

Tower Power Supply Assembly CPT/LPT Test Procedure

COVER SHEET

Program: GLAST

Procedure Number: LAT-TD-01652

Procedure Title: TPS Performance Test Procedure


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
Unit S/N: 3

Descriptive Comment: Post-burn-in functional

TEST READINESS REVIEW COMPLETED AND APPROVED BY THE FOLLOWING:

Test Director: [Signature]  Date: 12/22/04
Quality Assurance: _____ Date: 12.22.04
Test Conductor: [Signature] Date: 12/22/04

REVIEWED AND APPROVED BY THE FOLLOWING:

Test Director: [Signature]  Date: 12/22/04
Quality Assurance: _____ Date: 12.22.04
Test Conductor: [Signature] Date: 12/22/04


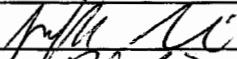
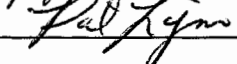
Tower Power Supply (TPS) Performance Test Procedure

TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 RT	
Title: 5.1.3 Test Equipment		Operator: JL	QA:	
Para./ Step	Test Equipment Description, Manufacturer	Model/LAT Number	*Cal./Val. Date	
5.1.3.1 - 1	Record Model/LAT number, Serial/Revision number, Calibration due dates and Validation date for all equipment used in this procedure:			
	Oscilloscope, Tektronix	220 GLAT 1034	6.22.05	
	Digital Voltmeter, Fluke	87-III GLAT 1667	11.3.05	
	Power Supply (min. 26.0V to 40.0V capability), BK Precision	1697 GLAT 0997	6.21.05	
	True RMS Volt Meter, Agilent (HP)	3400A GLAT 1229	7.29.05	
	TPS Test Board, SLAC	LAT-DS-02938 GLAT 0618	12.13.05	
	VME crate, Dawn VME Products	VMESC5 GLAT 0303	↑ ↓	
	VME, TST-STP Trans card, SLAC	LAT-DS-00999 GLAT 0219		
	VME SBC MVME2304 card, Motorola	MVME2304-0123 GLAT 0324		
	VME SBC VMESC5 card, Dawn VME Products	VMESC5 GLAT 1106		
	VME LCB Mezzanine card, SLAC	LAT-TD-00860 GLAT 0801		
	PC (local PC, provided by I&T), Dell	PC 68023		
	LCB Transition board cable, SLAC	LAT-DS-03247 GLAT 1321		
	28 Volt supply cable, SLAC	LAT-DS-03246 GLAT 1650		
	VME to test board cable (3 required), SLAC	LAT-DS-03245 N/A		
	Filter assembly, SLAC	LAT-DS-04767 GLAT 1501		
	78 Pin jumper cable, SLAC	LAT-DS-03244 N/A		
	CAT5 Ethernet cable	TRD855PL-50 N/A		
	RS-232 Cable	TDC003-7 (RECO98M connectors) N/A		
	CAT6 Crossover cable	TB-4F7036 N/A		12.13.05

* This column is used to enter the date that equipment is validated, when validated equipment is recorded in this data sheet.


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TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 RT
Title: 5.1.4 Participant List		Operator: JL	QA: 
Para./ Step	Title	Print Name	Signature
5.1.4 - 1	Record names of all personnel that take part in the test/operation:		
	ENG	Jeffrey Ludvik	
	QE	PAT L UJAN	


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Tower Power Supply Assembly CPT/LPT Test Procedure


TEST DATA SHEET		Unit S/N: 3	Date: 12/22/04	
Title: 5.2.1 Pre Operation Verifications		Operator: JL	QA: 	
Para./ Step	Description	Limits	Unit	Data
5.2	Pre-Operation Verifications			
-1	Notify QAE.	OK	OK/NG	OK
-2	Test Readiness Review is done.	OK	OK/NG	OK
-3	Record the EUT equipment:			
	TEM Part number	NA	NA	NA
	TEM LAT Bay location	NA	NA	NA
	TEM Serial number	NA	NA	NA
	TPS Part number	NA	NA	
	TPS LAT Bay location	NA	NA	NA
	TPS Serial number	NA	NA	3
-4	Power off the LAT or EGSE.	OFF	ON/OFF	OFF
-5	Set DMM to autoranging for resistance.	OK	OK/NG	OK
-6	Measure DMM lead resistance.	<2.0	Ω	0.3
-7	Measure EUT to ground.	<2.0	Ω	0.2
-8	Measure equipment to ground.	<2.0	Ω	0.8
-9	All connector savers are installed on the flight connections.	OK	OK/NG	OK
-10	The test equipment and participant lists have been completed.	OK	OK/NG	OK

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Tower Power Supply Assembly CPT/LPT Test Procedure


TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 RT	
Paragraph: 5.4 Subassembly Level Testing		Operator: JL	QA: 	
Step	Description	Requirement	Units	Data
Switching Test:				
5.4.1-3	Verify that the information on the scope matches the sample, the signal after the filter (TPS EUT) at the top of Q12 (+) and the TPS ground (-)	<400m peak to peak	Volts	114
		8 to 10μ	Seconds	8.08

Tower Power Supply Assembly CPT/LPT Test Procedure


TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 RT	
Paragraph: 5.5.1 LPT Testing		Operator: JL	QA: 	
Step	Description	Requirement	Units	Data
Functional Tests, LEDs Illuminated Verifications:				
5.5.1-16	Verify that LED D2 is illuminated.	OK	OK/NG	OK
	Verify that LED D3 is illuminated.	OK	OK/NG	OK
5.5.1-17	Record the external power supply current.	0.01 - 0.06	Amperage	0.045
5.5.1-19	Verify that LED D4 is illuminated.	OK	OK/NG	OK
	Verify that LED D10 is illuminated.	OK	OK/NG	OK
	Verify that LED D11 is illuminated.	OK	OK/NG	OK
5.5.1-20	Record the external power supply current.	0.08 - 0.13	Amperage	0.103
5.5.1-22	Verify that LED D5 is illuminated.	OK	OK/NG	OK
	Verify that LED D6 is illuminated.	OK	OK/NG	OK
5.5.1-23	Record the external power supply current.	0.16 - 0.21	Amperage	0.178
5.5.1-25	Verify that LED D7 is illuminated.	OK	OK/NG	OK
	Verify that LED D8 is illuminated.	OK	OK/NG	OK
	Verify that LED D9 is illuminated.	OK	OK/NG	OK
5.5.1-26	Record the external power supply current.	0.225 - 0.325	Amperage	0.258

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Tower Power Supply Assembly CPT/LPT Test Procedure


TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 RT	
Paragraph: 5.5.1 LPT Testing (continued)		Operator: JL	QA: 	
Step	Description	Requirement	Units	Data
Initial Functional Test Point Measurements:				
5.5.1-27	Measure and record DC voltage for the 28V Current Monitor at TP2 (+) and TP1 (-)	(-) 0.2 - 0.0	Volts	-0.128
5.5.1-28	Measure and record TEM high voltage for the TEM Current High, at TP4 (+) and TP1 (-)	1.9 - 2.2	Volts	2.060
	Measure and record TEM low voltage for the TEM Current Low, at TP5 (+) and TP1 (-)	1.9 - 2.2	Volts	2.067
5.5.1-29	Measure and record TKR bias voltage for the TKR Bias Current Monitor, at TP6 (+) and TP1 (-)	0.0 - 0.25	Volts	0.236
	Measure and record TKR bias monitor, at TP10 (+) and TP1 (-)	0.0 - 0.1	Volts	0.011
5.5.1-30	Measure and record CAL bias for the CAL Bias Current Monitor, at TP7 (+) and TP1 (-)	0.0 - 0.4	Volts	0.244
	Measure and record CAL bias monitor, at TP8 (+) and TP1 (-)	0.0 - 0.4	Volts	0.065
5.5.1-32	Measure and record TKR bias voltage for the TKR Bias Current Monitor, at TP6 (+) and TP1 (-)	1.3 - 1.5	Volts	1.368
	Measure and record TKR bias monitor, at TP10 (+) and TP1 (-)	1.3 - 1.5	Volts	1.375
5.5.1-33	Measure and record CAL bias for the CAL Bias Current Monitor, at TP7 (+) and TP1 (-)	0.8 - 1.1	Volts	0.902
	Measure and record CAL bias monitor, at TP8 (+) and TP1 (-)	0.8 - 1.1	Volts	0.899
	Record the external power supply current.	0.225-0.325	Amps	0.269

Tower Power Supply Assembly CPT/LPT Test Procedure

TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 EST	
Paragraph: 5.5.1 LPT Testing (continued)		Operator: JL	QA: 	
Step	Description	Requirement	Units	Data
Baseline Measurements:				
5.5.1-34	Measure and record CAL Bias voltage, at TP9 (+) and TP1 (-)	80 - 100	Volts	92.3
	Measure and record TKR Bias voltage, at TP11 (+) and TP1 (-)	125 - 155	Volts	141.6
5.5.1-35	Measure and record CAL 3.3 analog voltage, at TP12 (+) and TP1 (-)	3.2 - 3.465	Volts	3.381
	Measure and record CAL 3.3 digital voltage, at TP13 (+) and TP1 (-)	3.2 - 3.465	Volts	3.388
	Measure and record TKR 2.65 digital voltage, at TP14 (+) and TP1 (-)	2.50 - 2.80	Volts	2.722
	Measure and record TKR 2.65 analog voltage, at TP15 (+) and TP1 (-)	2.50 - 2.80	Volts	2.749
	Measure and record TKR 1.5 analog voltage, at TP16 (+) and TP1 (-)	1.55-1.75	Volts	1.641
	Measure and record TEM 2.5 voltage, at TP17 (+) and TP1 (-)	2.4 - 2.625	Volts	2.498
	Measure and record TEM 3.3 voltage, at TP18 (+) and TP1 (-)	3.2 - 3.465	Volts	3.401
5.5.1-36	Measure and record TEM V1 voltage, at TP19 (+) and TP1 (-)	3.1 - 3.36	Volts	3.239
	Measure and record TEM V2 voltage, at TP20 (+) and TP1 (-)	3.1 - 3.36	Volts	3.234
5.5.1-37	Measure and record TEM T1 temperature, at TP26 (+) and TP1 (-)	1.5 - 1.7	Volts	1.634
	Measure and record TEM T2 temperature, at TP27 (+) and TP1 (-)	1.5 - 1.7	Volts	1.662
	Measure and record TEM PS T1 temperature, at TP28 (+) and TP1 (-)	1.3 - 1.9	Volts	1.570
	Measure and record TEM PS T2 temperature, at TP29 (+) and TP1 (-)	1.3 - 1.9	Volts	1.574


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TEST DATA SHEET		Unit S/N: <u>3</u>	Date/Temperature: <u>12/22/01</u> <u>RT</u>	
Paragraph: 5.5.1 LPT Testing (continued)		Operator: <u>SL</u>	QA: 	
Step	Description	Requirement	Units	Data
Ripple Voltage:				
5.5.1-39	Measure and record AC ripple voltage, at TP3 (+) and TP1 (-) on scope	< 60m peak to peak	Volts	<u>42</u>
	Measure and record the time, at TP3 (+) and TP1 (-) on scope	8 - 11 μ	Seconds	<u>9.8</u>
Load Regulation, at 100% load:				
5.5.1-40	Measure and record the 9 supply voltages and current at the external power supply	NA	NA	NA
	Measure and record CAL Bias voltage, at TP9 (+) and TP1 (-)	70 - 100	Volts	<u>89.0</u>
	Calculate the delta between measurements (TP9 step 32 - TP9 step 38)	0.0 - 10.0	Volts	<u>3.3</u>
	Measure and record TKR Bias voltage, at TP11 (+) and TP1 (-)	105 - 145	Volts	<u>127.6</u>
	Calculate the delta between measurements (TP11 step 32 - TP11 step 38)	0.0 - 20.0	Volts	<u>14</u>
	Measure and record CAL 3.3 analog voltage, at TP12 (+) and TP1 (-)	3.2 - 3.4	Volts	<u>3.356</u>
	Calculate the delta between measurements (TP12 step 33 - TP12 step 38)	0.0 - 0.2	Volts	<u>.025</u>
	Measure and record CAL 3.3 digital voltage, at TP13 (+) and TP1 (-)	3.2 - 3.4	Volts	<u>3.353</u>
	Calculate the delta between measurements (TP13 step 33 - TP13 step 38)	0.0 - 0.2	Volts	<u>.045</u>
	Measure and record TKR 2.65 digital voltage, at TP14 (+) and TP1 (-)	2.35 - 2.73	Volts	<u>2.642</u>
	Calculate the delta between measurements (TP14 step 33 - TP14 step 38)	0.0 - 0.2	Volts	<u>.080</u>
	Measure and record TKR 2.65 analog voltage, at TP15 (+) and TP1 (-)	2.35 - 2.73	Volts	<u>2.705</u>
	Calculate the delta between measurements (TP15 step 33 - TP15 step 38)	0.0 - 0.2	Volts	<u>.094</u>
	Measure and record TKR 1.5 analog voltage, at TP16 (+) and TP1 (-)	1.45-1.65	Volts	<u>1.563</u>
	Calculate the delta between measurements (TP16 step 33 - TP16 step 38)	0.0 - 0.2	Volts	<u>.078</u>
	Measure and record TEM 2.5 voltage, at TP17 (+) and TP1 (-)	2.4 - 2.6	Volts	<u>2.467</u>
	Calculate the delta between measurements (TP17 step 33 - TP17 step 38)	0.0 - 0.2	Volts	<u>.031</u>
	Measure and record TEM 3.3 voltage, at TP18 (+) and TP1 (-)	3.2 - 3.4	Volts	<u>3.364</u>
Calculate the delta between measurements (TP18 step 33 - TP18 step 38)	0.0 - 0.2	Volts	<u>.037</u>	
	Record the external power supply current.	0.9 - 1.1	Amps	<u>1.045</u>


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Tower Power Supply Assembly CPT/LPT Test Procedure

TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 RT	
Paragraph: 5.5.1 LPT Testing (continued)		Operator: JL	QA: 	
Step	Description	Requirement	Units	Data
Load Regulation, at 150% load:				
5.5.1-42	Measure and record the 9 supply voltages and current at the external power supply	NA	NA	NA
	Measure and record CAL Bias voltage, at TP9 (+) and TP1 (-)	65 - 105	Volts	87.5
	Calculate the delta between measurements (TP9 step 32 - TP9 step 40)	0.0 - 25.0	Volts	4.7
	Measure and record TKR Bias voltage, at TP11 (+) and TP1 (-)	80 - 160	Volts	107.0
	Calculate the delta between measurements (TP11 step 32 - TP11 step 40)	0.0 - 45.0	Volts	34.6
	Measure and record CAL 3.3 analog voltage, at TP12 (+) and TP1 (-)	3.2 - 3.4	Volts	3.326
	Calculate the delta between measurements (TP12 step 33 - TP12 step 40)	0.0 - 0.3	Volts	.055
	Measure and record CAL 3.3 digital voltage, at TP13 (+) and TP1 (-)	3.2 - 3.4	Volts	3.298
	Calculate the delta between measurements (TP13 step 33 - TP13 step 40)	0.0 - 0.3	Volts	.1
	Measure and record TKR 2.65 digital voltage, at TP14 (+) and TP1 (-)	2.3 - 2.73	Volts	2.577
	Calculate the delta between measurements (TP14 step 33 - TP14 step 40)	0.0 - 0.3	Volts	.145
	Measure and record TKR 2.65 analog voltage, at TP15 (+) and TP1 (-)	2.3 - 2.73	Volts	2.681
	Calculate the delta between measurements (TP15 step 33 - TP15 step 40)	0.0 - 0.3	Volts	.118
	Measure and record TKR 1.5 analog voltage, at TP16 (+) and TP1 (-)	1.45-1.65	Volts	1.522
	Calculate the delta between measurements (TP16 step 33 - TP16 step 40)	0.0 - 0.3	Volts	.119
	Measure and record TEM 2.5 voltage, at TP17 (+) and TP1 (-)	2.4 - 2.6	Volts	2.453
	Calculate the delta between measurements (TP17 step 33 - TP17 step 40)	0.0 - 0.3	Volts	.045
	Measure and record TEM 3.3 voltage, at TP18 (+) and TP1 (-)	3.2 - 3.4	Volts	3.348
	Calculate the delta between measurements (TP18 step 33 - TP18 step 40)	0.0 - 0.3	Volts	.053
	Record the external power supply current.	1.4 - 1.8	Amps	1.650
Efficiency Test, at 100% load:				
5.5.1-44	Record the external power supply current for efficiency test	0.82 - 1.18	Amps	1.044


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Tower Power Supply Assembly CPT/LPT Test Procedure

TEST DATA SHEET		Unit S/N: <u>3</u>	Date/Temperature: <u>12/22/04 RT</u>	
Paragraph: 5.5.2 CPT Testing		Operator: <u>JL</u>	QA: 	
Step	Description	Requirement	Units	Data
Line Regulation Test, at 100% load:				
5.5.2-2	Measure and record the 9 supply voltages and current at the external power supply (at 26.0V input voltage)	NA	NA	NA
	Measure and record CAL Bias voltage, at TP9 (+) and TP1 (-)	70 - 100	Volts	<u>89</u>
	Calculate the delta between measurements (TP9 step 32 - TP9 step 44)	0.0 - 10.0	Volts	<u>0</u>
	Measure and record TKR Bias voltage, at TP11 (+) and TP1 (-)	105 - 145	Volts	<u>119.2</u>
	Calculate the delta between measurements (TP11 step 32 - TP11 step 44)	0.0 - 20.0	Volts	<u>8.4</u>
	Measure and record CAL 3.3 analog voltage, at TP12 (+) and TP1 (-)	3.2 - 3.4	Volts	<u>3.359</u>
	Calculate the delta between measurements (TP12 step 33 - TP12 step 44)	0.0 - 0.2	Volts	<u>.002</u>
	Measure and record CAL 3.3 digital voltage, at TP13 (+) and TP1 (-)	3.2 - 3.4	Volts	<u>3.359</u>
	Calculate the delta between measurements (TP13 step 33 - TP13 step 44)	0.0 - 0.2	Volts	<u>.001</u>
	Measure and record TKR 2.65 digital voltage, at TP14 (+) and TP1 (-)	2.35 - 2.73	Volts	<u>2.637</u>
	Calculate the delta between measurements (TP14 step 33 - TP14 step 44)	0.0 - 0.2	Volts	<u>.005</u>
	Measure and record TKR 2.65 analog voltage, at TP15 (+) and TP1 (-)	2.35 - 2.73	Volts	<u>2.705</u>
	Calculate the delta between measurements (TP15 step 33 - TP15 step 44)	0.0 - 0.2	Volts	<u>0</u>
	Measure and record TKR 1.5 analog voltage, at TP16 (+) and TP1 (-)	1.3 - 1.6	Volts	<u>1.561</u>
	Calculate the delta between measurements (TP16 step 33 - TP16 step 44)	0.0 - 0.2	Volts	<u>.002</u>
	Measure and record TEM 2.5 voltage, at TP17 (+) and TP1 (-)	2.4 - 2.6	Volts	<u>2.469</u>
	Calculate the delta between measurements (TP17 step 33 - TP17 step 44)	0.0 - 0.2	Volts	<u>.002</u>
	Measure and record TEM 3.3 voltage, at TP18 (+) and TP1 (-)	3.2 - 3.4	Volts	<u>3.365</u>
	Calculate the delta between measurements (TP18 step 33 - TP18 step 44)	0.0 - 0.2	Volts	<u>.001</u>
	Record the external power supply current.	0.82 - 1.18	Amps	<u>1.130</u>


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Tower Power Supply Assembly CPT/LPT Test Procedure

TEST DATA SHEET		Unit S/N: <u>3</u>	Date/Temperature: <u>12/22/09</u> <u>RT</u>	
Paragraph: 5.5.2 CPT Testing (continued)		Operator: <u>JL</u>	QA: 	
Step	Description	Requirement	Units	Data
Line Regulation Test, at 100% load: (continued)				
5.5.2-4	Measure and record the 9 supply voltages and current at the external power supply (at 30.0V input voltage)	NA	NA	NA
	Measure and record CAL Bias voltage, at TP9 (+) and TP1 (-)	70 - 100	Volts	<u>89</u>
	Calculate the delta between measurements (TP9 step 32 - TP9 step 46)	0.0 - 10.0	Volts	<u>0</u>
	Measure and record TKR Bias voltage, at TP11 (+) and TP1 (-)	105 - 145	Volts	<u>127.7</u>
	Calculate the delta between measurements (TP11 step 32 - TP11 step 46)	0.0 - 20.0	Volts	<u>.1</u>
	Measure and record CAL 3.3 analog voltage, at TP12 (+) and TP1 (-)	3.2 - 3.4	Volts	<u>3.354</u>
	Calculate the delta between measurements (TP12 step 33 - TP12 step 46)	0.0 - 0.2	Volts	<u>.002</u>
	Measure and record CAL 3.3 digital voltage, at TP13 (+) and TP1 (-)	3.2 - 3.4	Volts	<u>3.352</u>
	Calculate the delta between measurements (TP13 step 33 - TP13 step 46)	0.0 - 0.2	Volts	<u>.001</u>
	Measure and record TKR 2.65 digital voltage, at TP14 (+) and TP1 (-)	2.35 - 2.73	Volts	<u>2.642</u>
	Calculate the delta between measurements (TP14 step 33 - TP14 step 46)	0.0 - 0.2	Volts	<u>0</u>
	Measure and record TKR 2.65 analog voltage, at TP15 (+) and TP1 (-)	2.35 - 2.73	Volts	<u>2.705</u>
	Calculate the delta between measurements (TP15 step 33 - TP15 step 46)	0.0 - 0.2	Volts	<u>0</u>
	Measure and record TKR 1.5 analog voltage, at TP16 (+) and TP1 (-)	1.3 - 1.6	Volts	<u>1.561</u>
	Calculate the delta between measurements (TP16 step 33 - TP16 step 46)	0.0 - 0.2	Volts	<u>.002</u>
	Measure and record TEM 2.5 voltage, at TP17 (+) and TP1 (-)	2.4 - 2.6	Volts	<u>2.470</u>
	Calculate the delta between measurements (TP17 step 33 - TP17 step 46)	0.0 - 0.2	Volts	<u>.003</u>
	Measure and record TEM 3.3 voltage, at TP18 (+) and TP1 (-)	3.2 - 3.4	Volts	<u>3.367</u>
	Calculate the delta between measurements (TP18 step 33 - TP18 step 46)	0.0 - 0.2	Volts	<u>.003</u>
	Record the external power supply current.	0.82 - 1.18	Amps	<u>0.997</u>

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Tower Power Supply Assembly CPT/LPT Test Procedure

TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 RT	
Paragraph: 5.5.2 CPT Testing (continued)		Operator: JL	QA: 	
Step	Description	Requirement	Units	Data
Line Regulation Test, at 100% load: (continued)				
5.5.2-6	Measure and record the 9 supply voltages and current at the external power supply (at 40.0V input voltage)	NA	NA	NA
	Measure and record CAL Bias voltage, at TP9 (+) and TP1 (-)	70 - 100	Volts	89
	Calculate the delta between measurements (TP9 step 32 - TP9 step 48)	0.0 - 10.0	Volts	0
	Measure and record TKR Bias voltage, at TP11 (+) and TP1 (-)	105 - 145	Volts	127.6
	Calculate the delta between measurements (TP11 step 32 - TP11 step 48)	0.0 - 20.0	Volts	0
	Measure and record CAL 3.3 analog voltage, at TP12 (+) and TP1 (-)	3.2 - 3.4	Volts	3.356
	Calculate the delta between measurements (TP12 step 33 - TP12 step 48)	0.0 - 0.2	Volts	.000
	Measure and record CAL 3.3 digital voltage, at TP13 (+) and TP1 (-)	3.2 - 3.4	Volts	3.354
	Calculate the delta between measurements (TP13 step 33 - TP13 step 48)	0.0 - 0.2	Volts	.001
	Measure and record TKR 2.65 digital voltage, at TP14 (+) and TP1 (-)	2.35 - 2.73	Volts	2.640
	Calculate the delta between measurements (TP14 step 33 - TP14 step 48)	0.0 - 0.2	Volts	.002
	Measure and record TKR 2.65 analog voltage, at TP15 (+) and TP1 (-)	2.35 - 2.73	Volts	2.704
	Calculate the delta between measurements (TP15 step 33 - TP15 step 48)	0.0 - 0.2	Volts	.001
	Measure and record TKR 1.5 analog voltage, at TP16 (+) and TP1 (-)	1.3 - 1.6	Volts	1.560
	Calculate the delta between measurements (TP16 step 33 - TP16 step 48)	0.0 - 0.2	Volts	.003
	Measure and record TEM 2.5 voltage, at TP17 (+) and TP1 (-)	2.4 - 2.6	Volts	2.469
	Calculate the delta between measurements (TP17 step 33 - TP17 step 48)	0.0 - 0.2	Volts	.002
	Measure and record TEM 3.3 voltage, at TP18 (+) and TP1 (-)	3.2 - 3.4	Volts	3.365
	Calculate the delta between measurements (TP18 step 33 - TP18 step 48)	0.0 - 0.2	Volts	.001
Record the external power supply current.	0.65 - 0.95	Amps	0.801	


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Tower Power Supply Assembly CPT/LPT Test Procedure

TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 RT	
Paragraph: 5.5.2 CPT Testing (continued)		Operator: JL	QA:	
Step	Description	Requirement	Units	Data
Margin Test, at 100% load:				
Note: Do not run the margin tests for Flight unit testing.				
5.5.2-10	Measure and record CAL 3.3 analog voltage, at TP12 (+) and TP1 (-)	2.7 – 3.0	Volts	skip
	Measure and record CAL 3.3 digital voltage, at TP13 (+) and TP1 (-)	2.7 – 3.0	Volts	
	Measure and record TKR 2.65 digital voltage, at TP14 (+) and TP1 (-)	1.9 – 2.3	Volts	
	Measure and record TKR 2.65 analog voltage, at TP15 (+) and TP1 (-)	1.9 – 2.3	Volts	
	Measure and record TKR 1.5 analog voltage, at TP16 (+) and TP1 (-)	1.0 – 1.35	Volts	
	Measure and record TEM 2.5 voltage, at TP17 (+) and TP1 (-)	1.9 – 2.3	Volts	
	Measure and record TEM 3.3 voltage, at TP18 (+) and TP1 (-)	2.7 – 3.0	Volts	
5.5.2-12	Measure and record CAL 3.3 analog voltage, at TP12 (+) and TP1 (-)	3.6 – 4.0	Volts	skip
	Measure and record CAL 3.3 digital voltage, at TP13 (+) and TP1 (-)	3.6 – 4.0	Volts	
	Measure and record TKR 2.65 digital voltage, at TP14 (+) and TP1 (-)	2.85 – 3.1	Volts	
	Measure and record TKR 2.65 analog voltage, at TP15 (+) and TP1 (-)	2.85 – 3.1	Volts	
	Measure and record TKR 1.5 analog voltage, at TP16 (+) and TP1 (-)	1.6 – 1.8	Volts	
	Measure and record TEM 2.5 voltage, at TP17 (+) and TP1 (-)	2.7 – 2.9	Volts	
	Measure and record TEM 3.3 voltage, at TP18 (+) and TP1 (-)	3.6 – 4.0	Volts	


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Tower Power Supply Assembly CPT/LPT Test Procedure

TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 RT	
Paragraph: 5.5.2 CPT Testing (continued)		Operator: SL	QA: 	
Step	Description	Requirement	Units	Data
Load Response Transient Test, oscillator on:				
NOTE: For the Digital and analog tests, use the EM sample for the EM unit and the Flight sample for the Flight unit.				
5.5.2-17	Verify that the information on the scope matches the Bias sample, CAL Bias, scope connection CH1 at TP9 (+) and TP1 (-)	<10 peak to peak	Volts	4.4
5.5.2-18	Verify that the information on the scope matches the Bias sample, TKR Bias, scope connection CH1 at TP11 (+) and TP1 (-)	<25 peak to peak	Volts	16.6
5.5.2-19	Verify that the information on the scope matches the analog sample, CAL 3.3 analog voltage, scope connection CH1 at TP12 (+) and TP1 (-)	<400m peak to peak	Volts	270
	Verify the signal settles for the required period	2.50 - 8.00	ms	OK
5.5.2-20	Verify that the information on the scope matches the digital sample, CAL 3.3 digital voltage, scope connection CH1 at TP13 (+) and TP1 (-)	<700m peak to peak	Volts	436
	Verify the signal settles for the required period	2.50 - 8.00	ms	OK
5.5.2-21	Verify that the information on the scope matches the digital sample, TKR 2.65 digital voltage, scope connection CH1 at TP14 (+) and TP1 (-)	<1.75 peak to peak	Volts	1.39
	Verify the signal settles for the required period	2.50 - 8.00	ms	OK
5.5.2-22	Verify that the information on the scope matches the analog sample, TKR 2.65 analog voltage, scope connection CH1 at TP15 (+) and TP1 (-)	<700m peak to peak	Volts	480
	Verify the signal settles for the required period	2.50 - 8.00	ms	OK
5.5.2-23	Verify that the information on the scope matches the analog sample, TKR 1.5 analog voltage, scope connection CH1 at TP16 (+) and TP1 (-)	<1.5 peak to peak	Volts	1.21
	Verify the signal settles for the required period	2.50 - 8.00	ms	OK
5.5.2-24	Verify that the information on the scope matches the digital sample, TEM 2.5 voltage, at scope connection CH1 TP17 (+) and TP1 (-)	<100m peak to peak	Volts	35
	Verify the signal settles for the required period	<1	ms	OK
5.5.2-25	Verify that the information on the scope matches the digital sample, TEM 3.3 voltage, scope connection CH1 at TP18 (+) and TP1 (-)	<150m peak to peak	Volts	49
	Verify the signal settles for the required period	<1	ms	OK

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Tower Power Supply Assembly CPT/LPT Test Procedure

TEST DATA SHEET		Unit S/N: 3	Date/Temperature: 12/22/04 RT	
Paragraph: 5.5.2 CPT Testing (continued)		Operator: JL	QA:	
Step	Description	Requirement	Units	
TPS Noise Test, at 100% load:				
5.5.2-28	Measure and record CAL Bias voltage, at TP9 (+) and TP1 (-)	<500μ	Volts	2100 mV
	Measure and record TKR Bias voltage, at TP11 (+) and TP1 (-)	<500μ	Volts	360
	Measure and record CAL 3.3 analog voltage, at TP12 (+) and TP1 (-)	<150μ	Volts	2100
	Measure and record CAL 3.3 digital voltage, at TP13 (+) and TP1 (-)	<200μ	Volts	2100
	Measure and record TKR 2.65 digital voltage, at TP14 (+) and TP1 (-)	<150μ	Volts	2100
	Measure and record TKR 2.65 analog voltage, at TP15 (+) and TP1 (-)	<150μ	Volts	2100
	Measure and record TKR 1.5 analog voltage, at TP16 (+) and TP1 (-)	<150μ	Volts	2100
	Measure and record TEM 2.5 voltage, at TP17 (+) and TP1 (-)	<500μ	Volts	160
	Measure and record TEM 3.3 voltage, at TP18 (+) and TP1 (-)	<500μ	Volts	220