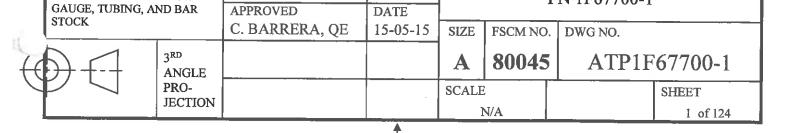
| APPLIC | I A TITON | | | | | + | | | 75.7 | DI 220- | 01.10 | | | | | |
|--|--|------|-------|-------------|------|-------|--|-------|-------------|---------|-------|-------|--------------|----------|----------|--------|
| NEXT ASSY | | D ON | - | T / | TR | | г | ECCP | RI IPTIO | EVISI | UNS | | D A TITLE | | A Tarara | * / T |
| NEXT ADD I | | | 1 | | IK | | | ESCK | IPTIO | IN | | - | DATE | - | APPRO | JVEL |
| | 00 | CU | | _ | _ | INIT | IAL R | ELEA | SE | | | 2 | 015-05- | .15 | BI | Ĭ. |
| | | | | | | | | | | | | | | | | |
| | | | | | 4 | REVIS | SED PE | R C/N | A1458 | 37 | | 2 | 016-02- | 18 | CJ | Т |
| | | | | | | | | | | | | + | | \dashv | | |
| | | | | I | 3 | REVIS | SED PE | R C/N | A1496 | 50 | | 2 | 016-06- | 09 | CJ | T |
| | | | | | | | | | | | | | | | | |
| REVISION | | | | | | | | | | | T | Τ | | T | \top | |
| SHEET | | | | | | | | | | | | | | | | |
| This technical data is (ITAR) and may not b proper authorization b UNLESS OTHER V SPECIFIED: | IMENSIONS ARE IN UTILIZING THE FOLLOWING ICHES: (MM) Export-Controlled Data SOFTWARE: | | | | TION | | | | | | | | | | | |
| DECIMALS: RE | | | | NCED OF | | | , | | | 1 | iej | Chenn | tli Electror | Nes | | |
| + 1/64 (+ 0.4) | | h | DRAWN | r | | DATE | - | | | | | | | | _ | |



DATE

DATE

15-05-15

15-05-15

ACCEPTANCE TEST PROCEDURE

FOR THE OCU,

PN 1F67700-1

DRAWN

W. FOLTZ

CHECKED

D. SWAIN

± 1/64 (± 0.4) ANGLES:

INDUSTRY STANDARD

TOLERANCES APPLY FOR

±30°

APPENDIX A: MANUAL DATA SHEETS FOR OCU TESTING

| ULA PN 1F67700 Serial No. <u>0034</u> |
|---|
| Test conducted by: Verin ST. Clar date 10-20-16 |
| CE QC CAMPY GOSA CE Date 10-20-14 |
| Customer Representative Several date 16-20 - 16 |
| GTI Code Revision: 8,9,0,17 |
| GTI Command Files Revision: 4.6 1.8 |

Test equipment was in calibration when used.

Calibration due dates are on file for review and are included in the Qualification Test Report Data Package.

Unit S/N: 0034

3.2.1 Inspection:

Inspection check:

Test Operator D. GAINE //920 Date 10-05-16

3.2.2 Bonding:

| Step | - Lead | + Lead | Data: | Limits: |
|------|--------------------|--------------|---------------|----------------|
| 1 | Chassis Foot Mount | J109 Shell | _C.38 mΩ | <5.0 Milliohms |
| 2 | Chassis Foot Mount | J110 Shell | 0.91 mn | <5.0 mΩ |
| 3 | Chassis Foot Mount | J106 Shell | _0,60 mΩ | <5.0 mΩ |
| 4 | Chassis Foot Mount | J105 Shell | 0,54 mΩ | <5.0 mΩ |
| 5 | Chassis Foot Mount | J104 Shell | _1.09 mΩ | <5.0 mΩ |
| 6 | Chassis Foot Mount | J102 Shell | 0.94 ma | <5.0 mΩ |
| 7 | Chassis Foot Mount | J107 Shell | _0,74 mΩ | <5.0 mΩ |
| 8 | Chassis Foot Mount | J108 Shell | _ 0.76 mΩ | <5.0 mΩ |
| 9 | Chassis Foot Mount | J103 Shell | _ C . SS _ mΩ | <5.0 mΩ |
| 10 | Chassis Foot Mount | J101 Shell | Ow Por C | <5.0 mΩ |
| _11 | Chassis Foot Mount | J209 Shell | O,72kmΩ | <5.0 mΩ |
| 12 | Chassis Foot Mount | J210 Shell | O.5OmΩ | <5.0 mΩ |
| 13 | Chassis Foot Mount | J206 Shell | O, \ \mΩ | <5.0 mΩ |
| 14 | Chassis Foot Mount | J205 Shell | O,4\ mΩ | <5.0 mΩ |
| 15 | Chassis Foot Mount | J204 Shell | _ O . 24 mΩ | <5.0 mΩ |
| 16 | Chassis Foot Mount | J202 Shell | _C,49 mΩ | <5.0 mΩ |
| 17 | Chassis Foot Mount | J207 Shell | | <5.0 mΩ |
| 18 | Chassis Foot Mount | J208 Shell | mΩ | <5.0 mΩ |
| 19 | Chassis Foot Mount | J203 Shell | _036 mΩ | <5.0 mΩ |
| 20 | Chassis Foot Mount | J201 Shell | _0.46 mΩ | <5.0 mΩ |
| 21 | Chassis Foot Mount | Top Cover | _0.19 mΩ | <5.0 mΩ |
| 22 | Chassis Foot Mount | Bottom Cover | 0.56 mΩ | <5.0 mΩ |

Test Equipment ID Number: E4202 Cal Date: 12-30-16

Bonding check:

Test Operator

GAINES/1920 Date 10.05-16

UNITED LAUNCH ALLIANCE PROPRIETARY INFORMATION

Unit S/N: 0034

3.2.3.1 Resistance and Isolation CHANNEL-1

Resistance and Isolation Test Worksheet (Before First Furictional Test)

| Test Paragraph | From | То | Description | Value | Min | Max | Units |
|-------------------|----------|---------|-------------------------------|---------|--------|-------|-------|
| | HI(+) | LOW(-) | | | | | |
| 4.1.1.1 | J105-T | J104-13 | CNT_PWR1_IN to CHASSIS_GND | 19.00 | >10Meg | Open | Ω |
| 4.1.1.2 | J105-M | J104-13 | CNT_PWR2_IN to CHASSIS_GND | 19.0M | >10Meg | Open | Ω |
| 4.1.2.1 | J105-T | J105-J | CNT_PWR1_IN to CNT_PWR1_RTN | 11.5M | >50K | Open | Ω |
| 4.1.2.2 | J105-M | J105-K | CNT_PWR2_IN to CNT_PWR2_RTN | 11.6M | >50K | Open | Ω |
| 4.1.3.1 | J104-21 | J104-13 | P_BAT_IN_SIG to CHASSIS_GND | 76.0 K | 67.8K | 87.8K | Ω |
| 4.1.3.2 | J104-4 | J104-13 | P_BAT_RTN_SIG to CHASSIS_GND | 76.0K | 67.8K | 87.8K | Ω |
| 4.1.4.1 | J104-21 | J105-J | P_BAT_IN_SIG to CNT_PWR1_RTN | 19.0M | >10Meg | Open | Ω |
| 4.1.4.2 | J104-21 | J105-K | P_BAT_IN_SIG to CNT_PWR2_RTN | 19.0M | >10Meg | Open | Ω |
| 4.1.5.1 | _ J105-J | J4_14 | CNT_PWR1_RTN to SIG_GND | 19.0M | >10Meg | Open | Ω |
| 4.1.5.2 | J105-K | J4_14 | CNT_PWR2_RTN to SIG_GND | 19.0 M | >10Meg | Open | Ω |
| 4.1.6.1 | J104-13 | J105-J | CHASSIS GND to CNT PWR1 RTN | 19.0M | >10Meg | Open | Ω |
| 4.1.6.2 | J104-13 | J105-K | CHASSIS_GND to CNT_PWR2_RTN | 19.0M | >10Meg | Open | Ω |
| 4.1.7.1 | J104-13 | J104-14 | CHASSIS GND to SIG GND | 58.5K | 50K | 70K | Ω |
| 4.1.7.2 | J104-4 | J104-14 | P_BAT_RTN_SIG to SIG_GND | 17,72 K | 17.7K | 17.9K | Ω |
| <u>4.1.8.</u> 1 | J105-A | J104-13 | HTR_PWR RTN to CHASSIS GND | 19.0M | >10Meg | Open | Ω |
| 4.1.8.2 | J105-L | J104-13 | HTR_PWR_IN to CHASSIS_GND | 19.0 M | >10Meg | Open | Ω |
| 4.1.9.1 | J106-C | J104-13 | 1ST_INH_RTN to CHASSIS_GND | 19.0M | >10Meg | Open | Ω |
| 4.1.9.2 | J106-M | J104-13 | 1ST_SAFE_STAT to CHASSIS_GND | 19.0M | >10Meg | Open | Ω |
| 4.1.9.3 | J106-T | J104-13 | 1ST_ARM_STAT to CHASSIS_GND | 19.0M | >10Meg | Open | Ω |
| 4.1.9.4 | J106-M | J106-T | 1ST_ARM_STAT to 1ST_SAFE_STAT | 19.0M | >10Meg | Open | Ω |
| 4.1.10.1 | J104-7 | J104-14 | +5V_TP_RTN to SIG_GND | 19.92K | 19.8K | 20.2K | Ω |
| 4.1.10.2 | J104-24 | J104-14 | POS_BIT_M_TP_RTN to SIG | 17.74 K | 17.7K | 17.9K | Ω |
| 4.1.10.3 | J104-36 | J104-14 | 2.5V_TP_RTN to SIG_GND | 19.92K | 19.8K | 20.2K | Ω |
| 4.1.10.4 | J104-30 | J104-14 | 2INH_GD_TP_RTN to SIG_GND | 1.99 K | 1.98K | 2.02K | Ω |
| 4.1.10.5 | J104-18 | J104-14 | 3INH_GD_TP_RTN to SIG_GND | 1,64K | 1.63K | 1.67K | Ω |
| 4.1.10.6 | J104-33 | J104-14 | NEG_BIT_M_TP_RTN to SIG_GND | 19.92 K | 19.8K | 20.2K | Ω |
| 4.1.10.7 | J104-34 | J104-14 | POS_BIAS_TP_RTN to SIG_GND | 1.64 K | 1.63K | 1.67K | Ω |
| 4.1.10.8 | J104-19 | J104-13 | RTD to CHASSIS_GND | 19.0 M | >10Meg | Open | Ω |

Test Equipment ID Number: <u>E7424</u> Cal Date: <u>//-03-/6</u>

Resistance and Isolation check:

Test Operator <u>D. CAINES ///920</u> Date <u>//0.05-//</u>



Unit S/N: 0034

3.2.3.1 Resistance and Isolation CHANNEL- 2

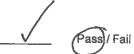
Resistance and Isolation Test Worksheet (Before First Functional Test)

| Test Paragraph | From | То | Description | Value | Min | Max | Units |
|-------------------|---------|---------|-------------------------------|------------|---------|-------|-------|
| | HI(+) | LOW(-) | | | | | |
| 4.1.1.1 | J205-T | J204-13 | CNT_PWR1_IN to CHASSIS_GND | 19.0 M | >10Meg | Open | Ω |
| 4.1.1.2 | J205-M | J204-13 | CNT_PWR2_IN to CHASSIS_GND | 19.0M | >10Meg | Open | Ω |
| 4.1.2.1 | J205-T | J205-J | CNT_PWR1 IN to CNT_PWR1_RTN | 10.22 M | | Ореп | Ω |
| 4.1.2.2 | J205-M | J205-K | CNT_PWR2_IN to CNT_PWR2_RTN | 10.25M | >50K | Open | Ω |
| 4.1.3.1 | J204-21 | J204-13 | P_BAT_IN_SIG to CHASSIS GND | 76.18K | 67.8K | 87.8K | Ω |
| 4.1.3.2 | J204-4 | J204-13 | P_BAT_RTN_SIG to CHASSIS_GND | 76.13K | 67.8K | 87.8K | Ω |
| 4.1.4.1 | J204-21 | J205-J | P_BAT_IN_SIG to CNT_PWR1_RTN | 19.0 M | >10Meg | Open | Ω |
| 4.1.4.2 | J204-21 | J205-K | P_BAT_IN_SIG to CNT_PWR2_RTN | 19.0M | >10Meg | Open | Ω |
| <u>4.</u> 1.5.1 | J205-J | J204_14 | CNT_PWR1_RTN to SIG_GND | 19.0 M | >10Meg | Open | Ω |
| 4.1.5.2 | J205-K | J204_14 | CNT_PWR2_RTN to SIG_GND | 19,6 M | >10Meg | Open | Ω |
| 4.1.6.1 | J204-13 | J205-J | CHASSIS_GND to CNT_PWR1_RTN | 190 M | >10Meg | Open | Ω |
| 4.1.6.2 | J204-13 | J205-K | CHASSIS_GND to CNT_PWR2_RTN | 19.0M | >10Meg | Open | Ω |
| 4.1.7.1 | J204-13 | J204-14 | CHASSIS_GND to SIG_GND | 58.61K | 50K | 70K | Ω |
| 4.1.7.2 | J204-4 | J204-14 | P_BAT_RTN_SIG to SIG_GND | 17.74 | 17.7K | 17.9K | Ω |
| 4.1.8.1 | J205-A | J204-13 | HTR_PWR_RTN to CHASSIS_GND | 19.0 M | >10Meg | Open | Ω |
| 4.1.8.2 | J205-L | J204-13 | HTR_PWR_IN to CHASSIS_GND | 19.0M | >10Meg | Open | Ω |
| 4.1.9.1 | J206-C | J204-13 | 1ST_INH_RTN to CHASSIS GND | 19.0M | >10Meg | Open | Ω |
| 4.1.9.2 | J206-M | J204-13 | 1ST_SAFE_STAT to CHASSIS GND | 19.0M | >10Meg | Open | Ω |
| 4.1.9.3 | J206-T | J204-13 | 1ST_ARM_STAT to CHASSIS GND | 19.0 M | >10Meg | Open | Ω |
| 4.1.9.4 | J206-M | J206-T | 1ST_ARM_STAT to 1ST_SAFE_STAT | 19.93 K | >10Meg | Open | Ω |
| 4.1.10.1 | J204-7 | J204-14 | +5V_TP_RTN to SIG_GND | 17.74 19.9 | ₹K19.8K | 20.2K | Ω |
| 4.1.10.2 | J204-24 | J204-14 | POS_BIT_M_TP_RTN to SIG | 17.74 K | 17.7K | 17.9K | Ω |
| 4.1.10.3 | J204-36 | J204-14 | 2.5V_TP_RTN to SIG_GND | 19.93 K | 19.8K | 20.2K | Ω |
| 4.1.10.4 | J204-30 | J204-14 | 2INH_GD_TP_RTN to SIG_GND | 1.99 K | 1.98K | 2.02K | Ω |
| 4.1.10.5 | J204-18 | J204-14 | 3INH_GD_TP_RTN to SIG_GND | 1.641 | 1.63K | 1.67K | Ω |
| 4.1.10.6 | J204-33 | J204-14 | NEG_BIT_M_TP_RTN to SIG_GND | 19.92K | 19.8K | 20.2K | Ω |
| 4.1.10.7 | J204-34 | J204-14 | POS_BIAS_TP_RTN to SIG_GND | 1.64 K | 1.63K | 1.67K | Ω |
| 4.1.10.8 | J204-19 | J204-13 | RTD to CHASSIS GND | 19.0M | >10Meg | Open | Ω |

Test Equipment ID Number: <u>£7424</u> Cal Date: <u>11-03-/6</u>

Resistance and Isolation check:

Test Operator D. GRINE / 1/420 Date 10-05-16





11920

ATP1F67700-1

Revision: B

Sheet 51

| 3.2.3.3 System Self-test Wrap-box: CHANNEL – 1 | I | Unit S/N | 1: <u>0034/</u> |
|--|------------------|----------|---------------------|
| OCU Automated Test Set (Channel-1) Pre-Power of | on Checklist | Check | NOT REQUIRED, |
| Verify UPS is on and operating normally | | | LRSS THAN 72 hours |
| Verify the 208V AC power cords from the test sets are plug | ged into the UPS | / | SINCE LAST WEAP BOX |
| Verify all test console and associated equipment seals are i | in place | | TEST. NO CHANGE IN |
| Verify no front panels are removed | | | CONFIGURATION. |
| Verify all jumpers are in place on interface panel | | | D.A.G. |
| | | | 11920 |
| Note: Check the following equipment after test set power | er on sequence. | | 10-05-16 |
| Verify power is on to all Agilent 6643A Power Supplies | | | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | | | |
| Verify all connectors are fully mated | | | |
| Verify correct software has been selected | | | |
| Verify calibration of equipment | | | |
| Verify UUT has isolators under feet to isolate UUT from then | mal chamber | | |
| Connector Inspection: | | | |
| | D . | | Pass / Fail |
| Test Operator | Date | | |
| | | | |
| | | | |
| OTI FOR A STATE OF THE STATE OF | | | |
| GTI Execution Error Detection: | | | |
| Verify no errors were detected during GTI Execution: | | | Check |
| System Self-test Wrap-box: | | | Pass / Fail |
| Test Operator | Date | | |

| 3.2.3.3 System Self-test Wrap-box: CHANNEL – 2 | Unit S/I | N: <u>6034</u> |
|---|----------|--------------------------|
| OCU Automated Test Set (Channel-2) Pre-Power on Checklist | Check | |
| Note: Check the following equipment after test set power on sequence. | | NOT REQUIRED. |
| Verify power is on to all Agilent 6643A Power Supplies | | LESS THAN 72 hours |
| Verify power is on to the Agilent 34401A Digital Multi-meter | | SINCE LAST WEAR BOXTEST. |
| Verify all connectors are fully mated | | NO CHANGE in |
| Verify correct software has been selected | | CONFIGURATION, D.A.C. |
| Verify calibration of equipment | | 11920 |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | | 10-05-16 |
| Note: Check the following equipment after test set power on sequence. | | 70.00 |
| Verify power is on to all Agilent 6643A Power Supplies | | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | | |
| Verify all connectors are fully mated | | |
| Verify correct software has been selected | | |
| Verify calibration of equipment | _ | |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | | |
| Connector Inspection: | | Pass / Fail |
| Test Operator Date | | |
| | | |
| GTI Execution Error Detection: | | |
| Verify no errors were detected during GTI Execution: | | Check |
| System Self-test Wrap-box: | | Pass / Fail |
| Test Operator Date | | |
| | | |

ATP1F67700-1

| - / | | - |
|-----|-----|-----|
| м. | 3/2 | l- |
| æ | 75- | K., |

-Post-Vibe Combo Test (Functional-Thermal-Functional):

| Pre-Power on Checklist: Verify UPS is on and operating normally | | Verification | |
|--|---------------|---|--------|
| Note: Check the following equipment after test set power on sequence. Verify power is on to all Agilent 6643A Power Supplies Verify power is on to the Agilent 34401A Digital Multi-meter Verify foam is installed correctly in cable feed through holes of thermal chamber. Verify control thermocouples installed at correct locations Verify temperature recording device is properly connected Verify calibration of equipment Verify all connectors are fully mated Verify correct software has been selected Verify UUT has isolators under feet to isolate UUT from thermal chamber Verify P107 and P207 are connected thru a Battery box | | | |
| Connector Inspection: Setup Pictures Taken: | | (Pass / Fail | |
| Product Saver Settings: | ~~ | Check -50°C & +70°C | |
| Circle all tests to be performed in current sequence: Pre-Thermal Ambienti/ Starting and Ending Thermal Cycles ① 2 3 ④ 5 6 7 8 Pos Test Operator ① CAMBS / 11920 Date 10~05-16 Verification Performed By: 11962 Denote Date 10~5-16 | t-Thermal Amb | ient | |
| Pre-Thermal Ambient Functional Test: Cycle 1 Low Complete: | N/R | Pass / Fail | |
| GTI Execution Error Detection: | _ | | |
| Verify no errors were detected during GTI Execution: | | Check | 1CD |
| Trend Data: Trend Complete and Analyzed: Setup pictures on server: Test Data Files and Thermal Logger Data Files are on server: Test Operator 11333 Lms Date 10-6-16 | <u></u> | Check Check Check | 0.3015 |
| | | | |

UNITED LAUNCH ALLIANCE PROPRIETARY INFORMATION

Export-Controlled Data
Use or disclosure of data contained on this sheet is subject to the restrictions on the title page of this document

ATP1F67700-1 Revision: B Sheet 70 -

3.2.4 Self-test Wrap-box: CHANNEL - 1

| | | _ |
|---|----------------------|-------------|
| OCU Automated Test Set (Channel-1) Pre-Power on C | Checklist | Check |
| Verify UPS is on and operating normally | | |
| Verify the 208V AC power cords from the test sets are plugged | into the UPS | |
| Verify all test console and associated equipment seals are in pla | ace | |
| Verify no front panels are removed | | |
| Verify all jumpers are in place on interface panel | | |
| Note: Check the following equipment after test set power or | n sequence. | / |
| Verify power is on to all Agilent 6643A Power Supplies | | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | | |
| Verify Vibe extension cables are connected | | |
| Verify all connectors are fully mated | | |
| Verify correct software has been selected | | |
| Verify calibration of equipment | | |
| Verify UUT has isolators under feet to isolate UUT from thermal | chamber | |
| Connector Inspection: | | Pass/ Fail |
| Test Operator 7156/ Cx | Date <u>10-10-16</u> | |
| | | |
| GTI Execution Error Detection: | | |
| | | 011 |
| Verify no errors were detected during GTI Execution: | | Check |
| System Self-test Wrap-box: Test Operator 71561 | 21.1-10.16 | Pass// Fail |
| Test Operator / 10 01 (7C | Date <u>10-10-16</u> | |



Unit S/N: 0034

| 3.2.4 Self-test Wrap-box: CHANNEL – 2 | Unit S/N: <u>0 わる4</u> |
|--|------------------------|
| OCU Automated Test Set (Channel-1) Pre-Power on Checklist | Check |
| Verify UPS is on and operating normally | |
| Verify the 208V AC power cords from the test sets are plugged into the UPS | |
| Verify all test console and associated equipment seals are in place | |
| Verify no front panels are removed | |
| Verify all jumpers are in place on interface panel | |
| Note: Check the following equipment after test set power on sequence. | |
| Verify power is on to all Agilent 6643A Power Supplies | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | |
| Verify Vibe extension cables are connected | |
| Verify all connectors are fully mated | |
| Verify correct software has been selected | |
| Verify calibration of equipment | |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | |
| Connector Inspection: | (Pass) Fail |
| Test Operator 7/56/ (2) Date 10-10-16 | |
| | |
| GTI Execution Error Detection: | |
| Verify no errors were detected during GTI Execution: | Check |
| System Self-test Wrap-box: | Pass /Fail |
| Test Operator 7 15 6 0 Date 10-10-16 | |



3.2.4.3 Z - Axis Vibe Test

Verification Performed By: _

Check/Verify Both Channels OCU Automated Test Set Pre-Power on Checklist Check Verify Verify UPS is on and operating normally...... Note: Check the following equipment after test set power on sequence. Verify power is on to the Agilent 34401A Digital Multi-meter..... Verify Vibe extension cables have been connected...... Verify correct software has been selected Verify calibration of equipment..... Verify UUT has isolators under feet to isolate UUT from thermal chamber..... Connector Inspection: Pass / Fail Setup Pictures Taken: Check Test Operator 71561 G Date 10-10-16

Date 10-10-16



Unit S/N: <u>0034</u>

3.2.5.1.4 Z - Axis Vibe Test (Continued)

Unit S/N: 0034

| "Z" Axis Equalization Complete: | | | Check |
|--|---------------|----------|-------------|
| Pre-Vibration Proof Test Complete | | | Check |
| Verify IAT Z-Axis Selected: | | | Check |
| Unit Vibration @ -20dB level X 0.00398 | | 0.49352 | Ref |
| Unit Vibration @ -12dB level X 0.0363 | | 0.2178 | Ref. |
| Unit Vibration @ - 9dB level X 0.0832 | | 0.832 | Ref. |
| Unit Vibration @ - 6dB level X 0.1905 | | 2.4765 | Ref. |
| Unit Vibration @ - 3dB level X 0.4365 | | 5.238 | Ref. |
| Unit Vibration @ - 0dB level X 1.00 | | 60 | Ref. |
| Cumulative UUT Vibe Exposure Time: | | 61.25782 | Ref. Only |
| Vibration cable serial number | | 002 | Ref. |
| Cumulative Cable Vibe Exposure Time: | d 10-11- | 60 sec | Ref. Only |
| Test Operator 7156/ FZ | Date 10-10-16 | 240 | |
| GTI Execution Error Detection: | | , | |
| Verify no errors were detected during GTI Execution: | | | Check |
| Z-Axis Vibe Test: | | (| Pass / Fail |
| Setup pictures on server: | | | Check |
| Test Operator 71561 F | Date 10-10-16 | - | |



3.2.4.3 X - Axis Vibe Test

Unit S/N: <u>9034</u>

| | Check/Veri | fy Both | Channels |
|--|------------|----------|-------------|
| OCU Automated Test Set Pre-Power on Checklist | Check | Verify | |
| Verify UPS is on and operating normally | | | |
| Verify the 208V AC power cords from the test sets are plugged into the UPS | <u>√</u> | _/_ | |
| Verify all test console and associated equipment seals are in place | <u> </u> | | |
| Verify no front panels are removed | <u>/</u> | | |
| Verify all jumpers are in place on interface panel | | | |
| Note: Check the following equipment after test set power on sequence | | | |
| Verify power is on to all Agilent 6643A Power Supplies | | | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | <u> </u> | | |
| Verify Vibe extension cables have been connected | | | |
| Verify all connectors are fully mated | <u> </u> | | |
| Verify P107 & P207 are connected to battery boxes | <u> </u> | | |
| Verify correct software has been selected | | | |
| Verify calibration of equipment | <u>√</u> / | | |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | | | |
| Connector Inspection: | | <u> </u> | Pass / Fail |
| Setup Pictures Taken: | | | Check |
| Test Operator 71561 6 Date 10-11-16 | _ | | |
| Test Operator 71561 OR Date 10-11-16 Verification Performed By: 11944 35 Date 10-11-16 | _ | | |



Unit S/N: <u>0034</u> 3.2.5.1.4 X – Axis Vibe Test (Continued) "X" Axis Equalization Complete: Check Pre-Vibration Proof Test Complete Check Verify IAT X-Axis Selected: Check Unit Vibration @ -20dB level X 0.00398 0.31044 Ref 5.4356 Unit Vibration @ -12dB level X 0.0363 Ref. Unit Vibration @ - 9dB level X 0.0832 1.0816 Ref. Unit Vibration @ - 6dB level X 0.1905 2.286 Ref. Unit Vibration @ - 3dB level X 0.4365 6.111 Ref. Unit Vibration @ - 0dB level X 1.00 60 Ref. Cumulative UUT Vibe Exposure Time: 70.22464 Ref. Only Vibration cable serial number 200 Ref. Cumulative Cable Vibe Exposure Time: 300 Ref. Only Test Operator 71561 Date 10-11-16 **GTI Execution Error Detection:** Verify no errors were detected during GTI Execution: Check X-Axis Vibe Test: Pass / Fail Setup pictures on server: Check Test Operator ____ 7/5/6/ Date 10-11-16



Verification Performed By: 1944 35

| 3.2.4.3 Y – Axis Vibe Test | Unit S/N: <u>0034</u> |
|--|----------------------------|
| | Check/Verify Both Channels |
| OCU Automated Test Set Pre-Power on Checklist | Check Verify |
| Verify UPS is on and operating normally | <u>/</u> _/_ |
| Verify the 208V AC power cords from the test sets are plugged into the UPS | <u>/</u> _/ |
| Verify all test console and associated equipment seals are in place | <u>/</u> _/ |
| Verify no front panels are removed | <u>/</u> / |
| Verify all jumpers are in place on interface panel | |
| Note: Check the following equipment after test set power on sequenc | e. |
| Verify power is on to all Agilent 6643A Power Supplies | <u> </u> |
| Verify power is on to the Agilent 34401A Digital Multi-meter | |
| Verify Vibe extension cables have been connected | |
| Verify all connectors are fully mated | |
| Verify P107 & P207 are connected to battery boxes | |
| Verify correct software has been selected | |
| Verify calibration of equipment | 7 · |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | |
| Connector Inspection: | Pass /)Fail |
| Setup Pictures Taken: | Check |
| Test Operator 715/al /k Date 10-11-1 | 6 |

Date 10 -// -/-6



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| 3.2.5.1.4 Y – Axis Vibe Test (Continued | 3. | 2.5.1.4 | Y – | Axis | Vibe | Test | (Continued |
|---|----|---------|-----|-------------|------|------|------------|
|---|----|---------|-----|-------------|------|------|------------|

Unit S/N: 0034

| "Y" Axis Equalization Complete: | | Check |
|--|-------------------|-----------|
| • | | Check |
| Pre-Vibration Proof Test Complete | | Check |
| Verify IAT Y-Axis Selected: | | Check |
| Unit Vibration @ -20dB level X 0.00398 | 0.37014 | Ref |
| Unit Vibration @ -12dB level X 0.0363 | 0.5445 | Ref. |
| Unit Vibration @ - 9dB level X 0.0832 | 1.1648 | Ref. |
| Unit Vibration @ - 6dB level X 0.1905 | 2.4765 | Ref. |
| Unit Vibration @ - 3dB level X 0.4365 | 6.111 | Ref. |
| Unit Vibration @ - 0dB level X 1.00 | 60 | Ref. |
| Cumulative UUT Vibe Exposure Time: | 70.66694 | Ref. Only |
| Vibration cable serial number | 2002 | Ref. |
| Cumulative Cable Vibe Exposure Time: | G 16 -60500 | Ref. Only |
| Test Operator 71561 (**) | Date 10-11-16 360 | |
| | | |

GTI Execution Error Detection:

Verify no errors were detected during GTI Execution:

Y-Axis Vibe Test:

Setup pictures on server:

Test Operator 7/561 (**)

Date 10.11-16

Check

3.2.4 Self-test Wrap-box: CHANNEL - 1

| OCU Automated Test Set (Channel-1) Pre-Power on Checklist | Check |
|--|--------------|
| Verify UPS is on and operating normally | |
| Verify the 208V AC power cords from the test sets are plugged into the UPS | |
| Verify all test console and associated equipment seals are in place | |
| Verify no front panels are removed | |
| Verify all jumpers are in place on interface panel | |
| Note: Check the following equipment after test set power on sequence. | |
| Verify power is on to all Agilent 6643A Power Supplies | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | |
| Verify Vibe extension cables are connected | |
| Verify all connectors are fully mated | |
| Verify correct software has been selected | |
| Verify calibration of equipment | 1 |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | |
| Connector Inspection: | Pass/ Fail |
| Test Operator D.C. A-WES / 11920 Date 10-11-16 | |
| • | |
| GTI Execution Error Detection: | |
| Verify no errors were detected during GTI Execution: | Check |
| System Self-test Wrap-box: 1 | 1/ Pass/Fail |
| Test Operator D. GM NES/1/920 Date 10-11-16 | |



Unit S/N: 0034

| 3.2.4 Self-test Wrap-box: CHANNEL – 2 | Unit S/N: <u>0034</u> |
|--|-----------------------|
| OCU Automated Test Set (Channel-1) Pre-Power on Checklist | Check |
| Verify UPS is on and operating normally | $\sqrt{}$ |
| Verify the 208V AC power cords from the test sets are plugged into the UPS | |
| Verify all test console and associated equipment seals are in place | |
| Verify no front panels are removed | - |
| Verify all jumpers are in place on interface panel | V |
| Note: Check the following equipment after test set power on sequence. | , |
| Verify power is on to all Agilent 6643A Power Supplies | _1// |
| Verify power is on to the Agilent 34401A Digital Multi-meter | 1 |
| Verify Vibe extension cables are connected | |
| Verify all connectors are fully mated | |
| Verify correct software has been selected | |
| Verify calibration of equipment | V, |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | |
| Connector Inspection: | Pass/ Fail |
| Test Operator D. GAINES/11920 Date 10-11-10 | |
| / | |
| GTI Execution Error Detection: | / |
| Verify no errors were detected during GTI Execution: | Check |
| System Self-test Wrap-box: | Mass Fail |
| Test Operator D. GANES 11920 Date 10-11-16 | |



3.2.3.4 Ambient Functional Test:

| Unit S/N: | 034 |
|-----------|-----|
|-----------|-----|

| Che | eck/Verify | Both C | hannels | |
|--|-------------|----------|---|------|
| OCU Automated Test Set Pre-Power on Checklist | Check | Verify | 1 | |
| Verify UPS is on and operating normally | \ | | | |
| Verify the 208V AC power cords from the test sets are plugged into the UPS | <u>\</u> | | | |
| Verify all test console and associated equipment seals are in place | | | | |
| Verify no front panels are removed | _/_/ | | | |
| Verify all jumpers are in place on interface panel | <u>V</u> | | | |
| Note: Check the following equipment after test set power on sequence. | | | | |
| Verify power is on to all Agilent 6643A Power Supplies | | _/_ | | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | <u>V</u> _ | | | |
| Verify all connectors are fully mated | <u>~/</u> _ | | | |
| Verify P107 & P207 are connected to battery boxes | <u>√</u> | | | |
| Verify correct software has been selected | | | | |
| Verify calibration of equipment | | | | |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | <u>/</u> | | | |
| Connector Inspection: | | <u></u> | Pass Fail | |
| Setup Pictures Taken: | | <u> </u> | Check | |
| Test Operator (). CAINES //920 Date 10-11-16 | > | | | |
| Verification Performed By: 11333 KmS Date 10-11-16 | | | | |
| GTI Execution Error Detection: | | | | |
| Verify no errors were detected during GTI Execution: | (| | Check | |
| Ambient Functional Test: | | | Pase / Fail | |
| Test Operator 1/3.3.3 Kmb Date 10-1/-16 | , | | r i de la | |
| | | | | |
| Frend Data: | | | | |
| Frend Data Complete and Analyzed: | , | | Check | |
| Setup pictures on server: | | | | le A |
| • • | | | Check | noc. |
| /erify Test Data Files and Thermal Logger Data Files are on server: | . — | | Check | 1070 |
| Test Operator 11.3.3.3 KmS Date 10-11-16 | > | | | (ch) |

| 3.2.4.2 ORCA Burn-in Self-test: | Unit S/N: 0039 |
|--|-----------------|
| ORCA Burn-in Automated Test Set Pre-Power on Checklist Verify UPS is on and operating normally Verify the 208V AC power cord from the test set are plugged into the UPS Verify all test console and associated equipment seals are in place Verify no front panels are removed | Check |
| Note: Check the following equipment after test set power on sequence. | / |
| Verify ORCA Golden Unit is cabled to cable set postion-1 Orange Verify all connectors are fully mated Verify appropriate RT Address Jumper Plug is connected to J3 Verify correct software has been selected Verify calibration of equipment Verify foam is installed correctly in cable feed through holes Verify control thermocouples installed at correct locations Verify UUT has isolators under feet to isolate UUT from thermal chamber Connector Inspection: Test Operator 1962 Dead Date Date Date 19-11-16 | Pass /Fail |
| GTI Execution Error Detection: Verify no errors were detected during GTI Execution: Burn-in Self-test: Test Operator 11962 DDeno AF Date | Check Pass Fail |



| 3.2.4 Burn-in Test: (Cycles 7-10) | Unit S/N: <u>0034</u> |
|--|-----------------------|
| ORCA Burn-in Automated Test Set Pre-Power on Checklist | Check |
| Verify UPS is on and operating normally | |
| Verify the 208V AC power cord from the test set are plugged into the UPS | |
| Verify all test console and associated equipment seals are in place | <u></u> |
| Verify no front panels are removed | |
| Note: Check the following equipment after test set power on sequence. | |
| Verify power is on to the HP6643A Power Supply | |
| Verify all connectors are fully mated | |
| Verify correct software has been selected | |
| Verify calibration of equipment | |
| Verify foam is installed correctly in cable feed through holes | |
| Verify control thermocouples installed at correct locations | |
| Verify temperature recording device is properly connected | |
| Verify nitrogen dewar is full and connected to thermal chamber | |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | |
| Connector Inspection: | Pass Fail |
| Setup Pictures Taken: | Check |
| Product Saver Settings: -46 & +67 | Check |
| Test Operator 12007 RG Date 10-11-10 | |
| Verification Performed By: 1962 Denote Date 10-11-16 | |
| GTI Execution Error Detection: | |
| Verify no errors were detected during GTI Execution: | Check |
| Cycle 7 Low Complete: | Pass / Fail |
| Cycle 7 High Complete: | Eass / Fail |
| Cycle 8 Low Complete: | Pass / Fail |
| Cycle 8 High Complete: | Pass Fair Ret 0136 |
| Cycle 9 Low Complete: | Pass / Fail |
| Cycle 9 High Complete: | Pass / Fail |
| Cycle 10 Low Complete: | Pass / Fail |
| Cycle 10 High Complete: | Pass / Fail |
| Setup pictures on server: | Check 0 |
| Verify Test Data Files and Thermal Logger Data Files are on server: | Check |
| Test Operator PA | |

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Sheet 56

Anomaly Report

| ols- 0136 | | _ | | _ | Form #6803 |
|--|-----------------------|--------------|-----------------|----------------|----------------|
| est Tech (At Test START): | K. St. Clair | | Da | ate (Failure): | 10/13/16 |
| | | _ | Tiı | me (Failure): | 6:00am |
| Program Name: | Controls | 1 | | | |
| Product Name: | OCU | 2 | Test R | ack: | Controls #1 |
| Assembly Name: | Top_Level | 3 | Test Descript | ion: | Burn-in |
| Assembly Number: | 1F67700 | 4 | | | |
| Serial Number: | 0034 | | Paragraph/S | itep: | 3.2.4.2 |
| Initial Failure Description | (Error Message Dis | splayed on | Screen): | | |
| During the ramp from ho chamber. | t of cycle #2 to colo | d of cycle # | 3, there was an | anomaly wit | th the thermal |
| Anomaly Owner: | Foltz, Wayne | | | | |
| Type of Issue: | Test Set | | | TDR# | N/A |
| Corrective Action: | | | | | |
| | | | | | |
| Swapped out Thermal Ch then successfully comple | | | | g of the 2nd o | cycle. SN 0034 |
| , | ted IAT 4 Thermal C | Cycle Burn- | ln. | | |
| then successfully comple Stress Analysis Summary: | ges remained nom | inal therefo | ore there was n | o stress to Si | N 0034. |

FORM: 6803 Rev -

| 3.2.4 Burn-in Test: (Cycles 7-10) | Unit S/N: 0034 |
|--|---------------------------------------|
| ORCA Burn-in Automated Test Set Pre-Power on Checklist | Check |
| Verify UPS is on and operating normally | |
| Verify the 208V AC power cord from the test set are plugged into the UPS | |
| Verify all test console and associated equipment seals are in place | |
| Verify no front panels are removed | |
| Note: Check the following equipment after test set power on sequence. | |
| Verify power is on to the HP6643A Power Supply | |
| Verify all connectors are fully mated | |
| Verify correct software has been selected | |
| Verify calibration of equipment | |
| Verify foam is installed correctly in cable feed through holes | |
| Verify control thermocouples installed at correct locations | |
| Verify temperature recording device is properly connected | |
| Verify nitrogen dewar is full and connected to thermal chamber | |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | |
| Connector Inspection: | Pass / Fail |
| Setup Pictures Taken: | Check |
| Product Saver Settings: -46 & +67 | Check |
| Test Operator | |
| Verification Performed By: 11333 Kn-L Date 10 - 13-16 | |
| GTI Execution Error Detection: | |
| Verify no errors were detected during GTI Execution: | /_ Check |
| Cycle 7 Low Complete: | V/A Pass / Fail |
| Cycle 7 High Complete: | N/A Pass / Fail |
| Cycle 8 Low Complete: | (Pass) Fail |
| Cycle 8 High Complete: | Pass Fail |
| Cycle 9 Low Complete: | Passy Fail |
| Cycle 9 High Complete: | eass Fail |
| Cycle 10 Low Complete: | Pass Fail and AR-U. |
| Cycle 10 High Complete: | Pass DFail W |
| Setup pictures on server: | Pass Fail Pass Fail Check Check Check |
| Verify Test Data Files and Thermal Logger Data Files are on server: | C Check |
| Test Operator 11333 Kmg Date 10-14-16 | |

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Revision: B Sheet 56

Anomaly Report

| ols- 0141 | | | | | Form #6803 |
|---|---|---------------------|---|-------------------|------------------|
| est Tech (At Test | t START): | K. St. Clair | Dar | te (Failure): | 10/14/16 |
| | | | | ne (Failure): | 7:00 PM |
| Progran | m Name: | Controls | 1 | | |
| Produc | ct Name: | OCU | 2 Test Ra | ck: C | Controls #3 |
| Assembl | ly Name: | Top_Level | 3 Test Description | on: | Burn-in |
| Assembly I | | 1F67700 | 4 | | |
| Serial I | Number: | 0034 | Paragraph/St | ер: | 3.2.4.2 |
| Initial Failure | Description (Err | ror Message Displa | aved on Screen): | | |
| | | | necessary. Once the unit | t completed t | he fourth therma |
| 1 | | | as in need for other test | | |
| | | | | | |
| | | | | | |
| Anomaly | y Owner: Fo | oltz, Wayne | | | |
| - | | | | | |
| Туре | of Issue: | Test Set | | TDR# | N/A |
| | <u></u> | | | | |
| Corrective Ac | ction: | | | | |
| Test was tern | minate and unit | was manually ram | ped to ambient and pov | vered down. | |
| Stress Analysi | | es and currents rec | nained nominal through | out the test | herefore there |
| 1 | rical overstress to | | namea nominal tillough | out the test, | incretore there |
| | iour overstress t | 0 000 311 0034. | | | |
| | | | | | |
| | Summary: | | | | |
| Investigation | | | | | |
| Investigation | | N 0034 continued | past ambient to cold fol | lowing what | should have been |
| It was discove | ered that OCU SI | | past ambient to cold fol | _ | |
| It was discove the 4th IAT B | ered that OCU SI urn-In thermal c | cycle. The test was | past ambient to cold fol s terminated and the un | _ | |
| It was discove the 4th IAT B | ered that OCU SI | cycle. The test was | • | _ | |
| It was discove the 4th IAT B | ered that OCU SI urn-In thermal c | cycle. The test was | • | _ | |
| It was discove the 4th IAT B | ered that OCU SI urn-In thermal c | cycle. The test was | • | _ | |
| It was discove the 4th IAT B | ered that OCU SI urn-In thermal c | cycle. The test was | • | _ | |
| It was discove the 4th IAT B | ered that OCU SI urn-In thermal c | cycle. The test was | • | _ | |
| It was discove the 4th IAT B | ered that OCU SI urn-In thermal c | cycle. The test was | • | _ | |
| It was discove the 4th IAT B | ered that OCU SI urn-In thermal c | cycle. The test was | • | _ | |
| It was discove the 4th IAT B | ered that OCU SI urn-In thermal c | cycle. The test was | • | _ | |
| It was discove the 4th IAT Be ambient and | ered that OCU SI urn-In thermal c powered down. | cycle. The test was | s terminated and the uni | t was manua | ly ramped to |
| It was discove the 4th IAT B | ered that OCU SI urn-In thermal c | cycle. The test was | s terminated and the uni | _ | ly ramped to |

FORM: 6803 Rev = Report Generated: 10/20/2016, 10:00 AM

| 3.2.5.2 System Self-test Wrap-box: CHANNEL - 1 | Unit S/N: |
|--|---|
| | |
| OCU Automated Test Set (Channel-1) Pre-Power on Checklist | Check |
| Verify UPS is on and operating normally | Test set post test set post test set post test set post and test set post and test set post test set post and test set post |
| Verify the 208V AC power cords from the test sets are plugged into the UPS | trst 5.ex po |
| Verify all test console and associated equipment seals are in place | - tale for more |
| Verify no front panels are removed | 12 hour |
| Verify all jumpers are in place on interface panel | - April |
| | |
| Note: Check the following equipment after test set power on sequence. | |
| Verify power is on to all Agilent 6643A Power Supplies | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | |
| Verify all connectors are fully mated | |
| Verify correct software has been selected | |
| Verify calibration of equipment | |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | |
| Connector Inspection: | Pass / Fail |
| Test Operator Date | |
| | |
| | |
| GTI Execution Error Detection: | |
| Verify no errors were detected during GTI Execution: | Charle |
| System Self-test Wrap-box: | Check Pass / Fail |
| Test Operator Date | \ |
| Test Operator | _ \ |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| 3.2.5.2 System Self-test Wrap-box: CHANNEL – 2 | Unit S/N | l: |
|--|----------|---|
| OCU Automated Test Set (Channel-2) Pre-Power on Checklist | Check | , 1 |
| Verify UPS is on and operating normally | | NA Test set Nut idle for many than 72 hor |
| Verify the 208V AC power cords from the test sets are plugged into the UPS | | test set put |
| Verify all test console and associated equipment seals are in place | | in the man |
| Verify no front panels are removed | | late to |
| Verify all jumpers are in place on interface panel | | than 12 |
| Notes Charles to the state of t | | |
| Note: Check the following equipment after test set power on sequence. | | |
| Verify power is on to all Agilent 6643A Power Supplies | | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | | |
| Verify all connectors are fully mated | | |
| Verify correct software has been selected | - | |
| Verify calibration of equipment | | |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | | |
| Connector Inspection: | | Pass / Fail |
| Test Operator Rate | | |
| | | |
| GTI Execution Error Detection: | | |
| Verify no errors were detected during GTI Execution: | | Check |
| System Self-test Wrap-box: | | Pass / Fail |
| Test Operator Date | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

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Post-Vibe Combo Test (Functional-Thermal-Functional):

| Pre-Power on Checklist: Chec | k Verification |
|---|--------------------------------|
| Pre-Power on Checklist: Verify UPS is on and operating normally Verify the 208V AC power cord from the test set is plugged into the UPS | |
| Verify the 208V AC power cord from the test set is plugged into the UPS | |
| Verify the 120V AC power cord from the thermal chamber is plugged into the UPS | |
| Verify communication cable from Thermal Chamber to OCU Automated Test Set | _ |
| Verify Thermal Chamber Conditioning System switch is in on position. | |
| Verify Thermal Chamber Dry Air Purge switch is in on position | - |
| Verify all test console and associated equipment seals are in place | |
| Verify no front panels are removed/ | |
| Verify all jumpers are in place on interface panels | |
| Note: Check the following equipment after test set power on sequence. | |
| Verify power is on to all Agilent 6643A Power Supplies | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | |
| Verify foam is installed correctly in cable feed through holes of thermal chamber | - |
| Verify control thermocouples installed at correct locations | |
| Verify temperature recording device is properly connected | |
| Verify calibration of equipment | |
| Verify all connectors are fully mated | |
| Verify correct software has been selected | |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | |
| Verify P107 and P207 are connected thru a Battery box | |
| One market by the state of the | |
| Connector Inspection: | |
| Setup Pictures Taken: | Check |
| Product Saver Settings: | 50°C & +70°C |
| Circle all tests to be performed in current sequence: Pre-Thermal Ambient Starting and Ending Thermal Cycles: 1 2 3 4 5 6 7 8 Post-Thermal Test Operator 12007 RG Date 15 16 15 16 | Ambient |
| | |
| Verification Performed By: 11336 Km-3 Date 10-15-16 10-15-16 | |
| Pre-Thermal Ambient Functional Test: | Pass Fail See AROI4Z |
| Cycle 1 Low Complete: A/A Pass / Fail Cycle 5 Low Complete: | Pass / Fail |
| Cycle 1 Low Complete: Pass / Fail Cycle 5 Low Complete: | Pass / Fail |
| Cycle 2 Low Complete: Pass / Fail Cycle 6 Low Complete: | Pass / Fail |
| Cycle 2 Low Complete: Pass / Fail Cycle 6 Low Complete: | Pass / Fail |
| Cycle 3 Low Complete: Pass / Fail Cycle 7 Low Complete: | Pass / Fail |
| Cycle 3 Low Complete: Pass / Fail Cycle 7 Low Complete: | Pass / Fail |
| Cycle 4 Low Complete: Pass / Fail Cycle 8 Low Complete: | Pass / Fail |
| Cycle 4 Low Complete: Pass / Fail Cycle 8 Low Complete: | Pass / Fail |
| Post-Thermal Ambient Functional Test: | Pass / Fail |
| | _ 1 450 / / 411 |
| GTI Execution Error Detection: | |
| Verify no errors were detected during GTI Execution: | _ Check |
| Test Operator NA Date NA | 10.0 |
| | 20 ⁻ / _V |
| Trend Data: | no d' |
| Trend Complete and Analyzed: | Check |
| Setup pictures on server: | Check |
| Test Data Files and Thermal Logger Data Files are on server: | |
| | Check |
| Test Operator NA | |
| · | |

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Revision: B

Sheet 70

Anomaly Report

| Program Name: Product Name: OCU Assembly Name: Top_Level Assembly Number: 1F67700 Serial Number: 0034 Initial Failure Description (Error Message Displayed on Screen): At the start of the test a prompt comes up saying "Test stand D-A failed to set Votage". Anomaly Owner: Type of Issue: Test Set TDR # N/A Corrective Action: Reworked J4 test cable Hypertronics end, reseating the F4 and F5 connector pins into the housing. Stress Analysis Summary: No stress was applied to the unit. There was no connection and no voltage applied at the pins that were recessed. Investigation Summary: J4-F4 and J4-F5 cable pins were found to be recessed, severing Neg_Bit connection from the test set to the unit. X Wayne Foltz X Carlos Barrera | Program Name: Product Name: OCU Assembly Name: Assembly Name: Assembly Number: DOB 1 DEVEL Assembly Number: DOB 2 Test Rack: Controls #2 Test Description: Functional Assembly Number: DOB 4 Paragraph/Step: 3.2.3.4 Initial Failure Description (Error Message Displayed on Screen): At the start of the test a prompt comes up saying "Test stand D-A failed to set Votage". Anomaly Owner: Thacker, Jim Type of Issue: Test Set TDR # N/A Corrective Action: Reworked J4 test cable Hypertronics end, reseating the F4 and F5 connector pins into the housing Stress Analysis Summary: No stress was applied to the unit. There was no connection and no voltage applied at the pins that were recessed. Investigation Summary: J4-F4 and J4-F5 cable pins were found to be recessed, severing Neg_Bit connection from the test sto the unit. | ols- 0142 | | _ | | Form #6803 |
|--|---|--|---------------------------|-----------------------|--------------------|--------------------|
| Program Name: OCU 2 Test Rack: Controls #2 Assembly Name: 1F67700 4 Assembly Number: 0034 Paragraph/Step: 3.2.3.4 Initial Failure Description (Error Message Displayed on Screen): At the start of the test a prompt comes up saying "Test stand D-A failed to set Votage". Anomaly Owner: Thacker, Jim Type of Issue: Test Set TOR # N/A Corrective Action: Reworked J4 test cable Hypertronics end, reseating the F4 and F5 connector pins into the housing. Stress Analysis Summary: No stress was applied to the unit. There was no connection and no voltage applied at the pins that were recessed. Investigation Summary: J4-F4 and J4-F5 cable pins were found to be recessed, severing Neg_Bit connection from the test set to the unit. X Wayne Foltz X Carlos Barrera | Program Name: Product Name: OCU Assembly Name: Assembly Number: Dog_Level Assembly Number: O034 Paragraph/Step: Assembly Number: Oscillation Assembly Number: | est Tech (At Test START): | K. St. Clair | | Date (Failure): | 10/15/16 |
| Assembly Name: Assembly Name: Assembly Number: 167700 1034 Initial Failure Description (Error Message Displayed on Screen): At the start of the test a prompt comes up saying "Test stand D-A failed to set Votage". Anomaly Owner: Thacker, Jim Type of Issue: Test Set Torrective Action: Reworked J4 test cable Hypertronics end, reseating the F4 and F5 connector pins into the housing. Stress Analysis Summary: No stress was applied to the unit. There was no connection and no voltage applied at the pins that were recessed. Investigation Summary: J4-F4 and J4-F5 cable pins were found to be recessed, severing Neg_Bit connection from the test set to the unit. X Wayne Foltz X Carlos Barrera | Product Name: Top_Level 3 Test Rack: Controls #2 Assembly Name: 166700 Serial Number: 0034 Paragraph/Step: 3.2.3.4 Initial Failure Description (Error Message Displayed on Screen): At the start of the test a prompt comes up saying "Test stand D-A failed to set Votage". Anomaly Owner: Thacker, Jim Type of Issue: Test Set TDR # N/A Corrective Action: Reworked J4 test cable Hypertronics end, reseating the F4 and F5 connector pins into the housing Stress Analysis Summary: No stress was applied to the unit. There was no connection and no voltage applied at the pins that were recessed. Investigation Summary: J4-F4 and J4-F5 cable pins were found to be recessed, severing Neg_Bit connection from the test s to the unit. X Wayne Foltz X Carlos Barrera | | | _ | Time (Failure): | 9:00 AM |
| Assembly Name: Assembly Number: Serial Number: 1F67700 1F67700 | Assembly Name: 1F67700 4 4 Paragraph/Step: 3.2.3.4 Initial Failure Description (Error Message Displayed on Screen): At the start of the test a prompt comes up saying "Test stand D-A failed to set Votage". Anomaly Owner: Thacker, Jim Type of Issue: Test Set TDR # N/A Corrective Action: Reworked J4 test cable Hypertronics end, reseating the F4 and F5 connector pins into the housing Stress Analysis Summary: No stress was applied to the unit. There was no connection and no voltage applied at the pins thawere recessed. Investigation Summary: J4-F4 and J4-F5 cable pins were found to be recessed, severing Neg_Bit connection from the test s to the unit. X Wayne Foltz X Carlos Barrera | _ | Controls | 1 | | |
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| Serial Number: 0034 Paragraph/Step: 3.2.3.4 Initial Failure Description (Error Message Displayed on Screen): At the start of the test a prompt comes up saying "Test stand D-A failed to set Votage". | Serial Number: 0034 Paragraph/Step: 3.2.3.4 Initial Failure Description (Error Message Displayed on Screen): At the start of the test a prompt comes up saying "Test stand D-A failed to set Votage". Anomaly Owner: Thacker, Jim Type of Issue: Test Set TDR # N/A Corrective Action: Reworked J4 test cable Hypertronics end, reseating the F4 and F5 connector pins into the housing Stress Analysis Summary: No stress was applied to the unit. There was no connection and no voltage applied at the pins tha were recessed. Investigation Summary: J4-F4 and J4-F5 cable pins were found to be recessed, severing Neg_Bit connection from the test s to the unit. X Wayne Foltz X Carlos Barrera | Assembly Name: | Top_Level | 3 Test Des | scription: | Functional |
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| X Wayne Foltz X Carlos Barrera | X Wayne Foltz X Carlos Barrera | Stress Analysis Summan | <i>/</i> : | | | |
| X Wayne Foltz X Carlos Barrera | X Wayne Foltz X Carlos Barrera | Stress Analysis Summan | <i>/</i> : | | | |
| X Wayne Foltz X Carlos Barrera | X Wayne Foltz X Carlos Barrera | Stress Analysis Summar No stress was applied to were recessed. | <i>/</i> : | | | |
| X Wayne Foltz X Carlos Barrera | X Wayne Foltz X Carlos Barrera | Stress Analysis Summary No stress was applied to were recessed. Investigation Summary: | /: the unit. There was | no connection and r | no voltage applie | d at the pins that |
| /\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 7 | Stress Analysis Summary No stress was applied to were recessed. Investigation Summary: J4-F4 and J4-F5 cable pir | /: the unit. There was | no connection and r | no voltage applie | d at the pins that |
| /\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 7 | Stress Analysis Summary No stress was applied to were recessed. Investigation Summary: | /: the unit. There was | no connection and r | no voltage applie | d at the pins that |
| /\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 7 | Stress Analysis Summary No stress was applied to were recessed. Investigation Summary: J4-F4 and J4-F5 cable pir | /: the unit. There was | no connection and r | no voltage applie | d at the pins that |
| /\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 7 | Stress Analysis Summary No stress was applied to were recessed. Investigation Summary: J4-F4 and J4-F5 cable pir | /: the unit. There was | no connection and r | no voltage applie | d at the pins that |
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| | Peer Review 10/18/2016 QE Review 10/18/201 | Stress Analysis Summary No stress was applied to were recessed. Investigation Summary: J4-F4 and J4-F5 cable pir to the unit. | the unit. There was | no connection and r | no voltage applied | d at the pins that |

FORM: 6803 Rev -

Report Generated: 10/20/2016, 10:00 AM

Post-Vibe Combo Test (Functional-Thermal-Functional):

| Pre-Power on Checklist: | Chęck | Verification |
|---|---|----------------|
| Verify UPS is on and operating normally | <u>V</u> | |
| Verify the 208V AC power cord from the test set is plugged into the UPS | | |
| Verify the 120V AC power cord from the thermal chamber is plugged into the UPS Verify power is on to the Thermal Chamber | | - / |
| Verify communication cable from Thermal Chamber to OCU Automated Test Set | | '/ |
| Verify Thermal Chamber Conditioning System switch is in on position | | |
| Verify Thermal Chamber Dry Air Purge switch is in on position | -V/ | |
| Verify all test console and associated equipment seals are in place | V/ | |
| Verify no front panels are removed | V/ | -/- |
| Verify all jumpers are in place on interface panels | | |
| Note: Check the following equipment after test set power on sequence | | |
| Vority power is on to all Agilent 66424 Dever Cypelies | ie. | |
| Verify power is on to all Agilent 6643A Power Supplies | ······ <u> </u> | |
| Verify power is on to the Agilent 34401A Digital Multi-meter | | |
| Verify foam is installed correctly in cable feed through holes of thermal cha | imper | |
| Verify control thermocouples installed at correct locations | <u>V</u> | |
| Verify temperature recording device is properly connected | | |
| Verify calibration of equipment | *************************************** | |
| Verify all connectors are fully mated | <u>V</u> | |
| Verify correct software has been selected | <u>V/</u> | |
| Verify UUT has isolators under feet to isolate UUT from thermal chamber | <u>v</u> | |
| Verify P107 and P207 are connected thru a Battery box | <u>V</u> | |
| | | |
| Connector Inspection: | | (Pass)/ Fail |
| Setup Pictures Taken: | | Check |
| Product Saver Settings: | | -50°C & +70°C |
| | | |
| Circle all tests to be performed in current sequence: | | |
| | 1 20 | |
| Pre-Thermal Ambient) Starting and Ending Thermal Cycles: 1 2 3 4 5 |) 6 7 (8) (Post-Thermal Am | bient |
| Test Operator 11962 DDeach Date 10-18 | 21/ | |
| | | |
| Verification Performed By: 11920 D. GAINES Date 10~18~ | 16 | |
| Der Thermal Ausbiest Constant Tout | | |
| Pre-Thermal Ambient Functional Test: | <u> </u> | Pass Fail |
| | 5 Low Complete: | Pass / Pail |
| Cycle 1 Low Complete: Pass / Fail Cycle | 5 Low Complete: | Pass / Dail |
| Cycle 2 Low Complete: Pass / Fail Cycle | e 6 Low Complete: | Pass Drail |
| | 6 Low Complete: | (Pass DFail |
| Cycle 3 Low Complete: Pass / Fail Cycle | 7 Low Complete: | Pass DFail |
| | 7 Low Complete: | ass / Fail |
| | 8 Low Complete: | Pass //Fail |
| | 8 Low Complete: | Pass // Fail |
| Post-Thermal Ambient Functional Test: | o zon oompiete. | Pass Fail |
| | | T GOOD T GIT |
| GTI Execution Error Detection: | _ | |
| Verify no errors were detected during GTI Execution: | | Check |
| Total Consults (Annual Maria Maria | | |
| Test Operator <u>12067</u> Pate <u>10-19-16</u> | • | |
| Trend Data: | | عالم . |
| Trend Complete and Analyzed: | | Charle 200 |
| | | Check |
| Setup pictures on server: | | Check |
| Test Data Files and Thermal Logger Data Files are on server: | | Check CTC |
| Test Operator 1/333 Kmc Date 10-14-16 | | |
| | | |

3.2.2 Bonding:

Unit S/N: 0034

| Step | - Lead | + Lead | Data: Limits | i |
|------|--------------------|--------------|--|-----------|
| 1 | Chassis Foot Mount | J109 Shell | <u>Ο ωω</u> mΩ <5.0 | Milliohms |
| 2 | Chassis Foot Mount | J110 Shell | <u>O.64</u> mΩ <5.0 | mΩ |
| 3 | Chassis Foot Mount | J106 Shell | 0.45 m Ω <5.0 | mΩ |
| 4 | Chassis Foot Mount | J105 Shell | 0.37 m Ω <5.0 | mΩ |
| 5 | Chassis Foot Mount | J104 Shell | <u>0.96</u> mΩ <5.0 | mΩ |
| 6 | Chassis Foot Mount | J102 Shell | <u>0.78</u> mΩ <5.0 | mΩ |
| 7 | Chassis Foot Mount | J107 Shell | Ω Ω <5.0 | mΩ |
| 8 | Chassis Foot Mount | J108 Shell | \bigcirc , 47 m Ω <5.0 | mΩ |
| 9 | Chassis Foot Mount | J103 Shell | <u></u> | mΩ |
| 10 | Chassis Foot Mount | J101 Shell | Ω 7 m Ω <5.0 | mΩ |
| 11 | Chassis Foot Mount | J209 Shell | Ω \leq 7 m Ω \leq 5.0 i | ηΩ |
| 12 | Chassis Foot Mount | J210 Shell | <u>Οι34</u> mΩ <5.0 i | mΩ |
| 13 | Chassis Foot Mount | J206 Shell | O_{\bullet} O_{\bullet} O_{\bullet} O_{\bullet} O_{\bullet} | mΩ |
| 14 | Chassis Foot Mount | J205 Shell | Ω \sim | mΩ |
| 15 | Chassis Foot Mount | J204 Shell | <u>σΩ <5.0</u> I | nΩ |
| 16 | Chassis Foot Mount | J202 Shell | <u>Οι43</u> mΩ <5.0 i | mΩ |
| 17 | Chassis Foot Mount | J207 Shell | <u>Ομη mΩ</u> <5.0 ι | nΩ |
| 18 | Chassis Foot Mount | J208 Shell | <u>0.55</u> mΩ <5.0 i | mΩ |
| 19 | Chassis Foot Mount | J203 Shell | 0.30 m Ω <5.0 i | mΩ |
| 20 | Chassis Foot Mount | J201 Shell | 0.39 m Ω <5.0 r | mΩ |
| 21 | Chassis Foot Mount | Top Cover | mΩ <5.0 r | nΩ |
| 22 | Chassis Foot Mount | Bottom Cover | <u>0.55</u> mΩ <5.0 r | nΩ |

Test Equipment ID Number: EH202 Cal Date: 12-30-16



Bonding check: Test Operator 11920 GAINES Date 10-19-16

Unit S/N: 0034

3.2.2.1 Resistance and Isolation CHANNEL-1

Resistance and Isolation Test Worksheet

| Test Paragraph | From | То | Description | escription Value Min | | Max | Units |
|-------------------|---------|----------|-------------------------------|----------------------|--------|-------|-------|
| | HI(+) | LOW(-) | | | | | |
| <u>4.</u> 1.1.1 | J105-T | J104-13 | CNT_PWR1_IN to CHASSIS_GND | 19,46M | >10Meg | Open | Ω |
| 4.1.1.2 | J105-M | J104-13 | CNT_PWR2_IN to CHASSIS_GND | 19,68M | >10Meg | Open | Ω |
| 4.1.2.1 | J105-T | J105-J | CNT_PWR1_IN to CNT_PWR1_RTN | MCII | >50K | Ореп | Ω |
| 4.1.2.2 | J105-M | J105-K | CNT_PWR2_IN to CNT_PWR2_RTN | II.7M | >50K | Open | Ω |
| 4.1.3.1 | J104-21 | J104-13 | P_BAT_IN_SIG to CHASSIS_GND | MOKOT | 67.8K | 87.8K | Ω |
| 4.1.3.2 | J104-4 | J104-13 | P_BAT_RTN_SIG to CHASSIS_GND | 76HIK | 67.8K | 87.8K | Ω |
| 4.1.4.1 | J104-21 | J105-J | P_BAT_IN_SIG to CNT_PWR1_RTN | 19,0 M | >10Meg | Open | Ω |
| 4.1.4.2 | J104-21 | J105-K | P_BAT_IN_SIG to CNT_PWR2_RTN | 19.0M | >10Meg | Open | Ω |
| 4.1.5.1 | J105-J | J4_14 | CNT_PWR1_RTN to SIG_GND | /4 G, PI | >10Meg | Open | Ω |
| 4.1.5.2 | J105-K | J4_14 | CNT_PWR2_RTN to SIG_GND | 19.0M | >10Meg | Open | Ω |
| 4.1.6.1 | J104-13 | J105-J | CHASSIS_GND to CNT_PWR1_RTN | 19,0M | >10Meg | Open | Ω |
| 4.1.6.2 | J104-13 | J105-K | CHASSIS_GND to CNT_PWR2_RTN | 19.0M | >10Meg | Open | Ω |
| 4.1.7.1 | J104-13 | J104-14 | CHASSIS_GND to SIG_GND | 54.75 K | 50K | 70K | Ω |
| 4.1.7.2 | J104-4 | _J104-14 | P_BAT_RTN_SIG to SIG_GND | 17,78 K | 17.7K | 17.9K | Ω |
| 4.1.8. <u>1</u> | J105-A | J104-13 | HTR_PWR_RTN to CHASSIS GND | 19.0M | >10Meg | Open | Ω |
| 4.1.8.2 | J105-L | J104-13 | HTR_PWR_IN to CHASSIS_GND | 19.0 M | >10Meg | Open | Ω |
| 4.1.9.1 | J106-C | J104-13 | 1ST_INH_RTN to CHASSIS_GND | 19,0 M | >10Meg | Open | Ω |
| 4.1.9.2 | J106-M | J104-13 | 1ST_SAFE_STAT to CHASSIS_GND | MIGIN | >10Meg | Open | Ω |
| 4.1.9.3 | J106-T | J104-13 | 1ST_ARM_STAT to CHASSIS GND | 14,051 | >10Meg | Open | Ω |
| 4.1.9.4 | J106-M | J106-T | 1ST_ARM_STAT to 1ST_SAFE_STAT | 19,019 | >10Meg | Open | Ω |
| <u>4.</u> 1.10.1 | J104-7 | J104-14 | +5V_TP_RTN to SIG_GND | 19,98K | 19.8K | 20.2K | Ω |
| 4.1.10.2 | J104-24 | J104-14 | POS_BIT_M_TP_RTN to SIG | 17.78 1 | 17.7K | 17.9K | Ω |
| 4.1.10.3 | J104-36 | J104-14 | 2.5V_TP_RTN to SIG_GND | 19.98X | 19.8K | 20.2K | Ω |
| 4.1.10.4 | J104-30 | J104-14 | 2INH_GD_TP_RTN to SIG_GND | 1,99 K | 1.98K | 2.02K | Ω |
| 4.1.10.5 | J104-18 | J104-14 | 3INH_GD_TP_RTN to SIG_GND | 1,65 K | 1.63K | 1.67K | Ω |
| 4.1.10.6 | J104-33 | J104-14 | NEG_BIT_M_TP_RTN to SIG_GND | 19.98 K | 19.8K | 20.2K | Ω |
| 4.1.10.7 | J104-34 | J104-14 | POS_BIAS_TP_RTN to SIG_GND | 1,65% | 1.63K | 1.67K | Ω |
| <u>4.</u> 1.10.8 | J104-19 | J104-13 | RTD to CHASSIS_GND | 14.0 M | >10Meg | Open | Ω |

Test Equipment ID Number: Eldid Cal Date: 10-13-17

Resistance and Isolation check:

Test Operator 11920 D.GAINES Date 10-19-16





Unit S/N: 0034

3.2.2.1 Resistance and Isolation CHANNEL- 2

Resistance and Isolation Test Worksheet

| Test Paragraph | From | То | Description | Value | Min | Max | Units |
|-------------------|----------|---------|-------------------------------|---------|--------|-------|-------|
| | HI(+) | LOW(-) | | | | | |
| 4.1.1.1 | J205-T | J204-13 | CNT_PWR1_IN to CHASSIS_GND | 14.0 M | >10Meg | Open | Ω |
| 4.1.1.2 | _ J205-M | J204-13 | CNT_PWR2_IN to CHASSIS_GND | 19.0M | >10Meg | Open | Ω |
| 4.1.2.1 | _ J205-T | J205-J | CNT_PWR1 IN to CNT_PWR1_RTN | 10:30M | >50K | Open | Ω |
| 4.1.2.2 | J205-M | J205-K | CNT_PWR2_IN to CNT_PWR2_RTN | 10,300 | | Open | Ω |
| 4.1.3.1 | J204-21 | J204-13 | P_BAT_IN_SIG to CHASSIS GND | 76.35 W | 67.8K | 87.8K | Ω |
| 4.1.3.2 | J204-4 | J204-13 | P_BAT_RTN_SIG to CHASSIS_GND | 76.41 K | 67.8K | 87.8K | Ω |
| 4.1.4.1 | J204-21 | J205-J | P_BAT_IN_SIG to CNT_PWR1_RTN | 19,0M | >10Meg | Open | Ω |
| 4.1.4.2 | J204-21 | J205-K | P_BAT_IN_SIG to CNT_PWR2_RTN | 19.0M | >10Meg | Open | Ω |
| 4.1.5.1 | J205-J | J204_14 | CNT_PWR1_RTN to SIG_GND | 14.0M | >10Meg | Open | Ω |
| 4.1.5.2 | J205-K | J204_14 | CNT_PWR2_RTN to SIG_GND | 19,014 | >10Meg | Open | Ω |
| 4.1.6.1 | J204-13 | J205-J | CHASSIS_GND to CNT_PWR1_RTN | 19.0M | >10Meg | Open | Ω |
| 4.1.6.2 | J204-13 | J205-K | CHASSIS_GND to CNT_PWR2_RTN | 19.0M | >10Meg | Open | Ω |
| 4.1.7.1 | J204-13 | J204-14 | CHASSIS_GND to SIG_GND | 5675W | 50K | 70K | Ω |
| 4.1.7.2 | J204-4 | J204-14 | P_BAT_RTN_SIG to SIG_GND | 17.79 X | 17.7K | 17.9K | Ω |
| 4.1.8.1 | J205-A | J204-13 | HTR_PWR_RTN to CHASSIS_GND | 19.00 | >10Meg | Open | Ω |
| 4.1.8.2 | J205-L | J204-13 | HTR_PWR_IN to CHASSIS_GND | Mapl | >10Meg | Open | Ω |
| 4.1.9.1 | J206-C | J204-13 | 1ST_INH_RTN to CHASSIS_GND | 19.0 M | >10Meg | Open | Ω |
| 4.1.9.2 | J206-M | J204-13 | 1ST_SAFE_STAT to CHASSIS_GND | 19.0M | >10Meg | Open | Ω |
| 4.1.9.3 | J206-T | J204-13 | 1ST_ARM_STAT to CHASSIS_GND | 19.0 M | >10Meg | Open | Ω |
| 4.1.9.4 | J206-M | J206-T | 1ST_ARM_STAT to 1ST_SAFE_STAT | 19,0M | >10Meg | Open | Ω |
| 4.1.10.1 | _ J204-7 | J204-14 | +5V_TP_RTN to SIG_GND | 19,97K | 19.8K | 20.2K | Ω |
| 4.1.10.2 | J204-24 | J204-14 | POS_BIT_M_TP_RTN to SIG | 17.78 1 | 17.7K | 17.9K | Ω |
| 4.1.10.3 | J204-36 | J204-14 | 2.5V_TP_RTN to SIG_GND | 14.96 K | 19.8K | 20.2K | Ω |
| 4.1.10.4 | J204-30 | J204-14 | 2INH_GD_TP_RTN to SIG_GND | 2.00K | 1.98K | 2.02K | Ω |
| 4.1.10.5 | J204-18 | J204-14 | 3INH_GD_TP_RTN to SIG_GND | 1.65K | 1.63K | 1.67K | Ω |
| 4.1.10.6 | J204-33 | J204-14 | NEG_BIT_M_TP_RTN to SIG_GND | 19,93K | 19.8K | 20.2K | Ω |
| 4.1.10.7 | J204-34 | J204-14 | POS_BIAS_TP_RTN to SIG_GND | 1.65 K | 1.63K | 1.67K | Ω |
| 4.1.10.8 | J204-19 | J204-13 | RTD to CHASSIS_GND | 19,0M | >10Meg | Open | Ω |

| Test Equipment ID Number: 토녀나나 | _ Cal Date: 10~13~17 | |
|-----------------------------------|----------------------|----------|
| Resistance and Isolation Check: | | Pass Fai |
| Test Operator 1/920 D. JAMES Date | 10-19-110 | |

Socket Separation Test Complete Check

Verify Socket Separation Tool Numbers are Recorded on Traveler Check

Test Operator 11962 DDenoff Date 10-19-16

10 Cao Ju

ACCEPTANCE TEST SEQUENCE COMPLETE

ATP1F67700-1

Revision: B

Sheet 73

Operating Time Log

United Launch Alliance PN 1F67700

S/N: 0034

| | Date | Start Time | Date | Stop Time | Test Set #01 | √ Test Set #02 | Cum. Thermal Cycles | Enter Test / Remarks |
|---|----------|---------------|----------|--------------|--------------------|-------------------------|---------------------------|----------------------------|
| | 10-05-16 | 21:59 | 10.6.10 | 20:55 | | / | | COMBO 1-4 |
| | 10-10-16 | 15:23 | 10-10-16 | 16:52 | | / | | Zaxis vibe |
| 8 | | 10:08 | 10.11.16 | 11:13 | | / | | Y Axis Vibe |
| | 10-4-16 | 13:42 | 10-11-16 | 14:37 | | / | | * Axis Vibe |
| | 10-11-16 | ı | 1 | | | \checkmark | | POST V. BE AMB. FUNCTION |
| | 10-12-16 | | 10-12-16 | | NA | Ala | | Burnir 4 Cycle Per APX0136 |
| | | | 10-14-16 | | NA | p/4 | | Burnin |
| | | i | 10-17-16 | | | / | | Combo 5-8 FAIL AROIY |
| | | | 10-19-16 | 1 | | $\sqrt{}$ | | Combo 5-8 |
| | | | | | | | | |
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ATP1F67700-1

Revision: B

Operating Time Log

| United Launch Alliance PN 1F67700 | | | | | | | S/N: | |
|-----------------------------------|---------------|------|--------------|--------------------|--------------------|---------------------|-------------------------|--|
| Date | Start Time | Date | Stop Time | Test Set #01 | Test Set #02 | Cum. Thermal Cycles | Enter Test / Remarks | |
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