13.6 Test with primary and redundant GASU connected to FREE

Photocopy complete section four times and use it to verify continuity for Ref. Des. JL-180 through JL-187. This corresponds to GASU 4LB-A and B, or 4RB-A and B, or 4RA-A and B, and 4LA-A and B. One each primary and redundant connections are made, thus there are 4 copies of measurements.

<table>
<thead>
<tr>
<th>TEST DATA SHEET</th>
<th>Unit S/N: C-LAT 1145</th>
<th>Date: 08/16/04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Operator: J. Marvik</td>
<td>Temperature: 23 C</td>
</tr>
<tr>
<td>Para</td>
<td>Description</td>
<td>Passed</td>
</tr>
<tr>
<td>Test without FREE connected</td>
<td></td>
<td>skip</td>
</tr>
<tr>
<td>Test with FREE connected, Voltage Tests</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Test with FREE connected, Function Test Primary GASU Side</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Test with FREE connected, Function Test Primary GASU Side</td>
<td></td>
<td>✔</td>
</tr>
</tbody>
</table>

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13.6.1 Connectors under test

Ref. Des. JL-180 through JL-187. This corresponds to GASU (4LB-A and B), or (4RB-A and B), or (4RA-A and B), and (4LA-A and B).

Enter Connector pair Ref Des here, primary and redundant:
13.6.2 Test without FREE Connection

This test can be skipped since it is not required.

**Skipped**

Primary BOB with connection, redundant side BOB with open connections. Measure on FREE side connection of redundant side BOB

13.6.2.1 Supply Voltage Test with FREE power off

<table>
<thead>
<tr>
<th>Measurement No.</th>
<th>Signal Pair</th>
<th>Pin 1</th>
<th>Expected Voltage</th>
<th>Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ACD_VDD</td>
<td>JL-180-1</td>
<td>V &lt; 1 V</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>ACD_VSW</td>
<td>JL-180-5</td>
<td>V &lt; 0.5 V</td>
<td></td>
</tr>
</tbody>
</table>

Assuming load current (from LED) is a few milliamps, otherwise pin 1 is < 29V and pin 1 < 3.9V for no load

13.6.2.2 Voltage Test with FREE power disabled

<table>
<thead>
<tr>
<th>SIGNAL NAME</th>
<th>PIN</th>
<th>EXPECTED VOLTAGE</th>
<th>PASS / FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVETO_0_P</td>
<td>71</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_0_M</td>
<td>70</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_1_P</td>
<td>69</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_1_M</td>
<td>68</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_2_P</td>
<td>67</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_2_M</td>
<td>66</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
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<td>NVETO_3_P</td>
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<td>V &lt; 1V</td>
<td></td>
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<tr>
<td>NVETO_3_M</td>
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<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_4_P</td>
<td>63</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>SIGNAL_NAME</th>
<th>PIN</th>
<th>EXPECTED VOLTAGE</th>
<th>PASS / FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVETO_x_M</td>
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<td></td>
</tr>
<tr>
<td>NVETO_3_P</td>
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<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
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<td>60</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_8_P</td>
<td>59</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_6_P</td>
<td>58</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_7_P</td>
<td>57</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_7_M</td>
<td>56</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_8_P</td>
<td>55</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_8_M</td>
<td>54</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_9_P</td>
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<td></td>
</tr>
<tr>
<td>NVETO_3_M</td>
<td>52</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_10_P</td>
<td>51</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_10_M</td>
<td>50</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_11_P</td>
<td>49</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_11_M</td>
<td>48</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_12_P</td>
<td>47</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_12_M</td>
<td>46</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_13_P</td>
<td>45</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_13_M</td>
<td>44</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_14_P</td>
<td>43</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_14_M</td>
<td>42</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_15_P</td>
<td>41</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_15_M</td>
<td>40</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_16_P</td>
<td>39</td>
<td>V &lt; 1V</td>
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<tr>
<td>NVETO_16_M</td>
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<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_17_P</td>
<td>37</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
</tbody>
</table>

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## Table of SIGNAL NAMES and Corresponding Values

<table>
<thead>
<tr>
<th>SIGNAL NAME</th>
<th>PIN</th>
<th>EXPECTED VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVETO_D17_M</td>
<td>20</td>
<td>V &lt; 1V</td>
</tr>
<tr>
<td>RDIO_P</td>
<td>21</td>
<td>V &lt; 1V</td>
</tr>
<tr>
<td>ACNO_M</td>
<td>22</td>
<td>V &lt; 1V</td>
</tr>
<tr>
<td>CLK_P</td>
<td>79</td>
<td>V &lt; 1V to 1.4V</td>
</tr>
<tr>
<td>CLK_M</td>
<td>78</td>
<td>V &lt; 1V to 1.4V</td>
</tr>
<tr>
<td>NOME_P</td>
<td>77</td>
<td>V &lt; 1V</td>
</tr>
<tr>
<td>NADP</td>
<td>76</td>
<td>V &lt; 1V</td>
</tr>
<tr>
<td>NISESET_P</td>
<td>75</td>
<td>V &lt; 0.3V</td>
</tr>
<tr>
<td>NISESET_M</td>
<td>74</td>
<td>V &lt; 0.3V</td>
</tr>
<tr>
<td>NI_DATA_P</td>
<td>73</td>
<td>V &lt; 0.3V</td>
</tr>
<tr>
<td>NI_DATA_M</td>
<td>72</td>
<td>V &lt; 0.3V</td>
</tr>
<tr>
<td>HV_MON1_P</td>
<td>23</td>
<td>V &lt; 0.1V</td>
</tr>
<tr>
<td>HV_MON1_M</td>
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<tr>
<td>TEMP_MON_P</td>
<td>25</td>
<td>V &lt; 0.5V</td>
</tr>
<tr>
<td>TEMP_MON_M</td>
<td>26</td>
<td>V &lt; 0.5V</td>
</tr>
<tr>
<td>HV_MON2_P</td>
<td>27</td>
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</tr>
<tr>
<td>HV_MON2_M</td>
<td>28</td>
<td>V &lt; 0.1V</td>
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<tr>
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<td>30</td>
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<td>ACO_VDD2</td>
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<td>ACO_VDD3</td>
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<td>V &lt; 0.1V</td>
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</tr>
<tr>
<td>ACO_BV2</td>
<td>32</td>
<td>V &lt; 0.1V</td>
</tr>
</tbody>
</table>

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Test for EGSE ACD G3 Test Stand with OASU Instrumented to Simultaneous Test up to 12 FREE Cards (including Safe-to-Mate)

13.6.2.3 Stray Voltage Test with FREE power enabled

Nominal V, ACD_V_adjust = 0V

<table>
<thead>
<tr>
<th>Measurement No.</th>
<th>Signal Pair</th>
<th>Pin 1</th>
<th>Expected Voltage</th>
<th>Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ACD_VDD</td>
<td>JL-180-1</td>
<td>3.2V &lt; V &lt; 3.6V</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>ACD_28V</td>
<td>JL-186-5</td>
<td>25V &lt; V &lt; 28V</td>
<td></td>
</tr>
</tbody>
</table>

13.6.2.4 Voltage Test with FREE power enabled

<table>
<thead>
<tr>
<th>SIGNAL NAME</th>
<th>PIN</th>
<th>EXPECTED VOLTAGE</th>
<th>PASS / FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVETO_0_P</td>
<td>71</td>
<td>3V &lt; V &lt; 3.5V</td>
<td></td>
</tr>
<tr>
<td>NVETO_0_M</td>
<td>70</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_1_P</td>
<td>69</td>
<td>3V &lt; V &lt; 3.5V</td>
<td></td>
</tr>
<tr>
<td>NVETO_1_M</td>
<td>68</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_2_P</td>
<td>67</td>
<td>3V &lt; V &lt; 3.5V</td>
<td></td>
</tr>
<tr>
<td>NVETO_2_M</td>
<td>66</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_3_P</td>
<td>65</td>
<td>3V &lt; V &lt; 3.5V</td>
<td></td>
</tr>
<tr>
<td>NVETO_3_M</td>
<td>64</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_4_P</td>
<td>63</td>
<td>3V &lt; V &lt; 3.5V</td>
<td></td>
</tr>
<tr>
<td>NVETO_4_M</td>
<td>62</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
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<tr>
<td>NVETO_5_P</td>
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<tr>
<td>NVETO_5_M</td>
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<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_6_P</td>
<td>59</td>
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<td></td>
</tr>
<tr>
<td>NVETO_6_M</td>
<td>58</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_7_P</td>
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<td></td>
</tr>
<tr>
<td>NVETO_7_M</td>
<td>56</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
</tbody>
</table>

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LAT-TD-04267 Page 79
<table>
<thead>
<tr>
<th>SIGNAL_NAME</th>
<th>PIN</th>
<th>EXPECTED VOLTAGE</th>
<th>PASS / FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVETO_8_P</td>
<td>56</td>
<td>5V &lt; V &lt; 3.5V</td>
<td></td>
</tr>
<tr>
<td>NVETO_8_M</td>
<td>54</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_9_P</td>
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<td>3V &lt; V &lt; 3.5V</td>
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<tr>
<td>NVETO_9_M</td>
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<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
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<td>NVETO_10_P</td>
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<td>3V &lt; V &lt; 3.5V</td>
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<tr>
<td>NVETO_10_M</td>
<td>50</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_11_P</td>
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<td>5V &lt; V &lt; 3.5V</td>
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<tr>
<td>NVETO_11_M</td>
<td>48</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>NVETO_12_P</td>
<td>47</td>
<td>3V &lt; V &lt; 3.5V</td>
<td></td>
</tr>
<tr>
<td>NVETO_12_M</td>
<td>46</td>
<td>0V &lt; V &lt; 1V</td>
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<td>NVETO_13_M</td>
<td>44</td>
<td>0V &lt; V &lt; 1V</td>
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<td>NVETO_14_P</td>
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<td>5V &lt; V &lt; 3.5V</td>
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<tr>
<td>NVETO_14_M</td>
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<td>0V &lt; V &lt; 1V</td>
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<td>NVETO_15_P</td>
<td>41</td>
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<tr>
<td>NVETO_15_M</td>
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<td>0V &lt; V &lt; 1V</td>
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<td>NVETO_16_P</td>
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<td>NVETO_16_M</td>
<td>36</td>
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<td>NVETO_17_P</td>
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<td>5V &lt; V &lt; 3.5V</td>
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<td>NCOND_P</td>
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<tr>
<td>NCOND_M</td>
<td>22</td>
<td>0V &lt; V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>CLK_P</td>
<td>79</td>
<td>1V &lt; V &lt; 1.4V</td>
<td></td>
</tr>
<tr>
<td>CLK_M</td>
<td>78</td>
<td>1V &lt; V &lt; 1.4V</td>
<td></td>
</tr>
<tr>
<td>NDATA_P</td>
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<td>0V &lt; V &lt; 3.5V</td>
<td></td>
</tr>
<tr>
<td>NDATA_M</td>
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</tr>
<tr>
<td>NRRESET_M</td>
<td>74</td>
<td>0.5V &lt; V &lt; 1.5V</td>
<td></td>
</tr>
<tr>
<td>HV_MON_C_P</td>
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<td>1V &lt; V &lt; 2V</td>
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</tr>
<tr>
<td>HV_MON_C_M</td>
<td>24</td>
<td>1V &lt; V &lt; 2V</td>
<td></td>
</tr>
</tbody>
</table>

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13.6.3 Test with FREE connected, Voltage Tests

13.6.3.1 Stray Voltage Test at the AEM Interface with FREE power disabled

1) Turn off 28-V power  
2) With the shorting plugs inserted in the break out boxes, turn on 28V bench supply to primary GASU.  
3) Boot VME-SBC  
4) Boot successful: Yes/No  
5) Start LATTE (see IDT LATTE instructions)  
6) Measurement | Signal | Expected Current | Verified

---

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Test for EGSE ACD G3 Test Stand with GASU Instrumented to Simultaneous Test up to 12 FREE Cards (including Safe-to-Mate)

<table>
<thead>
<tr>
<th>No.</th>
<th>Signal</th>
<th>Pin 1</th>
<th>Expected Voltage</th>
<th>Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>28V bench supply</td>
<td>250 mA &lt; I &lt; 325 mA</td>
<td>290</td>
<td></td>
</tr>
</tbody>
</table>

7) Make sure FREE power-on register is turned-off.
8) Run AEM test scripts

**Pass/Fail**

### 13.6.3.2 Supply Voltage Level Test with FREE power disabled

(nominal VDD-ACD)

<table>
<thead>
<tr>
<th>Measurement No.</th>
<th>Signal Pair</th>
<th>Pin 1</th>
<th>Expected Voltage</th>
<th>Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ACD_VDD</td>
<td>JL-180-1</td>
<td>V &lt; 1V</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>ACD_28V</td>
<td>JL-180-5</td>
<td>V &lt; 0.1V</td>
<td></td>
</tr>
</tbody>
</table>

### 13.6.3.3 Bench Supply Current Level Test with FREE power enabled

<table>
<thead>
<tr>
<th>Measurement No.</th>
<th>Signal</th>
<th>Expected Current</th>
<th>Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>28V bench supply</td>
<td>330 mA &lt; I &lt; 380 mA</td>
<td></td>
</tr>
</tbody>
</table>

### 13.6.3.4 Supply Voltage Level Test with FREE power enabled

(nominal VDD-ACD)

<table>
<thead>
<tr>
<th>Measurement No.</th>
<th>Signal Pair</th>
<th>Pin 1</th>
<th>Expected Voltage</th>
<th>Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ACD_VDD</td>
<td>JL-180-1</td>
<td>3.2V &lt; V &lt; 3.7V</td>
<td></td>
</tr>
</tbody>
</table>

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13.6.3.5 Voltage Test at redundant connection with primary FREE power enabled

<table>
<thead>
<tr>
<th>SIGNAL NAME</th>
<th>PIN</th>
<th>EXPECTED VOLTAGE</th>
<th>PASS / FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVE TO _6_P</td>
<td>71</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _3_M</td>
<td>70</td>
<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _1_P</td>
<td>69</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _2_M</td>
<td>68</td>
<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _1_P</td>
<td>67</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _2_M</td>
<td>66</td>
<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _3_P</td>
<td>65</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _3_M</td>
<td>64</td>
<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _4_P</td>
<td>63</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _4_M</td>
<td>62</td>
<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _5_P</td>
<td>61</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _5_M</td>
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<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _6_P</td>
<td>59</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _5_M</td>
<td>58</td>
<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _7_P</td>
<td>57</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _7_M</td>
<td>56</td>
<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _8_P</td>
<td>55</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _8_M</td>
<td>54</td>
<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _9_P</td>
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<td>✓</td>
</tr>
<tr>
<td>NVE TO _9_M</td>
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<tr>
<td>NVE TO _10_P</td>
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<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _10_M</td>
<td>50</td>
<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
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<tr>
<td>NVE TO _11_P</td>
<td>49</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _11_M</td>
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<td>✓</td>
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<tr>
<td>NVE TO _12_P</td>
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<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
</tr>
<tr>
<td>NVE TO _12_M</td>
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<td>✓</td>
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<tr>
<td>NVE TO _13_P</td>
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<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
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<td>NVE TO _13_M</td>
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<td>✓</td>
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<tr>
<td>NVE TO _14_P</td>
<td>43</td>
<td>1.1V &lt; V &lt; 1.5V</td>
<td>✓</td>
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<tr>
<td>NVE TO _14_M</td>
<td>42</td>
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<tr>
<td>NVE TO _15_P</td>
<td>41</td>
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<tr>
<td>NVE TO _15_M</td>
<td>40</td>
<td>0.8V &lt; V &lt; 1.3V</td>
<td>✓</td>
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</tbody>
</table>

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<table>
<thead>
<tr>
<th>SIGNAL_NAME</th>
<th>PIN</th>
<th>EXPECTED VOLTAGE</th>
<th>PASS / FAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVETO_16_P</td>
<td>17</td>
<td>1.1V &lt; V &lt; 1.5V</td>
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<td>NVETO_17_M</td>
<td>18</td>
<td>0.6V &lt; V &lt; 1.3V</td>
<td>✔</td>
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<tr>
<td>NVETO_17_P</td>
<td>19</td>
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<td>✔</td>
</tr>
<tr>
<td>NVETO_18_M</td>
<td>19</td>
<td>0.6V &lt; V &lt; 1.3V</td>
<td>✔</td>
</tr>
<tr>
<td>TUNDO_P</td>
<td>21</td>
<td>0.6V &lt; V &lt; 1.5V</td>
<td>✔</td>
</tr>
<tr>
<td>NOEM_M</td>
<td>22</td>
<td>0.6V x &lt; 1.3V</td>
<td>✔</td>
</tr>
<tr>
<td>CLK_P</td>
<td>79</td>
<td>0.6V &lt; V &lt; 1.3V</td>
<td>✔</td>
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<tr>
<td>CLK_M</td>
<td>78</td>
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<td>✔</td>
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<tr>
<td>NOEM_D</td>
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<td>✔</td>
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<tr>
<td>NOEM_M</td>
<td>76</td>
<td>0.6V &lt; V &lt; 3.3V</td>
<td>✔</td>
</tr>
<tr>
<td>NRESET_P</td>
<td>75</td>
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<td>✔</td>
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<tr>
<td>NRESET_N</td>
<td>74</td>
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<td>✔</td>
</tr>
<tr>
<td>NDATA_P</td>
<td>73</td>
<td>1.2V &lt; V &lt; 1.5V</td>
<td>✔</td>
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<td>NDATA_M</td>
<td>72</td>
<td>0.6V &lt; V &lt; 1.3V</td>
<td>✔</td>
</tr>
<tr>
<td>HV_MON_1_P</td>
<td>23</td>
<td>1.2V &lt; V &lt; 1.6V</td>
<td>✔</td>
</tr>
<tr>
<td>HV_MON_1_M</td>
<td>24</td>
<td>1.2V &lt; V &lt; 1.6V</td>
<td>✔</td>
</tr>
<tr>
<td>TEMP_MON_P</td>
<td>25</td>
<td>0V &lt; V &lt; 1V</td>
<td>✔</td>
</tr>
<tr>
<td>TEMP_MON_M</td>
<td>26</td>
<td>0V &lt; V &lt; 1V</td>
<td>✔</td>
</tr>
<tr>
<td>HV_MON_2_P</td>
<td>27</td>
<td>1.2V &lt; V &lt; 1.6V</td>
<td>✔</td>
</tr>
<tr>
<td>HV_MON_2_M</td>
<td>28</td>
<td>1.2V &lt; V &lt; 1.6V</td>
<td>✔</td>
</tr>
<tr>
<td>ACOG_VDDR</td>
<td>1</td>
<td>3.3V &lt; V &lt; 3.6V</td>
<td>✔</td>
</tr>
<tr>
<td>ACOG_GND</td>
<td>30</td>
<td>0 &lt; V &lt; 0.1V</td>
<td>✔</td>
</tr>
<tr>
<td>ACOG_VOS1</td>
<td>3</td>
<td>3.3V &lt; V &lt; 3.6V</td>
<td>✔</td>
</tr>
<tr>
<td>ACOG_GND1</td>
<td>31</td>
<td>0 &lt; V &lt; 0.1V</td>
<td>✔</td>
</tr>
<tr>
<td>ACOG_VOS2</td>
<td>4</td>
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<td>✔</td>
</tr>
<tr>
<td>ACOG_GND2</td>
<td>32</td>
<td>0 &lt; V &lt; 0.1V</td>
<td>✔</td>
</tr>
<tr>
<td>ACOG_VIR</td>
<td>5</td>
<td>5V &lt; V &lt; 28V</td>
<td>✔</td>
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<td>ACOG_VRTN0</td>
<td>33</td>
<td>V &lt; 0.1V</td>
<td>✔</td>
</tr>
<tr>
<td>ACOG_VRTN1</td>
<td>7</td>
<td>2V &lt; V &lt; 28V</td>
<td>✔</td>
</tr>
<tr>
<td>ACOG_VRTN1</td>
<td>34</td>
<td>V &lt; 0.1V</td>
<td>✔</td>
</tr>
</tbody>
</table>
13.6.4 Test with FREE connected: FREE Function Test GASU primary side

13.6.4.1 Nominal ACD-3.3V, System clock at 20 MHz

13.6.4.1.1 Write/Read FREE registers

Script Pass/Fail:

13.6.4.1.2 Event Data

Script Pass/Fail:

13.6.4.1.3 Trigger

Script Pass/Fail:

13.6.5 Test with FREE connected: FREE Function Test GASU redundant side

1) Turn off 28-V power
2) With the shorting plugs inserted in the break out boxes, turn on 28V bench supply to redundant GASU.
3) Boot VME-SBC
4) Boot successful: Yes/No
5) Start LATTE (see LATTE instructions)
6) Make sure FREE power-on register is turned-off.
7) Run AEM test scripts
   
8) Pass/Fail

13.6.5.1 Supply Voltage Level Test with FREE power disabled

(nominal VDD-ACD)

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Test for EGSE ACD G3 Test Stand with GASU Instrumented to Simultaneous Test up to 12 FREE Cards (including Safe-to-Mate)

<table>
<thead>
<tr>
<th>Measurement No.</th>
<th>Signal Pair</th>
<th>Pin 1</th>
<th>Expected Voltage</th>
<th>Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ACD_VDD</td>
<td>JL-180 - 1</td>
<td>V &lt; 1V</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>ACD_28V</td>
<td>JL-180 - 5</td>
<td>V &lt; 0.5V</td>
<td></td>
</tr>
</tbody>
</table>

13.6.5.2 Bench Supply Current Level Test with FREE power enabled

Enable FREE Power

<table>
<thead>
<tr>
<th>Measurement No.</th>
<th>Signal</th>
<th>Expected Current</th>
<th>Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>28V bench supply</td>
<td>330 mA &lt; 1 &lt; 570 mA</td>
<td></td>
</tr>
</tbody>
</table>

13.6.5.3 Nominal ACD-3.7V, System clock at 20 MHz

13.6.5.3.1 Write/Read FREE registers

Scripts Pass/Fail:

13.6.5.3.2 Event Data

Scripts Pass/Fail:

13.6.5.3.3 Trigger

Scripts Pass/Fail:

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