

Update ACC PM COCOS Registers ground image from memory dump
File: H_FCP_OBS_2251.xls
Author: lstefanov-hp



Procedure Summary

Objectives

This Herschel OBSM nominal procedure is used to conduct the dump of the readable ACC PM COCOS Registers. The procedure covers all ACC PM COCOS Registers with Read Access.

The ACC PM COCOS Registers dump is commanded using TC(6,5) and the memory locations content is received on ground in TM(6,6) packets.

To be noted that for both register read and write activities, the access has to be done at Word level (32-bit access), with 32-bit address alignment.

The procedure uses a MOIS generated command sequence and not a command stack generated by OBSM.

Summary of Constraints

ACC in Operational Mode

- Only one 32-bit register may be accessed per dump command
- Write-only registers shall NOT be dumped
- All transfers must be 32-bit transfers (N must be a multiple of 4)
- All transfers must 32-bit aligned

Memory areas are dumped through TC(6,5); this TC will be delayed when there is an ongoing:

- TC(6,2) Load Memory Using Absolute Addresses
- TC(6,5) Dump Memory Using Absolute Addresses
- TC(6,9) Check Memory Using Absolute Addresses
- TC(8,4,1,1) Copy Memory

Spacecraft Configuration

Start of Procedure

ACC in Operational Mode

End of Procedure

Same as start, except:
- ACC PM COCOS Registers dump executed

Reference File(s)

Input Command Sequences

Output Command Sequences

OFCP2251

Referenced Displays

ANDs GRDs SLDs

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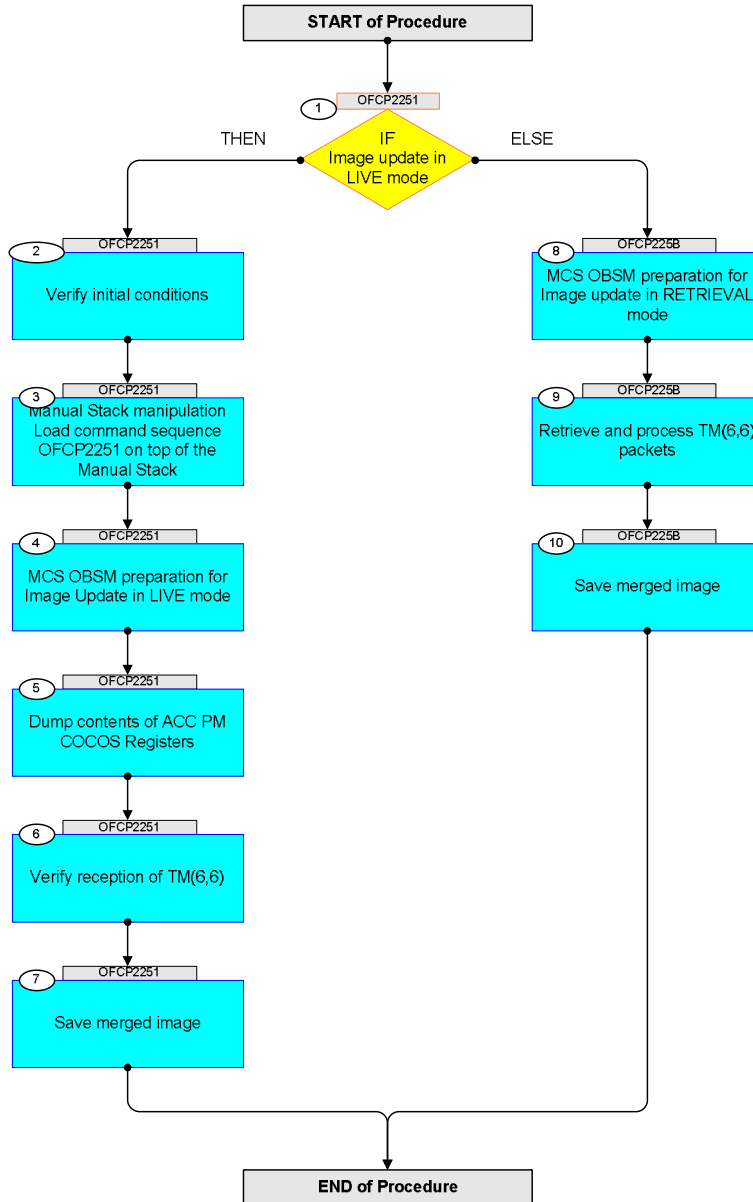
Configuration Control Information

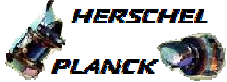

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
13/01/09	2	1	Created	lstefanov-hp	
10/04/09	2.3	2	1. removed 'Manual Dispatch' on all commands except the first one in the sequence	lstefanov-hp	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
Beginning of Procedure					
	OFCP2251	TC Seq. Name : OFCP2251 (ACC CocosReg Dmp) ACC PM COCOS Registers Gnd image update in LIVE mode TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>			
1		IF Image update in LIVE mode type: [If]		Next Step: THEN 2 ELSE 8	
2		Verify initial conditions		Next Step: 3	
		Check: - ACC in Operational mode ACMS SOE to confirm ACC mode			
3		Manual Stack manipulation Load command sequence OFCP2251 on top of the Manual Stack		Next Step: 4	
3.1		Sequence data FP: N/A TT: N/A			
4		MCS OBSM preparation for Image Update in LIVE mode		Next Step: 5	
		Note: It is assumed that the OBSM application is already running and the OBSM Desktop is displayed on the MCS client. Starting the OBSM application is not covered by the current procedure.			
4.1		Select 'Image UPDATE' from the menu			
		Select the Image menu of the <i>OBSM Desktop</i> . From the Image menu, select Update . The 'Image Catalog' window opens.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
4.2		Select image to be updated			
4.2.1		IF ACC PM A			
		Select the image to be updated for the memory device ACCRGCOB . The 'Image UPDATE' window opens.			
4.2.2		ELSE ACC PM B			
		Select the image to be updated for the memory device ACCRGCOB . The 'Image UPDATE' window opens.			
4.3		Start dump TM processing			
		In LIVE mode, processing of incoming real-time telemetry starts automatically after the image selection.			
5		Dump contents of ACC PM COCOS Registers		Next Step: 6	
		Uplink the AC063109 memory dump commands with ARM-GO			
		Note: The commands have Delta Release time. All TCs will be dispatched by ARM-GO .			
		For each command, a TM(6,6) packets must be received on ground.			
5.1		Alarm Signal Generator (ASG) Module			
		ASG Alarm Mask Register [ASG_AMR]:			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		ASG Interrupt Mask Register [ASG_IMR]:			
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
5.2		CPU Interface (CpuIf) Module			
		CpuIf Configuration Register [CpuIf_CR]:			
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		CpuIf Map Register [CpuIf_MR0]:			
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		CpuIf Interrupt Configuration Register 0 [CpuIf_ICR0]:			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		CpuIf Interrupt Configuration Register 1 [CpuIf_ICR1]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		CpuIf Interrupt Configuration Register 2 [CpuIf_ICR2]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		CpuIf Interrupt Configuration Register 3 [CpuIf_ICR3]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		CpuIf Interrupt Configuration Register 4 [CpuIf_ICR4]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
5.3		Interrupt Controller (IC) Module			
		IC I/O Status Register [IC_IOSR]:			
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
5.4		1553 Interface A (M1553A) Module			
		M1553 Configuration Register [M5A_Conf]:			
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		M1553 Status Register [M5A_Stat]:			
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
5.5		1553 Interface B (M1553B) Module			
		M1553 Configuration Register [M5B_Conf]:			
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		M1553 Status Register [M5B_Stat]:			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
5.6		1553 Interface C (M1553C) Module			
		M1553 Configuration Register [M5C_Conf]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		M1553 Status Register [M5C_Stat]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
5.7		On Board Data Handling (OBDH) Module			
		OBDH Configuration Register [OBDH_CR]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		OBDH CT Configuration Register [OBDH_CTCR]:			

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	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
5.8		On Board Time (OBT) Module			
		OBT Configuration Register [OBT_CONF]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		OBT Control Register [OBT_CTRL]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		OBT Pulse 1 Configuration Register [OBT_PUL1CONF]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		OBT Pulse 1 Duration Register [OBT_PUL1DURFINE]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		OBT Pulse 2 Configuration Register [OBT_PUL2CONF]:			

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	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		OBT Pulse 2 Duration Register [OBT_PUL2DURFINE]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		OBT Pulse 3 Configuration Register [OBT_PUL3CONF]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		OBT Pulse 3 Duration Register [OBT_PUL3DURFINE]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		OBT Pulse 4 Configuration Register [OBT_PUL4CONF]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		OBT Pulse 4 Duration Register [OBT_PUL4DURFINE]:			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
5.9		PI Bus Master (PIM) Module			
		PIM Enable Arm Register [PIM_EAR]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		PIM Configuration Arm Register [PIM_CAR]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		PIM Configuration Register [PIM_CR]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		PIM Status Register [PIM_SR]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	

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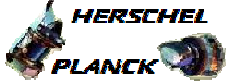

Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
5.10		SpaceWire A (SPW A) Module			
		SPW Configuration Register [SPWA_CR]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		SPW SSEPPL Configuration Register [SPWA_SCR]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		SPW Status Register [SPWA_SR]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		SPW SSEPPL Status Register [SPWA_SSR]:			
	ET=+ UT=+00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
5.11		SpaceWire B (SPW B) Module			
		SPW Configuration Register [SPWB_CR]:			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		SPW SSEPPL Configuration Register [SPWB_SCR]:			
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		SPW Status Register [SPWB_SR]:			
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
		SPW SSEPPL Status Register [SPWB_SSR]:			
	ET+= UT+=00.00.04	Execute Telecommand Dump Memory Command Parameter(s) : Memory ID AH6M0109 Start Address AH6M1109 Length SAU AH6M3109 Subsch. ID : 20 Det. descr. : TC(6,5) Dump Memory Using Absolute Addresses	AC063109	TC	
6		Verify reception of TM(6,6)		Next Step: 7	
		Note: A TM(6,6) packets will be received for each memory dump command uplinked.			
		Verify Packet Reception Memory Dump - Absolute Addresses - SAU 8 Packet Mnemonic : MemDmpAbsAdd APID : 512 Type : 6 Subtype : 6 PI1 : PI2 :			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
6.1		Check OBSM dump packet processing			
		Check that the OBSM is processing the incoming memory dump packets.			
7		Save merged image		Next Step: END	
		Save merged image with new ID .			
End of Sequence					
OFCP225B <i>TC Seq. Name : OFCP225B (ACC CocosReg Dmp)</i> ACC PM COCOS Registers Gnd image update in Retrieval mode <i>TimeTag Type:</i> <i>Sub Schedule ID:</i> <input type="checkbox"/>					
8		MCS OBSM preparation for Image update in RETRIEVAL mode		Next Step: 9	
		Note: It is assumed that the OBSM application is already running and the OBSM Desktop is displayed on the MCS client. Starting the OBSM application is not covered by the current procedure.			
8.1		Select 'Image UPDATE' from the menu			
		Select the Image menu of the OBSM Desktop . From the Image menu, select Update . The 'Image Catalog' window opens.			
8.2		Select image to be updated			
8.2.1		IF ACC PM A			
		Select the image to be updated for the memory device ACCRGCOC . The 'Image UPDATE' window opens.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
8.2.2		ELSE ACC PM B			
		Select the image to be updated for the memory device ACCRGCOB . The 'Image UPDATE' window opens.			
8.3		Start dump TM packets processing			
		Set retrieval start and stop time and start retrieval of TM packets using the PLAY buttons.			
9		Retrieve and process TM(6,6) packets		Next Step: 10	
		Use the STEP button to retrieve and process the TM(6,6) packets, packet by packet and starting from the time shown in the packet time field.			
		OR			
		Use the PLAY button to retrieve and process the TM(6,6) packets in automated mode. Pressing the PLAY button, the display will start to retrieve and process packets, starting from the time shown in the packet time field. This processing will stop automatically when a packet is received which creation time is greater than the one contained in the end time field.			
10		Save merged image		Next Step: END	
		Save merged image with new ID .			
End of Sequence					
End of Procedure					