

Dump of CEL and SSMM packet stores
 File: H_FCP_DHS_1014.xls
 Author: S. Manganelli



Procedure Summary

Objectives

Perform the dump of the Herschel packet stores defined for the nominal case.

The procedure contains sequences to :

Dump the standard SSMM A packet stores, plus CEL A / B
 Dump the standard SSMM B packet stores, plus CEL A / B
 Delete the CEL A / B with Real-Time TCs
 Set the downlink times for SSMM B (norm ops on SSMM A)
 Set the downlink times for SSMM A (norm ops on SSMM B)

Delete the CEL A / B via MTL (time tagged TCs)
 Dump CEL B via MTL (time tagged TCs)
 The two sequences above are principally for use via MPS.

Summary of Constraints

None

Spacecraft Configuration

Start of Procedure

Stores configured normally

End of Procedure

Unchanged

Reference File(s)

Input Command Sequences

Output Command Sequences

HFD1014A
 HFD1014B
 HFD1014E
 HFD1014R
 HFD1014C
 HFD1014D
 HFD1014F

Referenced Displays

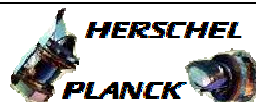
ANDs	GRDs	SLDs
ZAZ24999		(None)
ZAD21999		

Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
29/04/2008		1	Created	cmevi-hp	

Status : Version 25 - Updated
 Last Checkin: 08/12/2010

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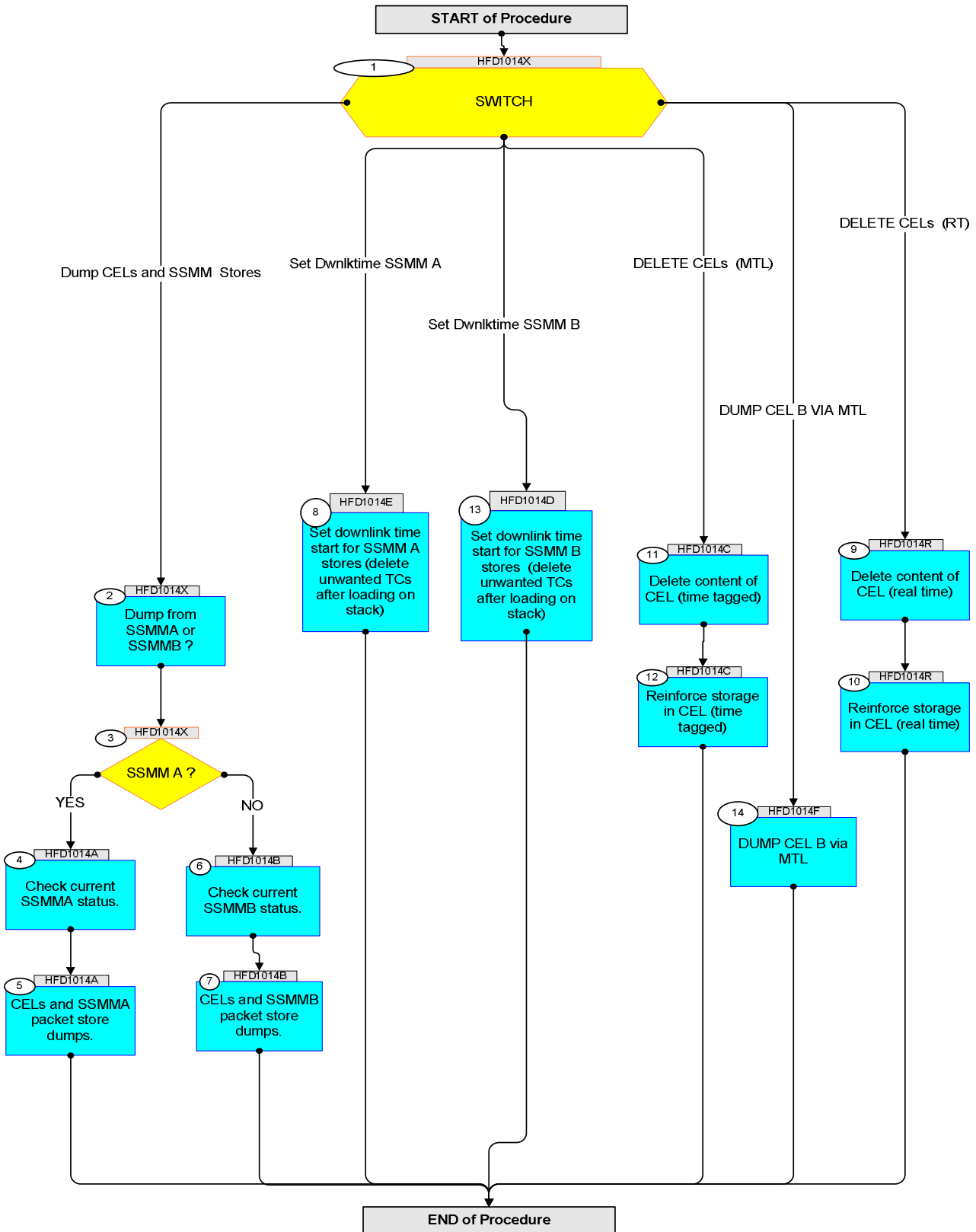


29/04/2008		2	Description modified for step 2.1	cmevi-hp	
04/06/2008		3	Position of command to delete CEL modified.	cmevi-hp	
05/06/2008		4	Sequence exported with new db.	cmevi-hp	
27/06/2008		5	Database checks, title and objective added	S. Manganelli	
07/07/2008		6	DB checked.	cmevi-hp	
08/07/2008		7	Removed store 4	S. Manganelli	
09/07/2008		8	Command to dump also CEL from SGMB added. Sequence flag modified.	cmevi-hp	
29/07/2008	1	9	New DB for "Theoretical Model HERSCHE_FM9" checked.	cmevi-hp	
15/08/2008		10	Procedure re-structured.	cmevi-hp	
13/10/2008		11	Inserted clarification notes. Added packet store catalog reports and Formal Parameters for CEL delete times. Removed automatic interlocks.	S. Manganelli	
21/11/2008		12	added notes	S. Manganelli	
21/11/2008		13	Dumps for stores 0 and 128 moved after dump of store 2.	cmevi-hp	
13/12/2008		14	Moved the <CEL delete> to a separate sequence so that it can be called with FPs any time.	S. Manganelli	
14/12/2008		15	just testing sequence generation problem- no change	S. Manganelli	
14/12/2008		16	Corrected sequence name error	S. Manganelli	
23/12/2008	2	17	Extensive modifications. Added timing. Added Set downlink times for "other" SSMM.	S. Manganelli	
23/03/2009	2.2	18	Visio flowchart aligned with procedure body. Also some comments added.	cmevi-hp	
08/02/2010	3	19	Added CEL storage enable step	S. Manganelli	
31/08/2010		20	Overall modifications, comments, added a branch to delete CELs via MTL for use in MPS	S. Manganelli	
01/09/2010		21	DB updated with fully fixed Delete CEL TCs	S. Manganelli	
09/09/2010		22	Added CEL B dump via MTL Included new version of fully encoded delete CEL TCs with improved verification logic in DB	S. Manganelli	
23/09/2010		23	DB change to DEL_CEL TC header	S. Manganelli	
06/10/2010		24	Corrected inconsistent parameter definition in header of new CEL delete TCs	S. Manganelli	
08/12/2010	3.1	25	Used TC instantiation with group repeater = 1 in sequence HFD1014C to make it compatible with Solaris MPS	S. Manganelli	

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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																																
HFD1014X <i>TC Seq. Name :HFD1014X (Dummy sequence)</i> <i>TimeTag Type:</i> <i>Sub Schedule ID:</i> <input type="checkbox"/>																																
1		SWITCH type: [Switch]		Next Step: Dump CELs and SSMM Stores 2 Set Dwnlktime SSMM B 13 Set Dwnlktime SSMM A 8 DELETE CELs (MTL) 11 DELETE CELs (RT) 9 DUMP CEL B VIA MTL 14																												
2		Dump from SSMA or SSMB ?		Next Step: 3																												
Important Notes : a) The <Catalog Store Report> TC that is present after every <start of store dump> TC should be uplinked just after the dump TC has been accepted on board.This allows to correctly initialise the store dump synthetic parameters. b) The time "wasted" between the end of one dump and the start of the next one should be minimized. It is adviseable to use the following synthetic parameters to monitor the on-going dump process. They indicate an estimate of the remaining time to end of dump, in seconds.																																
<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Par ID</th> <th style="text-align: left;">Par Name</th> <th style="text-align: left;">GPF</th> </tr> </thead> <tbody> <tr><td>XD005991</td><td>Time2DmpVC2Pk0</td><td>ZGZ01999</td></tr> <tr><td>XD011991</td><td>Time2DmpVC2Pk1</td><td>ZGZ04999</td></tr> <tr><td>XD017991</td><td>Time2DmpVC2Pk2</td><td>ZGZ06999</td></tr> <tr><td>XD065991</td><td>Time2DmpVC3Pk3</td><td>ZGZ0H999</td></tr> <tr><td>XD035991</td><td>Time2DmpVC2Pk128</td><td>ZGZ0C999</td></tr> <tr><td>XD041991</td><td>Time2DmpVC2Pk129</td><td>ZGZ0D999</td></tr> <tr><td>XD047991</td><td>Time2DmpVC2Pk130</td><td>ZGZ0E999</td></tr> <tr><td>XD083991</td><td>Time2DmpVC3Pk131</td><td>ZGZ0K999</td></tr> </tbody> </table>						Par ID	Par Name	GPF	XD005991	Time2DmpVC2Pk0	ZGZ01999	XD011991	Time2DmpVC2Pk1	ZGZ04999	XD017991	Time2DmpVC2Pk2	ZGZ06999	XD065991	Time2DmpVC3Pk3	ZGZ0H999	XD035991	Time2DmpVC2Pk128	ZGZ0C999	XD041991	Time2DmpVC2Pk129	ZGZ0D999	XD047991	Time2DmpVC2Pk130	ZGZ0E999	XD083991	Time2DmpVC3Pk131	ZGZ0K999
Par ID	Par Name	GPF																														
XD005991	Time2DmpVC2Pk0	ZGZ01999																														
XD011991	Time2DmpVC2Pk1	ZGZ04999																														
XD017991	Time2DmpVC2Pk2	ZGZ06999																														
XD065991	Time2DmpVC3Pk3	ZGZ0H999																														
XD035991	Time2DmpVC2Pk128	ZGZ0C999																														
XD041991	Time2DmpVC2Pk129	ZGZ0D999																														
XD047991	Time2DmpVC2Pk130	ZGZ0E999																														
XD083991	Time2DmpVC3Pk131	ZGZ0K999																														
3		SSMM A ? type: [If]		Next Step: YES 4 NO 6																												
End of Sequence																																
HFD1014A <i>TC Seq. Name :HFD1014A (Dumps from SSMA)</i> <i>TimeTag Type: N</i> <i>Sub Schedule ID:</i> <input type="checkbox"/>																																

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
4		Check current SSMM status.		Next Step: 5	
4.1		Verify the HK TM parameters before the start of the dump			
		Verify Telemetry DownloadOnVC2 DELA1160 = 0 <dec>		AND=ZAZ24999	
		Verify TMPH VC2: no flow Note down NCTRS VC2 data unit count			
5		CELs and SSMM packet store dumps.		Next Step: END	
		Note that during the longer packet store dumps, a TM(1,5) will be produced periodically : this indicates the execution progress of the dump TC.			
5.1		Dump Store 127 (CEL from SGMA)			
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 127 <dec> TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160	TC	
	ET+= UT+=00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 127 <dec> TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160	TC	
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 127 <dec> TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160	TC	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 127 <dec>	TC	
5.2		Dump Store 255 (CEL from SGMB)			
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- --- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
	ET+= UT+=00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- --- --- Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 255 <dec>	TC	
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- --- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
5.3		Verify the end of the dump			
		The CEL is dumped on VC0. Verify end of execution on CMDH.			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 1 <dec>	TC	
5.4		Dump Store 1 (SEL)			
	ET+= UT+=00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 1 <dec>	TC	
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 1 <dec>	TC	
5.5		Verify the end of the dump by HK TM parameters			
		Verify Telemetry DownloadOnVC2 DELA1160	= 0 <dec>	AND=ZAZ24999	
		Verify TMPH VC2: no flow Note down NCTRS VC2 data unit count			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 1 <dec>	TC	
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 2 <dec>	TC	
5.6		Dump Store 2 (all HKTM)			
	ET+= UT+=00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 2 <dec>	TC	
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 2 <dec>	TC	
		Verify TMPH VC2 and NCTRS VC2 information			
5.7		Verify the end of the dump by HK TM parameters			
		Verify Telemetry DownloadOnVC2 DELA1160	= 0 <dec>	AND=ZAZ24999	
		Verify TMPH VC2: no flow Note down NCTRS VC2 data unit count			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 2 <dec>	TC	
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 0 <dec>	TC	
5.8		Dump Store 0 (default packet store)			
	ET+= UT+=00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 0 <dec>	TC	
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 0 <dec>	TC	
		Verify TMPH VC2 and NCTRS VC2 information			
5.9		Verify the end of the dump by HK TM parameters			
		Verify Telemetry DownloadOnVC2 DELA1160	= 0 <dec>	AND=ZAZ24999	
		Verify Telemetry MM_PktStartVC2 DEL40160	= 0 <dec>	AND=ZAD21999	
		Verify TMPH VC2: no flow Note down NCTRS VC2 data unit count			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 0 <dec> TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160	TC	
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 3 <dec> TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160	TC	
5.10		Dump Store 3 (Instruments Science)			
	ET+= UT+=00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 3 <dec> TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160	TC	
	ET+= UT+=00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 3 <dec> TC Control Flags : GBM IL DSE --- -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160	TC	
		Verify TMPH VC3 and NCTRS VC3 information			
5.11		Verify the end of the dump by HK TM parameters			
		Verify Telemetry DownloadOnVC2 DELA1160 = 0 <dec>		AND=ZAZ24999	
		Verify Telemetry DownloadOnVC3 DELA2160 = 0 <dec>		(None)	
		Verify TMPH VC3: no flow Note down NCTRS VC3 data unit count			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 3 <dec> TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160	TC	
End of Sequence					
HFD1014B TC Seq. Name :HFD1014B (Dumps from SSMMB) TimeTag Type: N Sub Schedule ID: <input type="checkbox"/>					
6		Check current SSMMB status.		Next Step: 7	
6.1		Verify the HK TM parameters before the start of the dump			
		Verify Telemetry DownloadOnVC2 DELA1160 = 0 <dec>		AND=ZAZ24999	
		Verify TMPH VC2: no flow Note down NCTRS VC2 data unit count			
7		CELs and SSMMB packet store dumps.		Next Step: END	
		Note that during the longer packet store dumps, a TM(1,5) will be produced periodically : this indicates the execution progress of the dump TC.			
7.1		Dump Store 127 (CEL from SGMA)			
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 127 <dec> TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160	TC	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 127 <dec>	TC	
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 127 <dec>	TC	
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 127 <dec>	TC	
7.2		Dump Store 255 (CEL from SGMB)			
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
	ET=+ UT=+00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 255 <dec>	TC	
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
7.3		Verify the end of the dump			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		The CEL is dumped on VC0. Verify end of execution on CMDH.			
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 129 <dec>	TC	
7.4		Dump Store 129 (SEL)			
	ET=+ UT=+00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 129 <dec>	TC	
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 129 <dec>	TC	
7.5		Verify the end of the dump by HK TM parameters			
		Verify Telemetry DownloadOnVC2 DELA1160	= 0 <dec>	AND=ZAZ24999	
		Verify TMPH VC2: no flow Note down NCTRS VC2 data unit count			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 129 <dec>	TC	
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 130 <dec>	TC	
7.6		Dump Store 130 (all HKTM)			
	ET=+ UT=+00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 130 <dec>	TC	
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 130 <dec>	TC	
		Verify TMPH VC2 and NCTRS VC2 information			
7.7		Verify the end of the dump by HK TM parameters			
		Verify Telemetry DownloadOnVC2 DELA1160	= 0 <dec>	AND=ZAZ24999	
		Verify TMPH VC2: no flow Note down NCTRS VC2 data unit count			
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 130 <dec>	TC	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 128 <dec>	TC	
7.8		Dump Store 128 (default packet store)			
	ET=+ UT=+00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 128 <dec>	TC	
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 128 <dec>	TC	
		Verify TMPH VC2 and NCTRS VC2 information			
7.9		Verify the end of the dump by HK TM parameters			
		Verify Telemetry DownloadOnVC2 DELA1160	= 0 <dec>	AND=ZAZ24999	
		Verify Telemetry MM_PktStartVC2 DEL40160	= 0 <dec>	AND=ZAD21999	
		Verify TMPH VC2: no flow Note down NCTRS VC2 data unit count			
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 128 <dec>	TC	
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 131 <dec>	TC	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
7.10		Dump Store 131 (Instruments Science)			
	ET=+ UT=+00.00.05	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 131 <dec>	TC	
	ET=+ UT=+00.00.03	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 131 <dec>	TC	
		Verify TMPH VC3 and NCTRS VC3 information			
7.11		Verify the end of the dump by HK TM parameters			
		Verify Telemetry DownloadOnVC2 DELA1160	= 0 <dec>	AND=ZAZ24999	
		Verify Telemetry DownloadOnVC3 DELA2160	= 0 <dec>	(None)	
		Verify TMPH VC3: no flow Note down NCTRS VC3 data unit count			
		Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 131 <dec>	TC	
End of Sequence					
TC Seq. Name :HFD1014E (SetDwlnkTimeSSMMA)					
HFD1014E					
TimeTag Type: N					
Sub Schedule ID:					
Formal Parameter List :					
Storage_Time T_St_0=					
Storage_Time T_St_1=					
Storage_Time T_St_2=					
Storage_Time T_St_3=					
=					

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
8		Set downlink time start for SSMM A stores (delete unwanted TCs after loading on stack)		Next Step: END	
		Each fp time must be set to the time when downlink was started (in the current pass) for the corresponding store on SSMMB, minus one minute. So, if store 128 dump was started at 2009.100.13.48.00 T_st_0 (time for store 0) must be set to 2009.100.13.47.00 Correspondence : SSMM A SSMM B 0 -> 128 1 -> 129 2 -> 130 3 -> 131			
		The BSW implementation of command DC166160 is however such that the "End Time" of the dump is always automatically set to the execution time of this command. This means that if the dump is performed ... - immediately after this TC : no practical problem - later or in next DTCP : the dump will not contain data stored after exe time of this TC. So, a second, normal dump TC has to be sent as soon as the first is completed. The second dump shall automatically start from the end of the first one.			
		Execute Telecommand DownlinkTimeP_After Command Parameter(s) : Store_Id DH003160 Storage_Time DH062160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Downlink Packets after Storage Timel	DC166160	TC	
		Execute Telecommand DownlinkTimeP_After Command Parameter(s) : Store_Id DH003160 Storage_Time DH062160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Downlink Packets after Storage Timel	DC166160	TC	
		Execute Telecommand DownlinkTimeP_After Command Parameter(s) : Store_Id DH003160 Storage_Time DH062160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Downlink Packets after Storage Timel	DC166160	TC	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Execute Telecommand DownlinkTimeP_After Command Parameter(s) : Store_Id DH003160 Storage_Time DH062160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Downlink Packets after Storage Time	DC166160 3 <dec> T_St_3	TC	
End of Sequence					
HFD1014R TC Seq. Name :HFD1014R (Delete CELs RealTime) TimeTag Type: N Sub Schedule ID: □					
9		Delete content of CEL (real time)		Next Step: 10	
	ET=TR+ UT=+00.00.00	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 127 <dec>	TC	
	ET=TR+ UT=+00.00.02	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
		The CELs were dumped from SGM in former steps. Now the CELs have to be deleted. This is done by two specially instantiated TCs that contain the "end time" parameter as fixed hex, so there is no need of a valid time correlation at uplink time. The time value itself is irrelevant because for CELs it is ignored by the BSW: old data will be deleted ONLY if it has been downlinked already , no matter what the "end time" value is.			
	ET=+ UT=+00.00.02	Execute Telecommand DEL_CEL_A_127 Subsch. ID : 10 Det. descr. : Delete CEL A (127) Contents up to Specified Storage Time	XC397991	TC	
	ET=+ UT=+00.00.10	Execute Telecommand DEL_CEL_B_255 Subsch. ID : 10 Det. descr. : Delete CEL B (255) Contents up to Specified Storage Time	XC398991	TC	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=TR+ UT=+00.00.10	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 127 <dec>	TC	
	ET=TR+ UT=+00.00.02	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
10		Reinforce storage in CEL (real time)		Next Step: END	
		The following TC ensures that the storage in CEL is enabled before DTCP end (storage is automatically disabled in case a linear store becomes full, and CEL is a linear store)			
	ET=TR+ UT=+00.00.02	Execute Telecommand EnStoragePktStore Command Parameter(s) : N DH002160 Store_Id DH003160 Store_Id DH003160 Subsch. ID : 10 Det. descr. : Enable Storage in Packet Stores	DC150160 2 <dec> 127 <dec> 255 <dec>	TC	
End of Sequence					
HFD1014C TC Seq. Name :HFD1014C (Delete CELs by MTL) TimeTag Type: B Sub Schedule ID: □					
11		Delete content of CEL (time tagged)		Next Step: 12	
	ET=+00.00.00 UT=+	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 127 <dec>	TC	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
	ET=+00.00.02 UT=+	Execute Telecommand <div style="text-align: right; margin-right: 40px;">ReportCatSelPktStore</div> Command Parameter(s) : <div style="text-align: right; margin-right: 40px;">Store_Id DH003160</div> TC Control Flags : <div style="text-align: right; margin-right: 40px;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
		The CELs were dumped from SGM in former steps. Now the CELs have to be deleted. This is done by two specially instantiated TCs that contain the "end time" parameter as fixed hex, so there is no need of a valid time correlation at uplink time. The time value itself is irrelevant because for CELs it is ignored by the BSW: old data will be deleted ONLY if it has been downlinked already , no matter what the "end time" value is.			
	ET=+00.00.04 UT=+	Execute Telecommand <div style="text-align: right; margin-right: 40px;">DEL_CEL_A_127</div> TC Control Flags : <div style="text-align: right; margin-right: 40px;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : Delete CEL A (127) Contents up to Specified Storage Time	XC397991	TC	
	ET=+00.00.10 UT=+	Execute Telecommand <div style="text-align: right; margin-right: 40px;">DEL_CEL_B_255</div> TC Control Flags : <div style="text-align: right; margin-right: 40px;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : Delete CEL B (255) Contents up to Specified Storage Time	XC398991	TC	
	ET=+00.00.10 UT=+	Execute Telecommand <div style="text-align: right; margin-right: 40px;">ReportCatSelPktStore</div> Command Parameter(s) : <div style="text-align: right; margin-right: 40px;">Store_Id DH003160</div> TC Control Flags : <div style="text-align: right; margin-right: 40px;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 127 <dec>	TC	
	ET=+00.00.02 UT=+	Execute Telecommand <div style="text-align: right; margin-right: 40px;">ReportCatSelPktStore</div> Command Parameter(s) : <div style="text-align: right; margin-right: 40px;">Store_Id DH003160</div> TC Control Flags : <div style="text-align: right; margin-right: 40px;">GBM IL DSE --Y -- ---</div> Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
12		Reinforce storage in CEL (time tagged)		Next Step: END	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		The following TC ensures that the storage in CEL is enabled before DTCP end (storage is automatically disabled in case a linear store becomes full, and CEL is a linear store)			
	ET=+00.00.02 UT=+	Execute Telecommand EnStoragePktStore Command Parameter(s) : N DH002160 Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Enable Storage in Packet Stores	DC150160	TC	
	ET=+00.00.04 UT=+	Execute Telecommand EnStoragePktStore Command Parameter(s) : N DH002160 Store_Id DH003160 TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : Enable Storage in Packet Stores	DC150160	TC	
End of Sequence					
TC Seq. Name :HFD1014D (SetDwlnkTimeSSMMB) HFD1014D TimeTag Type: N Sub Schedule ID: Formal Parameter List : Storage_Time T_St_128= Storage_Time T_St_129= Storage_Time T_St_130= Storage_Time T_St_131= =					
13		Set downlink time start for SSMM B stores (delete unwanted TCs after loading on stack)		Next Step: END	
		Each fp time must be set to the time when downlink was started (in the current pass) for the corresponding store on SSMM A, minus one minute. So, if store 0 dump was started at 2009.100.13.48.00 T_st_128 (time for store 128) must be set to 2009.100.13.47.00 Correspondence : SSMM A SSMM B 0 -> 128 1 -> 129 2 -> 130 3 -> 131			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		<p>The BSW implementation of command DC166160 is however such that the "End Time" of the dump is always automatically set to the execution time of this command.</p> <p>This means that if the dump is performed ...</p> <ul style="list-style-type: none"> - immediately after this TC : no practical problem - later or in next DTCP : the dump will not contain data stored after exe time of this TC. So, a second, normal dump TC has to be sent as soon as the first is completed. The second dump shall automatically start from the end of the first one. 			
		<p>Execute Telecommand</p> <p style="text-align: right;">DownlinkTimeP_After</p> <p style="text-align: right;">DC166160</p> <p>Command Parameter(s) :</p> <p style="padding-left: 40px;">Store_Id DH003160</p> <p style="padding-left: 40px;">Storage_Time DH062160</p> <p>TC Control Flags :</p> <p style="padding-left: 80px;">GBM IL DSE</p> <p style="padding-left: 80px;">--Y -- ---</p> <p>Subsch. ID : 10</p> <p>Det. descr. : Downlink Packets after Storage Timel</p>	128 <dec> T_St_128	TC	
		<p>Execute Telecommand</p> <p style="text-align: right;">DownlinkTimeP_After</p> <p style="text-align: right;">DC166160</p> <p>Command Parameter(s) :</p> <p style="padding-left: 40px;">Store_Id DH003160</p> <p style="padding-left: 40px;">Storage_Time DH062160</p> <p>TC Control Flags :</p> <p style="padding-left: 80px;">GBM IL DSE</p> <p style="padding-left: 80px;">--Y -- ---</p> <p>Subsch. ID : 10</p> <p>Det. descr. : Downlink Packets after Storage Timel</p>	129 <dec> T_St_129	TC	
		<p>Execute Telecommand</p> <p style="text-align: right;">DownlinkTimeP_After</p> <p style="text-align: right;">DC166160</p> <p>Command Parameter(s) :</p> <p style="padding-left: 40px;">Store_Id DH003160</p> <p style="padding-left: 40px;">Storage_Time DH062160</p> <p>TC Control Flags :</p> <p style="padding-left: 80px;">GBM IL DSE</p> <p style="padding-left: 80px;">--Y -- ---</p> <p>Subsch. ID : 10</p> <p>Det. descr. : Downlink Packets after Storage Timel</p>	130 <dec> T_St_130	TC	
		<p>Execute Telecommand</p> <p style="text-align: right;">DownlinkTimeP_After</p> <p style="text-align: right;">DC166160</p> <p>Command Parameter(s) :</p> <p style="padding-left: 40px;">Store_Id DH003160</p> <p style="padding-left: 40px;">Storage_Time DH062160</p> <p>TC Control Flags :</p> <p style="padding-left: 80px;">GBM IL DSE</p> <p style="padding-left: 80px;">--Y -- ---</p> <p>Subsch. ID : 10</p> <p>Det. descr. : Downlink Packets after Storage Timel</p>	131 <dec> T_St_131	TC	
End of Sequence					
TC Seq. Name : HFD1014F (Dump CEL B via MTL)					
HFD1014F					
TimeTag Type: B					
Sub Schedule ID:					
□					

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
14		DUMP CEL B via MTL		Next Step: END	
	ET=TR+00.00.00 0 UT=+	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
	ET=+00.00.02 UT=+	Execute Telecommand DownlinkPktStoreCont_A Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Downlink Packet Store Contents - All stored TM packets	DC162160 255 <dec>	TC	
	ET=+00.00.05 UT=+	Execute Telecommand ReportCatSelPktStore Command Parameter(s) : Store_Id DH003160 Subsch. ID : 10 Det. descr. : Report Catalogues for Selected Packet Store	DC169160 255 <dec>	TC	
End of Sequence					
End of Procedure					