

EPS Tope TM checks  
 File: H\_FCP\_EPS\_TCHK.xls  
 Author: E. Picallo



## Procedure Summary

### Objectives

This automated TM check procedure describes the steps needed to verify the overall Power Control Subsystem status in all S/C modes.

### Summary of Constraints

SUN after separation assumes: SPIRE Launch Lock ON, VMC ON, RWLs OFF.

SUN otherwise assumes that the nominal side of the instruments are ON.

To verify the HPS Inhibit protection status TM the TCS Diagnostic packet needs to be enabled

### Spacecraft Configuration

#### Start of Procedure

CDMU in default configuration.

#### End of Procedure

CDMU in default configuration.

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

### Referenced Displays

ANDs	GRDs	SLDs
ZAZ7H999		(None)
WALC1584		
WAHT1584		
WAHT2584		
WAHT3584		
ZAZ7N999		
ZAZ7L999		
ZAZ7K999		

### Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
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Status : Version 8 - Updated  
 Last Checkin: 12/04/10

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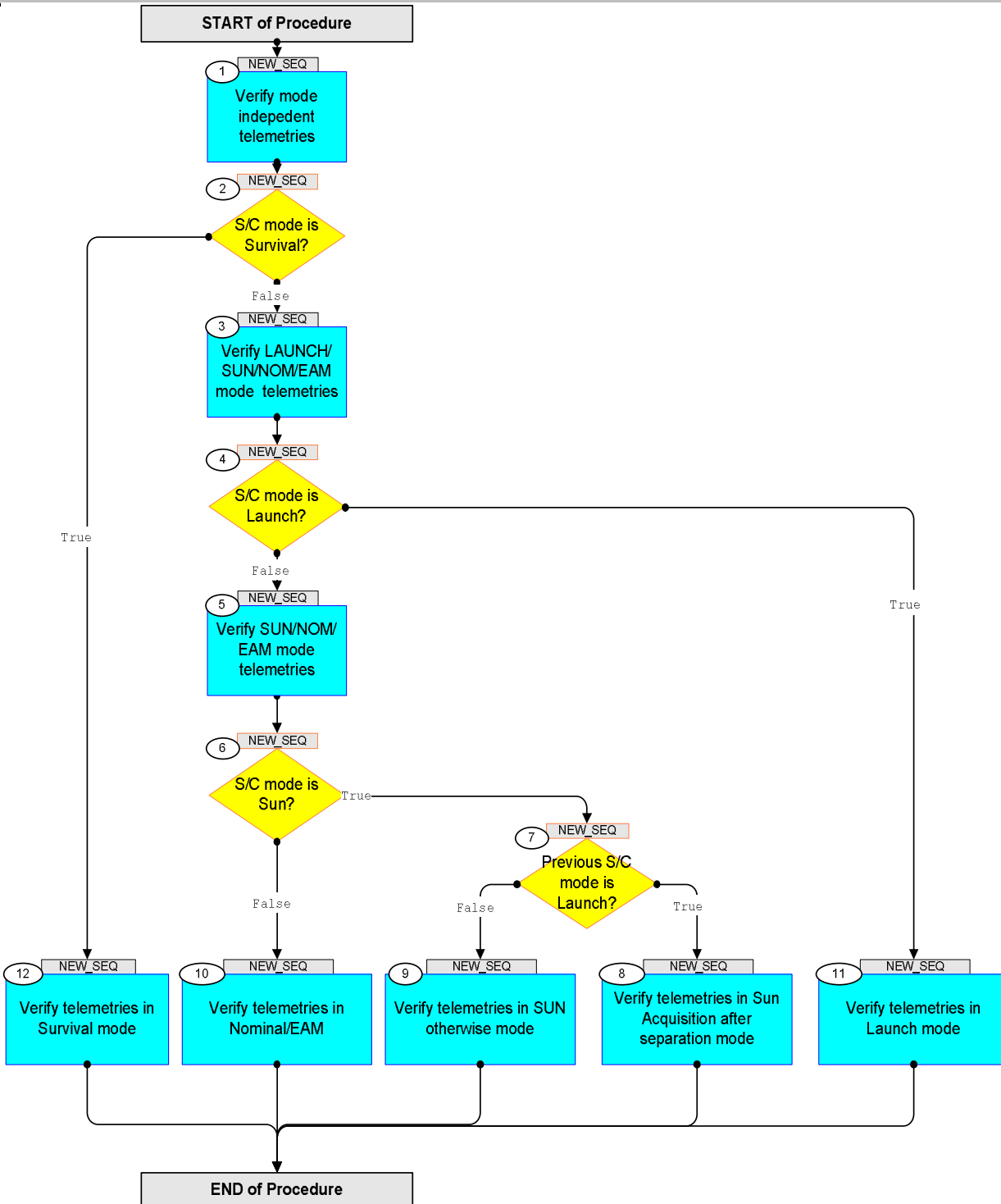


28/10/08		1	Created	E. Picallo	
05/11/08		2	Validation PRE-HSIM01	E. Picallo	
02/02/09	2	3	minor expected values correction after HSVT2	E. Picallo	
27/02/09	2.1	4	Updated with H-P Flight Satellite Configuration_v2.xls inputs	E. Picallo	
30/03/09		5	Launch Mode config updated according to H-P-2-ASP-TS-1780 issue 2	E. Picallo	
17/04/09	2.3	6	ISAs_I in LM , CRSs_I and GYROA_I updated	E. Picallo	
15/09/09	2.5	7	update according to new TTC baseline: both XPNDs LCLs switch ON	E. Picallo	
12/04/10	3	8	GYRO B in use HIFI redundant side in use	E. Picallo	

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### Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<b>Beginning of Procedure</b>				
TC Seq. Name :HFWTCHK (EPS Tope TM checks)				
TimeTag Type: Sub Schedule ID:  <input type="checkbox"/>				
1		Verify mode independent telemetries		Next Step: 2
1.1		Verify Bus voltage telemetries		<input type="checkbox"/>
		Verify Bus voltage 1 Telemetry TM1_VBUS WMT06565	>= 28.10 V <= 28.30 V	AND=ZAZ7H999
		Verify Bus voltage 2 Telemetry TM2_VBUS WMT07565	>= 28.10 V <= 28.30 V	AND=ZAZ7H999
1.2		Verify MEA voltage telemetries		<input type="checkbox"/>
		Verify MEA voltage 1 Telemetry TM1_MEA_S3R_BDR WMT04565	<= 20.76 V >= 8.883 V	AND=ZAZ7H999
		Verify MEA voltage 2 Telemetry TM2_MEA_S3R_BDR WMT05565	<= 20.76 V >= 8.883 V	AND=ZAZ7H999
1.3		Verification BDR currents		<input type="checkbox"/>
		Verify Battery discharge current through BDR1 TM_Idisch_BDR1 WMT12565	>= 0.00 A <= 0.08 A	AND=ZAZ7H999
		Verify Battery discharge current through BDR2 TM_Idisch_BDR2 WMT13565	>= 0.00 A <= 0.08 A	AND=ZAZ7H999
		Verify BDR1 output current telemetry TM_IOUT_BDR1 WMT08565	>= 0.00 A <= 0.09 A	AND=ZAZ7H999
		Verify BDR2 output current telemetry Telemetry TM_IOUT_BDR2 WMT09565	>= 0.00 A <= 0.09 A	AND=ZAZ7H999
1.4		Verification BCR Status		<input type="checkbox"/>

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		Verify 1553 BCR1 ON/OFF command Read-back Telemetry <b>BCR1_1553CmdSts</b> <b>WMT3A565</b>	= ENABLED	AND=ZAZ7H999
		Verify 1553 BCR2 ON/OFF command Read-back Telemetry <b>BCR2_1553CmdSts</b> <b>WMT3B565</b>	= ENABLED	AND=ZAZ7H999
		Verify 1553 BCR3 ON/OFF command Read-back Telemetry <b>BCR3_1553CmdSts</b> <b>WMT3C565</b>	= ENABLED	AND=ZAZ7H999
		Verify BCR1 over-charge protection status Telemetry <b>BCR1_OCP_STS</b> <b>WMT1H565</b>	= NOTACTIVE	AND=ZAZ7H999
		Verify BCR2 over-charge protection status Telemetry <b>BCR2_OCP_STS</b> <b>WMT1J565</b>	= NOTACTIVE	AND=ZAZ7H999
		Verify BCR3 over-charge protection status Telemetry <b>BCR3_OCP_STS</b> <b>WMT1K565</b>	= NOTACTIVE	AND=ZAZ7H999
1.5		<i>Verification BDR Status</i>		☐
		Verify BDR1 APS status Telemetry <b>1553_BDR1_OnOff</b> <b>WMT1A565</b>	= ON	AND=ZAZ7H999
		Verify BDR2 APS status Telemetry <b>1553_BDR2_OnOff</b> <b>WMT1B565</b>	= ON	AND=ZAZ7H999
		Verify 1553 BDR1 ON/OFF command Read-back Telemetry <b>BDR1_1553CmdSts</b> <b>WMT2A565</b>	= ON	AND=ZAZ7H999
		Verify 1553 BDR2 ON/OFF command Read-back Telemetry <b>BDR2_1553CmdSts</b> <b>WMT2B565</b>	= ON	AND=ZAZ7H999
		Verify BDR1 Input Switch status Telemetry <b>BDR1_InpSwtMon</b> <b>WMB06565</b>	>= 2.000 V	AND=ZAZ7H999
		Verify BDR2 Input Switch status Telemetry <b>BDR2_InpSwtMon</b> <b>WMB07565</b>	>= 2.000 V	AND=ZAZ7H999
1.6		<i>Verify Battery end of charge level</i>		☐
		Verify Battery end of charge level Telemetry <b>EoC_Level_STS</b> <b>WMT1D565</b>	= High (25.4V)	AND=ZAZ7H999
1.7		<i>Verify Depth of discharge level</i>		☐
		Verify Depth of discharge Telemetry <b>DOD_LEVEL</b> <b>WMT1C565</b>	= 20V thresh1-L0	AND=ZAZ7H999
1.8		<i>Verify FCL output voltage and current TM</i>		☐
		Verify Voltage telemetry for CDMU Hot A <b>CdmuHotA_FCL1_V</b> <b>WM803565</b>	>= 27.96 V <= 28.71 V	AND=WALC1584

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		Verify Current telemetry for CDMU Hot A <b>CdmuHotA_FCL1_I</b> <b>WM802565</b>	>= 0.10 A <= 0.86 A	AND=WALC1584
		Verify Voltage telemetry for CDMU Hot B <b>CdmuHotB_FCL2_V</b> <b>WM303565</b>	>= 27.96 V <= 28.71 V	AND=WALC1584
		Verify Current telemetry for CDMU Hot B <b>CdmuHotB_FCL2_I</b> <b>WM302565</b>	>= 0.10 A <= 0.86 A	AND=WALC1584
		Verify Voltage telemetry for XPND1 Rx <b>Xpnd1_Rx_FCL3_V</b> <b>WM703565</b>	>= 27.96 V <= 28.71 V	AND=WALC1584
		Verify Current telemetry for XPND1 Rx <b>Xpnd1_Rx_FCL3_I</b> <b>WM702565</b>	>= 0.20 A <= 0.35 A	AND=WALC1584
		Verify Voltage telemetry for XPND2 Rx <b>Xpnd2_Rx_FCL4_V</b> <b>WM403565</b>	>= 27.96 V <= 28.71 V	AND=WALC1584
		Verify Current telemetry for XPND2 Rx <b>Xpnd2_Rx_FCL4_I</b> <b>WM402565</b>	>= 0.20 A <= 0.35 A	AND=WALC1584
		Verify Voltage telemetry for ACC Hot A <b>AccHotA_FCL5_V</b> <b>WM603565</b>	>= 27.96 V <= 28.71 V	AND=WALC1584
		Verify Current telemetry for ACC Hot A <b>AccHotA_FCL5_I</b> <b>WM602565</b>	>= 0.10 A <= 0.50 A	AND=WALC1584
		Verify Voltage telemetry for ACC Hot B <b>AccHotB_FCL6_V</b> <b>WM503565</b>	>= 27.96 V <= 28.71 V	AND=WALC1584
		Verify Current telemetry for ACC Hot B <b>AccHotB_FCL6_I</b> <b>WM502565</b>	>= 0.10 A <= 0.50 A	AND=WALC1584
		Verify Voltage telemetry for Emergency Heater 1 Nom <b>EmrHtr1R_FCL7_V</b> <b>WMA03565</b>	>= 27.96 V <= 28.71 V	AND=WALC1584
		Verify Current telemetry for Emergency Heater 1 Nom <b>EmrHtr1R_FCL7_I</b> <b>WMA02565</b>	>= 0.000 A <= 0.100 A	AND=WALC1584
		Verify Voltage telemetry for Emergency Heater 1 Red <b>EmrHtr1N_FCL8_V</b> <b>WM103565</b>	>= 27.96 V <= 28.71 V	AND=WALC1584
		Verify Current telemetry for Emergency Heater 1 Red <b>EmrHtr1N_FCL8_I</b> <b>WM102565</b>	>= 0.000 A <= 0.100 A	AND=WALC1584

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
1.9		Verify Decontamination LCLs		<input type="checkbox"/>
		Verify Telemetry LouDecH1_L59_1S WM42F565	= OFF	(None)
		Verify Telemetry LouDecH1_L59_2S WM42M565	= OFF	(None)
		Verify Telemetry LouDecH1_L59_I WM411565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry LouDecH2_L61_1S WM72F565	= OFF	(None)
		Verify Telemetry LouDecH2_L61_2S WM72M565	= OFF	(None)
		Verify Telemetry LouDecH2_L61_I WM711565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry LouDecH3_L66_1S WM52F565	= OFF	(None)
		Verify Telemetry LouDecH3_L66_2S WM52M565	= OFF	(None)
		Verify Telemetry LouDecH3_L66_I WM511565	>= 0.0 A <= 0.1 A	(None)
1.10		Verify NCA LCLs		<input type="checkbox"/>
		Verify Telemetry NCA_N_L71_1_S WM32F565	= OFF	(None)
		Verify Telemetry NCA_N_L71_2_S WM32M565	= OFF	(None)
		Verify Telemetry NCA_N_L71_I WM311565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry NCA_R_L72_1_S WM82F565	= OFF	(None)
		Verify Telemetry NCA_R_L72_1_S WM82M565	= OFF	(None)
		Verify Telemetry NCA_R_L72_I WM811565	>= 0.0 A <= 0.1 A	(None)
1.11		Verify NCA is disarmed		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry NCA_N_ARM_STS WM33A565	= OPEN	(None)
		Verify Telemetry NCA_R_ARM_STS WM83A565	= OPEN	(None)
1.12		Verify HPS Inhibit protection status		<input type="checkbox"/>
		<b>To be able to verify the HPS Inhibit protection status TM theTCS Diagnostic (HK ID 100) TM packet has to be enabled. Thus these 18 telemetry checks have been excluded in this TOPE check.</b>		
1.13		Verify PCDU Temperature		<input type="checkbox"/>
		Verify PCDU Temperature Telemetry PCDU_Temp_1 WMB01565	>= -15.0 degC <= 50.0 degC	
1.14		Verify Battery Temperature		<input type="checkbox"/>
		Verify Battery Temperature 1 Telemetry BATTERY_TEMP_1 WMB01568	>= 0.0 degC <= 40.0 degC	AND=ZAZ7H999
		Verify Battery Temperature 2 Telemetry BATTERY_TEMP_2 WMB02568	>= 0.0 degC <= 40.0 degC	
		Verify Battery Temperatue 3 Telemetry BATTERY_TEMP_3 WMB03568	>= 0.0 degC <= 40.0 degC	AND=ZAZ7H999
		Verify Battery Temperatue 4 Telemetry BATTERY_TEMP_4 WMB04568	>= 0.0 degC <= 40.0 degC	AND=ZAZ7H999
1.15		Verify HPS temperatures		<input type="checkbox"/>
		Verify Telemetry GRP1_Therm_TLM WM104565	>= -15.0 degC <= 70.0 degC	AND=WAHT1584
		Verify Telemetry GRP2_Therm_TLM WM204565	>= -15.0 degC <= 70.0 degC	AND=WAHT1584
		Verify Telemetry GRP3_Therm_TLM WM205565	>= -15.0 degC <= 70.0 degC	AND=WAHT1584



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry GRP4_Therm_TLM WM304565	>= -15.0 degC <= 70.0 degC	AND=WAHT1584
		Verify Telemetry GRP5_Therm_TLM WM305565	>= -15.0 degC <= 70.0 degC	AND=WAHT1584
		Verify Telemetry GRP6_Therm_TLM WM404565	>= -15.0 degC <= 70.0 degC	AND=WAHT1584
		Verify Telemetry GRP7_Therm_TLM WM405565	>= -15.0 degC <= 70.0 degC	AND=WAHT2584
		Verify Telemetry GRP8_Therm_TLM WM504565	>= -15.0 degC <= 70.0 degC	AND=WAHT2584
		Verify Telemetry GRP9_Therm_TLM WM505565	>= -15.0 degC <= 70.0 degC	AND=WAHT2584
		Verify Telemetry GRP10_Therm_TLM WM604565	>= -15.0 degC <= 70.0 degC	AND=WAHT2584
		Verify Telemetry GRP11_Therm_TLM WM605565	>= -15.0 degC <= 70.0 degC	AND=WAHT2584
		Verify Telemetry GRP12_Therm_TLM WM704565	>= -15.0 degC <= 70.0 degC	AND=WAHT2584
		Verify Telemetry GRP13_Therm_TLM WM705565	>= -15.0 degC <= 70.0 degC	AND=WAHT3584
		Verify Telemetry GRP14_Therm_TLM WM804565	>= -15.0 degC <= 70.0 degC	AND=WAHT3584
		Verify Telemetry GRP15_Therm_TLM WM805565	>= -15.0 degC <= 70.0 degC	AND=WAHT3584
		Verify Telemetry GRP16_Therm_TLM WM904565	>= -15.0 degC <= 70.0 degC	AND=WAHT3584
		Verify Telemetry GRP17_Therm_TLM WM905565	>= -15.0 degC <= 70.0 degC	AND=WAHT3584
		Verify Telemetry GRP18_Therm_TLM WMA04565	>= -15.0 degC <= 70.0 degC	AND=WAHT3584

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
2		S/C mode is Survival?		Next Step: False 3 True 12
		Verify Telemetry  CurrentMode DEL34170	= Survival	(None)
3		Verify LAUNCH/SUN/NOM/EAM mode telemetries		Next Step: 4
3.1		Verify PCDU 1553 I/Fs status (TMTCS APS status)		☐
		Verify PCDU 1553 I/F Module #1 Status N Telemetry PCDU_1553_M1_N WMB02565	= ON	AND=ZAZ7H999
		Verify PCDU 1553 I/F Module #1 Status R Telemetry PCDU_1553_M1_R WMB04565	= ON	AND=ZAZ7H999
		Verify PCDU 1553 I/F Module #2 Status N Telemetry PCDU_1553_M2_N WMB03565	= OFF	AND=ZAZ7H999
		Verify PCDU 1553 I/F Module #2 Status R Telemetry PCDU_1553_M2_R WMB05565	= OFF	AND=ZAZ7H999
3.2		Verify PCDU RT status		☐
		Verify Telemetry PCDUA_On_Off DEFAG160	= ON	AND=ZAZ7N999
		Verify Telemetry PCDUA_Val_Inval DEFAG160	= Valid	AND=ZAZ7N999
		Verify Telemetry PCDUADead_Alive DEFAH160	= Alive	AND=ZAZ7N999
		Verify Telemetry PCDUAWellsickTC DEFAZ160	= Well	AND=ZAZ7N999
		Verify Telemetry PCDUAWellsickTM DEFAJ160	= Well	AND=ZAZ7N999
		Verify Telemetry PCDUB_On_Off DEFB1160	= ON	AND=ZAZ7N999
		Verify Telemetry PCDUB_Val_Inval DEFB5160	= Valid	AND=ZAZ7N999
		Verify Telemetry PCDUBWellsickTC DEFB3160	= Well	AND=ZAZ7N999
		Verify Telemetry PCDUBWellsickTM DEFB4160	= Well	AND=ZAZ7N999
		Verify Telemetry PCDU_No_Re_RTA DEFDM160	= NOMINAL	AND=ZAZ7N999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
3.3		Verify PCDU UIU table status		<input type="checkbox"/>
		Verify unit status Telemetry PcdulFuncSts                    DEG03170	= On	AND=ZAZ7L999
		Verify Telemetry PcdulUse                    DEN00170	= In_Use	AND=ZAZ7L999
		Verify default status Telemetry PcdulLogSts                    DEN01170	= Nominal	AND=ZAZ7L999
		Verify FDIR status Telemetry PcdulFailSts                    DEN02170	= Not_Failed	AND=ZAZ7L999
		Verify unit status Telemetry Pcdu2FuncSts                    DEG02170	= Off	AND=ZAZ7L999
		Verify Telemetry Pcdu2Use                    DEN03170	= Not_In_Use	AND=ZAZ7L999
		Verify default status Telemetry Pcdu2LogSts                    DEN04170	= Redundant	AND=ZAZ7L999
		Verify FDIR status Telemetry Pcdu2FailSts                    DEN05170	= Not_Failed	AND=ZAZ7L999
3.4		Verify DNEL status		<input type="checkbox"/>
		Verify DNEL arming latch status Telemetry DNEL_ARM_STS                    WMT1M565	= Not Armed	AND=ZAZ7H999
		Verify DNEL status Telemetry DNEL_STS                    WMT1L565	= NoDisconnect	AND=ZAZ7H999
3.5		Verify CDMS LCLs		<input type="checkbox"/>
		Verify Telemetry CdmuColdA_L31_S                    WM22B565	= ON	
		Verify Telemetry CdmuColdA_L31_I                    WM207565	>= 0.3 A <= 0.9 A	
		Verify Telemetry CdmuColdB_L32_S                    WM92B565	= ON	
		Verify Telemetry CdmuColdB_L32_I                    WM907565	>= 0.00 A <= 0.10 A	
3.6		Verify CRS 1/2 LCLs		<input type="checkbox"/>
		Verify Telemetry CRS1_L15_S                    WM22C565	= ON	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry CRS1_L15_I WM208565	>= 0.24 A <= 0.35 A	(None)
		Verify Telemetry CRS2_L24_S WMA2D565	= ON	(None)
		Verify Telemetry CRS2_L24_I WMA09565	>= 0.24 A <= 0.35 A	(None)
3.7		Verify Gyro A/B LCLs		<input type="checkbox"/>
		Verify Telemetry GyroA_L13_S WM92A565	= ON	(None)
		Verify Telemetry GyroA_L13_I WM906565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry GyroB_L14_S WM22A565	= ON	(None)
		Verify Telemetry Gyro_B_L14_I WM206565	>= 0.8 A <= 1.5 A	(None)
		<b>NOTE: GYRO B is currently in use</b>		
3.8		Verify CCUs LCLs		<input type="checkbox"/>
		Verify Telemetry Ccu_A_L37_S WM12A565	= ON	(None)
		Verify Telemetry Ccu_A_L37_I WM106565	>= 0.10 A <= 0.28 A	(None)
		Verify Telemetry Ccu_B_L38_S WMA2A565	= ON	(None)
		Verify Telemetry Ccu_B_L38_I WMA06565	>= 0.10 A <= 0.28 A	(None)
3.9		Acquire CCUs status from UIU table		<input type="checkbox"/>
		Verify Telemetry CcuAFuncSts DEL97171	= On	(None)
		Verify Telemetry CcuBFuncSts DEL96171	= On	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
3.10		Verify HPS status		<input type="checkbox"/>
		Verify Telemetry GRP1_HPS_STS WM12G565	= ON	AND=WAHT1584
		Verify Telemetry GRP2_HPS_STS WM22G565	= ON	AND=WAHT1584
		Verify Telemetry GRP3_HPS_STS WM22H565	= ON	AND=WAHT1584
		Verify Telemetry GRP4_HPS_STS WM32G565	= ON	AND=WAHT1584
		Verify Telemetry GRP5_HPS_STS WM32H565	= ON	AND=WAHT1584
		Verify Telemetry GRP6_HPS_STS WM42G565	= ON	AND=WAHT1584
		Verify Telemetry GRP7_HPS_STS WM42H565	= ON	AND=WAHT2584
		Verify Telemetry GRP8_HPS_STS WM52G565	= ON	AND=WAHT2584
		Verify Telemetry GRP9_HPS_STS WM52H565	= ON	AND=WAHT2584
		Verify Telemetry GRP10_HPS_STS WM62G565	= OFF	AND=WAHT2584
		Verify Telemetry GRP10_HPS_ITLM WM612565	>= 0.00 A <= 0.158 A	AND=WAHT2584
		Verify Telemetry GRP11_HPS_STS WM62H565	= OFF	AND=WAHT2584
		Verify Telemetry GRP11_HPS_ITLM WM613565	>= 0.00 A <= 0.158 A	AND=WAHT2584
		Verify Telemetry GRP12_HPS_STS WM72G565	= OFF	AND=WAHT2584
		Verify Telemetry GRP12_HPS_ITLM WM712565	>= 0.00 A <= 0.158 A	AND=WAHT2584
		Verify Telemetry GRP13_HPS_STS WM72H565	= OFF	AND=WAHT3584
		Verify Telemetry GRP13_HPS_ITLM WM713565	>= 0.00 A <= 0.158 A	AND=WAHT3584
		Verify Telemetry GRP14_HPS_STS WM82G565	= OFF	AND=WAHT3584

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		Verify Telemetry GRP14_HPS_ITLM WM812565	>= 0.00 A <= 0.158 A	AND=WAHT3584
		Verify Telemetry GRP15_HPS_STS WM82H565	= OFF	AND=WAHT3584
		Verify Telemetry GRP15_HPS_ITLM WM813565	>= 0.00 A <= 0.158 A	AND=WAHT3584
		Verify Telemetry GRP16_HPS_STS WM92G565	= OFF	AND=WAHT3584
		Verify Telemetry GRP16_HPS_ITLM WM912565	>= 0.00 A <= 0.158 A	AND=WAHT3584
		Verify Telemetry GRP17_HPS_STS WM92H565	= OFF	AND=WAHT3584
		Verify Telemetry GRP17_HPS_ITLM WM913565	>= 0.00 A <= 0.158 A	AND=WAHT3584
		Verify Telemetry GRP18_HPS_STS WMA2G565	= OFF	AND=WAHT3584
		Verify Telemetry GRP18_HPS_ITLM WMA12565	>= 0.00 A <= 0.158 A	AND=WAHT3584
3.11		Verify HPS UIU table status		☐
		Verify Telemetry Hps1FuncSts DEG77170	= On	AND=ZAZ7K999
		Verify Telemetry Hps1Use DEG79170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps1LogSts DEG78170	= Nominal	AND=ZAZ7K999
		Verify Telemetry Hps1FailSts DEG76170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps2FuncSts DEG81170	= On	AND=ZAZ7K999
		Verify Telemetry Hps2Use DEG83170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps2LogSts DEG82170	= Nominal	AND=ZAZ7K999
		Verify Telemetry Hps2FailSts DEG80170	= Not_Failed	AND=ZAZ7K999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Hps3FuncSts                    DEG85170	= On	AND=ZAZ7K999
		Verify Telemetry Hps3Use                                    DEG87170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps3LogSts                                DEG86170	= Nominal	AND=ZAZ7K999
		Verify Telemetry Hps3FailSts                                DEG84170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps4FuncSts                                DEG89170	= On	AND=ZAZ7K999
		Verify Telemetry Hps4Use                                    DEG91170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps4LogSts                                DEG90170	= Nominal	AND=ZAZ7K999
		Verify Telemetry Hps4FailSts                                DEG88170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps5FuncSts                                DEG93170	= On	AND=ZAZ7K999
		Verify Telemetry Hps5Use                                    DEG95170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps5LogSts                                DEG94170	= Nominal	AND=ZAZ7K999
		Verify Telemetry Hps5FailSts                                DEG92170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps6FuncSts                                DEG97170	= On	AND=ZAZ7K999
		Verify Telemetry Hps6Use                                    DEG99170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps6LogSts                                DEG98170	= Nominal	AND=ZAZ7K999
		Verify Telemetry Hps6FailSts                                DEG96170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps7FuncSts                                DEH01170	= On	AND=ZAZ7K999
		Verify Telemetry Hps7Use                                    DEH03170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps7LogSts                                DEH02170	= Nominal	AND=ZAZ7K999
		Verify Telemetry Hps7FailSts                                DEH00170	= Not_Failed	AND=ZAZ7K999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Hps8FuncSts DEH05170	= On	AND=ZAZ7K999
		Verify Telemetry Hps8Use DEH07170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps8LogSts DEH06170	= Nominal	AND=ZAZ7K999
		Verify Telemetry Hps8FailSts DEH04170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps9FuncSts DEH09170	= On	AND=ZAZ7L999
		Verify Telemetry Hps9Use DEH11170	= In_Use	AND=ZAZ7L999
		Verify Telemetry Hps9LogSts DEH10170	= Nominal	AND=ZAZ7L999
		Verify Telemetry Hps9FailSts DEH08170	= Not_Failed	AND=ZAZ7L999
		Verify Telemetry Hps10FuncSts DEG41170	= Off	AND=ZAZ7L999
		Verify Telemetry Hps10Use DEG43170	= Not_In_Use	AND=ZAZ7L999
		Verify Telemetry Hps10LogSts DEG42170	= Redundant	AND=ZAZ7L999
		Verify Telemetry Hps10FailSts DEG40170	= Not_Failed	AND=ZAZ7L999
		Verify Telemetry Hps11FuncSts DEG45170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps11Use DEG47170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps11LogSts DEG46170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps11FailSts DEG44170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps12FuncSts DEG49170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps12Use DEG51170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps12LogSts DEG50170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps12FailSts DEG48170	= Not_Failed	AND=ZAZ7K999



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Hps13FuncSts                    DEG53170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps13Use                            DEG55170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps13LogSts                        DEG54170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps13FailSts                        DEG52170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps14FuncSts                        DEG57170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps14Use                             DEG59170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps14LogSts                        DEG58170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps14FailSts                        DEG56170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps15FuncSts                        DEG61170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps15Use                             DEG63170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps15LogSts                        DEG62170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps15FailSts                        DEG60170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps16FuncSts                        DEG65170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps16Use                             DEG67170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps16LogSts                        DEG66170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps16FailSts                        DEG64170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps17FuncSts                        DEG69170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps17Use                             DEG71170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps17LogSts                        DEG70170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps17FailSts                        DEG68170	= Not_Failed	AND=ZAZ7K999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Hps18FuncSts                    DEG73170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps18Use                            DEG75170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps18LogSts                    DEG74170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps18FailSts                    DEG72170	= Not_Failed	AND=ZAZ7K999
4		S/C mode is Launch?		Next Step: False 5 True 11
		Verify Telemetry CurrentMode                    DEL34170	= LaunchMode	(None)
5		Verify SUN/NOM/EAM mode telemetries		Next Step: 6
5.1		Verify TTC LCLs		□
		Verify Telemetry Xpnd1Tx_L23_S                    WM12D565	= ON	(None)
		Verify Telemetry Xpnd1Tx_L23_I                    WM109565	>= 0.41 A <= 0.55 A	(None)
		Verify Telemetry Twta_1_L49_1S                    WM22E565	= ON	(None)
		Verify Telemetry Twta_1_L49_2S                    WM22K565	= ON	(None)
		Verify Telemetry Twta_1_L49_I                    WM210565	>= 2.24 A <= 2.80 A	(None)
		Verify Telemetry Xpnd2Tx_L16_S                    WM92C565	= ON	(None)
		Verify Telemetry Xpnd2Tx_L16_I                    WM908565	>= 0.3 A <= 0.4 A	(None)
		Verify Telemetry Twta_2_L50_1S                    WM92E565	= OFF	(None)
		Verify Telemetry Twta_2_L50_2S                    WM92K565	= OFF	(None)
		Verify Telemetry Twta_2_L50_I                    WM910565	>= 0.0 A <= 0.1 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
5.2		Verify RCS CBH A/B LCLs		<input type="checkbox"/>
		Verify Telemetry CBH_N_L17_S WMA2H565	= ON	(None)
		Verify Telemetry CBH_N_L17_I WMA13565	>= 0.82 A <= 1.0 A	(None)
		Verify Telemetry CBH_R_L18_S WM12H565	= OFF	(None)
		Verify Telemetry CBH_R_L18_I WM113565	>= 0.0 A <= 0.1 A	(None)
5.3		Verify RCS LV A/B LCLs		<input type="checkbox"/>
		Verify Telemetry RcsLvA_L47_1S WM12E565	= ON	(None)
		Verify Telemetry AccLvA_L47_2S WM12J565	= ON	(None)
		Verify Telemetry AccLvA_L47_I WM110565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry AccLvB_L48_1S WMA2E565	= ON	(None)
		Verify Telemetry AccLvB_L48_2S WMA2J565	= ON	(None)
		Verify Telemetry AccLvB_L48_I WMA10565	>= 0.0 A <= 0.1 A	(None)
5.4		Verify Thrusters LCLs		<input type="checkbox"/>
		Verify Telemetry RcsThrsA_L45_1S WM22D565	= ON	(None)
		Verify Telemetry RcsThrsA_L45_2S WM22J565	= ON	(None)
		Verify Telemetry RcsThrsA_L45_I WM209565	>= 0.0 A <= 3.08 A	(None)
		Verify Telemetry RcsThrsB_L46_1S WM92D565	= ON	(None)
		Verify Telemetry RcsThrsB_L46_2S WM92J565	= ON	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RcsThrsB_L46_I WM909565	>= 0.0 A <= 0.1 A	(None)
5.5		Verify Solar Array Temperatures		<input type="checkbox"/>
		Verify Solar Array Panel 1 Temp 1 Nom Telemetry SA_Pan1_Temp1_N WMB01569	<= 105.0 degC >= 84.0 degC	AND=ZAZ7H999
		Verify Solar Array Panel 1 Temp 1 Red Telemetry SA_Pan1_Temp1_R WMB04569	<= 100.0 degC >= 60.0 degC	AND=ZAZ7H999
		Verify Solar Array Panel 1 Temp 2 Nom Telemetry SA_Pan1_Temp2_N WMB02569	<= 125.0 degC >= 90.0 degC	AND=ZAZ7H999
		Verify Solar Array Panel 1 Temp 2 Red Telemetry SA_Pan1_Temp2_R WMB05569	<= 125.0 degC >= 90.0 degC	AND=ZAZ7H999
		Verify Solar Array Panel 1 Temp 3 Nom Telemetry SA_Pan1_Temp3_N WMB03569	<= 105.0 degC >= 65.0 degC	AND=ZAZ7H999
		Verify Solar Array Panel 1 Temp 3 Red Telemetry SA_Pan1_Temp3_R WMB06569	= 400.0 degC	AND=ZAZ7H999
		<b>Solar array temperature are mode /attitude dependent. The sensor SA_Pan1_Temp3_R is not working</b>		
6		S/C mode is Sun?		Next Step: True 7 False 10
		Verify Telemetry CurrentMode DEL34170	= SunAcquisition	(None)
7		Previous S/C mode is Launch?		Next Step: True 8 False 9
		Verify Telemetry PrevMode DEL35170	= LaunchMode	(None)
8		Verify telemetries in Sun Acquisition after separation mode		Next Step: END
8.1		Verify separation straps		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry <b>Separ Strap1</b> <b>ZMP13999</b>	= Separated	(None)
		Verify Telemetry <b>Separ Strap2</b> <b>ZMP14999</b>	= Separated	(None)
8.2		Verify Total solar array current through SUNs module		<input type="checkbox"/>
		<b>It is assumed 1700W+-2.5% (full exposition)</b>		
		Verify solar array current through SUN1 Telemetry <b>TM_ISA_S3R_1</b> <b>WMT14565</b>	>= 18.46 A <= 19.47 A	AND=ZAZ7H999
		Verify solar array current through SUN2 Telemetry <b>TM_ISA_S3R_2</b> <b>WMT15565</b>	>= 18.46 A <= 19.47 A	AND=ZAZ7H999
		Verify solar array current through SUN3 Telemetry <b>TM_ISA_S3R_3</b> <b>WMT16565</b>	>= 18.46 A <= 19.47 A	AND=ZAZ7H999
8.3		Verify Battery voltage		<input type="checkbox"/>
		<b>Expected Depth of Discharge 50.9% @ separation (about 23.3V)</b>		
		Verify Battery voltage from BDR1 Telemetry <b>TM_VBATT_BDR_1</b> <b>WMT02565</b>	>= 23.3 V <= 25.4 V	AND=ZAZ7H999
		Verify Battery voltage from BDR2 Telemetry <b>TM_VBATT_BDR_2</b> <b>WMT03565</b>	>= 23.3 V <= 25.4 V	AND=ZAZ7H999
8.4		Verify Battery charge current		<input type="checkbox"/>
		Verify Battery charge current through BDR1 Telemetry <b>TM_Icharg1</b> <b>WMT10565</b>	<= 5.78 A	AND=ZAZ7H999
		Verify Battery charge current through BDR2 Telemetry <b>TM_Icharg2</b> <b>WMT11565</b>	<= 5.78 A	AND=ZAZ7H999
8.5		Verify ACMS LCLs		<input type="checkbox"/>
		Verify Telemetry <b>AccColdA_L33_S</b> <b>WM62B565</b>	= ON	
		Verify Telemetry <b>AccColdA_L33_I</b> <b>WM607565</b>	>= 0.50 A <= 0.80 A	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry AccColdB_L34_S WM52B565	= ON	
		Verify Telemetry AccColdB_L34_I WM507565	>= 0.00 A <= 0.10 A	
8.6		Verify STR 1/2 LCLs		□
		Verify Telemetry STR_1_L21_S WMA2C565	= ON	(None)
		Verify Telemetry STR_1_L21_I WMA08565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry STR_2_L22_S WM12C565	= ON	(None)
		Verify Telemetry STR_2_L22_I WM108565	>= 0.0 A <= 0.1 A	(None)
8.7		Verify RW 1/2/3/4 LCLs		□
		Verify Telemetry Rw1_1_L55_1S WM22F565	= OFF	(None)
		Verify Telemetry Rw1_1_L55_2S WM22L565	= OFF	(None)
		Verify Telemetry Rw1_1_L55_I WM211565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry Rw1_2_L56_1S WM92F565	= OFF	(None)
		Verify Telemetry Rw1_2_L56_2S WM92L565	= OFF	(None)
		Verify Telemetry Rw1_2_L56_I WM911565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry Rw1_3_L57_1S WM12F565	= OFF	(None)
		Verify Telemetry Rw1_3_L57_2S WM12K565	= OFF	(None)
		Verify Telemetry Rw1_3_L57_I WM111565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry Rw1_4_L58_1S WMA2F565	= OFF	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Rwl_4_L58_2S WMA2K565	= OFF	(None)
		Verify Telemetry Rwl_4_L58_I WMA11565	>= 0.0 A <= 0.1 A	(None)
8.8		Acquire ACMS units status from Unit in Use table		□
		Verify Telemetry Crs1HFuncSts DEN68171	= On	(None)
		Verify Telemetry Crs2HFuncSts DEN69171	= On	(None)
		Verify Telemetry GyrolFuncSts DEH38171	= On	(None)
		Verify Telemetry Str1FuncSts DEG01170	= Off	(None)
		Verify Telemetry Str2FuncSts DEG00170	= Off	(None)
		Verify Telemetry Rw1FuncSts DEL38171	= Off	(None)
		Verify Telemetry Rw2FuncSts DEL37171	= Off	(None)
		Verify Telemetry Rw3FuncSts DEL36171	= Off	(None)
		Verify Telemetry Rw4FuncSts DEG33171	= Off	(None)
8.9		Verify VMC LCLs		□
		Verify Telemetry VMC_L20_S WM82B565	= ON	(None)
		Verify Telemetry VMC_L20_I WM807565	>= 0.0 A <= 0.15 A	(None)
8.10		Verify SREM LCLs		□
		Verify Telemetry SREM_L19_S WM32B565	= ON	(None)
		Verify Telemetry Srem_L19_I WM307565	>= 0.0 A <= 0.45 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<b>At separation SREM status is OFF; However it is assumed that at the point when this check is performed SREM has been already Switch-on by Ground</b>		
8.11		Verify SPIRE Launch Lock		<input type="checkbox"/>
		Verify Telemetry SpireLL_N_L25_S WM12B565	= OFF	(None)
		Verify Telemetry SpireLL_N_L25_I WM107565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry SpireLL_R_L26_S WMA2B565	= OFF	(None)
		Verify Telemetry SpireLL_R_L26_I WMA07565	>= 0.0 A <= 0.1 A	(None)
		<b>At separation SPIRE Launch is Lock; However it is assumed that at the point when this check is performed SPIRE LL switch-off has been already by Ground</b>		
8.12		Verify SPIRE LCLs		<input type="checkbox"/>
		Verify Telemetry SpirHsdN_L11_1S WM32C565	= OFF	(None)
		Verify Telemetry SpirHsdN_L11_2S WM32J565	= OFF	(None)
		Verify Telemetry SpireHsN_L11_I WM308565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry SpirHsdR_L12_1S WM82C565	= OFF	(None)
		Verify Telemetry SpirHsdR_L12_2S WM82J565	= OFF	(None)
		Verify Telemetry SpireHsdR_L12_I WM808565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry SpirHsfN_L51_1S WM42C565	= OFF	(None)
		Verify Telemetry SpirHsfN_L51_2S WM42J565	= OFF	(None)
		Verify Telemetry SpireHsfN_L51_I WM408565	>= 0.0 A <= 0.1 A	(None)



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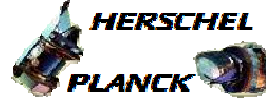
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SpirHsfr_L52_1S WM72C565	= OFF	(None)
		Verify Telemetry SpirHsfr_L52_2S WM72J565	= OFF	(None)
		Verify Telemetry SpireHsfr_L52_I WM708565	>= 0.0 A <= 0.1 A	(None)
8.13		Verify PACS LCLs		☐
		Verify Telemetry PacsB_N_L27_1S WM82D565	= OFF	(None)
		Verify Telemetry PacsB_N_L27_2S WM82K565	= OFF	(None)
		Verify Telemetry PacsB_N_L27_I WM809565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsB_R_L28_1S WM32D565	= OFF	(None)
		Verify Telemetry PacsB_R_L28_2S WM32K565	= OFF	(None)
		Verify Telemetry PacsB_R_L28_I WM309565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsS_N_L35_S WM52A565	= OFF	(None)
		Verify Telemetry PacsS_N_L35_I WM506565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsS_R_L36_S WM62A565	= OFF	(None)
		Verify Telemetry PacsS_R_L36_I WM606565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsD_N_L41_S WM72B565	= OFF	(None)
		Verify Telemetry PacsD_N_L41_I WM707565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsD_R_L42_S WM42B565	= OFF	(None)
		Verify Telemetry PacsD_R_L42_I WM407565	>= 0.0 A <= 0.1 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PacsMec1_L65_1S WM52E565	= OFF	(None)
		Verify Telemetry PacsMec1_L65_2S WM52L565	= OFF	(None)
		Verify Telemetry PacsMec1_L65_I WM510565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsMec2_L69_1S WM62E565	= OFF	(None)
		Verify Telemetry PacsMec2_L69_2S WM62L565	= OFF	(None)
		Verify Telemetry PacsMec2_L69_I WM610565	>= 0.0 A <= 0.1 A	(None)
8.14		Verify HIFI LCLs		<input type="checkbox"/>
		Verify Telemetry HiFiWEV_L43_S WM82A565	= OFF	(None)
		Verify Telemetry HiFiWEH_L43_I WM806565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiWEV_L44_S WM32A565	= OFF	(None)
		Verify Telemetry HiFiWEV_L44_I WM306565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiLcuN_L53_1S WM72D565	= OFF	(None)
		Verify Telemetry HiFiLcuN_L53_2S WM72K565	= OFF	(None)
		Verify Telemetry HiFiLCU_N_L53_I WM709565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiLcuR_L54_1S WM42D565	= OFF	(None)
		Verify Telemetry HiFiLcuR_L54_2S WM42K565	= OFF	(None)
		Verify Telemetry HiFiLCU_R_L54_I WM409565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiHRH_L63_1S WM52C565	= OFF	(None)

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		Verify Telemetry HiFiHRH_L63_2S WM52J565	= OFF	(None)
		Verify Telemetry HiFiHRH_L63_I WM508565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiIcuN_L64_1S WM52D565	= OFF	(None)
		Verify Telemetry HiFiIcuN_L64_2S WM52K565	= OFF	
		Verify Telemetry HiFiICU_N_L64_I WM509565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiHRV_L67_1S WM62C565	= OFF	(None)
		Verify Telemetry HiFiHRV_L67_2S WM62J565	= OFF	(None)
		Verify Telemetry HiFiHRV_L67_I WM608565	>= 0.0 A < 0.1 A	(None)
		Verify Telemetry HiFiIcuR_L68_1S WM62D565	= OFF	(None)
		Verify Telemetry HiFiIcuR_L68_2S WM62K565	= OFF	(None)
		Verify Telemetry HiFiICU_R_L68_I WM609565	>= 0.0 A <= 0.1 A	(None)
8.15		Acquire PACS units status from UIU table		□
		Verify Telemetry PacsDeclFuncSts DEL44171	= Off	(None)
		Verify Telemetry PacsBolclFuncSt DEL54171	= Off	(None)
		Verify Telemetry PacsDpuFuncSts DEL50171	= Off	(None)
8.16		Acquire HIFI units status from UIU table		□
		Verify Telemetry HiFiHrvFuncSts DEL41171	= Off	(None)
		Verify Telemetry HiFiWovFuncSts DEL49171	= Off	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry HifiWohFuncSts DEL40171	= Off	(None)
		Verify Telemetry HifiWevFuncSts DEL53171	= Off	(None)
		Verify Telemetry HifiHrhFuncSts DEL46171	= Off	(None)
		Verify Telemetry HifiWehFuncSts DEL48171	= Off	(None)
		Verify Telemetry HifiIfvFuncSts DEL39171	= Off	(None)
		Verify Telemetry HifiLcuFuncSts DEL55171	= Off	(None)
		Verify Telemetry HifiLsuFuncSts DEL42171	= Off	(None)
9		Verify telemetries in SUN otherwise mode		Next Step: END
		<b>Same verifications as per Nominal/EAM mode</b>		
9.1		Verify Total solar array current through SUNs module		<input type="checkbox"/>
		Verify solar array current through SUN1 Telemetry TM_ISA_S3R_1 WMT14565	>= 17.7 A <= 19.0 A	AND=ZAZ7H999
		Verify solar array current through SUN2 Telemetry TM_ISA_S3R_2 WMT15565	>= 21.3 A <= 22.4 A	AND=ZAZ7H999
		Verify solar array current through SUN3 Telemetry TM_ISA_S3R_3 WMT16565	>= 17.7 A <= 19.0 A	AND=ZAZ7H999
9.2		Verify Battery voltage		<input type="checkbox"/>
		<b>Verify Battery voltage fully charged (25.4 V)</b>		
		Verify Battery voltage from BDR1 Telemetry TM_VBATT_BDR_1 WMT02565	>= 25.2 V <= 25.6 V	AND=ZAZ7H999
		Verify Battery voltage from BDR2 Telemetry TM_VBATT_BDR_2 WMT03565	>= 25.2 V <= 25.6 V	AND=ZAZ7H999
9.3		Verify Battery charge current		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Battery charge current through BDR1 Telemetry TM_Icharg1 WMT10565	>= 0.0 A <= 0.08 A	AND=ZAZ7H999
		Verify Battery charge current through BDR2 Telemetry TM_Icharg2 WMT11565	>= 0.0 A <= 0.08 A	AND=ZAZ7H999
9.4		Verification BCR current limitation status		<input type="checkbox"/>
		Verify BCR1 current limitation status Telemetry BCR1_LIM_STS WMT1E565	= ACTIVE	AND=ZAZ7H999
		Verify BCR2 current limitation status Telemetry BCR2_LIM_STS WMT1F565	= ACTIVE	AND=ZAZ7H999
		Verify BCR3 current limitation status Telemetry BCR3_LIM_STS WMT1G565	= ACTIVE	AND=ZAZ7H999
9.5		Verify ACMS LCLs		<input type="checkbox"/>
		Verify Telemetry AccColdA_L33_S WM62B565	= ON	
		Verify Telemetry AccColdA_L33_I WM607565	>= 0.5 A <= 0.8 A	
		Verify Telemetry AccColdB_L34_S WM52B565	= ON	
		Verify Telemetry AccColdB_L34_I WM507565	>= 0.0 A <= 0.1 A	
9.6		Verify STR 1/2 LCLs		<input type="checkbox"/>
		Verify Telemetry STR_1_L21_S WMA2C565	= ON	(None)
		Verify Telemetry STR_1_L21_I WMA08565	>= 0.33 A <= 0.41 A	(None)
		Verify Telemetry STR_2_L22_S WM12C565	= ON	(None)
		Verify Telemetry STR_2_L22_I WM108565	>= 0.0 A <= 0.1 A	(None)
9.7		Verify RW 1/2/3/4 LCLs		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Rwl_1_L55_1S WM22F565	= ON	(None)
		Verify Telemetry Rwl_1_L55_2S WM22L565	= ON	(None)
		Verify Telemetry Rwl_1_L55_I WM211565	>= 0.0 A <= 1.92 A	(None)
		Verify Telemetry Rwl_2_L56_1S WM92F565	= ON	(None)
		Verify Telemetry Rwl_2_L56_2S WM92L565	= ON	(None)
		Verify Telemetry Rwl_2_L56_I WM911565	>= 0.0 A <= 1.92 A	(None)
		Verify Telemetry Rwl_3_L57_1S WM12F565	= ON	(None)
		Verify Telemetry Rwl_3_L57_2S WM12K565	= ON	(None)
		Verify Telemetry Rwl_3_L57_I WM111565	>= 0.0 A <= 1.92 A	(None)
		Verify Telemetry Rwl_4_L58_1S WMA2F565	= ON	(None)
		Verify Telemetry Rwl_4_L58_2S WMA2K565	= ON	(None)
		Verify Telemetry Rwl_4_L58_I WMA11565	>= 0.0 A <= 1.92 A	(None)
9.8		Acquire ACMS units status from Unit in Use table		<input type="checkbox"/>
		Verify Telemetry Crs1HFuncSts DEN68171	= On	(None)
		Verify Telemetry Crs2HFuncSts DEN69171	= On	(None)
		Verify Telemetry GyrolFuncSts DEH38171	= On	(None)
		Verify Telemetry Str1FuncSts DEG01170	= On	(None)
		Verify Telemetry Str2FuncSts DEG00170	= Off	(None)
		Verify Telemetry RwlFuncSts DEL38171	= On	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Rw2FuncSts DEL37171	= On	(None)
		Verify Telemetry Rw3FuncSts DEL36171	= On	(None)
		Verify Telemetry Rw4FuncSts DEG33171	= On	(None)
9.9		Verify VMC LCLs		<input type="checkbox"/>
		Verify Telemetry VMC_L20_S WM82B565	= OFF	(None)
		Verify Telemetry VMC_L20_I WM807565	>= 0.0 A <= 0.1 A	(None)
9.10		Verify SREM LCLs		<input type="checkbox"/>
		Verify Telemetry SREM_L19_S WM32B565	= ON	(None)
		Verify Telemetry Srem_L19_I WM307565	>= 0.05 A <= 0.45 A	(None)
9.11		Verify SPIRE Launch Lock		<input type="checkbox"/>
		Verify Telemetry SpireLL_N_L25_S WM12B565	= OFF	(None)
		Verify Telemetry SpireLL_R_L26_S WMA2B565	= OFF	(None)
9.12		Verify SPIRE LCLs		<input type="checkbox"/>
		Verify Telemetry SpirHsdN_L11_1S WM32C565	= ON	(None)
		Verify Telemetry SpirHsdN_L11_2S WM32J565	= ON	(None)
		Verify Telemetry SpireHsN_L11_I WM308565	>= 0.0 A <= 0.6 A	(None)
		Verify Telemetry SpirHsdR_L12_1S WM82C565	= OFF	(None)
		Verify Telemetry SpirHsdR_L12_2S WM82J565	= OFF	(None)

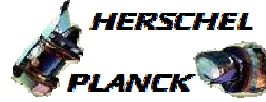
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SpireHsdR_L12_I WM808565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry SpirHsfN_L51_1S WM42C565	= ON	(None)
		Verify Telemetry SpirHsfN_L51_2S WM42J565	= ON	(None)
		Verify Telemetry SpireHsfN_L51_I WM408565	>= 0.0 A <= 2.35 A	(None)
		Verify Telemetry SpirHsfR_L52_1S WM72C565	= OFF	(None)
		Verify Telemetry SpirHsfR_L52_2S WM72J565	= OFF	(None)
		Verify Telemetry SpireHsfR_L52_I WM708565	>= 0.0 A <= 0.1 A	(None)
9.13		Verify PACS LCLs		<input type="checkbox"/>
		Verify Telemetry PacsB_N_L27_1S WM82D565	= ON	(None)
		Verify Telemetry PacsB_N_L27_2S WM82K565	= ON	(None)
		Verify Telemetry PacsB_N_L27_I WM809565	>= 0.0 A <= 1.6 A	(None)
		Verify Telemetry PacsB_R_L28_1S WM32D565	= OFF	(None)
		Verify Telemetry PacsB_R_L28_2S WM32K565	= OFF	(None)
		Verify Telemetry PacsB_R_L28_I WM309565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsS_N_L35_S WM52A565	= ON	(None)
		Verify Telemetry PacsS_N_L35_I WM506565	>= 0.0 A <= 0.9 A	(None)
		Verify Telemetry PacsS_R_L36_S WM62A565	= OFF	(None)
		Verify Telemetry PacsS_R_L36_I WM606565	>= 0.0 A <= 0.1 A	(None)



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PacsD_N_L41_S WM72B565	= ON	(None)
		Verify Telemetry PacsD_N_L41_I WM707565	>= 1.6 A <= 2.1 A	(None)
		Verify Telemetry PacsD_R_L42_S WM42B565	= OFF	(None)
		Verify Telemetry PacsD_R_L42_I WM407565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsMec1_L65_1S WM52E565	= ON	(None)
		Verify Telemetry PacsMec1_L65_2S WM52L565	= ON	(None)
		Verify Telemetry PacsMec1_L65_I WM510565	>= 0.0 A <= 2.3 A	(None)
		Verify Telemetry PacsMec2_L69_1S WM62E565	= OFF	(None)
		Verify Telemetry PacsMec2_L69_2S WM62L565	= OFF	(None)
		Verify Telemetry PacsMec2_L69_I WM610565	>= 0.0 A <= 0.1 A	(None)
9.14		Verify HIFI LCLs		□
		Verify Telemetry HiFiWEV_L43_S WM82A565	= ON	(None)
		Verify Telemetry HiFiWEH_L43_I WM806565	>= 0.0 A <= 0.96 A	(None)
		Verify Telemetry HiFiWEV_L44_S WM32A565	= ON	(None)
		Verify Telemetry HiFiWEV_L44_I WM306565	>= 0.0 A <= 0.96 A	(None)
		Verify Telemetry HiFiLcuN_L53_1S WM72D565	= OFF	(None)
		Verify Telemetry HiFiLcuN_L53_2S WM72K565	= OFF	(None)
		Verify Telemetry HiFiLCU_N_L53_I WM709565	>= 0.0 A <= 0.1 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry HiFiLcuR_L54_1S WM42D565	= ON	(None)
		Verify Telemetry HiFiLcuR_L54_2S WM42K565	= ON	(None)
		Verify Telemetry HiFiLCU_R_L54_I WM409565	>= 1.2 A <= 2.48 A	(None)
		Verify Telemetry HiFiHRH_L63_1S WM52C565	= ON	(None)
		Verify Telemetry HiFiHRH_L63_2S WM52J565	= ON	(None)
		Verify Telemetry HiFiHRH_L63_I WM508565	>= 1.78 A <= 2.49 A	(None)
		Verify Telemetry HiFiIcuN_L64_1S WM52D565	= OFF	(None)
		Verify Telemetry HiFiIcuN_L64_2S WM52K565	= OFF	(None)
		Verify Telemetry HiFiICU_N_L64_I WM509565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiHRV_L67_1S WM62C565	= ON	(None)
		Verify Telemetry HiFiHRV_L67_2S WM62J565	= ON	(None)
		Verify Telemetry HiFiHRV_L67_I WM608565	>= 1.78 A <= 2.49 A	(None)
		Verify Telemetry HiFiIcuR_L68_1S WM62D565	= ON	(None)
		Verify Telemetry HiFiIcuR_L68_2S WM62K565	= ON	(None)
		Verify Telemetry HiFiICU_R_L68_I WM609565	>= 0.9 A <= 1.3 A	(None)
9.15		Acquire PACS units status from UIU table		□
		Verify Telemetry PacsDeclFuncSts DEL44171	= On	(None)
		Verify Telemetry PacsBolclFuncSt DEL54171	= On	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PacsDpuFuncSts DEL50171	= On	(None)
9.16		Acquire HIFI units status from UIU table		<input type="checkbox"/>
		Verify Telemetry HifiHrvFuncSts DEL41171	= On	(None)
		Verify Telemetry HifiWovFuncSts DEL49171	= On	(None)
		Verify Telemetry HifiWohFuncSts DEL40171	= On	(None)
		Verify Telemetry HifiWevFuncSts DEL53171	= On	(None)
		Verify Telemetry HifiHrhFuncSts DEL46171	= On	(None)
		Verify Telemetry HifiWehFuncSts DEL48171	= On	(None)
		Verify Telemetry HifiIfvFuncSts DEL39171	= On	(None)
		Verify Telemetry HifiLcuFuncSts DEL55171	= On	(None)
		Verify Telemetry HifiLsuFuncSts DEL42171	= On	(None)
10		Verify telemetries in Nominal/EAM		Next Step: END
10.1		Verify Total solar array current through SUNs module		<input type="checkbox"/>
		Verify solar array current through SUN1 Telemetry TM_ISA_S3R_1 WMT14565	>= 15.0 A <= 20.0 A	AND=ZAZ7H999
		Verify solar array current through SUN2 Telemetry TM_ISA_S3R_2 WMT15565	>= 18.0 A <= 23.0 A	AND=ZAZ7H999
		Verify solar array current through SUN3 Telemetry TM_ISA_S3R_3 WMT16565	>= 15.0 A <= 20.0 A	AND=ZAZ7H999
10.2		Verify Battery voltage		<input type="checkbox"/>
		Verify Battery voltage fully charged (25.4 V)		

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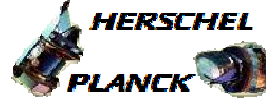
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Battery voltage from BDR1 Telemetry TM_VBATT_BDR_1 WMT02565	>= 25.3 V <= 25.5 V	AND=ZAZ7H999
		Verify Battery voltage from BDR2 Telemetry TM_VBATT_BDR_2 WMT03565	>= 25.3 V <= 25.5 V	AND=ZAZ7H999
10.3		Verify Battery charge current		<input type="checkbox"/>
		Verify Battery charge current through BDR1 Telemetry TM_Icharg1 WMT10565	>= 0.0 A <= 0.05 A	AND=ZAZ7H999
		Verify Battery charge current through BDR2 Telemetry TM_Icharg2 WMT11565	>= 0.0 A <= 0.05 A	AND=ZAZ7H999
10.4		Verification BCR current limitation status		<input type="checkbox"/>
		Verify BCR1 current limitation status Telemetry BCR1_LIM_STS WMT1E565	= ACTIVE	AND=ZAZ7H999
		Verify BCR2 current limitation status Telemetry BCR2_LIM_STS WMT1F565	= ACTIVE	AND=ZAZ7H999
		Verify BCR3 current limitation status Telemetry BCR3_LIM_STS WMT1G565	= ACTIVE	AND=ZAZ7H999
10.5		Verify ACMS LCLs		<input type="checkbox"/>
		Verify Telemetry AccColdA_L33_S WM62B565	= ON	
		Verify Telemetry AccColdA_L33_I WM607565	>= 0.50 A <= 0.80 A	
		Verify Telemetry AccColdB_L34_S WM52B565	= ON	
		Verify Telemetry AccColdB_L34_I WM507565	>= 0.00 A <= 0.10 A	
10.6		Verify STR 1/2 LCLs		<input type="checkbox"/>
		Verify Telemetry STR_1_L21_S WMA2C565	= ON	(None)
		Verify Telemetry STR_1_L21_I WMA08565	>= 0.33 A <= 0.41 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry STR_2_L22_S WM12C565	= ON	(None)
		Verify Telemetry STR_2_L22_I WM108565	>= 0.0 A <= 0.1 A	(None)
10.7		Verify RW 1/2/3/4 LCLs		□
		Verify Telemetry Rw1_1_L55_1S WM22F565	= ON	(None)
		Verify Telemetry Rw1_1_L55_2S WM22L565	= ON	(None)
		Verify Telemetry Rw1_1_L55_I WM211565	>= 0.0 A <= 1.92 A	(None)
		Verify Telemetry Rw1_2_L56_1S WM92F565	= ON	(None)
		Verify Telemetry Rw1_2_L56_2S WM92L565	= ON	(None)
		Verify Telemetry Rw1_2_L56_I WM911565	>= 0.0 A <= 1.92 A	(None)
		Verify Telemetry Rw1_3_L57_1S WM12F565	= ON	(None)
		Verify Telemetry Rw1_3_L57_2S WM12K565	= ON	(None)
		Verify Telemetry Rw1_3_L57_I WM111565	>= 0.0 A <= 1.92 A	(None)
		Verify Telemetry Rw1_4_L58_1S WMA2F565	= ON	(None)
		Verify Telemetry Rw1_4_L58_2S WMA2K565	= ON	(None)
		Verify Telemetry Rw1_4_L58_I WMA11565	>= 0.0 A <= 1.92 A	(None)
10.8		Acquire ACMS units status from Unit in Use table		□
		Verify Telemetry Crs1HFuncSts DEN68171	= On	(None)
		Verify Telemetry Crs2HFuncSts DEN69171	= On	(None)

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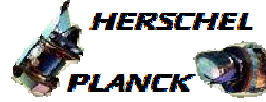
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry GyrolFuncSts DEH38171	= On	(None)
		Verify Telemetry Str1FuncSts DEG01170	= On	(None)
		Verify Telemetry Str2FuncSts DEG00170	= Off	(None)
		Verify Telemetry Rw1FuncSts DEL38171	= On	(None)
		Verify Telemetry Rw2FuncSts DEL37171	= On	(None)
		Verify Telemetry Rw3FuncSts DEL36171	= On	(None)
		Verify Telemetry Rw4FuncSts DEG33171	= On	(None)
10.9		Verify VMC LCLs		<input type="checkbox"/>
		Verify Telemetry VMC_L20_S WM82B565	= OFF	(None)
		Verify Telemetry VMC_L20_I WM807565	>= 0.0 A <= 0.1 A	(None)
10.10		Verify SREM LCLs		<input type="checkbox"/>
		Verify Telemetry SREM_L19_S WM32B565	= ON	(None)
		Verify Telemetry Srem_L19_I WM307565	>= 0.05 A <= 0.12 A	(None)
10.11		Verify SPIRE Launch Lock		<input type="checkbox"/>
		Verify Telemetry SpireLL_N_L25_S WM12B565	= OFF	(None)
		Verify Telemetry SpireLL_R_L26_S WMA2B565	= OFF	(None)
10.12		Verify SPIRE LCLs		<input type="checkbox"/>
		Verify Telemetry SpirHsdN_L11_1S WM32C565	= ON	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SpirHsdN_L11_2S WM32J565	= ON	(None)
		Verify Telemetry SpireHsN_L11_I WM308565	>= 0.2 A <= 0.6 A	(None)
		Verify Telemetry SpirHsdR_L12_1S WM82C565	= OFF	(None)
		Verify Telemetry SpirHsdR_L12_2S WM82J565	= OFF	(None)
		Verify Telemetry SpireHsdR_L12_I WM808565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry SpirHsfN_L51_1S WM42C565	= ON	(None)
		Verify Telemetry SpirHsfN_L51_2S WM42J565	= ON	(None)
		Verify Telemetry SpireHsfN_L51_I WM408565	>= 0.78 A <= 2.39 A	(None)
		Verify Telemetry SpirHsfR_L52_1S WM72C565	= OFF	(None)
		Verify Telemetry SpirHsfR_L52_2S WM72J565	= OFF	(None)
		Verify Telemetry SpireHsfR_L52_I WM708565	>= 0.0 A <= 0.1 A	(None)
10.13		Verify PACS LCLs		□
		Verify Telemetry PacsB_N_L27_1S WM82D565	= ON	(None)
		Verify Telemetry PacsB_N_L27_2S WM82K565	= ON	(None)
		Verify Telemetry PacsB_N_L27_I WM809565	>= 0.15 A <= 1.6 A	(None)
		Verify Telemetry PacsB_R_L28_1S WM32D565	= OFF	(None)
		Verify Telemetry PacsB_R_L28_2S WM32K565	= OFF	(None)
		Verify Telemetry PacsB_R_L28_I WM309565	>= 0.0 A <= 0.1 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PacsS_N_L35_S WM52A565	= ON	(None)
		Verify Telemetry PacsS_N_L35_I WM506565	>= 0.39 A <= 0.9 A	(None)
		Verify Telemetry PacsS_R_L36_S WM62A565	= OFF	(None)
		Verify Telemetry PacsS_R_L36_I WM606565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsD_N_L41_S WM72B565	= ON	(None)
		Verify Telemetry PacsD_N_L41_I WM707565	>= 0.34 A <= 0.60 A	(None)
		Verify Telemetry PacsD_R_L42_S WM42B565	= OFF	(None)
		Verify Telemetry PacsD_R_L42_I WM407565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsMec1_L65_1S WM52E565	= ON	(None)
		Verify Telemetry PacsMec1_L65_2S WM52L565	= ON	(None)
		Verify Telemetry PacsMec1_L65_I WM510565	>= 0.6 A <= 2.3 A	(None)
		Verify Telemetry PacsMec2_L69_1S WM62E565	= OFF	(None)
		Verify Telemetry PacsMec2_L69_2S WM62L565	= OFF	(None)
		Verify Telemetry PacsMec2_L69_I WM610565	>= 0.0 A <= 0.1 A	(None)
10.14		Verify HIFI LCLs		□
		Verify Telemetry HiFiWEV_L43_S WM82A565	= ON	(None)
		Verify Telemetry HiFiWEH_L43_I WM806565	>= 0.8 A <= 0.96 A	(None)
		Verify Telemetry HiFiWEV_L44_S WM32A565	= ON	(None)



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry HiFiWEV_L44_I WM306565	>= 0.8 A <= 0.96 A	(None)
		Verify Telemetry HiFiLcuN_L53_1S WM72D565	= OFF	(None)
		Verify Telemetry HiFiLcuN_L53_2S WM72K565	= OFF	(None)
		Verify Telemetry HiFiLCU_N_L53_I WM709565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiLcuR_L54_1S WM42D565	= ON	(None)
		Verify Telemetry HiFiLcuR_L54_2S WM42K565	= ON	(None)
		Verify Telemetry HiFiLCU_R_L54_I WM409565	>= 1.2 A <= 2.48 A	(None)
		Verify Telemetry HiFiHRH_L63_1S WM52C565	= ON	(None)
		Verify Telemetry HiFiHRH_L63_2S WM52J565	= ON	(None)
		Verify Telemetry HiFiHRH_L63_I WM508565	>= 1.78 A <= 2.49 A	(None)
		Verify Telemetry HiFiIcuN_L64_1S WM52D565	= OFF	(None)
		Verify Telemetry HiFiIcuN_L64_2S WM52K565	= OFF	(None)
		Verify Telemetry HiFiICU_N_L64_I WM509565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiHRV_L67_1S WM62C565	= ON	(None)
		Verify Telemetry HiFiHRV_L67_2S WM62J565	= ON	(None)
		Verify Telemetry HiFiHRV_L67_I WM608565	>= 1.75 A <= 2.70 A	(None)
		Verify Telemetry HiFiIcuR_L68_1S WM62D565	= ON	(None)
		Verify Telemetry HiFiIcuR_L68_2S WM62K565	= ON	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry HiFiICU_R_L68_I WM609565	>= 0.9 A <= 1.3 A	(None)
10.15		Acquire PACS units status from UIU table		<input type="checkbox"/>
		Verify Telemetry PacsDeclFuncSts DEL44171	= On	(None)
		Verify Telemetry PacsBolclFuncSt DEL54171	= On	(None)
		Verify Telemetry PacsDpuFuncSts DEL50171	= On	(None)
10.16		Acquire HIFI units status from UIU table		<input type="checkbox"/>
		Verify Telemetry HifiHrvFuncSts DEL41171	= On	(None)
		Verify Telemetry HifiWovFuncSts DEL49171	= On	(None)
		Verify Telemetry HifiWohFuncSts DEL40171	= On	(None)
		Verify Telemetry HifiWevFuncSts DEL53171	= On	(None)
		Verify Telemetry HifiHrhFuncSts DEL46171	= On	(None)
		Verify Telemetry HifiWehFuncSts DEL48171	= On	(None)
		Verify Telemetry HifiIfvFuncSts DEL39171	= On	(None)
		Verify Telemetry HifiLcuFuncSts DEL55171	= On	(None)
		Verify Telemetry HifiLsuFuncSts DEL42171	= On	(None)
11		Verify telemetries in Launch mode		Next Step: END
11.1		Verify Total solar array current through SUNs module		<input type="checkbox"/>
		Verify solar array current through SUN1 Telemetry TM_ISA_S3R_1 WMT14565	>= 5.4 A	AND=ZAZ7H999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify solar array current through SUN2 Telemetry TM_ISA_S3R_2 WMT15565	>= 5.4 A	AND=ZAZ7H999
		Verify solar array current through SUN3 Telemetry TM_ISA_S3R_3 WMT16565	>= 5.4 A	AND=ZAZ7H999
11.2		Verify Battery voltage		<input type="checkbox"/>
		Verify Battery voltage fully charged (25.4 V)		
		Verify Battery voltage from BDR1 Telemetry TM_VBATT_BDR_1 WMT02565	>= 25.2 V <= 25.6 V	AND=ZAZ7H999
		Verify Battery voltage from BDR2 Telemetry TM_VBATT_BDR_2 WMT03565	>= 25.2 V <= 25.6 V	AND=ZAZ7H999
11.3		Verify Battery charge current		<input type="checkbox"/>
		Verify Battery charge current through BDR1 Telemetry TM_Icharg1 WMT10565	>= 0.0 A <= 0.08 A	AND=ZAZ7H999
		Verify Battery charge current through BDR2 Telemetry TM_Icharg2 WMT11565	>= 0.0 A <= 0.08 A	AND=ZAZ7H999
11.4		Verification BCR current limitation status		<input type="checkbox"/>
		Verify BCR1 current limitation status Telemetry BCR1_LIM_STS WMT1E565	= ACTIVE	AND=ZAZ7H999
		Verify BCR2 current limitation status Telemetry BCR2_LIM_STS WMT1F565	= ACTIVE	AND=ZAZ7H999
		Verify BCR3 current limitation status Telemetry BCR3_LIM_STS WMT1G565	= ACTIVE	AND=ZAZ7H999
11.5		Verify ACMS LCLs		<input type="checkbox"/>
		Verify Telemetry AccColdA_L33_S WM62B565	= ON	
		Verify Telemetry AccColdA_L33_I WM607565	>= 0.50 A <= 0.80 A	
		Verify Telemetry AccColdB_L34_S WM52B565	= ON	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry AccColdB_L34_I WM507565	>= 0.00 A <= 0.10 A	
11.6		Verify TTC LCLs		<input type="checkbox"/>
		Verify Telemetry Xpnd1Tx_L23_S WM12D565	= ON	(None)
		Verify Telemetry Xpnd1Tx_L23_I WM109565	>= 0.3 A <= 0.5 A	(None)
		Verify Telemetry Twta_1_L49_1S WM22E565	= ON	(None)
		Verify Telemetry Twta_1_L49_2S WM22K565	= ON	(None)
		Verify Telemetry Twta_1_L49_I WM210565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry Xpnd2Tx_L16_S WM92C565	= OFF	(None)
		Verify Telemetry Xpnd2Tx_L16_I WM908565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry Twta_2_L50_1S WM92E565	= OFF	(None)
		Verify Telemetry Twta_2_L50_2S WM92K565	= OFF	(None)
		Verify Telemetry Twta_2_L50_I WM910565	>= 0.0 A <= 0.1 A	(None)
11.7		Verify STR 1/2 LCLs		<input type="checkbox"/>
		Verify Telemetry STR_1_L21_S WMA2C565	= OFF	(None)
		Verify Telemetry STR_1_L21_I WMA08565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry STR_2_L22_S WM12C565	= OFF	(None)
		Verify Telemetry STR_2_L22_I WM108565	>= 0.0 A <= 0.1 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
11.8		Verify RCS LV A/B LCLs		<input type="checkbox"/>
		Verify Telemetry RcsLvA_L47_1S WM12E565	= ON	(None)
		Verify Telemetry AccLvA_L47_2S WM12J565	= ON	(None)
		Verify Telemetry AccLvA_L47_I WM110565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry AccLvB_L48_1S WMA2E565	= ON	(None)
		Verify Telemetry AccLvB_L48_2S WMA2J565	= ON	(None)
		Verify Telemetry AccLvB_L48_I WMA10565	>= 0.0 A <= 0.1 A	(None)
		<b>The current baseline is to open the LVs in LAUNCH MODE</b>		
11.9		Verify Thrusters LCLs		<input type="checkbox"/>
		Verify Telemetry RcsThrsA_L45_1S WM22D565	= OFF	(None)
		Verify Telemetry RcsThrsA_L45_2S WM22J565	= OFF	(None)
		Verify Telemetry RcsThrsA_L45_I WM209565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry RcsThrsB_L46_1S WM92D565	= OFF	(None)
		Verify Telemetry RcsThrsB_L46_2S WM92J565	= OFF	(None)
		Verify Telemetry RcsThrsB_L46_I WM909565	>= 0.0 A <= 0.1 A	(None)
11.10		Verify RCS CBH A/B LCLs		<input type="checkbox"/>
		Verify Telemetry CBH_N_L17_S WMA2H565	= ON	(None)
		Verify Telemetry CBH_N_L17_I WMA13565	>= 0.82 A <= 1.0 A	(None)

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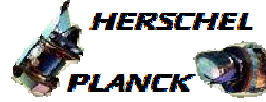
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry CBH_R_L18_S WM12H565	= OFF	(None)
		Verify Telemetry CBH_R_L18_I WM113565	>= 0.0 A <= 0.1 A	(None)
11.11		Verify RW 1/2/3/4 LCLs		□
		Verify Telemetry Rw1_1_L55_1S WM22F565	= OFF	(None)
		Verify Telemetry Rw1_1_L55_2S WM22L565	= OFF	(None)
		Verify Telemetry Rw1_1_L55_I WM211565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry Rw1_2_L56_1S WM92F565	= OFF	(None)
		Verify Telemetry Rw1_2_L56_2S WM92L565	= OFF	(None)
		Verify Telemetry Rw1_2_L56_I WM911565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry Rw1_3_L57_1S WM12F565	= OFF	(None)
		Verify Telemetry Rw1_3_L57_2S WM12K565	= OFF	(None)
		Verify Telemetry Rw1_3_L57_I WM111565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry Rw1_4_L58_1S WMA2F565	= OFF	(None)
		Verify Telemetry Rw1_4_L58_2S WMA2K565	= OFF	(None)
		Verify Telemetry Rw1_4_L58_I WMA11565	>= 0.0 A <= 0.1 A	(None)
11.12		Acquire ACMS units status from Unit in Use table		□
		Verify Telemetry Crs1HFuncSts DEN68171	= On	(None)
		Verify Telemetry Crs2HFuncSts DEN69171	= On	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry GyrolFuncSts DEH38171	= On	(None)
		Verify Telemetry Str1FuncSts DEG01170	= Off	(None)
		Verify Telemetry Str2FuncSts DEG00170	= Off	(None)
		Verify Telemetry Rw1FuncSts DEL38171	= Off	(None)
		Verify Telemetry Rw2FuncSts DEL37171	= Off	(None)
		Verify Telemetry Rw3FuncSts DEL36171	= Off	(None)
		Verify Telemetry Rw4FuncSts DEG33171	= Off	(None)
11.13		Verify VMC LCLs		<input type="checkbox"/>
		Verify Telemetry VMC_L20_S WM82B565	= OFF	(None)
		Verify Telemetry VMC_L20_I WM807565	>= 0.0 A <= 0.15 A	(None)
11.14		Verify SREM LCLs		<input type="checkbox"/>
		Verify Telemetry SREM_L19_S WM32B565	= OFF	(None)
		Verify Telemetry Srem_L19_I WM307565	>= 0.0 A <= 0.1 A	(None)
11.15		Verify SPIRE Launch Lock		<input type="checkbox"/>
		Verify Telemetry SpireLL_N_L25_S WM12B565	= ON	(None)
		Verify Telemetry SpireLL_N_L25_I WM107565	>= 0.13 A <= 0.18 A	(None)
		Verify Telemetry SpireLL_R_L26_S WMA2B565	= ON	(None)
		Verify Telemetry SpireLL_R_L26_I WMA07565	>= 0.13 A <= 0.18 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
11.16		Verify SPIRE LCLs		<input type="checkbox"/>
		Verify Telemetry SpirHsdN_L11_1S WM32C565	= OFF	(None)
		Verify Telemetry SpirHsdN_L11_2S WM32J565	= OFF	(None)
		Verify Telemetry SpireHsN_L11_I WM308565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry SpirHsdR_L12_1S WM82C565	= OFF	(None)
		Verify Telemetry SpirHsdR_L12_2S WM82J565	= OFF	(None)
		Verify Telemetry SpireHsdR_L12_I WM808565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry SpirHsfN_L51_1S WM42C565	= OFF	(None)
		Verify Telemetry SpirHsfN_L51_2S WM42J565	= OFF	(None)
		Verify Telemetry SpireHsfN_L51_I WM408565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry SpirHsfR_L52_1S WM72C565	= OFF	(None)
		Verify Telemetry SpirHsfR_L52_2S WM72J565	= OFF	(None)
		Verify Telemetry SpireHsfR_L52_I WM708565	>= 0.0 A <= 0.1 A	(None)
11.17		Verify PACS LCLs		<input type="checkbox"/>
		Verify Telemetry PacsB_N_L27_1S WM82D565	= OFF	(None)
		Verify Telemetry PacsB_N_L27_2S WM82K565	= OFF	(None)
		Verify Telemetry PacsB_N_L27_I WM809565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsB_R_L28_1S WM32D565	= OFF	(None)



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PacsB_R_L28_2S WM32K565	= OFF	(None)
		Verify Telemetry PacsB_R_L28_I WM309565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsS_N_L35_S WM52A565	= OFF	(None)
		Verify Telemetry PacsS_N_L35_I WM506565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsS_R_L36_S WM62A565	= OFF	(None)
		Verify Telemetry PacsS_R_L36_I WM606565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsD_N_L41_S WM72B565	= OFF	(None)
		Verify Telemetry PacsD_N_L41_I WM707565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsD_R_L42_S WM42B565	= OFF	(None)
		Verify Telemetry PacsD_R_L42_I WM407565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsMec1_L65_1S WM52E565	= OFF	(None)
		Verify Telemetry PacsMec1_L65_2S WM52L565	= OFF	(None)
		Verify Telemetry PacsMec1_L65_I WM510565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsMec2_L69_1S WM62E565	= OFF	(None)
		Verify Telemetry PacsMec2_L69_2S WM62L565	= OFF	(None)
		Verify Telemetry PacsMec2_L69_I WM610565	>= 0.0 A <= 0.1 A	(None)
11.18		Verify HIFI LCLs		□
		Verify Telemetry HiFiWEV_L43_S WM82A565	= OFF	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry HiFiWEH_L43_I WM806565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiWEV_L44_S WM32A565	= OFF	(None)
		Verify Telemetry HifiWEV_L44_I WM306565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiLcuN_L53_1S WM72D565	= OFF	(None)
		Verify Telemetry HiFiLcuN_L53_2S WM72K565	= OFF	(None)
		Verify Telemetry HiFiLCU_N_L53_I WM709565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiLcuR_L54_1S WM42D565	= OFF	(None)
		Verify Telemetry HiFiLcuR_L54_2S WM42K565	= OFF	(None)
		Verify Telemetry HiFiLCU_R_L54_I WM409565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiHRH_L63_1S WM52C565	= OFF	(None)
		Verify Telemetry HiFiHRH_L63_2S WM52J565	= OFF	(None)
		Verify Telemetry HiFiHRH_L63_I WM508565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiIcuN_L64_1S WM52D565	= OFF	(None)
		Verify Telemetry HiFiIcuN_L64_2S WM52K565	= OFF	(None)
		Verify Telemetry HiFiICU_N_L64_I WM509565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiHRV_L67_1S WM62C565	= OFF	(None)
		Verify Telemetry HiFiHRV_L67_2S WM62J565	= OFF	(None)
		Verify Telemetry HiFiHRV_L67_I WM608565	>= 0.0 A < 0.1 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry HiFiIcuR_L68_1S WM62D565	= OFF	(None)
		Verify Telemetry HiFiIcuR_L68_2S WM62K565	= OFF	(None)
		Verify Telemetry HiFiICU_R_L68_I WM609565	>= 0.0 A <= 0.1 A	(None)
11.19		Acquire PACS units status from UIU table		<input type="checkbox"/>
		Verify Telemetry PacsDeclFuncSts DEL44171	= Off	(None)
		Verify Telemetry PacsBolclFuncSt DEL54171	= Off	(None)
		Verify Telemetry PacsDpuFuncSts DEL50171	= Off	(None)
11.20		Acquire HIFI units status from UIU table		<input type="checkbox"/>
		Verify Telemetry HifiHrvFuncSts DEL41171	= Off	(None)
		Verify Telemetry HifiWovFuncSts DEL49171	= Off	(None)
		Verify Telemetry HifiWohFuncSts DEL40171	= Off	(None)
		Verify Telemetry HifiWevFuncSts DEL53171	= Off	(None)
		Verify Telemetry HifiHrhFuncSts DEL46171	= Off	(None)
		Verify Telemetry HifiWehFuncSts DEL48171	= Off	(None)
		Verify Telemetry HifiIfvFuncSts DEL39171	= Off	(None)
		Verify Telemetry HifiLcuFuncSts DEL55171	= Off	(None)
		Verify Telemetry HifiLsuFuncSts DEL42171	= Off	(None)
12		Verify telemetries in Survival mode		Next Step: END

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
12.1		Verify Total solar array current through SUNs module		<input type="checkbox"/>
		Verify solar array current through SUN1 Telemetry TM_ISA_S3R_1 WMT14565	>= 17.7 A <= 18.7 A	AND=ZAZ7H999
		Verify solar array current through SUN2 Telemetry TM_ISA_S3R_2 WMT15565	>= 21.3 A <= 22.4 A	AND=ZAZ7H999
		Verify solar array current through SUN3 Telemetry TM_ISA_S3R_3 WMT16565	>= 17.7 A <= 18.7 A	AND=ZAZ7H999
12.2		Verify Battery voltage		<input type="checkbox"/>
		<b>Verify 20V (DoD) &gt; Battery voltage &gt; 25.4 V (fully charged)</b>		
		Verify Battery voltage from BDR1 Telemetry TM_VBATT_BDR_1 WMT02565	>= 20.0 V <= 25.6 V	AND=ZAZ7H999
		Verify Battery voltage from BDR2 Telemetry TM_VBATT_BDR_2 WMT03565	>= 20.0 V <= 25.6 V	AND=ZAZ7H999
12.3		Verify Battery charge current		<input type="checkbox"/>
		Verify Battery charge current through BDR1 Telemetry TM_Icharg1 WMT10565	>= 0.0 A <= 5.78 A	AND=ZAZ7H999
		Verify Battery charge current through BDR2 Telemetry TM_Icharg2 WMT11565	>= 0.0 A <= 5.78 A	AND=ZAZ7H999
12.4		Verify PCDU 1553 I/Fs status (TMTCs APS status)		<input type="checkbox"/>
		Verify PCDU 1553 I/F Module #1 Status N Telemetry PCDU_1553_M1_N WMB02565	= OFF	AND=ZAZ7H999
		Verify PCDU 1553 I/F Module #1 Status R Telemetry PCDU_1553_M1_R WMB04565	= OFF	AND=ZAZ7H999
		Verify PCDU 1553 I/F Module #2 Status N Telemetry PCDU_1553_M2_N WMB03565	= ON	AND=ZAZ7H999
		Verify PCDU 1553 I/F Module #2 Status R Telemetry PCDU_1553_M2_R WMB05565	= ON	AND=ZAZ7H999
12.5		Verify PCDU RT status		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PCDUA_On_Off DEFAG160	= OFF	AND=ZAZ7N999
		Verify Telemetry PCDUA_Val_Invalid DEFAK160	= Invalid	AND=ZAZ7N999
		Verify Telemetry PCDUADead_Alive DEFAH160	= Alive	AND=ZAZ7N999
		Verify Telemetry PCDUAWellsSickTC DEFAZ160	= Well	AND=ZAZ7N999
		Verify Telemetry PCDUAWellsSickTM DEFAJ160	= Well	AND=ZAZ7N999
		Verify Telemetry PCDUB_On_Off DEFB1160	= ON	AND=ZAZ7N999
		Verify Telemetry PCDUB_Val_Invalid DEFB5160	= Valid	AND=ZAZ7N999
		Verify Telemetry PCDUBWellsSickTC DEFB3160	= Well	AND=ZAZ7N999
		Verify Telemetry PCDUBWellsSickTM DEFB4160	= Well	AND=ZAZ7N999
		Verify Telemetry PCDU_No_Re_RTA DEFDM160	= REDUNDANT	AND=ZAZ7N999
12.6		Verify PCDU UIU table status		<input type="checkbox"/>
		Verify unit status Telemetry PcdulFuncSts DEG03170	= Off	AND=ZAZ7L999
		Verify Telemetry PcdulUse DEN00170	= Not_In_Use	AND=ZAZ7L999
		Verify default status Telemetry PcdulLogSts DEN01170	= Redundant	AND=ZAZ7L999
		Verify FDIR status Telemetry PcdulFailSts DEN02170	= Not_Failed	AND=ZAZ7L999
		Verify unit status Telemetry Pcdul2FuncSts DEG02170	= On	AND=ZAZ7L999
		Verify Telemetry Pcdul2Use DEN03170	= In_Use	AND=ZAZ7L999
		Verify default status Telemetry Pcdul2LogSts DEN04170	= Nominal	AND=ZAZ7L999
		Verify FDIR status Telemetry Pcdul2FailSts DEN05170	= Not_Failed	AND=ZAZ7L999
12.7		Verify DNEL status		<input type="checkbox"/>

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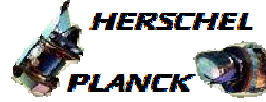
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify DNEL arming latch status Telemetry DNEL_ARM_STS WMT1M565	= Not Armed	AND=ZAZ7H999
		Verify DNEL status Telemetry DNEL_STS WMT1L565	= Disconnection	AND=ZAZ7H999
12.8		Verification BCR current limitation status		<input type="checkbox"/>
		Verify BCR1 current limitation status Telemetry BCR1_LIM_STS WMT1E565	= NOTACTIVE	AND=ZAZ7H999
		Verify BCR2 current limitation status Telemetry BCR2_LIM_STS WMT1F565	= NOTACTIVE	AND=ZAZ7H999
		Verify BCR3 current limitation status Telemetry BCR3_LIM_STS WMT1G565	= NOTACTIVE	AND=ZAZ7H999
12.9		Verify CDMS LCLs		<input type="checkbox"/>
		Verify Telemetry CdmuColdA_L31_S WM22B565	= ON	
		Verify Telemetry CdmuColdA_L31_I WM207565	>= 0.0 A <= 0.1 A	
		Verify Telemetry CdmuColdB_L32_S WM92B565	= ON	
		Verify Telemetry CdmuColdB_L32_I WM907565	>= 0.4 A <= 0.8 A	
12.10		Verify TTC LCLs		<input type="checkbox"/>
		Verify Telemetry Xpnd1Tx_L23_S WM12D565	= ON	(None)
		Verify Telemetry Xpnd1Tx_L23_I WM109565	>= 0.3 A <= 0.4 A	(None)
		Verify Telemetry Twta_1_L49_1S WM22E565	= OFF	(None)
		Verify Telemetry Twta_1_L49_2S WM22K565	= OFF	(None)
		Verify Telemetry Twta_1_L49_I WM210565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry Xpnd2Tx_L16_S WM92C565	= ON	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Xpnd2Tx_L16_I WM908565	>= 0.41 A <= 0.55 A	(None)
		Verify Telemetry Twta_2_L50_1S WM92E565	= ON	(None)
		Verify Telemetry Twta_2_L50_2S WM92K565	= ON	(None)
		Verify Telemetry Twta_2_L50_I WM910565	>= 2.24 A <= 2.80 A	(None)
12.11		Verify ACMS LCLs		<input type="checkbox"/>
		Verify Telemetry AccColdA_L33_S WM62B565	= ON	
		Verify Telemetry AccColdA_L33_I WM607565	>= 0.5 A <= 0.8 A	
		Verify Telemetry AccColdB_L34_S WM52B565	= ON	
		Verify Telemetry AccColdB_L34_I WM507565	>= 0.00 A <= 0.10 A	
12.12		Verify CRS 1/2 LCLs		<input type="checkbox"/>
		Verify Telemetry CRS1_L15_S WM22C565	= ON	(None)
		Verify Telemetry CRS1_L15_I WM208565	>= 0.24 A <= 0.30 A	(None)
		Verify Telemetry CRS2_L24_S WMA2D565	= ON	(None)
		Verify Telemetry CRS2_L24_I WMA09565	>= 0.24 A <= 0.30 A	(None)
12.13		Verify Gyro A/B LCLs		<input type="checkbox"/>
		Verify Telemetry GyroA_L13_S WM92A565	= ON	(None)
		Verify Telemetry GyroA_L13_I WM906565	>= 1.17 A <= 1.43 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry GyroB_L14_S WM22A565	= ON	(None)
		Verify Telemetry Gyro_B_L14_I WM206565	>= 0.0 A <= 0.1 A	(None)
12.14		Verify STR 1/2 LCLs		□
		Verify Telemetry STR_1_L21_S WMA2C565	= ON	(None)
		Verify Telemetry STR_1_L21_I WMA08565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry STR_2_L22_S WM12C565	= ON	(None)
		Verify Telemetry STR_2_L22_I WM108565	>= 0.0 A <= 0.1 A	(None)
12.15		Verify RCS LV A/B LCLs		□
		Verify Telemetry RcsLvA_L47_1S WM12E565	= ON	(None)
		Verify Telemetry AccLvA_L47_2S WM12J565	= ON	(None)
		Verify Telemetry AccLvA_L47_I WM110565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry AccLvB_L48_1S WMA2E565	= ON	(None)
		Verify Telemetry AccLvB_L48_2S WMA2J565	= ON	(None)
		Verify Telemetry AccLvB_L48_I WMA10565	>= 0.0 A <= 0.1 A	(None)
12.16		Verify Thrusters LCLs		□
		Verify Telemetry RcsThrsA_L45_1S WM22D565	= ON	(None)
		Verify Telemetry RcsThrsA_L45_2S WM22J565	= ON	(None)



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry RcsThrsA_L45_I WM209565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry RcsThrsB_L46_1S WM92D565	= ON	(None)
		Verify Telemetry RcsThrsB_L46_2S WM92J565	= ON	(None)
		Verify Telemetry RcsThrsB_L46_I WM909565	>= 0.0 A <= 3.08 A	(None)
12.17		Verify RCS CBH A/B LCLs		☐
		Verify Telemetry CBH_N_L17_S WMA2H565	= ON	(None)
		Verify Telemetry CBH_N_L17_I WMA13565	>= 0.82 A <= 1.0 A	(None)
		Verify Telemetry CBH_R_L18_S WM12H565	= OFF	(None)
		Verify Telemetry CBH_R_L18_I WM113565	>= 0.0 A <= 0.1 A	(None)
12.18		Verify RW 1/2/3/4 LCLs		☐
		Verify Telemetry Rwl_1_L55_1S WM22F565	= ON	(None)
		Verify Telemetry Rwl_1_L55_2S WM22L565	= ON	(None)
		Verify Telemetry Rwl_1_L55_I WM211565	>= 0.0 A <= 1.92 A	(None)
		Verify Telemetry Rwl_2_L56_1S WM92F565	= ON	(None)
		Verify Telemetry Rwl_2_L56_2S WM92L565	= ON	(None)
		Verify Telemetry Rwl_2_L56_I WM911565	>= 0.0 A <= 1.92 A	(None)
		Verify Telemetry Rwl_3_L57_1S WM12F565	= ON	(None)
		Verify Telemetry Rwl_3_L57_2S WM12K565	= ON	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Rwl_3_L57_I WM111565	>= 0.0 A <= 1.92 A	(None)
		Verify Telemetry Rwl_4_L58_1S WMA2F565	= ON	(None)
		Verify Telemetry Rwl_4_L58_2S WMA2K565	= ON	(None)
		Verify Telemetry Rwl_4_L58_I WMA11565	>= 0.0 A <= 1.92 A	(None)
12.19		Acquire ACMS units status from Unit in Use table		□
		Verify Telemetry Crs1HFuncSts DEN68171	= On	(None)
		Verify Telemetry Crs2HFuncSts DEN69171	= On	(None)
		Verify Telemetry GyrolFuncSts DEH38171	= On	(None)
		Verify Telemetry Str1FuncSts DEG01170	= Off	(None)
		Verify Telemetry Str2FuncSts DEG00170	= Off	(None)
		Verify Telemetry Rw1FuncSts DEL38171	= Off	(None)
		Verify Telemetry Rw2FuncSts DEL37171	= Off	(None)
		Verify Telemetry Rw3FuncSts DEL36171	= Off	(None)
		Verify Telemetry Rw4FuncSts DEG33171	= Off	(None)
12.20		Verify CCUs LCLs		□
		Verify Telemetry Ccu_A_L37_S WM12A565	= ON	(None)
		Verify Telemetry Ccu_A_L37_I WM106565	>= 0.12 A <= 0.17 A	(None)
		Verify Telemetry Ccu_B_L38_S WMA2A565	= ON	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Ccu_B_L38_I WMA06565	>= 0.12 A <= 0.17 A	(None)
12.21		Acquire CCUs status from UIU table		<input type="checkbox"/>
		Verify Telemetry CcuAFuncSts DEL97171	= On	(None)
		Verify Telemetry CcuBFuncSts DEL96171	= On	(None)
12.22		Verify VMC LCLs		<input type="checkbox"/>
		Verify Telemetry VMC_L20_S WM82B565	= OFF	(None)
		Verify Telemetry VMC_L20_I WM807565	>= 0.0 A <= 0.1 A	(None)
12.23		Verify SREM LCLs		<input type="checkbox"/>
		Verify Telemetry SREM_L19_S WM32B565	= OFF	(None)
		Verify Telemetry Srem_L19_I WM307565	>= 0.0 A <= 0.1 A	(None)
12.24		Verify SPIRE Launch Lock		<input type="checkbox"/>
		Verify Telemetry SpireLL_N_L25_S WM12B565	= OFF	(None)
		Verify Telemetry SpireLL_R_L26_S WMA2B565	= OFF	(None)
12.25		Verify SPIRE LCLs		<input type="checkbox"/>
		Verify Telemetry SpirHsdN_L11_1S WM32C565	= OFF	(None)
		Verify Telemetry SpirHsdN_L11_2S WM32J565	= OFF	(None)
		Verify Telemetry SpireHsN_L11_I WM308565	>= 0.0 A <= 0.1 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SpirHsdR_L12_1S WM82C565	= OFF	(None)
		Verify Telemetry SpirHsdR_L12_2S WM82J565	= OFF	(None)
		Verify Telemetry SpireHsdR_L12_I WM808565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry SpirHsfN_L51_1S WM42C565	= OFF	(None)
		Verify Telemetry SpirHsfN_L51_2S WM42J565	= OFF	(None)
		Verify Telemetry SpireHsfN_L51_I WM408565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry SpirHsfR_L52_1S WM72C565	= OFF	(None)
		Verify Telemetry SpirHsfR_L52_2S WM72J565	= OFF	(None)
		Verify Telemetry SpireHsfR_L52_I WM708565	>= 0.0 A <= 0.1 A	(None)
12.26		Verify PACS LCLs		☐
		Verify Telemetry PacsB_N_L27_1S WM82D565	= OFF	(None)
		Verify Telemetry PacsB_N_L27_2S WM82K565	= OFF	(None)
		Verify Telemetry PacsB_N_L27_I WM809565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsB_R_L28_1S WM32D565	= OFF	(None)
		Verify Telemetry PacsB_R_L28_2S WM32K565	= OFF	(None)
		Verify Telemetry PacsB_R_L28_I WM309565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsS_N_L35_S WM52A565	= OFF	(None)
		Verify Telemetry PacsS_N_L35_I WM506565	>= 0.0 A <= 0.1 A	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PacsS_R_L36_S WM62A565	= OFF	(None)
		Verify Telemetry PacsS_R_L36_I WM606565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsD_N_L41_S WM72B565	= OFF	(None)
		Verify Telemetry PacsD_N_L41_I WM707565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsD_R_L42_S WM42B565	= OFF	(None)
		Verify Telemetry PacsD_R_L42_I WM407565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsMec1_L65_1S WM52E565	= OFF	(None)
		Verify Telemetry PacsMec1_L65_2S WM52L565	= OFF	(None)
		Verify Telemetry PacsMec1_L65_I WM510565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry PacsMec2_L69_1S WM62E565	= OFF	(None)
		Verify Telemetry PacsMec2_L69_2S WM62L565	= OFF	(None)
		Verify Telemetry PacsMec2_L69_I WM610565	>= 0.0 A <= 0.1 A	(None)
12.27		Verify HIFI LCLs		□
		Verify Telemetry HiFiWEV_L43_S WM82A565	= OFF	(None)
		Verify Telemetry HiFiWEH_L43_I WM806565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiWEV_L44_S WM32A565	= OFF	(None)
		Verify Telemetry HiFiWEV_L44_I WM306565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiLcuN_L53_1S WM72D565	= OFF	(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry HiFiLcuN_L53_2S WM72K565	= OFF	(None)
		Verify Telemetry HiFiLCU_N_L53_I WM709565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiLcuR_L54_1S WM42D565	= OFF	(None)
		Verify Telemetry HiFiLcuR_L54_2S WM42K565	= OFF	(None)
		Verify Telemetry HiFiLCU_R_L54_I WM409565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiHRH_L63_1S WM52C565	= OFF	(None)
		Verify Telemetry HiFiHRH_L63_2S WM52J565	= OFF	(None)
		Verify Telemetry HiFiHRH_L63_I WM508565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiIcuN_L64_1S WM52D565	= OFF	(None)
		Verify Telemetry HiFiIcuN_L64_2S WM52K565	= OFF	
		Verify Telemetry HiFiICU_N_L64_I WM509565	>= 0.0 A <= 0.1 A	(None)
		Verify Telemetry HiFiHRV_L67_1S WM62C565	= OFF	(None)
		Verify Telemetry HiFiHRV_L67_2S WM62J565	= OFF	(None)
		Verify Telemetry HiFiHRV_L67_I WM608565	>= 0.0 A < 0.1 A	(None)
		Verify Telemetry HiFiIcuR_L68_1S WM62D565	= OFF	(None)
		Verify Telemetry HiFiIcuR_L68_2S WM62K565	= OFF	(None)
		Verify Telemetry HiFiICU_R_L68_I WM609565	>= 0.0 A <= 0.1 A	(None)
12.28		Acquire PACS units status from UIU table		□

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PacsDeclFuncSts DEL44171	= Off	(None)
		Verify Telemetry PacsBolclFuncSt DEL54171	= Off	(None)
		Verify Telemetry PacsDpuFuncSts DEL50171	= Off	(None)
12.29		Acquire HIFI units status from UIU table		<input type="checkbox"/>
		Verify Telemetry HifiHrvFuncSts DEL41171	= Off	(None)
		Verify Telemetry HifiWovFuncSts DEL49171	= Off	(None)
		Verify Telemetry HifiWohFuncSts DEL40171	= Off	(None)
		Verify Telemetry HifiWevFuncSts DEL53171	= Off	(None)
		Verify Telemetry HifiHrhFuncSts DEL46171	= Off	(None)
		Verify Telemetry HifiWehFuncSts DEL48171	= Off	(None)
		Verify Telemetry HifiIfvFuncSts DEL39171	= Off	(None)
		Verify Telemetry HifiLcuFuncSts DEL55171	= Off	(None)
		Verify Telemetry HifiLsuFuncSts DEL42171	= Off	(None)
12.30		Verify HPS status		<input type="checkbox"/>
		Verify Telemetry GRP1_HPS_STS WM12G565	= OFF	AND=WAHT1584
		Verify Telemetry GRP2_HPS_STS WM22G565	= OFF	AND=WAHT1584
		Verify Telemetry GRP3_HPS_STS WM22H565	= OFF	AND=WAHT1584
		Verify Telemetry GRP4_HPS_STS WM32G565	= OFF	AND=WAHT1584
		Verify Telemetry GRP5_HPS_STS WM32H565	= OFF	AND=WAHT1584
		Verify Telemetry GRP6_HPS_STS WM42G565	= OFF	AND=WAHT1584

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry GRP7_HPS_STS WM42H565	= OFF	AND=WAHT2584
		Verify Telemetry GRP8_HPS_STS WM52G565	= OFF	AND=WAHT2584
		Verify Telemetry GRP9_HPS_STS WM52H565	= OFF	AND=WAHT2584
		Verify Telemetry GRP10_HPS_STS WM62G565	= ON	AND=WAHT2584
		Verify Telemetry GRP11_HPS_STS WM62H565	= ON	AND=WAHT2584
		Verify Telemetry GRP12_HPS_STS WM72G565	= ON	AND=WAHT2584
		Verify Telemetry GRP13_HPS_STS WM72H565	= ON	AND=WAHT3584
		Verify Telemetry GRP14_HPS_STS WM82G565	= ON	AND=WAHT3584
		Verify Telemetry GRP15_HPS_STS WM82H565	= ON	AND=WAHT3584
		Verify Telemetry GRP16_HPS_STS WM92G565	= ON	AND=WAHT3584
		Verify Telemetry GRP17_HPS_STS WM92H565	= ON	AND=WAHT3584
		Verify Telemetry GRP18_HPS_STS WMA2G565	= ON	AND=WAHT3584
12.31		Verify HPS UIU table status		☐
		Verify Telemetry Hps1FuncSts DEG77170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps1Use DEG79170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps1LogSts DEG78170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps1FailSts DEG76170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps2FuncSts DEG81170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps2Use DEG83170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps2LogSts DEG82170	= Redundant	AND=ZAZ7K999



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Hps2FailSts                    DEG80170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps3FuncSts                    DEG85170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps3Use                            DEG87170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps3LogSts                    DEG86170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps3FailSts                    DEG84170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps4FuncSts                    DEG89170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps4Use                            DEG91170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps4LogSts                    DEG90170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps4FailSts                    DEG88170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps5FuncSts                    DEG93170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps5Use                            DEG95170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps5LogSts                    DEG94170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps5FailSts                    DEG92170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps6FuncSts                    DEG97170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps6Use                            DEG99170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps6LogSts                    DEG98170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps6FailSts                    DEG96170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps7FuncSts                    DEH01170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps7Use                            DEH03170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps7LogSts                    DEH02170	= Redundant	AND=ZAZ7K999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Hps7FailSts DEH00170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps8FuncSts DEH05170	= Off	AND=ZAZ7K999
		Verify Telemetry Hps8Use DEH07170	= Not_In_Use	AND=ZAZ7K999
		Verify Telemetry Hps8LogSts DEH06170	= Redundant	AND=ZAZ7K999
		Verify Telemetry Hps8FailSts DEH04170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps9FuncSts DEH09170	= Off	AND=ZAZ7L999
		Verify Telemetry Hps9Use DEH11170	= Not_In_Use	AND=ZAZ7L999
		Verify Telemetry Hps9LogSts DEH10170	= Redundant	AND=ZAZ7L999
		Verify Telemetry Hps9FailSts DEH08170	= Not_Failed	AND=ZAZ7L999
		Verify Telemetry Hps10FuncSts DEG41170	= On	AND=ZAZ7L999
		Verify Telemetry Hps10Use DEG43170	= In_Use	AND=ZAZ7L999
		Verify Telemetry Hps10LogSts DEG42170	= Nominal	AND=ZAZ7L999
		Verify Telemetry Hps10FailSts DEG40170	= Not_Failed	AND=ZAZ7L999
		Verify Telemetry Hps11FuncSts DEG45170	= On	AND=ZAZ7K999
		Verify Telemetry Hps11Use DEG47170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps11LogSts DEG46170	= Nominal	AND=ZAZ7K999
		Verify Telemetry Hps11FailSts DEG44170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps12FuncSts DEG49170	= On	AND=ZAZ7K999
		Verify Telemetry Hps12Use DEG51170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps12LogSts DEG50170	= Nominal	AND=ZAZ7K999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Hps12FailSts	DEG48170	= Not_Failed AND=ZAZ7K999
		Verify Telemetry Hps13FuncSts	DEG53170	= On AND=ZAZ7K999
		Verify Telemetry Hps13Use	DEG55170	= In_Use AND=ZAZ7K999
		Verify Telemetry Hps13LogSts	DEG54170	= Nominal AND=ZAZ7K999
		Verify Telemetry Hps13FailSts	DEG52170	= Not_Failed AND=ZAZ7K999
		Verify Telemetry Hps14FuncSts	DEG57170	= On AND=ZAZ7K999
		Verify Telemetry Hps14Use	DEG59170	= In_Use AND=ZAZ7K999
		Verify Telemetry Hps14LogSts	DEG58170	= Nominal AND=ZAZ7K999
		Verify Telemetry Hps14FailSts	DEG56170	= Not_Failed AND=ZAZ7K999
		Verify Telemetry Hps15FuncSts	DEG61170	= On AND=ZAZ7K999
		Verify Telemetry Hps15Use	DEG63170	= In_Use AND=ZAZ7K999
		Verify Telemetry Hps15LogSts	DEG62170	= Nominal AND=ZAZ7K999
		Verify Telemetry Hps15FailSts	DEG60170	= Not_Failed AND=ZAZ7K999
		Verify Telemetry Hps16FuncSts	DEG65170	= On AND=ZAZ7K999
		Verify Telemetry Hps16Use	DEG67170	= In_Use AND=ZAZ7K999
		Verify Telemetry Hps16LogSts	DEG66170	= Nominal AND=ZAZ7K999
		Verify Telemetry Hps16FailSts	DEG64170	= Not_Failed AND=ZAZ7K999
		Verify Telemetry Hps17FuncSts	DEG69170	= On AND=ZAZ7K999
		Verify Telemetry Hps17Use	DEG71170	= In_Use AND=ZAZ7K999
		Verify Telemetry Hps17LogSts	DEG70170	= Nominal AND=ZAZ7K999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Hps17FailSts                    DEG68170	= Not_Failed	AND=ZAZ7K999
		Verify Telemetry Hps18FuncSts                    DEG73170	= On	AND=ZAZ7K999
		Verify Telemetry Hps18Use                            DEG75170	= In_Use	AND=ZAZ7K999
		Verify Telemetry Hps18LogSts                    DEG74170	= Nominal	AND=ZAZ7K999
		Verify Telemetry Hps18FailSts                    DEG72170	= Not_Failed	AND=ZAZ7K999
12.32		Verify Solar Array Temperatures		□
		Verify Solar Array Panel 1 Temp 1 Nom Telemetry SA_Pan1_Temp1_N                    WMB01569	<= 105.0 degC >= 84.0 degC	AND=ZAZ7H999
		Verify Solar Array Panel 1 Temp 1 Red Telemetry SA_Pan1_Temp1_R                    WMB04569	<= 100.0 degC >= 60.0 degC	AND=ZAZ7H999
		Verify Solar Array Panel 1 Temp 2 Nom Telemetry SA_Pan1_Temp2_N                    WMB02569	<= 125.0 degC >= 90.0 degC	AND=ZAZ7H999
		Verify Solar Array Panel 1 Temp 2 Red Telemetry SA_Pan1_Temp2_R                    WMB05569	<= 125.0 degC >= 90.0 degC	AND=ZAZ7H999
		Verify Solar Array Panel 1 Temp 3 Nom Telemetry SA_Pan1_Temp3_N                    WMB03569	<= 105.0 degC >= 70.0 degC	AND=ZAZ7H999
		Verify Solar Array Panel 1 Temp 3 Red Telemetry SA_Pan1_Temp3_R                    WMB06569	= 400.0 degC	AND=ZAZ7H999
<b>End of Procedure</b>				