between PA2 and PA12)

        6.2.12 Verify PA14=-5VDC

        6.2.13 Verify PA13=5VDC

        6.2.14 Verify PA10=-5VDC

        6.2.15 Connect DA1 to 5V

        6.2.16 Verify PA16=5V

        6.2.17 Connect DA1 to Com

        6.2.18 Momentarily connect PA56 to Com

        6.2.19 Verify PA74=L

        6.2.20 Using mV source momentarily apply 10V to PA8 (On then Off)

        6.2.21 Verify PA74=H

        6.2.22 Momentarily connect PA56 to Com

        6.2.23 Verify PA74=L while PA56 is connected to Com

        6.2.24 Move connection at PA8 to PA2

        6.2.25 Using mV source momentarily apply 10V to PA2 (On then Off)

        6.2.26 Verify PA70=H

        6.2.27 Momentarily connect PA56 to Com

6.2.28 Verify PA70=L while PA56 is connected to Com

6.2.29 Move connection at PA2 to PA12

6.2.30 Using mV source apply 10V to PA12

6.2.31 Verify PA71=H

6.2.32 Momentarily connect PA56 to Com

6.2.33 Verify PA71=L while PA56 is connected to Com

6.2.34 Remove Voltage from PA12

6.2.35 Connect PA12 to Com (At this point PA2, PA8, and PA12 should be connected to Com)

6.2.36 Verify PA54=L

6.2.37 Using mV source apply 10V to PA8

6.2.38 Verify PA54=H

6.2.39 Disconnect incoming voltage at PA8 and connect to Com

6.2.40 Verify PA60=L

6.2.41 Using mV source apply 10V to PA2

6.2.42 Verify PA60=H

6.2.43 Move connection at PA2 to PA12 and apply 0VDC

6.2.44 Verify PA59=L

6.2.45 Using mV source apply 10V to PA12

6.2.46 Verify PA59=H

6.2.47 Remove mV source

6.2.48 Make the following connections

PA80-Com

PA48-Com

PA64-SW81 set L

PA78-SW82 set H

6.2.49 Verify JA1=2.5V

6.2.50 Set SW82-L

6.2.51 Verify JA1=24V

6.2.52 Set SW81-H

6.2.53 Verify SW82 no longer affects JA1

6.2.54 Set SW81-L

6.2.55 Verify SW82 now controls JA1 then set SW82-L

6.2.56 Move PA64-PA62

6.2.57 Verify JA14=24V

6.2.58 Set SW82-H

6.2.59 Verify JA14=2.5V

6.2.60 Set SW81-H

6.2.61 Verify JA14=24V

6.2.62 Verify SW82 no longer affects JA14 then set SW82-L

6.2.63 Set SW81-L

6.2.64 Move PA62-PA63

6.2.65 Verify JA32=24V

6.2.66 Set SW82-H

6.2.67 Verify JA32=2.5V

6.2.68 Set SW81-H

6.2.69 Verify JA32=24V

6.2.70 Verify SW82 no longer affects JA32 then set SW82-L

6.2.71 Set SW81-L

6.2.72 Move PA63-PA66

6.2.73 Verify JA10=24V

6.2.74 Set SW82-H

6.2.75 Verify JA10=2.5V

6.2.76 Set SW81-H

6.2.77 Verify JA10=24V

6.2.78 Verify SW82 no longer affects JA10 then set SW82-L

6.2.79 Set SW81-L

6.2.80 Move PA66-PA65

6.2.81 Verify JA19=24V

6.2.82 Set SW82-H

6.2.83 Verify JA19=2.5V

6.2.84 Set SW81-H

6.2.85 Verify JA19=24V

6.2.86 Verify SW82 no longer affects JA19 then set SW82-L

6.2.87 Set SW81-L

6.2.88 Move PA65-PA61

6.2.89 Verify JA23=24V

6.2.90 Set SW82-H

6.2.91 Verify JA23=2.5V

6.2.92 Set SW81-H

6.2.93 Verify JA23=24V

6.2.94 Verify SW82 no longer affects JA23 then set SW82-L

6.2.95 Set SW81-L

6.2.96 Verify PA69=H

6.2.97 Verify PA72=L

6.2.98 Connect DA2 to 5V

6.2.99 Verify PA18=5V

6.2.100 Connect DA2 to Com

6.2.101 Momentarily connect PA56 to Com

6.2.102 Verify PA68=L

6.2.103 Verify PA53=L

6.2.104 Reconnect PA2 and PA12 to Com

6.2.105 Using mV source momentarily apply 10V to PA8

6.2.106 Verify PA68=H

6.2.107 Momentarily reapply 10V to PA8

6.2.108 Verify PA53=H

6.2.109 Momentarily connect PA56 to Com

6.2.110 Verify PA68=L While PA56 is connected to Com

6.2.111 Move connection at PA8 to PA2

6.2.112 Verify PA76=L While PA56 is connected to Com

6.2.113 Verify PA57=H

6.2.114 Using mV source momentarily apply 10V to PA2

6.2.115 Verify PA76=H

6.2.116 Verify PA57=H

6.2.117 Momentarily connect PA56 to Com

6.2.118 Verify PA76=L While PA56 is connected to Com

6.2.119 Move connection at PA2 to PA12

6.2.120 Verify PA67=L While PA56 is connected to Com

6.2.121 Verify PA58=H

6.2.122 Using mV source momentarily apply 10V to PA12

6.2.123 Verify PA67=H

6.2.124 Verify PA58=H

6.2.125 Momentarily connect PA56 to Com

6.2.126 Verify PA67=L While PA56 is connected to Com

6.2.127 Remove connection at PA12

6.2.128 Cycle Power to UUT

6.2.129 Verify "IMOK" LED=on

6.2.130 Remove PA8, PA12, and DA2

6.2.131 Verify "IMOK" LED=off if 1V is applied to any of the following points

PA2

PA8

PA12

6.2.132 Verify "IMOK" LED=on when voltage at above points is removed

6.3   ***TEST COMPLETE ***

7. NOTES

7.1   None at this time.

8. ATTACHMENTS

8.1   None at this time.