APPLICATION			REVISIONS				
NEXT ASSY	USED ON		LTR	DESCRIPTION	DATE	APPROVED	
	OCU		—	INITIAL RELEASE	2015-05-15	BLL	
			A	REVISED PER C/N A14587	2016-02-18	CJT	
			B	REVISED PER C/N A14960	2016-06-09	CJT	

REVISION															
SHEET															

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES: (MM)

TOLERANCES:

DECIMALS:
   .xx ± .02 (± 0.5)
   .xxx ± .005 (± 0.13)

FRACTIONS:
   ± 1/64 (± 0.4)

ANGLES:
   ±30'

INDUSTRY STANDARD TOLERANCES APPLY FOR GAUGE, TUBING, AND BAR STOCK

CURRENT DRAWING RELEASE/ REVISION GENERATED UTILIZING THE FOLLOWING SOFTWARE:
   Microsoft® Word 2013

REFERENCED OR EMBEDDED SOFTWARE:

DRAWN	DATE
W. FOLTZ	15-05-15
CHECKED	DATE
D. SWAIN	15-05-15
APPROVED	DATE
C. BARRERA, QE	15-05-15

Cincinnati Electronics

ACCEPTANCE TEST PROCEDURE FOR THE OCU, PN 1F67700-1

SIZE	FSCM NO.	DWG NO.
A	80045	ATP1F67700-1

3RD ANGLE PROJECTION

SCALE		SHEET
N/A		1 of 124

APPENDIX A: MANUAL DATA SHEETS FOR OCU TESTING

ULA PN 1F67700   Serial No. _0034_

Test conducted by: _Kevin St. Clair_   date _10-20-16_

CE QC _Tammy Sosa_   date _10-20-16_

Customer Representative _J. Sevart_   date _16-20-16_

GTI Code Revision: _8.9.0.17_

GTI Command Files Revision: _~~9.0~~ 1.8_
KMS
_10-20-16_

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.

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ATP1F67700-1
Revision: B
Sheet 48

Unit S/N: 0034

3.2.1 Inspection:

Inspection check:

✓ (Pass)/ Fail

Test Operator D. GAINE //1920   Date 10-05-16

3.2.2 Bonding:

Step	- Lead	+ Lead	Data:		Limits:
1	Chassis Foot Mount	J109 Shell	0.88	mΩ	<5.0 Milliohms
2	Chassis Foot Mount	J110 Shell	0.91	mΩ	<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	mΩ	<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	0.55	mΩ	<5.0 mΩ
10	Chassis Foot Mount	J101 Shell	0.82	mΩ	<5.0 mΩ
11	Chassis Foot Mount	J209 Shell	0.72	mΩ	<5.0 mΩ
12	Chassis Foot Mount	J210 Shell	0.50	mΩ	<5.0 mΩ
13	Chassis Foot Mount	J206 Shell	0.17	mΩ	<5.0 mΩ
14	Chassis Foot Mount	J205 Shell	0.41	mΩ	<5.0 mΩ
15	Chassis Foot Mount	J204 Shell	0.28	mΩ	<5.0 mΩ
16	Chassis Foot Mount	J202 Shell	0.49	mΩ	<5.0 mΩ
17	Chassis Foot Mount	J207 Shell	0.23	mΩ	<5.0 mΩ
18	Chassis Foot Mount	J208 Shell	0.72	mΩ	<5.0 mΩ
19	Chassis Foot Mount	J203 Shell	0.36	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:

✓ (Pass)/ Fail

Test Operator D. GAINES //1920 Date 10-05-16

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Revision: B
Sheet 49

Unit S/N: __0034__

3.2.3.1 Resistance and Isolation CHANNEL-1

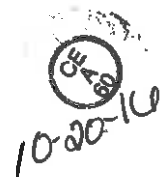### Resistance and Isolation Test Worksheet (Before First Functional Test)

Test Paragraph	From	To	Description	Value	Min	Max	Units
	HI(+)	LOW(-)					
4.1.1.1	J105-T	J104-13	CNT_PWR1_IN to CHASSIS_GND	19.0M	>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	1.5M	>50K	Open	Ω
4.1.2.2	J105-M	J105-K	CNT_PWR2_IN to CNT_PWR2_RTN	1.6M	>50K	Open	Ω
4.1.3.1	J104-21	J104-13	P_BAT_IN_SIG to CHASSIS_GND	76.0K	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	19.0M	>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	58.5K	50K	70K	Ω
4.1.7.2	J104-4	J104-14	P_BAT_RTN_SIG to SIG_GND	17.72K	17.7K	17.9K	Ω
4.1.8.1	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	19.0M	>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	17.74K	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	1.99K	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	19.92K	19.8K	20.2K	Ω
4.1.10.7	J104-34	J104-14	POS_BIAS_TP_RTN to SIG_GND	1.64K	1.63K	1.67K	Ω
4.1.10.8	J104-19	J104-13	RTD to CHASSIS_GND	19.0M	>10Meg	Open	Ω

Test Equipment ID Number: __E7424__   Cal Date: __11-03-16__ .

Resistance and Isolation check:

Test Operator __D. GAINES/11920__ Date __10·05·16__

✓ (Pass)/ Fail

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Revision: B
Sheet 50

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	To	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	19.0 M	>10Meg	Open	Ω
4.1.2.1	J205-T	J205-J	CNT_PWR1_IN to CNT_PWR1_RTN	10.22 M	>50K	Open	Ω
4.1.2.2	J205-M	J205-K	CNT_PWR2_IN to CNT_PWR2_RTN	10.25 M	>50K	Open	Ω
4.1.3.1	J204-21	J204-13	P_BAT_IN_SIG to CHASSIS_GND	76.18 K	67.8K	87.8K	Ω
4.1.3.2	J204-4	J204-13	P_BAT_RTN_SIG to CHASSIS_GND	76.23 K	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	19.0 M	>10Meg	Open	Ω
4.1.5.1	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	19.0 M	>10Meg	Open	Ω
4.1.6.1	J204-13	J205-J	CHASSIS_GND to CNT_PWR1_RTN	19.0 M	>10Meg	Open	Ω
4.1.6.2	J204-13	J205-K	CHASSIS_GND to CNT_PWR2_RTN	19.0 M	>10Meg	Open	Ω
4.1.7.1	J204-13	J204-14	CHASSIS_GND to SIG_GND	58.61 K	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	19.0 M	>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	19.0 M	>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 K 19.8K	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	1.64 K	1.63K	1.67K	Ω
4.1.10.6	J204-33	J204-14	NEG_BIT_M_TP_RTN to SIG_GND	19.93 K	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	19.0 M	>10Meg	Open	Ω

11920
10-05-16

Test Equipment ID Number: E7424   Cal Date: 11-03-16

Resistance and Isolation check:

Test Operator D. GAINE / 11920   Date 10-05-16

✓   (Pass)/ Fail

10-20-14

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3.2.3.3 System Self-test Wrap-box: CHANNEL – 1

Unit S/N: 0034

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 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 _____

NOT REQUIRED. LESS THAN 72 hours SINCE LAST WRAP BOX TEST. NO CHANGE IN CONFIGURATION.
D.A.G.
11920
10-05-16

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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3.2.3.3 System Self-test Wrap-box: CHANNEL – 2

Unit S/N: __0034__

OCU Automated Test Set (Channel-2) Pre-Power on Checklist   **Check**

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

NOT REQUIRED,
LESS THAN 72 hours
SINCE LAST WRAP BOX TEST.
NO CHANGE in
CONFIGURATION. D.A.G
11920
10-05-16

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: _____ Check

System Self-test Wrap-box: _____ Pass / Fail

Test Operator _____ Date _____

PRE

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

Pre-Power on Checklist:
	Check	Verification
Verify UPS is on and operating normally..	✓	✓
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..................................	✓	✓
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.
	Check	Verification
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..	✓	✓

	Check	Verification
Connector Inspection:	✓	(Pass) / Fail
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 Ambient)

Test Operator __D. GAINES / 11920__   Date __10-05-16__

Verification Performed By: __11962 PDenoff__   Date __10-5-16__

Pre-Thermal Ambient Functional Test: ✓   Pass / Fail

Cycle 1 Low Complete:	✓	(Pass) / Fail	Cycle 5 Low Complete:	N/A	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:	N/A	Pass / Fail
Post-Thermal Ambient Functional Test:				✓	Pass / Fail

GTI Execution Error Detection:

Verify no errors were detected during GTI Execution: ✓   Check

Test Operator __11333 Kms__   Date __10-6-16__

Trend Data:

Trend Complete and Analyzed:	✓	Check
Setup pictures on server:	✓	Check
Test Data Files and Thermal Logger Data Files are on server:	✓	Check

Test Operator __11333 Kms__   Date __10-6-16__

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11920
10-05-16
D.A.G

3.2.4 Self-test Wrap-box: CHANNEL – 1

Unit S/N: 0034

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:

Test Operator ___71561 ___   Date 10-10-16   ✓ (Pass)/ Fail

GTI Execution Error Detection:

Verify no errors were detected during GTI Execution: ✓   Check

System Self-test Wrap-box:

Test Operator ___71561 ___   Date 10-10-16   ✓ (Pass)/ Fail

10-10-16

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3.2.4 Self-test Wrap-box: CHANNEL – 2

Unit S/N: 0034

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 ___7/561 OK___   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 ___7/561 OK___   Date _10-10-16_

10-00-10

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3.2.4.3 Z – Axis Vibe Test

Unit S/N: _0034_

Check/Verify 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....... ✓ ✓

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 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.. ✓ ✓

Verify UUT has isolators under feet to isolate UUT from thermal chamber.......... ✓ ✓

Connector Inspection: ✓   (Pass / Fail

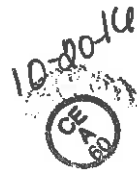Setup Pictures Taken: _____   ✓   Check

Test Operator _71561 Ǫ_____   Date _10-10-16_

Verification Performed By: ____11944 JS____   Date _10-10-16_

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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:	ℛ 10-11-16 ~~60 sec~~ 240	Ref. Only

Test Operator **71561** *FR*   Date **10-10-16**

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** *FR*   Date **10-10-16**

10-00-16

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3.2.4.3 X – Axis Vibe Test

Unit S/N: _0034_

Check/Verify 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	✓	✓
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.

	Check	Verify
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 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	✓	✓
Verify UUT has isolators under feet to isolate UUT from thermal chamber	✓	✓

Connector Inspection: ✓ (Pass)/ Fail

Setup Pictures Taken: ✓ Check

Test Operator 71561 ℛ   Date 10-11-16

Verification Performed By: 11944 JS   Date 10-11-16

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3.2.5.1.4 X – Axis Vibe Test (Continued)

Unit S/N: *0034*

"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
Unit Vibration @ -12dB level X 0.0363	0.4356	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	002	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 **71561**   Date **10-11-16**

10-20-16

(CE A 60)

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3.2.4.3 Y – Axis Vibe Test

Unit S/N: 0034

Check/Verify 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........................	✓	✓
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.

	Check	Verify
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 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...	✓	✓
Verify UUT has isolators under feet to isolate UUT from thermal chamber............................	✓	✓

Connector Inspection: _____ ✓   (Pass)/Fail

Setup Pictures Taken: _____ ✓   Check

Test Operator ___71561 K____   Date 10-11-16

Verification Performed By: ___11944 JS___   Date 10-11-16

10-20-16

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3.2.5.1.4   Y – Axis Vibe Test (Continued)

Unit S/N: 0034

"Y" Axis Equalization Complete:	✓	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	002	Ref.
Cumulative Cable Vibe Exposure Time:	~~6050~~ 360	Ref. Only

Test Operator 71561 (K   Date 10-11-16

(notation: 10-11-16 near Cumulative Cable Vibe Exposure Time)

GTI Execution Error Detection:

Verify no errors were detected during GTI Execution:

Y-Axis Vibe Test:

Setup pictures on server:

Test Operator 71561 (K   Date 10-11-16

✓	Check
✓	(Pass) / Fail
✓	Check

10-20-16

(CEA)

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3.2.4 Self-test Wrap-box: CHANNEL – 1   Unit S/N: _0034_

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 _D. GAINES / 11920_   Date _10-11-16_

GTI Execution Error Detection:

Verify no errors were detected during GTI Execution: ✓   Check

System Self-test Wrap-box: (Pass)/ Fail

Test Operator _D. GAINES / 11920_   Date _10-11-16_

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3.2.4 Self-test Wrap-box: CHANNEL – 2

Unit S/N: _0034_

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:

Test Operator D. GAINES/11920   Date 10-11-16   ✓   (Pass)/ Fail

GTI Execution Error Detection:

Verify no errors were detected during GTI Execution:

System Self-test Wrap-box:

Test Operator D. GAINES/11920   Date 10-11-16   ✓   Check (Pass)/ Fail

10-20-16

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3.2.3.4 Ambient Functional Test:

Unit S/N: 0034

Check/Verify 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.................. ✓ ✓
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 all connectors are fully mated .... ✓ ✓
Verify P107 & P207 are connected to battery boxes.. ✓ ✓
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 D. GAINES / 11920   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: ✓   (Pass)/ Fail

Test Operator 11333 KmS   Date 10-11-16

Trend Data:

Trend Data Complete and Analyzed: ✓   Check

Setup pictures on server: ✓   Check

Verify Test Data Files and Thermal Logger Data Files are on server: ✓   Check

Test Operator 11333 KmS   Date 10-11-16

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3.2.4.2 ORCA Burn-in Self-test:

Unit S/N: _0034_

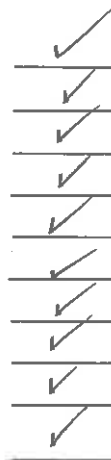**ORCA Burn-in Automated Test Set Pre-Power on Checklist**   **Check**

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   ✓
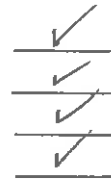
Note: Check the following equipment after test set power on sequence.

Verify power is on to the HP6643A Power Supply   ✓

Verify **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: (Pass)/Fail

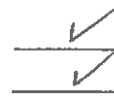Test Operator __11962 DDenoff__   Date _10-11-16_

GTI Execution Error Detection:

Verify no errors were detected during GTI Execution: ✓   Check

Burn-in Self-test: ✓   (Pass)/Fail

Test Operator __11962 DDenoff__   Date _10-11-16_

_10-20-16_

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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 _12CC7 RG_ Date _10-11-16_

Verification Performed By: _11962 DDenoff_ 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: ✓ (Pass) / Fail

Cycle 8 Low Complete: ✓ (Pass) / Fail

Cycle 8 High Complete: ✓ Pass (Fail) Ref AR-0136

Cycle 9 Low Complete: N/A 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

Verify Test Data Files and Thermal Logger Data Files are on server: N/A Check

Test Operator _N/A_ Date _N/A_

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Anomaly Report

AR-Controls- 0136

Test Tech (At Test START):	K. St. Clair	
Program Name:	Controls	1
Product Name:	OCU	2
Assembly Name:	Top_Level	3
Assembly Number:	1F67700	4
Serial Number:	0034	

Date (Failure):	10/13/16
Time (Failure):	6:00am
Test Rack:	Controls #1
Test Description:	Burn-in
Paragraph/Step:	3.2.4.2

Initial Failure Description (Error Message Displayed on Screen):

During the ramp from hot of cycle #2 to cold of cycle #3, there was an anomaly with the thermal chamber.

Anomaly Owner:	Foltz, Wayne
Type of Issue:	Test Set

TDR #   N/A

Corrective Action:

Swapped out Thermal Chamber and re-started test from the beginning of the 2nd cycle. SN 0034 then successfully completed IAT 4 Thermal Cycle Burn-In.

Stress Analysis Summary:

All input and output voltages remained nominal therefore there was no stress to SN 0034.

Investigation Summary:

It was discovered that the OCU Burn-In thermal chamber compressors were not running, therefore there was no cooling available to the thermal chamber. The thermal chamber was swapped out so the test could be completed.

X **Kevin St.Clair**	X **Carlos Barrera**
Peer Review 10/20/2016	QE Review 10/20/2016

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.

	Check
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 _11333 Kms_   Date _10-13-16_

Verification Performed By: _11333 Kmc_   Date _10-13-16_

GTI Execution Error Detection:

Verify no errors were detected during GTI Execution:	✓	Check
Cycle 7 Low Complete:	N/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:	✓	(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
Verify Test Data Files and Thermal Logger Data Files are on server:	✓	Check

✱ ref AR-0141
10-20-16

Test Operator _11333 Kms_   Date _10-14-16_

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Anomaly Report

AR-Controls- 0141

Form #6803

Test Tech (At Test START):	K. St. Clair

Date (Failure):	10/14/16
Time (Failure):	7:00 PM

Program Name:	Controls	1
Product Name:	OCU	2
Assembly Name:	Top_Level	3
Assembly Number:	1F67700	4
Serial Number:	0034	

Test Rack:	Controls #3
Test Description:	Burn-in

Paragraph/Step:	3.2.4.2

Initial Failure Description (Error Message Displayed on Screen):

The unit was selected to run more cycles than necessary. Once the unit completed the fourth thermal cycle the test was terminated. The chamber was in need for other testing.

Anomaly Owner:	Foltz, Wayne

Type of Issue:	Test Set

TDR #	N/A

Corrective Action:

Test was terminate and unit was manually ramped to ambient and powered down.

Stress Analysis Summary:

The input and output voltages and currents remained nominal throughout the test, therefore there was no electrical overstress to OCU SN 0034.

Investigation Summary:

It was discovered that OCU SN 0034 continued past ambient to cold following what should have been the 4th IAT Burn-In thermal cycle. The test was terminated and the unit was manually ramped to ambient and **powered down.**

X **Kevin St.Clair**

Peer Review   10/20/2016

X **Carlos Barrera**

QE Review   10/20/2016

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**

NA
Test set not
Idle for more
than 72 hours

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 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 _____

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3.2.5.2 System Self-test Wrap-box: CHANNEL – 2

Unit S/N: _____

OCU Automated Test Set (Channel-2) 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   _____

N A
Test set Not
idle for more
than 72 hours

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: _____   Check

System Self-test Wrap-box: _____   Pass / Fail

Test Operator _____   Date _____

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

Pre-Power on Checklist:	Check	Verification
Verify UPS is on and operating normally..	✓	✓
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.............................	✓	✓
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.

	Check	Verification
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......................................	✓	✓

	Check	
Connector Inspection:	✓	Pass / Fail
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 Ambient)

Test Operator _12007 RG_ Date ~~10-19-16~~ · 10-15-16 (11333 KMS KMS 96)

Verification Performed By: _11333 KMS_ Date ~~10-19-16~~ 10-15-16
  KMS 10-15-16

Pre-Thermal Ambient Functional Test:				✓	Pass (Fail) See AR0142
Cycle 1 Low Complete:	N/A	Pass / Fail	Cycle 5 Low Complete:	N/A	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:	N/A	Pass / Fail	Cycle 8 Low Complete:		Pass / Fail
Post-Thermal Ambient Functional Test:				N/A	Pass / Fail

GTI Execution Error Detection:

Verify no errors were detected during GTI Execution:	N/A	Check

Test Operator _N/A_ Date _N/A_

Trend Data:

Trend Complete and Analyzed:	N/A	Check
Setup pictures on server:		Check
Test Data Files and Thermal Logger Data Files are on server:	N/A	Check

Test Operator _N/A_ Date _N/A_

10-20-16

Anomaly Report

AR-Controls- 0142

Test Tech (At Test START):	K. St. Clair

Date (Failure):	10/15/16
Time (Failure):	9:00 AM

Program Name:	Controls	1
Product Name:	OCU	2
Assembly Name:	Top_Level	3
Assembly Number:	1F67700	4
Serial Number:	0034	

Test Rack:	Controls #2
Test Description:	Functional
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 set to the unit.

X	**Wayne Foltz**		X	**Carlos Barrera**	
Peer Review		10/18/2016	QE Review		10/18/2016

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

Pre-Power on Checklist:	Check	Verification
Verify UPS is on and operating normally..	✓	/
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.................................	✓	/
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.

	Check	Verification
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..	✓	/

	Check	Verification
Connector Inspection:	✓	(Pass)/ Fail
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 Ambient)

Test Operator ___11962 DDenoff___ Date _10-18-16_

Verification Performed By: _11920 D. GAINES_ Date _10-18-16_

Pre-Thermal Ambient Functional Test:

					(Pass)/Fail
Cycle 1 Low Complete:	N/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:	N/A	Pass / Fail	Cycle 8 Low Complete:	/	Pass / Fail
Post-Thermal Ambient Functional Test:					(Pass)/Fail

GTI Execution Error Detection:

Verify no errors were detected during GTI Execution:	✓	Check

Test Operator _12007 RG_ Date _10-19-16_

Trend Data:

Trend Complete and Analyzed:	✓	Check
Setup pictures on server:	✓	Check
Test Data Files and Thermal Logger Data Files are on server:	✓	Check

Test Operator ___11333 Kme___ Date _10-19-16_

10-20-16

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3.2.2 Bonding:

Unit S/N: 0034

Step	- Lead	+ Lead	Data:		Limits:
1	Chassis Foot Mount	J109 Shell	0.66	mΩ	<5.0 Milliohms
2	Chassis Foot Mount	J110 Shell	0.64	mΩ	<5.0 mΩ
3	Chassis Foot Mount	J106 Shell	0.45	mΩ	<5.0 mΩ
4	Chassis Foot Mount	J105 Shell	0.37	mΩ	<5.0 mΩ
5	Chassis Foot Mount	J104 Shell	0.96	mΩ	<5.0 mΩ
6	Chassis Foot Mount	J102 Shell	0.78	mΩ	<5.0 mΩ
7	Chassis Foot Mount	J107 Shell	0.50	mΩ	<5.0 mΩ
8	Chassis Foot Mount	J108 Shell	0.47	mΩ	<5.0 mΩ
9	Chassis Foot Mount	J103 Shell	0.44	mΩ	<5.0 mΩ
10	Chassis Foot Mount	J101 Shell	0.71	mΩ	<5.0 mΩ
11	Chassis Foot Mount	J209 Shell	0.57	mΩ	<5.0 mΩ
12	Chassis Foot Mount	J210 Shell	0.34	mΩ	<5.0 mΩ
13	Chassis Foot Mount	J206 Shell	0.10	mΩ	<5.0 mΩ
14	Chassis Foot Mount	J205 Shell	0.33	mΩ	<5.0 mΩ
15	Chassis Foot Mount	J204 Shell	0.22	mΩ	<5.0 mΩ
16	Chassis Foot Mount	J202 Shell	0.43	mΩ	<5.0 mΩ
17	Chassis Foot Mount	J207 Shell	0.17	mΩ	<5.0 mΩ
18	Chassis Foot Mount	J208 Shell	0.55	mΩ	<5.0 mΩ
19	Chassis Foot Mount	J203 Shell	0.30	mΩ	<5.0 mΩ
20	Chassis Foot Mount	J201 Shell	0.39	mΩ	<5.0 mΩ
21	Chassis Foot Mount	Top Cover	0.16	mΩ	<5.0 mΩ
22	Chassis Foot Mount	Bottom Cover	0.55	mΩ	<5.0 mΩ

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

Bonding check:

Test Operator 1192 D. GAINES Date 10-19-16

✓ (Pass) / Fail

10-20-16

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Unit S/N: _0034_

3.2.2.1 Resistance and Isolation CHANNEL-1

Resistance and Isolation Test Worksheet

Test Paragraph	From	To	Description	Value	Min	Max	Units
	HI(+)	LOW(-)					
4.1.1.1	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	19.66M	>10Meg	Open	Ω
4.1.2.1	J105-T	J105-J	CNT_PWR1_IN to CNT_PWR1_RTN	11.7M	>50K	Open	Ω
4.1.2.2	J105-M	J105-K	CNT_PWR2_IN to CNT_PWR2_RTN	11.7M	>50K	Open	Ω
4.1.3.1	J104-21	J104-13	P_BAT_IN_SIG to CHASSIS_GND	76.36K	67.8K	87.8K	Ω
4.1.3.2	J104-4	J104-13	P_BAT_RTN_SIG to CHASSIS_GND	76.42K	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	19.0M	>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	59.75K	50K	70K	Ω
4.1.7.2	J104-4	J104-14	P_BAT_RTN_SIG to SIG_GND	17.78K	17.7K	17.9K	Ω
4.1.8.1	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	19.0M	>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	19.98K	19.8K	20.2K	Ω
4.1.10.2	J104-24	J104-14	POS_BIT_M_TP_RTN to SIG	17.78K	17.7K	17.9K	Ω
4.1.10.3	J104-36	J104-14	2.5V_TP_RTN to SIG_GND	19.94K	19.8K	20.2K	Ω
4.1.10.4	J104-30	J104-14	2INH_GD_TP_RTN to SIG_GND	1.99K	1.98K	2.02K	Ω
4.1.10.5	J104-18	J104-14	3INH_GD_TP_RTN to SIG_GND	1.65K	1.63K	1.67K	Ω
4.1.10.6	J104-33	J104-14	NEG_BIT_M_TP_RTN to SIG_GND	19.98K	19.8K	20.2K	Ω
4.1.10.7	J104-34	J104-14	POS_BIAS_TP_RTN to SIG_GND	1.65K	1.63K	1.67K	Ω
4.1.10.8	J104-19	J104-13	RTD to CHASSIS_GND	19.0M	>10Meg	Open	Ω

Test Equipment ID Number: _E6464_   Cal Date: _10-13-17_

Resistance and Isolation check:

✓   (Pass) Fail

Test Operator _11920 D.GAINES_ Date _10-19-16_

_10-20-16_

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Unit S/N: __0034__

3.2.2.1 Resistance and Isolation CHANNEL- 2

Resistance and Isolation Test Worksheet

Test Paragraph	From	To	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	10.30M	>50K	Open	Ω
4.1.2.2	J205-M	J205-K	CNT_PWR2_IN to CNT_PWR2_RTN	10.30M	>50K	Open	Ω
4.1.3.1	J204-21	J204-13	P_BAT_IN_SIG to CHASSIS_GND	76.35K	67.8K	87.8K	Ω
4.1.3.2	J204-4	J204-13	P_BAT_RTN_SIG to CHASSIS_GND	76.41K	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	19.0M	>10Meg	Open	Ω
4.1.5.2	J205-K	J204_14	CNT_PWR2_RTN to SIG_GND	19.0M	>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	56.15K	50K	70K	Ω
4.1.7.2	J204-4	J204-14	P_BAT_RTN_SIG to SIG_GND	17.79K	17.7K	17.9K	Ω
4.1.8.1	J205-A	J204-13	HTR_PWR_RTN to CHASSIS_GND	19.0M	>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	19.0M	>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	19.47K	19.8K	20.2K	Ω
4.1.10.2	J204-24	J204-14	POS_BIT_M_TP_RTN to SIG	17.79K	17.7K	17.9K	Ω
4.1.10.3	J204-36	J204-14	2.5V_TP_RTN to SIG_GND	19.96K	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	19.99K	19.8K	20.2K	Ω
4.1.10.7	J204-34	J204-14	POS_BIAS_TP_RTN to SIG_GND	1.65K	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: __E6464__   Cal Date: __10-13-17__

Resistance and Isolation Check: ✓   (Pass) Fail

Test Operator __11920 D.GAINES__   Date __10-19-16__

Socket Separation Test Complete   __✓__ Check

Verify Socket Separation Tool Numbers are Recorded on Traveler __✓__ Check

Test Operator __11962 DDewff__   Date __10-19-16__

ACCEPTANCE TEST SEQUENCE COMPLETE

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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	10-6-16	20:55		√		COMBO 1-4
10-10-16	15:23	10-10-16	15:52		√		Z axis vibe
10-11-16 ~~10-10-16~~	10:08	10-11-16	11:13		√		X Axis Vibe
10-11-16	13:42	10-11-16	14:37		√		~~Y~~ X Axis Vibe
10-11-16	20:35	10-11-16	21:57		√		Post Vibe Amb. Function
10-12-16 ~~10-11-16~~	0:01 ~~23:56~~	10-12-16	8:14	N/A	N/A		Burnin 4 Cycle Ref AR# 0136
10-13-16	11:35	10-14-16	7:00	N/A	N/A		Burnin
10-14-16	23:00	10-17-16	14:35		√		Combo 5-8 FAIL AR0142
10-18-16	17:41	10-19-16	16:37		√		Combo 5-8

10-20-16

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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