g	GE Energy	**Functional Testing Specification**
	Parts & Repair Services *Louisville, KY*	**LOU-GED-DS3800NLIB**

Test Procedure for a DS3800NLIB

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	Steve Pharris	10/18/10
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C			

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DATE 10/18/10	DATE	DATE	DATE 10/18/2010

1. SCOPE

1.1 This is a functional testing procedure for a DS3800NLIB.

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		DS3800 Connector Box
1		DS3800DLIA (Daughter Card)
1		Millivolt DC Supply

6. TESTING PROCESS

6.1 Setup

6.1.1 Connect PA1-PA9

6.1.2 Connect daughter card

6.1.3 Note (all voltages are positive unless otherwise noted)

6.1.4 Unless otherwise specified, tolerances will be + or - 4%.

6.2 Testing Procedure

6.2.1 Apply Power

6.2.2 Using mV source apply .01VDC to PA44, PA46, and PA48

6.2.3 Verify –1VDC (+-).1V at PA2, PA4, and PA6

6.2.4 Reverse polarity of mV source

6.2.5 Verify 1VDC (+-).1V at PA2, PA4, and PA6

6.2.6 Reverse polarity of mV source

6.2.7 Increase mV source to .05VDC

6.2.8 Verify -5VDC at PA2, PA4, and PA6

6.2.9 Verify 5VDC at PA27, PA30, and PA61

6.2.10 Verify PA38=H

6.2.11 Verify PA40=H

6.2.12 Verify PA80=H

6.2.13 Reverse polarity of mV source

6.2.14 Verify 5VDC at PA2, PA4, and PA6

6.2.15 Verify –5VDC at PA27, PA30, and PA61

6.2.16 Verify PA38=L

6.2.17 Verify PA40=L

6.2.18 Verify PA80=L

6.2.19 Using mV source apply 2VDC to PA18

6.2.20 Verify PA17=4VDC

6.2.21 Reverse polarity of mV source

6.2.22 Verify PA17=-4VDC

6.2.23 Using mV source apply 2VDC to PA32

6.2.24 Verify PA17=-2VDC

6.2.25 Reverse polarity of mV source

6.2.26 Verify PA17=2VDC

6.2.27 Using mV source apply 1VDC to PA29

6.2.28 Verify PA34=4VDC

6.2.29 Reverse polarity of mV source

6.2.30 Verify PA34 still =4VDC

6.2.31 Using mV source apply 2VDC to PA20

6.2.32 Verify PA28=-5.2VDC

6.2.33 Reverse polarity of mV source

6.2.34 Verify PA28 still =-5.2VDC

6.2.35 Using mV source apply 3VDC to PA33

6.2.36 Verify PA31=2VDC

6.2.37 Verify PA19=-2VDC

6.2.38 Verify PA59=1VDC

6.2.39 Reverse polarity of mV source

6.2.40 Verify PA31=-2VDC

6.2.41 Verify PA19=2VDC

6.2.42 Verify PA59=-1VDC

6.2.43 Using mV source apply 3VDC to PA21

6.2.44 Verify PA12=2VDC

6.2.45 Verify PA24=2VDC

6.2.46 Verify PA59=-1VDC

6.2.47 Reverse polarity of mV source

6.2.48 Verify PA12=-2VDC

6.2.49 Verify PA24=-2VDC

6.2.50 Verify PA59=1VDC

6.2.51 Connect PA54-SW81 and set switch to L

6.2.52 Connect PA51-SW82 and set switch to L

6.2.53 Using mV source apply 10VDC to PA21

6.2.54 Verify "SUPP" LED = on

6.2.55 Verify PA76=H

6.2.56 Verify PA74=L

6.2.57 Verify PA67=H

6.2.58 Decrease voltage at PA21 to 0VDC

6.2.59 Verify "SUPP" LED = off

6.2.60 Verify PA76=L

6.2.61 Verify PA74=H

6.2.62 Set SW81-H

6.2.63 Verify PA67=L

6.2.64 Using mV source apply 3VDC to PA16

6.2.65 Verify PA10=3VDC

6.2.66 Verify PA47=-2.5VDC

6.2.67 Reverse polarity of mV source

6.2.68 Verify PA10=3VDC

6.2.69 Verify PA47=-2.5VDC

6.2.70 Using mV source apply 3VDC to PA22

6.2.71 Verify PA10=3VDC

6.2.72 Verify PA47=-2.5VDC

6.2.73 Reverse polarity of mV source

6.2.74 Verify PA10=3VDC

6.2.75 Verify PA47=-2.5VDC

6.2.76 Using mV source apply 3VDC to PA14

6.2.77 Verify PA10=3VDC

6.2.78 Verify PA47=-2.5VDC

6.2.79 Reverse polarity of mV source

6.2.80 Verify PA10=3VDC

6.2.81 Verify PA47=-2.5VDC

6.2.82 Using mV source apply 10VDC to PA14

6.2.83 Set SW81-L

6.2.84 Set SW82-L

6.2.85 Verify "OV" LED = on

6.2.86 Verify PA60=L

6.2.87 Verify PA57=H

6.2.88 Verify PA55=L

6.2.89 Verify PA58=H

6.2.90 Decrease voltage at PA14 to 3VDC

6.2.91 Verify "OV" LED = off

6.2.92 Verify PA60=H

6.2.93 Verify PA57=L

6.2.94 Verify PA55=H

6.2.95 Verify PA58=L

6.2.96 Using mV source apply -6VDC to PA68

6.2.97 Verify PA78=L

6.2.98 Verify PA71=H

6.2.99 Reverse polarity at PA68

6.2.100 Verify PA78=H

6.2.101 Verify PA71=L

6.2.102 Connect PA42 to 15VDC

6.2.103 Verify PA66=H

6.2.104 Remove 15VDC connection at PA42 and reconnect to 5VDC

6.2.105 Verify PA66=L

6.2.106 Connect PA70-SW83 set switch to L

6.2.107 Connect PA64-SW84 set switch to L

6.2.108 Verify U17 pin 11 follows SW83

6.2.109 Set SW81-H

6.2.110 Set SW82-H

6.2.111 Verify U17 pin 11 latches when tripped H

6.2.112 Set SW81-L

6.2.113 Set SW82-L

6.2.114 Set SW83-L

6.2.115 Verify U17 pin 11 = L

6.2.116 Verify PA65=H

6.2.117 Verify PA63=L

6.2.118 Set SW83-H

6.2.119 Set SW84-H

6.2.120 Verify PA65=L

6.2.121 Verify PA63=H

6.2.122 Using mV source apply 2VDC to PA50

6.2.123 Adjust R11 for –2.4VDC at PA62

6.2.124 Reverse polarity of mV source

6.2.125 Verify PA62=2.4VDC

6.2.126 Verify "IMOK" LED = on

6.2.127 Connect the following points together

PA16

PA18

PA29

PA44

PA46

PA48

PA50

PA68

6.2.128 Connect the above points to 15VDC

6.2.129 Verify "IMOK" LED = off

6.2.130 Remove connection from 15VDC

6.2.131 Verify "IMOK" LED = on

6.2.132 Connect the above points to -15VDC

6.2.133 Verify "IMOK" LED = off

6.2.134 Remove connection from -15VDC

6.2.135 Verify "IMOK" LED = on

6.3   ***TEST COMPLETE ***

7. <u>NOTES</u>

7.1   None at this time.

8. <u>ATTACHMENTS</u>

8.1   None at this time.