

CCU subsystem checkout
File: H_FCP_CCU_CHECK.xls
Author: E. Picallo



Procedure Summary

Objectives

This procedure describes the steps to check the CCUs health status analyzing the essential HK data:

- status of valve control and DLCM arm relays
- indication of detected activation of pulse for valves and heater
- operational status of each valve or heater controls
- indication of rejected commands or aborted executions
- indication of anomalies detected during DLCM sequence
- indication of data invalidity during measurement
- status of each measurement sequencer (Monitoring and DLCM)

Additionally the monitoring status (reported in the payload management status) and the CCU related entries status in the EAT are verified.

Summary of Constraints

Specific procedure to check the CCU status during monitoring mode i.e. not during DLCM or valves actuation.

Valves 103, 106, 501 and 503 will be opened at launch and they will always remain opened.

Valves 504 and 505 will be opened at launch but they will be closed TBD days after.

The DLCM will only be performed twice per year.

It means that the DLCM and valves related parameters should not be relevant for usual CCU health checks.

Spacecraft Configuration

Start of Procedure

CCU A and CCU B switch ON, declared ON and valid on S/C Bus and configured ON in the UIU table
CCU A and CCU B in monitoring mode

End of Procedure

CCU A and CCU B switch ON, declared ON and valid on S/C Bus and configured ON in the UIU table
CCU A and CCU B in monitoring mode

Reference File(s)

Input Command Sequences

Output Command Sequences

HPKCHECK

Referenced Displays

ANDs GRDs SLDs

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



ZAZ9L999 (None)
 ZAZ9K999

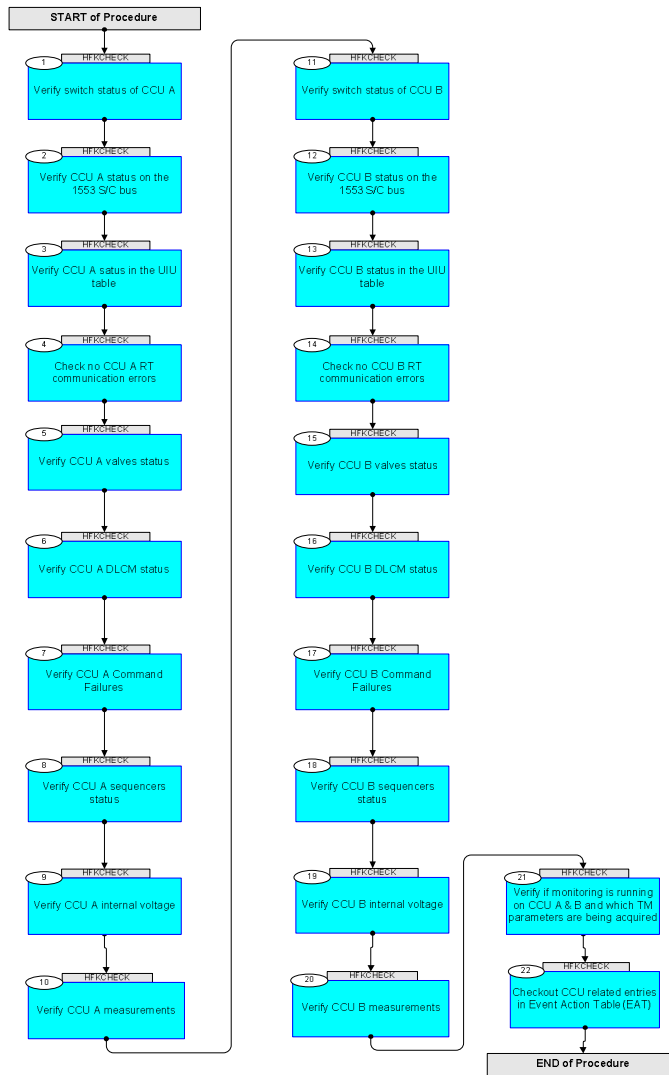
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
29/07/08	1	1	Created	E. Picallo	
21/10/08	2	2	Display mode updated	E. Picallo	
18/02/09		3	Include RT error flags check.	E. Picallo	
24/02/09	2.1	4	Verification of CCUs monit#1/2 reception pkts added	E. Picallo	

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Procedure Flowchart Overview



CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name : HFKCHECK (CCU subsystem check) CCU subsystem checkout TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
1		Verify switch status of CCU A		Next Step: 2
		Verify CCU A (LCL37) line status Telemetry Ccu_A_L37_S WM12A565	= ON	AND=ZAZ9L999
		Verify LCL37 (CCU A) current Telemetry Ccu_A_L37_I WM106565	>= 0.1 A <= 0.2 A	AND=ZAZ9L999
2		Verify CCU A status on the 1553 S/C bus		Next Step: 3
		Verify Telemetry CCUA_OnOff DED3G161	= ON	AND=ZAZ9L999
		Verify Telemetry CCUA_DeadAlive DED3H161	= Alive	AND=ZAZ9L999
		Verify Telemetry CCUA_WellsickTC DED3Z161	= Well	AND=ZAZ9L999
		Verify Telemetry CCUA_WellsickTM DED3J161	= Well	AND=ZAZ9L999
		Verify Telemetry CCUA_ValidInval DED3K161	= Valid	AND=ZAZ9L999
		Verify Telemetry CCUA_VitalNonV DED62161	= NonVital	AND=ZAZ9L999
		Verify Telemetry CCUA_NomRed DED63161	= NOMINAL	AND=ZAZ9L999
3		Verify CCU A status in the UIU table		Next Step: 4
		Verify Telemetry CcuAFuncSts DEL97171	= On	AND=ZAZ9L999
4		Check no CCU A RT communication errors		Next Step: 5

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>The CCU RT reports the following error flags in the MIL STD-1553B Status Words:</p> <ul style="list-style-type: none"> - RT message error bit: set by the RT upon detection of an error in the message or an illegal message identification. - RT busy bit: indicates that the RT or subsystem is unable to move data to or from the subsystem in compliance with the BC command. - RT subsystem flag bit: indicates a subsystem fault condition, and alert the BC to potentially invalid data. - RT terminal flag bit: indicates a RT fault condition. <p>These RT error bits are not supported by DLL FDIR mechanisms. Thus, if a permanent error is reported on one of these bits, this could indicate a failure in the RT or the CCU, and a recovery action should be taken by calling the contingency procedure H_CRP_CCU_CCUR (CCU Anomaly).</p>		
		<p>The value of the error bits for the CCU A is kept in the following DIDs (included in the CCU A monitoring packets):</p> <p>DID_CCU_A_SA01_RSP_STS_WORD DID_CCU_A_SA08_RSP_STS_WORD DID_CCU_A_SA11_RSP_STS_WORD DID_CCU_A_SA12_RSP_STS_WORD DID_CCU_A_SA13_RSP_STS_WORD DID_CCU_A_SA16_RSP_STS_WORD DID_CCU_A_SA30_RSP_STS_WORD</p> <p>NOTE: in case of permanent failures (i.e. if DID_CCU_A_SA11_RSP_STS_WORD is indicating a subsystem error flag condition), the same error will be reported in all the other DIDs for response status words. Then, it is enough to check only one of these Status Words. The parameters below correspond to DID_CCU_A_SA11_RSP_STS_WORD.</p>		
		<p>Verify RT message error bit Telemetry MsgErr DEYC2161</p>	= 0 <dec>	(None)
		<p>Verify RT message error bit Telemetry Busy DEYC6161</p>	= 0 <dec>	(None)
		<p>Verify RT subsystem flag bit Telemetry SubSys DEYC7161</p>	= 0 <dec>	(None)
		<p>Verify RT terminal flag bit Telemetry Term DEYC9161</p>	= 0 <dec>	(None)
5		Verify CCU A valves status		Next Step: 6

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify State of Valve 1 arming relay Telemetry Arm_V103 KM110300	= DISARMED	AND=ZAZ9K999
		Verify State of Valve 1 polarity selection relays Telemetry Polarity_V103 KM111300		AND=ZAZ9K999
		Verify Valve 1 actuated i.e. active output detected (direction of actuation is specified V1 polarity) Telemetry Actuated_V103 KM112300	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 1 open or close command rejected Telemetry OpCl_TCREJ_V103 KM113300	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 1 arm command rejected Telemetry Arm_TCREJ_V103 KM114300	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 1 arm deactivated by timer Telemetry dis_TCREJ_V103 KM115300	= NOT DETECTED	AND=ZAZ9K999
		Verify State of Valve 2 arming relay Telemetry Arm_V501 KM120300	= DISARMED	AND=ZAZ9K999
		Verify State of Valve 2 polarity selection relays Telemetry Polarity_V501 KM121300		AND=ZAZ9K999
		Verify Valve 2 actuated Telemetry Actuated_V501 KM122300	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 2 open or close command rejected Telemetry OpCl_TCREJ_V501 KM123300	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 2 Arm command rejected Telemetry Arm_TCREJ_V501 KM124300	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 2 Arm deactivated by timer Telemetry dis_TCREJ_V501 KM125300	= NOT DETECTED	AND=ZAZ9K999
		Verify State of Valve 3 arming relay Telemetry Arm_V504 KM130300	= DISARMED	AND=ZAZ9K999
		Verify State of Valve 3 polarity selection relays Telemetry Polarity_V504 KM131300		AND=ZAZ9K999
		Verify Valve 3 actuated Telemetry Actuated_V504 KM132300	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 3 open or close command rejected Telemetry OpCl_TCREJ_V504 KM133300	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 3 Arm command rejected Telemetry Arm_TCREJ_V504 KM134300	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 3 Arm deactivated by timer Telemetry dis_TCREJ_V504 KM135300	= NOT DETECTED	AND=ZAZ9K999
		Valves 103 and 501 will be opened at launch and they will always remain opened. Valve 504 will be opened at launch but they will be closed TBD days after.		

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
6		Verify CCU A DLCM status		Next Step: 7
		Verify State of DLCM heater arming relay DLCMHArm_st A KM037300	= OFF	AND=ZAZ9L999
		Verify State of DLCM heater DLCMheat_stat A KM034300	= OFF	AND=ZAZ9L999
		Verify Synchronization to frame failed in DLCM Telemetry DLCMSync_fail A KM036300	= NOT DETECTED	AND=ZAZ9L999
		Verify Inconsistence in time counters detected Telemetry TimeCntr_Inc A KM035300	= NOT DETECTED	AND=ZAZ9L999
		Verify DLCM On command rejected Telemetry DLCMcmdON_rj A KM033300	= NOT DETECTED	AND=ZAZ9L999
		Verify DLCM Arm command rejected Telemetry DLCMcmdARM_rj A KM032300	= NOT DETECTED	AND=ZAZ9L999
		Verify DLCM heater arm deactivated by timer Telemetry DLCMhtARMdist A KM031300	= NOT DETECTED	AND=ZAZ9L999
		Verify DLCM heater arm deactivated during heating Telemetry DLCMhtARMdish A KM030300	= NOT DETECTED	AND=ZAZ9L999
7		Verify CCU A Command Failures		Next Step: 8
		Verify RTU reported format error in received or transmit message Telemetry RTU_fmt_err A KM027300	= NOT DETECTED	AND=ZAZ9L999
		Verify Undefined data word content detected Telemetry SA1R_failure A KM026300	= NOT DETECTED	AND=ZAZ9L999
		Verify Undefined word count or data word content detected (11 R), or Data wrap-around, Configurate RTU or Read RTU configuration command rejected Telemetry SA11_30R_fail A KM025300	= NOT DETECTED	AND=ZAZ9L999
		Verify Execution of Monitoring sequence, Data wrap- around, Read RTU configuration or Configurate RTU command aborted Telemetry Exe_Abort A KM024300	= NOT DETECTED	AND=ZAZ9L999
8		Verify CCU A sequencers status		Next Step: 9
		Verify State of DLCM sequencer (execution phase) DLCM_stat A KM022300	= Idle	AND=ZAZ9L999
		Verify State of Monitoring sequencer MonSeq_stat A KM021300	ACTIVE/NOACTICE	AND=ZAZ9L999
		Verify Pre- and Post-Calibration (used in DLCM) Pre_post_cal A KM028300	= Pre-calib	AND=ZAZ9L999
		Verify State of configuration arm Telemetry ConfArm_stat A KM038300	= OFF	AND=ZAZ9L999

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
9		Verify CCU A internal voltage		Next Step: 10
		Verify CCU internal -15V status CCU_Vol_stat A KM048300	= OK	AND=ZAZ9L999
10		Verify CCU A measurements		Next Step: 11
		Verify Current state of Meas. Average control bit MeasAvrg_st A KM046300	= ENABLED	AND=ZAZ9L999
		Verify Underflow error during measurement detected MeasUnflow_st A KM045300	= NOT DETECTED	AND=ZAZ9L999
		Verify AD-converter latchup during measurement detected ADC_latchup A KM044300	= NOT DETECTED	AND=ZAZ9L999
		Verify Number of AD-converter latchups since CCU power up ADC_latchuCnt A KM040300		AND=ZAZ9L999
		AD-converter has internal latchup protection circuit, which indicate an occurrence of latchup with a dedicated signal. Latchup counter is provided for engineering purpose and records all latchups (during or outside measurements).		
11		Verify switch status of CCU B		Next Step: 12
		Verify CCU B (LCL38) line status Telemetry Ccu_B_L38_S WMA2A565	= ON	AND=ZAZ9L999
		Verify LCL38 (CCU B) current Telemetry Ccu_B_L38_I WMA06565	>= 0.1 A <= 0.2 A	AND=ZAZ9L999
12		Verify CCU B status on the 1553 S/C bus		Next Step: 13
		Verify Telemetry CCUB_OnOff DED41161	= ON	AND=ZAZ9L999
		Verify Telemetry CCUB_DeadAlive DED42161	= Alive	AND=ZAZ9L999
		Verify Telemetry CCUB_WellSickTC DED43161	= Well	AND=ZAZ9L999
		Verify Telemetry CCUB_WellSickTM DED44161	= Well	AND=ZAZ9L999
		Verify Telemetry CCUB_ValidInval DED45161	= Valid	AND=ZAZ9L999
		Verify Telemetry CCUB_VitalNonV DED6G161	= NonVital	AND=ZAZ9L999

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry CCUB_NomRed DED6H161	= NOMINAL	AND=ZAZ9L999
13		Verify CCU B status in the UIU table		Next Step: 14
		Verify Telemetry CcuBFuncSts DEL96171	= On	AND=ZAZ9L999
14		Check no CCU B RT communication errors		Next Step: 15
		<p>The CCU RT reports the following error flags in the MIL STD-1553B Status Words:</p> <ul style="list-style-type: none"> - RT message error bit: set by the RT upon detection of an error in the message or an illegal message identification. - RT busy bit: indicates that the RT or subsystem is unable to move data to or from the subsystem in compliance with thte BC command. - RT subsystem flag bit: indicates a subsystem fault condition, and alert the BC to potentially invalid data. - RT terminal flag bit: indicates a RT fault condition. <p>These RT error bits are not supported by DLL FDIR mechanisms. Thus, if a permanent error is reported on one of these bits, this could indicate a failure in the RT or the CCU, and a recovery action should be taken by calling the contingency procedure H_CRP_CCU_CCUR (CCU Anomaly).</p>		
		<p>The value of the error bits for the CCU B is kept in the following DIDs (included in the CCU B monitoring packets):</p> <p>DID_CCU_B_SA01_RSP_STS_WORD DID_CCU_B_SA08_RSP_STS_WORD DID_CCU_B_SA11_RSP_STS_WORD DID_CCU_B_SA12_RSP_STS_WORD DID_CCU_B_SA13_RSP_STS_WORD DID_CCU_B_SA16_RSP_STS_WORD DID_CCU_B_SA30_RSP_STS_WORD</p> <p>NOTE: in case of permanent failures (i.e. if DID_CCU_B_SA11_RSP_STS_WORD is indicating a subsystem error flag condition), the same error will be reported in all the other DIDs for response status words. Then, it is enough to check only one of these Status Words. The parameters below correspond to DID_CCU_B_SA11_RSP_STS_WORD.</p>		
		Verify RT message error bit Telemetry MsgErr DEYK2161	= 0 <dec>	(None)

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify RT busy bit Telemetry Busy DEYK6161	= 0 <dec>	(None)
		Verify RT subsystem flag bit Telemetry SubSys DEYK7161	= 0 <dec>	(None)
		Verify RT terminal flag bit Telemetry Term DEYK9161	= 0 <dec>	(None)
15		Verify CCU B valves status		Next Step: 16
		Verify State of Valve 1 arming relay Telemetry Arm_V106 KM110301	= DISARMED	AND=ZAZ9K999
		Verify State of Valve 1 polarity selection relays Telemetry Polarity_V106 KM111301		AND=ZAZ9K999
		Verify Valve 1 actuated i.e. active output detected (direction of actuation is specified by Valve 1 polarity) Telemetry Actuated_V106 KM112301	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 1 open or close command rejected Telemetry OpCl_TCREJ_V106 KM113301	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 1 arm command rejected Telemetry Arm_TCREJ_V106 KM114301	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 1 arm deactivated by timer Telemetry dis_TCREJ_V106 KM115301	= NOT DETECTED	AND=ZAZ9K999
		Verify State of Valve 2 arming relay Telemetry Arm_V503 KM120301	= DISARMED	AND=ZAZ9K999
		Verify State of Valve 2 polarity selection relays Telemetry Polarity_V503 KM121301		AND=ZAZ9K999
		Verify Valve 2 actuated Telemetry Actuated_V503 KM122301	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 2 open or close command rejected Telemetry OpCl_TCREJ_V503 KM123301	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 2 Arm command rejected Telemetry Arm_TCREJ_V503 KM124301	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 2 Arm deactivated by timer Telemetry dis_TCREJ_V503 KM125301	= NOT DETECTED	AND=ZAZ9K999
		Verify State of Valve 3 arming relay Telemetry Arm_V505 KM130301	= DISARMED	AND=ZAZ9K999
		Verify State of Valve 3 polarity selection relays Telemetry Polarity_V505 KM131301		AND=ZAZ9K999
		Verify Valve 3 actuated Telemetry Actuated_V505 KM132301	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 3 open or close command rejected Telemetry OpCl_TCREJ_V505 KM133301	= NOT DETECTED	AND=ZAZ9K999

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Valve 3 Arm command rejected Telemetry Arm_TCREJ_V505 KM134301	= NOT DETECTED	AND=ZAZ9K999
		Verify Valve 3 Arm deactivated by timer Telemetry dis_TCREJ_V505 KM135301	= NOT DETECTED	AND=ZAZ9K999
		Valves 106 and 503 will be opened at launch and they will always remain opened. Valve 505 will be opened at launch but they will be closed TBD days after.		
16		Verify CCU B DLCM status		Next Step: 17
		Verify State of DLCM heater arming relay Telemetry DLCMHArm_st B KM037301	= OFF	AND=ZAZ9L999
		Verify State of DLCM heater Telemetry DLCMheat_stat B KM034301	= OFF	AND=ZAZ9L999
		Verify Synchronization to frame failed in DLCM DLCMsync_fail B KM036301	= NOT DETECTED	AND=ZAZ9L999
		Verify Inconsistence in time counters detected TimeCtrntr_Inc B KM035301	= NOT DETECTED	AND=ZAZ9L999
		Verify DLCM On command rejected Telemetry DLCMcmdON_rj B KM033301	= NOT DETECTED	AND=ZAZ9L999
		Verify DLCM Arm command rejected Telemetry DLCMcmdARM_rj B KM032301	= NOT DETECTED	AND=ZAZ9L999
		Verify DLCM heater arm deactivated by timer Telemetry DLCMhtARMdist B KM031301	= NOT DETECTED	AND=ZAZ9L999
		Verify DLCM heater arm deactivated during heating DLCMhtARMdish B KM030301	= NOT DETECTED	AND=ZAZ9L999
17		Verify CCU B Command Failures		Next Step: 18
		Verify RTU reported format error in received or transmit message Telemetry RTU_fmt_err B KM027301	= NOT DETECTED	AND=ZAZ9L999
		Verify Undefined data word content detected Telemetry SA1R_failure B KM026301	= NOT DETECTED	AND=ZAZ9L999
		Verify Undefined word count or data word content detected (11 R), or Data wrap-around, Configure RTU or Read RTU configuration command rejected Telemetry SA11_30R_fail B KM025301	= NOT DETECTED	AND=ZAZ9L999
		Verify Execution of Monitoring sequence, Data wrap-around, Read RTU configuration or Configure RTU command aborted Telemetry Exe_Abort B KM024301	= NOT DETECTED	AND=ZAZ9L999

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
18		Verify CCU B sequencers status		Next Step: 19
		Verify State of DLCM sequencer Telemetry DLCM_stat B KM022301	= Idle	AND=ZAZ9L999
		Verify State of Monitoring sequencer Telemetry MonSeq_stat B KM021301	ACTIVE/NOACTICE	AND=ZAZ9L999
		Verify Pre- or Post-Calibration (used in DLCM) Pre_post_cal B KM028301	= Pre-calib	AND=ZAZ9L999
		Verify State of configuration arm Telemetry ConfArm_stat B KM038301	= OFF	AND=ZAZ9L999
19		Verify CCU B internal voltage		Next Step: 20
		Verify CCU internal -15V status Telemetry CCU_Vol_stat B KM048301	= OK	AND=ZAZ9L999
20		Verify CCU B measurements		Next Step: 21
		Verify Current state of Meas. Average control bit MeasAvrg_st B KM046301	= ENABLED	AND=ZAZ9L999
		Verify Underflow error during measurement detected MeasUnflow_st B KM045301	= NOT DETECTED	AND=ZAZ9L999
		Verify AD-converter latchup during measurement detected ADC_latchup B KM044301	= NOT DETECTED	AND=ZAZ9L999
		Verify Number of AD-converter latchups since CCU power up ADC_latchuCnt B KM040301		AND=ZAZ9L999
		AD-converter has internal latchup protection circuit, which indicate an occurrence of latchup with a dedicated signal. Latchup counter is provided for engineering purpose and records all latchups (during or outside measurements).		
21		Verify if monitoring is running on CCU A & B and which TM parameters are being acquired		Next Step: 22
21.1		Report Payload Management Status		□
		Execute Procedure: H_FCP_CCU_REPO Payload management status Report		

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>- Monitoring is enabled on CCU A/B if monitoring period<0 For routine monitoring the period is 512 sec For recycling/decontamination the period is 8 sec</p> <p>- All cryostat parameters, except the spare ones, will be acquired if the words #2 to #6 are set as follows: For CCU A DW#2 = 0xFFF7 For CCU A DW#3 = 0xF7FF For CCU A DW#4 = 0xFDFF For CCU A DW#5 = 0xBFFF For CCU A DW#6 = 0xFFFF For CCU B DW#2 = 0xFEFF For CCU B DW#3 = 0xFFFF For CCU B DW#4 = 0xFCFF For CCU B DW#5 = 0xFFFF For CCU B DW#6 = 0xFFFFD</p>		
21.2		Verify which CCUs monitoring packets are enabled		<input type="checkbox"/>
		<p>Acquire the list of the current enabled TM packets and verify:</p> <p>- if the periodic packets CCUA/B monit#1 are enabled: CCUA monit#1 -> type=3, subtype=25, packet-ID=68 CCUB monit#1 -> type=3, subtype=25, packet-ID=71</p> <p>- if the diagnostic packets CCUA/B monit#2 are enabled: CCUA monit#2 -> type=3, subtype=26, packet-ID=102 CCUB monit#2 -> type=3, subtype=26, packet-ID=104</p>		
		<p>For routine monitoring the CCUA/B monit#1 packtes are enabled (period 512s) For recycling/decontamination the CCUA/B monit#2 packtes are enabled (period 8 sec)</p>		
21.2.1		Send TC(14,3) to acquire the list of the current enabled TM packets		<input type="checkbox"/>
		<p>Execute Telecommand</p> <p style="text-align: right;">ReportEnabledTm</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : Report Enabled Telemetry Packets</p>	DC904180	
21.2.2		Verify that TM(14,4) has been received		<input type="checkbox"/>

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Reception TM Packet Generation Status Report Packet Details: APID: 16 Type: 14 Subtype: 4 PI1: PI2:	TMpktGenRep	
21.3		Verify reception of the CCUA monitoring packet: CCUA monit#1 or CCUA monit#2		<input type="checkbox"/>
		Verify Packet Reception Her Monitoring 1 Data from CCUA - generation period 512 s Packet Details: APID: 18 Type: 3 Subtype: 25 PI1: 9752 PI2:	D_H_CCU_A_M1	
		OR Verify Packet Reception Her Monitoring 2 Data from CCUA - generation period 8 s Packet Details: APID: 18 Type: 3 Subtype: 26 PI1: 22820 PI2:	D_H_CCU_A_M1	
21.4		Verify reception of CCUB monitoring packet: CCUB monit#1 or CCUB monit#2		<input type="checkbox"/>
		Verify Packet Reception Her Monitoring 1 Data from CCUB - generation period 512 s Packet Details: APID: 18 Type: 3 Subtype: 25 PI1: 10922 PI2:	D_H_CCU_B_M1	
		OR Verify Packet Reception Her Monitoring 2 Data from CCUB - generation period 8 s Packet Details: APID: 18 Type: 3 Subtype: 26 PI1: 23600 PI2:	D_H_CCU_B_M1	
22		Checkout CCU related entries in Event Action Table (EAT)		Next Step: END

CCU subsystem checkout
 File: H_FCP_CCU_CHECK.xls
 Author: E. Picallo



Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify CCUs RTs entries status in the EAT: CCUA_NOT_VIT_RT_INV (event Id 158) and CCUB_NOT_VIT_RT_INV (event Id 159) Expected status is both entries ENABLED.		
		Execute Telecommand <div style="text-align: right;">ReptEvtActTable</div> <i>TC Control Flags :</i> <div style="text-align: right;">GBM IL DSE --Y -- ---</div> <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	
End of Procedure				