

Recovery after MM A failure
File: H_CRP_DHS_3071.xls
Author: S. Manganelli



Procedure Summary

Objectives

This procedure describes the steps needed to recovery the MM A after a failure following the BSW event listed below:

- "MM A COCOS SPW Channel stopped prematurely";
- "MM A COCOS Access failure".

Summary of Constraints

To recover from a MM A failure it is necessary to:

- stop the MTL function and perform the S/C transition to Earth Acquisition mode;
- switch OFF and then ON the MM A and its banks setting as "Healthy"/"Enabled" the components previously marked as "Unhealthy"/"Disabled" in the Health table;
- put the MM A in line with the MM B from a packet stores point of view;
- stop the OBCP function;
- mark MM A MTL and OBCP buffer as "Not failed" in Unit In Use (UIU) table;
- restart the MTL and OBCP functions.

After the execution of this procedure, Ground has to reload on both the MMs the OBCPs and the MTL; in fact OBCP and MTL re-init is performed on both the MMs.

It is highlighted that the FDIR recoveries related to OBCPs have to be disabled in the Event Action Table before re-upload the OBCPs (see H-P-1-ASP-TN-1072).

Spacecraft Configuration

Start of Procedure

MM A MTL and OBCP buffers marked as "Failed" and "Not in use" in UIU table and relevant components marked as "Unhealthy"/"Disabled" in Health table;
MM B MTL and OBCP buffers marked as "In use" in UIU table.

End of Procedure

MM A MTL and OBCP buffers marked as "Not failed" and "In use" in UIU table and relevant components marked as "Healthy"/"Enabled" in Health table.

Reference File(s)

Input Command Sequences

Output Command Sequences

HRD3071A
HRD3071C
HRD3071G

Referenced Displays

ANDs GRDs SLDs

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ZAZAB999
 ZAZAC999
 ZAD22999
 ZAZAF999
 ZAZAD999
 ZAZAQ999
 ZAZAI999
 ZAZAM999
 ZAD19999

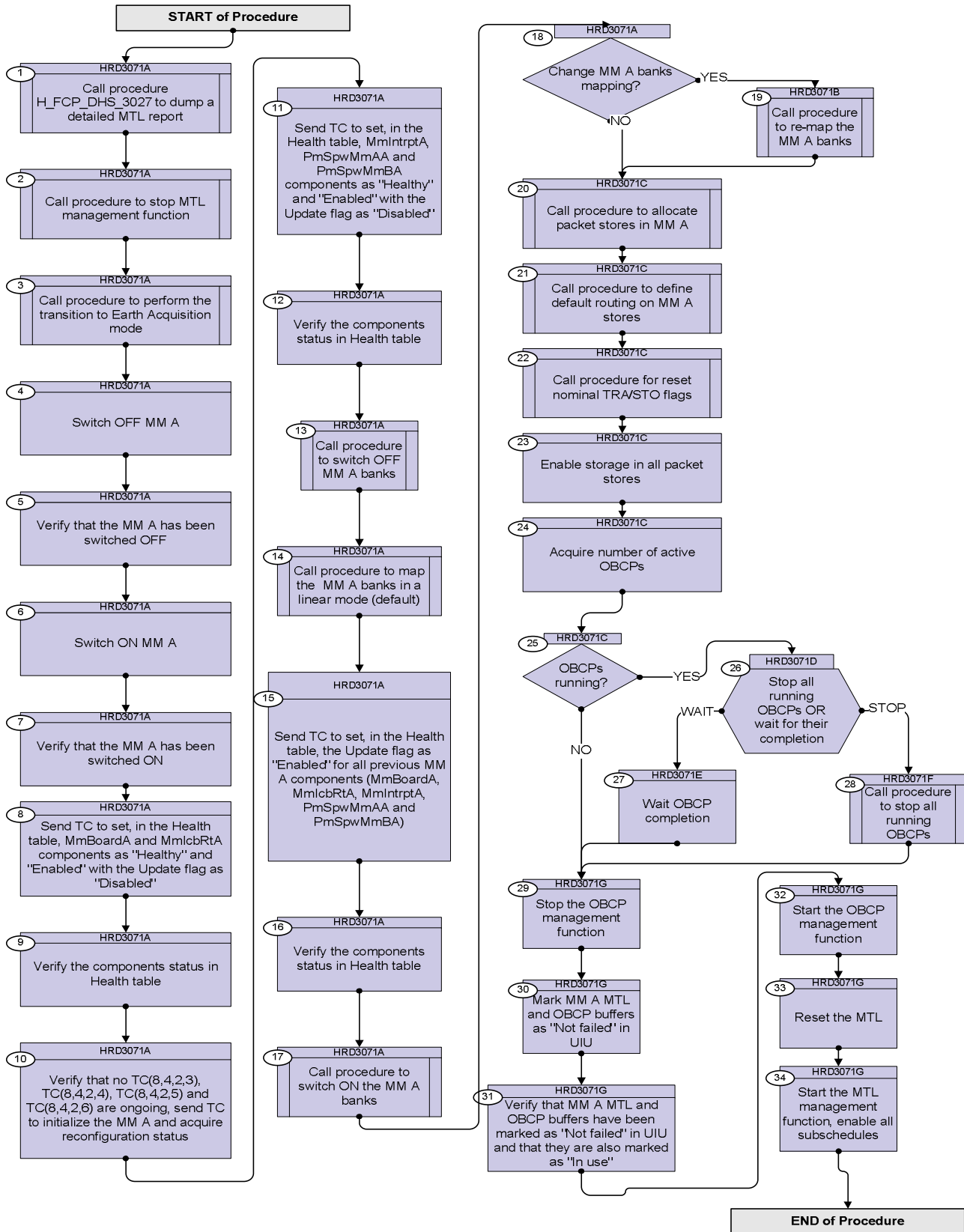
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
29/11/08		1	Created	S. Manganelli	
02/01/09		2	Streamlined with less procedure calls. Added enabling of all subschedule at last step.	S. Manganelli	
12/01/09		3	Updated following OBSW 3_8	S. Manganelli	
16/01/09	2	4	Removed step to <Clear BSW variable BankPower> not needed in OBSW 3_8	S. Manganelli	
20/03/09	2.2	5	Packet reception verification added at step 12 □ Call to procedure H_FCP_DHS_1003 to re-enforce nominal TRA/STO flags introduced as step 21. □ Some other TM checks introduced at steps 31 and 33 □ Procedure updated according to inputs received from TAS-I on 03/03/2009	S. Manganelli	
07/04/09	2.3	6	Inverted decision labels of step 25 (following TASF comments)	S. Manganelli	
04/05/09	2.4	7	Comment on wait time before MM switch on added at step 6	S. Manganelli	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name :HRD3071A (SSMMA reinitialization)				
TimeTag Type: N Sub Schedule ID: □				
1		Call procedure H_FCP_DHS_3027 to dump a detailed MTL report		Next Step: 2
2		Call procedure to stop MTL management function		Next Step: 3
		Execute Procedure: H_FCP_DHS_3025 Starting or stopping the MTL function		
3		Call procedure to perform the transition to Earth Acquisition mode		Next Step: 4
		Execute Procedure: H_FCP_DHS_4005 S/C Mode transition from Nominal to Earth Acquisition		
4		Switch OFF MM A		Next Step: 5
		Execute Telecommand MM_A_off TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : MM A off - High Priority Standard	DCA54170	
5		Verify that the MM A has been switched OFF		Next Step: 6
		Verify Telemetry MMstsA_fromTTRA DEEDG160 = OFF		AND=ZAZAB999
		Verify Telemetry MMstsA_fromTTRB DEEDH160 = OFF		AND=ZAZAB999
6		Switch ON MM A		Next Step: 7

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch												
		<p>WARNING: if a MM ON command is sent earlier than T seconds after the same MM board has been switched OFF, the on-board current limiters may immediately switch off again. No permanent damage will however occur.</p> <p>The time T depends on the MM temperature as follows :</p> <table border="1"> <tr> <td>Temp (°C)</td> <td>Time (sec.)</td> </tr> <tr> <td>-30</td> <td>22260.00</td> </tr> <tr> <td>0</td> <td>2700.00</td> </tr> <tr> <td>25</td> <td>258.00</td> </tr> <tr> <td>40</td> <td>72.00</td> </tr> <tr> <td>65</td> <td>10.98</td> </tr> </table> <p>In the worst case (-30 degrees C) we should wait about 6 hours and a half. Apparently there is no direct reading of such temperature on the MM board so industry will have to give us an indication.</p>	Temp (°C)	Time (sec.)	-30	22260.00	0	2700.00	25	258.00	40	72.00	65	10.98		
Temp (°C)	Time (sec.)															
-30	22260.00															
0	2700.00															
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40	72.00															
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		<p>Execute Telecommand</p> <p style="text-align: center;">MM_A_on-MM_A_Reset</p> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- --</p> <p>Subsch. ID : 10 Det. descr. : MM A on / MM A Reset - High Priority Standard</p>	DCA53170													
7		Verify that the MM A has been switched ON		Next Step: 8												
		Verify Telemetry <p style="text-align: center;">MMstsA_fromTTRA DEEDG160</p>	= ON	AND=ZAZAB999												
		Verify Telemetry <p style="text-align: center;">MMstsA_fromTTRB DEEDH160</p>	= ON	AND=ZAZAB999												
8		Send TC to set, in the Health table, MmBoardA and MmIcbRtA components as "Healthy" and "Enabled" with the Update flag as "Disabled"		Next Step: 9												

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																												
		<p>In the TC(8,4,10,3) it is necessary to set the following parameters:</p> <p>N: number of components for which the health tables shall be updated. In this case it has to be set to 2.</p> <p>Parameters repeated N times:</p> <p>COMP: component for which the Health table shall be updated. In this case the components to be modified are the following: - MmBoardA - MmIcbRtA</p> <p>Notice that the previous order must not be changed.</p>																																														
		<p>Mask for "Component Health" flag: 0=Ignore Flag; 1=Update the status.</p> <p>Mask for "Component enable/disable status" flag: 0=Ignore Flag; 1=Update the status.</p> <p>Mask for "Health and Status Update" flag: 0=Ignore Flag; 1=Update the status.</p> <p>In this case, these 3 flags have to be set to 1</p>																																														
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		<p>Execute Telecommand</p> <p style="text-align: center;">UpdateHealthTable</p> <p>Command Parameter(s) :</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;">N</td> <td style="width: 30%; text-align: center;">DH014160</td> <td style="width: 40%; text-align: center;">2 <dec></td> </tr> <tr> <td></td> <td style="text-align: center;">COMP</td> <td style="text-align: center;">DH100160</td> <td style="text-align: center;">MMBoardA</td> </tr> <tr> <td></td> <td style="text-align: center;">M0</td> <td style="text-align: center;">DH055160</td> <td style="text-align: center;">Update Status</td> </tr> <tr> <td></td> <td style="text-align: center;">M1</td> <td style="text-align: center;">DH056160</td> <td style="text-align: center;">Update Status</td> </tr> <tr> <td></td> <td style="text-align: center;">M2</td> <td style="text-align: center;">DH057160</td> <td style="text-align: center;">Update Status</td> </tr> <tr> <td></td> <td style="text-align: center;">F0</td> <td style="text-align: center;">DH015160</td> <td style="text-align: center;">Healthy</td> </tr> <tr> <td></td> <td style="text-align: center;">F1</td> <td style="text-align: center;">DH016160</td> <td style="text-align: center;">ENABLED</td> </tr> <tr> <td></td> <td style="text-align: center;">F2</td> <td style="text-align: center;">DH017160</td> <td style="text-align: center;">DISABLED</td> </tr> <tr> <td></td> <td style="text-align: center;">COMP</td> <td style="text-align: center;">DH100160</td> <td style="text-align: center;">MMIcbRtA</td> </tr> <tr> <td></td> <td style="text-align: center;">M0</td> <td style="text-align: center;">DH055160</td> <td style="text-align: center;">Update Status</td> </tr> <tr> <td></td> <td style="text-align: center;">M1</td> <td style="text-align: center;">DH056160</td> <td style="text-align: center;">Update Status</td> </tr> </table>		N	DH014160	2 <dec>		COMP	DH100160	MMBoardA		M0	DH055160	Update Status		M1	DH056160	Update Status		M2	DH057160	Update Status		F0	DH015160	Healthy		F1	DH016160	ENABLED		F2	DH017160	DISABLED		COMP	DH100160	MMIcbRtA		M0	DH055160	Update Status		M1	DH056160	Update Status	DC822160	
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		M2 DH057160 F0 DH015160 F1 DH016160 F2 DH017160 TC Control Flags : Subsch. ID : 10 Det. descr. : Update Health Table GBM IL DSE --Y -- ---	Update Status Healthy ENABLED DISABLED	
9		Verify the components status in Health table		Next Step: 10
		Verify Telemetry MmBrdA_UpdateEn DEJM1160	= DISABLED	AND=ZAZAC999
		Verify Telemetry MmBrdA_Enabled DEJM2160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmBrdA_Healthy DEJM3160	= Healthy	AND=ZAZAC999
		Verify Telemetry MmIcbA_UpdateEn DEJN1160	= DISABLED	AND=ZAZAC999
		Verify Telemetry MmIcbA_Enabled DEJN2160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmIcbA_Healthy DEJN3160	= Healthy	AND=ZAZAC999
10		Verify that no TC(8,4,2,3), TC(8,4,2,4), TC(8,4,2,5) and TC(8,4,2,6) are ongoing, send TC to initialize the MM A and acquire reconfiguration status		Next Step: 11
		Verify Telemetry TC_8-4-2-3_x DEE0J161	= FALSE	AND=ZAD22999
		Verify Telemetry TC_8-4-2-4_x DEE0K161	= FALSE	AND=ZAD22999
		Verify Telemetry TC_8-4-2-5_x DEE0L161	= FALSE	AND=ZAD22999
		Verify Telemetry TC_8-4-2-6_x DEE0M161	= FALSE	AND=ZAD22999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: center;">InitMassMemory</p> <i>Command Parameter(s) :</i> <p style="text-align: center;">EQU DH025160</p> <i>TC Control Flags :</i> <p style="text-align: center;">GBM IL DSE --Y -- ---</p> <i>Subsch. ID : 10</i> <i>Det. descr. : Initialize Mass Memory</i>	DC806160 MM A	
		<p>Note that the parameter can have the following values during the reconfiguration:</p> <ul style="list-style-type: none"> - 1 = Started - 2 = Init COCOS - 3 = Remap banks - 4 = Power switching - 5 = SDRAM init - 6 = Clear NUT area - 7 = Clear banks <p>When the reconfiguration is completed it should be set to 0, ie No Cfg Ongoing</p>		
		Verify Telemetry <p style="text-align: center;">BSW_MM_A_CfgSts DEL2F160</p>	= NoCfgOngoing	AND=ZAZAF999
11		<i>Send TC to set, in the Health table, MmIntrptA, PmSpwMmAA and PmSpwMmBA components as "Healthy" and "Enabled" with the Update flag as "Disabled"</i>		Next Step: 12
		<p>In the TC(8,4,10,3) it is necessary to set the following parameters:</p> <p><u>N</u>: number of components for which the health tables shall be updated. In this case it has to be set to 3.</p> <p>Parameters repeated N times:</p> <p><u>COMP</u>: component for which the Health table shall be updated. In this case the components to be modified are the following:</p> <ul style="list-style-type: none"> - MmIntrptA - PmSpwMmAA - PmSpwMmBA <p>Notice that the previous order must not be changed.</p>		

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		<p>Subsch. ID : 10 Det. descr. : Update Health Table</p>																																														
12		Verify the components status in Health table		Next Step: 13																																												

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		Verify Telemetry MmBrdA_UpdateEn DEJM1160	= DISABLED	AND=ZAZAC999
		Verify Telemetry MmBrdA_Enabled DEJM2160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmBrdA_Healthy DEJM3160	= Healthy	AND=ZAZAC999
		Verify Telemetry MmIcbA_UpdateEn DEJN1160	= DISABLED	AND=ZAZAC999
		Verify Telemetry MmIcbA_Enabled DEJN2160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmIcbA_Healthy DEJN3160	= Healthy	AND=ZAZAC999
		Verify Telemetry MmIntA_UpdateEn DEJMG160	= DISABLED	AND=ZAZAC999
		Verify Telemetry MmIntA_Enabled DEJMH160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmIntA_Healthy DEJMZ160	= Healthy	AND=ZAZAC999
		Verify Telemetry PmSpwMmAA_UpdE DEJS1160	= DISABLED	AND=ZAZAD999
		Verify Telemetry PmSpwMmAA_Enab DEJS2160	= ENABLED	AND=ZAZAD999
		Verify Telemetry PmSpwMmAA_Hlth DEJS3160	= Healthy	AND=ZAZAD999
		Verify Telemetry PmSpwMmBA_UpdE DEJSG160	= DISABLED	AND=ZAZAD999
		Verify Telemetry PmSpwMmBA_Enab DEJSH160	= ENABLED	AND=ZAZAD999
		Verify Telemetry PmSpwMmBA_Hlth DEJSZ160	= Healthy	AND=ZAZAD999
		Verify Packet Reception CdmuBsw Event 5-1 PM COCOS SPW C Reconnected Packet Details: APID: 16 Type: 5 Subtype: 1 PI1: 82 PI2: 82	D_EvRp_482	
13		Call procedure to switch OFF MM A banks		Next Step: 14
		WARNING: It is necessary to power OFF all banks, thus the following procedure must be executed 4 times		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Procedure: H_FCP_DHS_3017 Switching a MM bank ON or OFF		
14		Call procedure to map the MM A banks in a linear mode (default)		Next Step: 15
		Execute Procedure: H_FCP_DHS_3016 Map a MM ID to a MM bank Parameters: MM EQU 0<dec> POS0 BNK0 0<dec> POS1 BNK1 1<dec> POS2 BNK2 2<dec> POS3 BNK3 3<dec>		
15		Send TC to set, in the Health table, the Update flag as "Enabled" for all previous MM A components (MmBoardA, MmIcbRtA, MmIntrptA, PmSpwMmAA and PmSpwMmBA)		Next Step: 16
		In the TC(8,4,10,3) it is necessary to set the following parameters: N: number of components for which the health tables shall be updated. In this case it has to be set to 5. Parameters repeated N times: COMP: component for which the Health table shall be updated. In this case the components to be modified are the following: - MmBoardA - MmIcbRtA - MmIntrptA - PmSpwMmAA - PmSpwMmBA Notice that the previous order must not be changed.		
		Mask for "Component Health" flag: 0=Ignore Flag; 1=Update the status. In this case, it has to be set to 0 Mask for "Component enable/disable status" flag: 0=Ignore Flag; 1=Update the status. In this case, it has to be set to 0 Mask for "Health and Status Update" flag: 0=Ignore Flag; 1=Update the status. In this case, it has to be set to 1		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																													
		<p>Component Health: 0=Unhealthy; 1=Healthy. "Don't care" in this case</p> <p>Component enable/disable status: 0=Disabled; 1=Enabled. "Don't care" in this case</p> <p>Health and Status Update: 0=Disabled; 1=Enabled. In this case, it has to be set to 1</p>																																															
		<p>Execute Telecommand</p> <p style="text-align: right;">UpdateHealthTable</p> <p>Command Parameter(s) :</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 30%;">N</td><td style="width: 30%;">DH014160</td><td style="width: 40%;">5 <dec></td></tr> <tr><td>COMP</td><td>DH100160</td><td>MMBoardA</td></tr> <tr><td>M0</td><td>DH055160</td><td>Ignore Flag</td></tr> <tr><td>M1</td><td>DH056160</td><td>Ignore Flag</td></tr> <tr><td>M2</td><td>DH057160</td><td>Update Status</td></tr> <tr><td>F0</td><td>DH015160</td><td>Healthy</td></tr> <tr><td>F1</td><td>DH016160</td><td>ENABLED</td></tr> <tr><td>F2</td><td>DH017160</td><td>ENABLED</td></tr> <tr><td>COMP</td><td>DH100160</td><td>MMIcbRtA</td></tr> <tr><td>M0</td><td>DH055160</td><td>Ignore Flag</td></tr> <tr><td>M1</td><td>DH056160</td><td>Ignore Flag</td></tr> </table>	N	DH014160	5 <dec>	COMP	DH100160	MMBoardA	M0	DH055160	Ignore Flag	M1	DH056160	Ignore Flag	M2	DH057160	Update Status	F0	DH015160	Healthy	F1	DH016160	ENABLED	F2	DH017160	ENABLED	COMP	DH100160	MMIcbRtA	M0	DH055160	Ignore Flag	M1	DH056160	Ignore Flag	DC822160													
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
16		Verify the components status in Health table		Next Step: 17
		Verify Telemetry MmBrda_UpdateEn DEJM1160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmBrda_Enabled DEJM2160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmBrda_Healthy DEJM3160	= Healthy	AND=ZAZAC999
		Verify Telemetry MmIcBa_UpdateEn DEJN1160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmIcBa_Enabled DEJN2160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmIcBa_Healthy DEJN3160	= Healthy	AND=ZAZAC999
		Verify Telemetry MmIntA_UpdateEn DEJMG160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmIntA_Enabled DEJMH160	= ENABLED	AND=ZAZAC999
		Verify Telemetry MmIntA_Healthy DEJMZ160	= Healthy	AND=ZAZAC999
		Verify Telemetry PmSpwMmAA_UpdE DEJS1160	= ENABLED	AND=ZAZAD999
		Verify Telemetry PmSpwMmAA_Enab DEJS2160	= ENABLED	AND=ZAZAD999
		Verify Telemetry PmSpwMmAA_Hlth DEJS3160	= Healthy	AND=ZAZAD999
		Verify Telemetry PmSpwMmBA_UpdE DEJSG160	= ENABLED	AND=ZAZAD999
		Verify Telemetry PmSpwMmBA_Enab DEJSH160	= ENABLED	AND=ZAZAD999
		Verify Telemetry PmSpwMmBA_Hlth DEJSZ160	= Healthy	AND=ZAZAD999
17		Call procedure to switch ON the MM A banks		Next Step: 18
		Execute Procedure: H_FCP_DHS_1010 MM Banks 0, 1, 2 and 3 power ON.		

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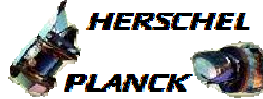
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
18		Change MM A banks mapping?		Next Step: YES 19 NO 20
<p>TC Seq. Name :HRD3071B (Re-map MMA banks)</p> <p>TimeTag Type: N Sub Schedule ID:</p> <p style="text-align: center;"><input type="checkbox"/></p>				
19		Call procedure to re-map the MM A banks		Next Step: 20
		Execute Procedure: H_FCP_DHS_3016 Map a MM ID to a MM bank		
<p>TC Seq. Name :HRD3071C (Set default properties)</p> <p>TimeTag Type: N Sub Schedule ID:</p> <p style="text-align: center;"><input type="checkbox"/></p>				
20		Call procedure to allocate packet stores in MM A		Next Step: 21
		Execute Procedure: H_FCP_DHS_1005 Define the standard packet stores on SSMM A and B (4 banks)		
21		Call procedure to define default routing on MM A stores		Next Step: 22
		Execute Procedure: H_FCP_DHS_1004 Nominal TM Pkt to Store Routing		
22		Call procedure for reset nominal TRA/STO flags		Next Step: 23
		Execute Procedure: H_FCP_DHS_1003 Nominal TRANSMIT/STORAGE settings		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
23		Enable storage in all packet stores		Next Step: 24
		Execute Telecommand EnStorageAllPktStore TC Control Flags : Subsch. ID : 10 Det. descr. : Enable Storage in All Packet Stores	DC151160	
24		Acquire number of active OBCPs		Next Step: 25
		Verify Telemetry ObcpActiveCnt DE83B170		AND=ZAZAQ999
25		OBCPs running?		Next Step: YES 26 NO 29
TC Seq. Name :HRD3071D (Dummy sequence) TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
26		Stop all running OBCPs OR wait for their completion		Next Step: WAIT 27 STOP 28
TC Seq. Name :HRD3071E (Dummy sequence) TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				
27		Wait OBCP completion		Next Step: 29
		WAIT time needed to the completion of the running OBCPs		
TC Seq. Name :HRD3071F (Stop running OBCPs) TimeTag Type: Sub Schedule ID: <input type="checkbox"/>				

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
28		Call procedure to stop all running OBCPs		Next Step: 29
		Execute Procedure: H_FCP_DHS_3042 Start or stop an OBCP Parameters: OBCP_ID ObcpId as required		
TC Seq. Name :HRD3071G (Initialize buffers) TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>				
29		Stop the OBCP management function		Next Step: 30
		Execute Telecommand <div style="text-align: right;">StopObcpManag</div> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : Stop Obcp Management TC(8,2,107)	DCN04170	
30		Mark MM A MTL and OBCP buffers as "Not failed" in UIU		Next Step: 31
		Verify Telemetry <div style="text-align: center;">Mtl1sts DEH26170</div> <div style="text-align: center;">= Stopped</div>		AND=ZAZAI999
		If the MTL function is not already "Stopped", then stop it using the following (not exported) command		
		Execute Telecommand <div style="text-align: right;">StopOnBoardSched</div> TC Control Flags : <div style="text-align: right;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : StopOnBoardScheduling TC(8,2,105) This Telecommand will not be included in the export	DC91F170	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">FdirMarkUnitOk_Templ</p> Command Parameter(s) : <p style="text-align: right;">FdirUnitAorB DH064170</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Fdir Mark Unit OK TC(8,4,116,22)	DCT35170 MTL_SSMM_A	
		Execute Telecommand <p style="text-align: right;">FdirMarkUnitOk_Templ</p> Command Parameter(s) : <p style="text-align: right;">FdirUnitAorB DH064170</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE Fdir Mark Unit OK TC(8,4,116,22)	DCT35170 OBCP_SSMM_A	
31		Verify that MM A MTL and OBCP buffers have been marked as "Not failed" in UIU and that they are also marked as "In use"		Next Step: 32
		Verify Telemetry <p style="text-align: right;">Mt11FailSts DEH88170</p>	= Not_Failed	AND=ZAZAM999
		Verify Telemetry <p style="text-align: right;">Obcp1FailSts DEH64170</p>	= Not_Failed	AND=ZAD19999
		Verify Telemetry <p style="text-align: right;">Mt11Use DEH91170</p>	= In_Use	AND=ZAZAM999
		Verify Telemetry <p style="text-align: right;">Obcp1Use DEH67170</p>	= In_Use	AND=ZAD19999
32		Start the OBCP management function		Next Step: 33
		Execute Telecommand <p style="text-align: right;">StartObcpManagForce2</p> TC Control Flags : <p style="text-align: right;">GBM IL DSE --Y -- ---</p> Subsch. ID : 10 Det. descr. : Start Obcp Management TC(8,1,107) with ForceRebuild set to 2	DCN1D170	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Reception CdmuAsw Event 5-4 BSW Problem Packet Details:	D_EvRp_104	
		APID: 16 Type: 5 Subtype: 4 PI1: 30738 PI2: 0		
		Verify Packet Telemetry (Pkt = D_EvRp_104)		
		TM5xEventID DEZSJ170 = BSW_Problem		(None)
		Verify Packet Telemetry (Pkt = D_EvRp_104)		
		Function_ID DE008170 = CommonEvents		(None)
		Verify Packet Telemetry (Pkt = D_EvRp_104)		
		AswFuncnt_ID DE248170 = OBPCManag		(None)
		Verify Packet Telemetry (Pkt = D_EvRp_104)		
		BswSvc DE193170 = Mb_Delete		(None)
		Verify Packet Telemetry (Pkt = D_EvRp_104)		
		BswRetSts DE180170 = MB_HDL		(None)
		Verify Packet Reception CdmuAsw Event 5-4 BSW Problem Packet Details:	D_EvRp_104	
		APID: 16 Type: 5 Subtype: 4 PI1: 30738 PI2: 0		
		Verify Packet Telemetry (Pkt = D_EvRp_104)		
		TM5xEventID DEZSJ170 = BSW_Problem		(None)
		Verify Packet Telemetry (Pkt = D_EvRp_104)		
		Function_ID DE008170 = CommonEvents		(None)
		Verify Packet Telemetry (Pkt = D_EvRp_104)		
		AswFuncnt_ID DE248170 = OBPCManag		(None)
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		Verify Packet Reception CdmuAsw Event 5-4 BSW Problem Packet Details:	D_EvRp_104	
		APID: 16 Type: 5 Subtype: 4 PI1: 30738 PI2: 0		
		Verify Packet Telemetry (Pkt = D_EvRp_104)		
		TM5xEventID DEZSJ170 = BSW_Problem		(None)
		Verify Packet Telemetry (Pkt = D_EvRp_104)		
		Function_ID DE008170 = CommonEvents		(None)

Recovery after MM A failure
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Telemetry (Pkt = D_EvRp_104) AswFuncnt_ID DE248170 = OBCPManag (None)		
		Verify Packet Telemetry (Pkt = D_EvRp_104) BswSvc DE193170 = Mb_Check (None)		
		Verify Packet Telemetry (Pkt = D_EvRp_104) BswRetSts DE180170 = MB_HDL (None)		
		Verify Packet Reception CdmuAsw Event 5-4 BSW Problem D_EvRp_104 Packet Details: APID: 16 Type: 5 Subtype: 4 PI1: 30738 PI2: 0		
		Verify Packet Telemetry (Pkt = D_EvRp_104) TM5xEventID DEZSJ170 = BSW_Problem (None)		
		Verify Packet Telemetry (Pkt = D_EvRp_104) Function_ID DE008170 = CommonEvents (None)		
		Verify Packet Telemetry (Pkt = D_EvRp_104) AswFuncnt_ID DE248170 = OBCPManag (None)		
		Verify Packet Telemetry (Pkt = D_EvRp_104) BswSvc DE193170 = Mb_Check (None)		
		Verify Packet Telemetry (Pkt = D_EvRp_104) BswRetSts DE180170 = MB_HDL (None)		
33		Reset the MTL		Next Step: 34
		Execute Telecommand ResetTcSchedule DC58F170 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : ResetTcSchedule, TC(11,3), no application data		
34		Start the MTL management function, enable all subschedules		Next Step: END
		Execute Telecommand StartOnBoardSched_Rb0R11 DCS0F170 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : StartOnBoardScheduling TC(8,1,105) + Rebuild = 0 + Release = 1		

Recovery after MM A failure
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		The second TC is uplink interlocked against execution completion of first one		
		Verify Packet Reception CdmuAsw Event 5-4 MTL Buffer A Deletion Problem Packet Details: <div style="margin-left: 100px;"> APID: 16 Type: 5 Subtype: 4 PI1: 26914 PI2: 0 </div>	D_EvRp_376	
		Execute Telecommand <div style="margin-left: 100px;">EnRelOfAllSsIdTcs</div> TC Control Flags : <div style="margin-left: 100px;">GBM IL DSE --Y -- --</div> Subsch. ID : 10 Det. descr. : EnableReleaseOfTcs from all subschedules TC(11,1)	DC75F170	
End of Procedure				