

Enable or disable release of TC from MTL
File: H_FCP_DHS_3022.xls
Author: S. Manganelli



Procedure Summary

Objectives

This procedure describes the steps needed to activate or deactivate parts of MTL.

Summary of Constraints

Default status of the ASW function "On board Scheduling":
"Stopped".

When the function is stopped, it does not accept any other telecommands than the:

- Start Function TC(8,1,105);
- Report Function Status TC(8,5,105);
- Reset Command Schedule TC(11,3);
- Report Command Schedule TCs(11,9/11/12/14);
- Report Status of Command Schedule (11,18).

Thus, if the function is stopped this procedure cannot be executed.

Spacecraft Configuration

Start of Procedure

- CDMU in default configuration, that is:
- PM A or B ON (nominally A)
 - TM Encoder/OBT A or B active (nominally A)
 - RM A and B enabled
 - MM A and B ON

End of Procedure

- CDMU in default configuration, that is:
- PM A or B ON (nominally A)
 - TM Encoder/OBT A or B active (nominally A)
 - RM A and B enabled
 - MM A and B ON

Reference File(s)

Input Command Sequences

Output Command Sequences

HFD3022A
HFD3022B
HFD3022C
HFD3022D

Referenced Displays

ANDs	GRDs	SLDs
ZAZAI999		(None)

Configuration Control Information

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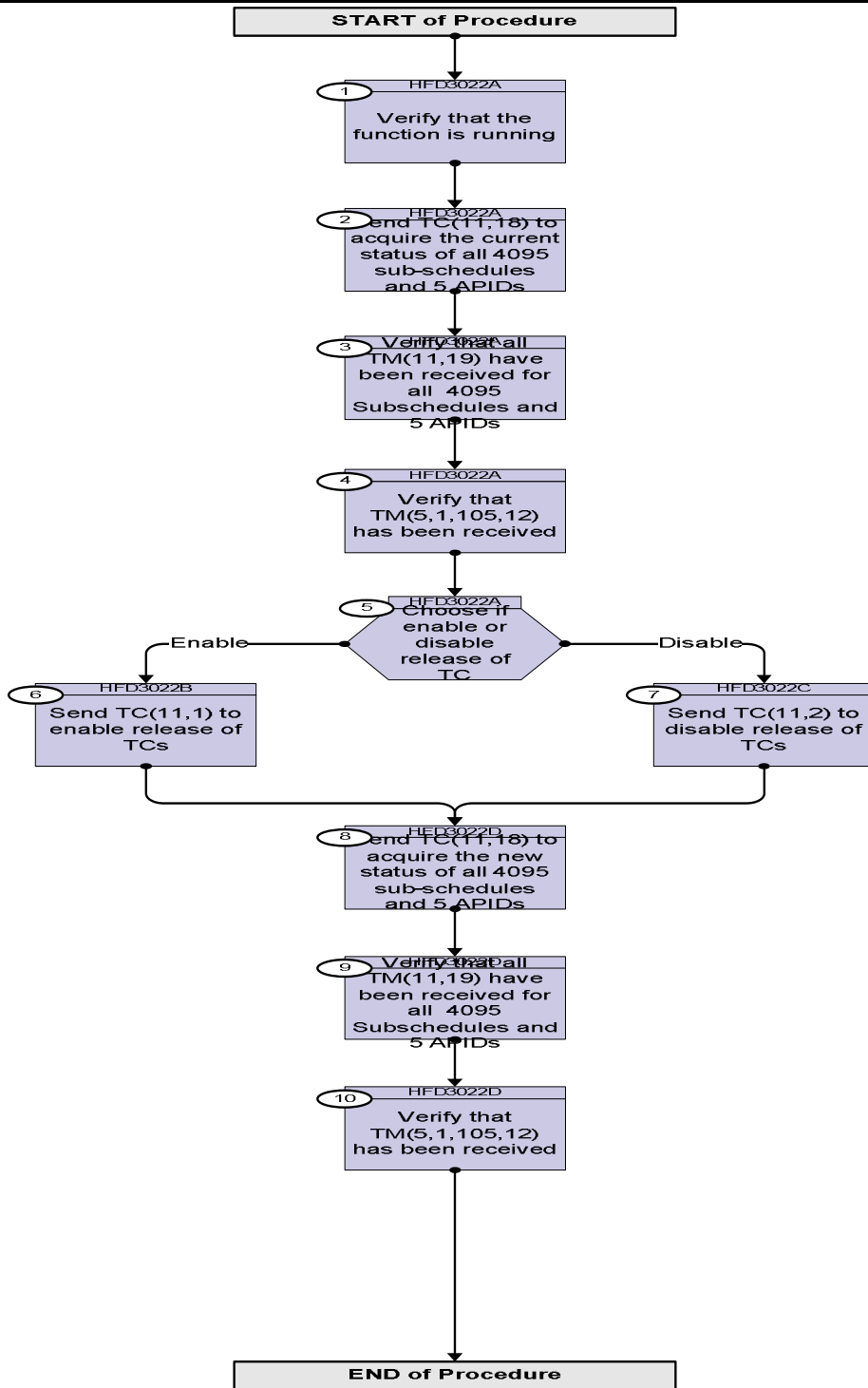


DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
12/11/07		1	Created	cmevi-hp	
17/01/08	1	2	Batch update of TC flags	S. Manganelli	
01/12/08		3	Procedure updated according to latest version received from industry on 24/10/2008	cmevi-hp	
10/01/09	2	4	Updated following OBSW 3.8	S. Manganelli	
15/03/09	2.2	5	Fixed MOIS FP bug	S. Manganelli	

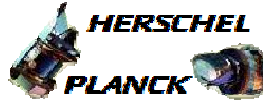
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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
TC Seq. Name :HFD3022A (Acquire function sta)				
TimeTag Type: Sub Schedule ID: □				
1		Verify that the function is running		Next Step: 2
		Verify Telemetry MtlSts DEH26170	= Running	AND=ZAZAI999
2		Send TC(11,18) to acquire the current status of all 4095 sub-schedules and 5 APIDs		Next Step: 3
		When this request is received, a Command Schedule Status Report (set of TM(11,19) packets) will be generated containing the release status (enabled or disabled) of all 5 Application Processes and of all 4095 Subschedules. When the dump of TM(11,19) has ended, an Event Report TM(5,1,105,12) indicating the number of reported TM(11,19) is issued.		
		Execute Telecommand RetStatusOfCmdSchedule TC Control Flags : Subsch. ID : 10 Det. descr. : ReportStatusOfCmdSchedule, TC(11,18)	DC89F170	
			GBM IL DSE --Y -- --	
3		Verify that all TM(11,19) have been received for all 4095 Subschedules and 5 APIDs		Next Step: 4
		Verify Packet Reception TM 11-19 Command schedule status report - Subschedule and Apid Packet Details:	CmdSchStRpt	
			APID: 16 Type: 11 Subtype: 19 PI1: PI2:	
3.1		Subschedules status report		□
		Verify Telemetry N1 DE076170		(None)
		The following 2 parameters are repeated N1 times		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SubscheduleId_A DE075170	1--4095	(None)
		Verify Telemetry SubschedStatus DE078170	Enabled or Disabled	(None)
3.2		APID status report		<input type="checkbox"/>
		Verify Telemetry N2 DE077170		(None)
		The following 2 parameters are repeated N2 times		
		Verify Telemetry Apid DE053170	ACMS/CDMS/HFI/LFI/SCS	(None)
		Verify Telemetry ApidStatus DE079170	Enabled or Disabled	(None)
4		Verify that TM(5,1,105,12) has been received		Next Step: 5
		Verify Packet Reception CdmuAsw Event 5-1 TM 11-19 Dump Ended Packet Details: APID: 16 Type: 5 Subtype: 1 PI1: 26892 PI2: 0	D_EvRp_7042	
		Verify Packet Telemetry TM5xEventID DEZSJ170	= Tm11_19_DmpEnd	(None)
		Verify Packet Telemetry NrOfTmPktIss DE100170	as many as the number of received TM(11,19) in step 3	(None)
5		Choose if enable or disable release of TC		Next Step: Enable 6 Disable 7

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<p><i>TC Seq. Name :HFD3022B (Enable release of TC)</i></p> <p><i>TimeTag Type: N</i> <i>Sub Schedule ID:</i> <i>Formal Parameter List :</i> SubscheduleId SUBSCHID= <dec> Apid APID= <dec></p>				
6		Send TC(11,1) to enable release of TCs		Next Step: 8
		<u>WARNING: the following TC is a variable length TC which does not allow the definition of a generic procedure. The following is therefore only an example.</u>		
		<p>In the TC(11,1) it is necessary to set the following parameters:</p> <p><u>N</u>: number of Subschedule-IDs that follow. If N = 0 the TC addresses all MTL telecommands which destination Application Process are identified in the TC (whatever the subschedule they belong to).</p> <p><u>Subschedule-ID</u>: repeated N times, identifies a set of Telecommands for one or several Applications/users, and to distinguish them from the rest of the MTL. If N=1 and Subschedule-ID=0 the TC addresses all subschedule(s).</p> <p><u>M</u>: number of Application IDs that follow. If M = 0 the TC addresses all subschedule(s) identified in the TC.</p> <p><u>Application Process-ID</u>: repeated M times, identification of the destination Application Process(es).</p>		
		<p>On receipt of this TC release status of MTL telecommands</p> <ul style="list-style-type: none"> - belonging to the «N» subschedules listed in the TC shall be enabled <u>provided</u> their destination Application Process is not blocked. - related to the «M» APID listed in the TC shall be enabled <u>provided</u> the subschedule they belong to is enabled. <p>The TCs allows to control independently the release status of MTL commands by APID or by subschedule.</p> <p>In order for a TC to be released both its destination APID and the subschedule it belongs to need to be enabled.</p>		
		<u>WARNING: the following TCs are intended to be just examples.</u>		
6.1		Enable release of all TCs (all Subschedules and all APIDs)		□

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: right;">EnableRelOfTcs_Templ</p> Command Parameter(s) : N_Repetition DH041170 1 <dec> (Def) SubscheduleId DH053170 0 <dec> M_nrOfApids DH054170 5 <dec> APID_for_TC_11-x DH235170 CDMS APID_for_TC_11-x DH235170 ACMS APID_for_TC_11-x DH235170 HIFI APID_for_TC_11-x DH235170 PACS APID_for_TC_11-x DH235170 SPIRE TC Control Flags : <p style="text-align: right;"> GBM IL DSE</p> <p style="text-align: right;"> --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE EnableReleaseOfTcs, TC(11,1)	DCT22170	
6.2		Enable release of TCs for a given Subschedule		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: right;">EnableRelOfTcs_Templ</p> Command Parameter(s) : N_Repetition DH041170 1 <dec> (Def) SubscheduleId DH053170 SUBSCHID M_nrOfApids DH054170 0 <dec> TC Control Flags : <p style="text-align: right;"> GBM IL DSE</p> <p style="text-align: right;"> --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE EnableReleaseOfTcs, TC(11,1)	DCT22170	
6.3		Enable release of TCs for a given APID		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: right;">EnableRelOfTcs_Templ</p> Command Parameter(s) : N_Repetition DH041170 0 <dec> M_nrOfApids DH054170 1 <dec> (Def) APID_for_TC_11-x DH235170 TC_APID TC Control Flags : <p style="text-align: right;"> GBM IL DSE</p> <p style="text-align: right;"> --Y -- ---</p> Subsch. ID : 10 Det. descr. : TEMPLATE EnableReleaseOfTcs, TC(11,1)	DCT22170	
6.4		Enable release for a given Subschedule as well as for a given APID		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Execute Telecommand <p style="text-align: center;">EnableRelOfTcs_Templ</p> Command Parameter(s) : N_Repetition DH041170 SubscheduleId DH053170 M_nrOfApid DH054170 APID_for_TC_11-x DH235170 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 10 Det. descr. : TEMPLATE EnableReleaseOfTcs, TC(11,1)	DCT22170	
6.5		Check the change of release status for the specified Subschedule		<input type="checkbox"/>
		<p>Note that each change of release status of a Subschedule will be reported with an Event Report TM(5,1), returning the affected Subschedule ID and release status as parameters.</p> <p>Note: In case a Subschedule is enabled while already being enabled, no Event Report is issued as there is no change of release status.</p> <p>If Subschedule ID = 0 all the subschedules (from 1 to 4095) have been enabled.</p>		
		Verify Packet Reception CdmuAsw Event 5-1 Subschedule Status Changed Packet Details: APID: 16 Type: 5 Subtype: 1 PI1: 26881 PI2: 0	D_EvRp_048	
		Verify Packet Telemetry TM5xEventID DEZSJ170	= SuschedStsChan	(None)
		Verify Packet Telemetry SubscheduleId_A DE075170		(None)
		Verify Packet Telemetry Status_16bit DE099170	= Enabled	(None)
		Verify Packet Telemetry SubScStsChReas DE287170	= TC11_1or2	(None)
		Verify Packet Telemetry Time DELA1170		
6.6		Check the change of release status for the specified APID		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch										
		<p>Note that each change of release status of an APID will be reported with an Event Report TM(5,1), returning the affected APID and release status as parameters.</p> <p>Note: In case a APID is enabled while already being enabled, no Event Report is issued as there is no change of release status.</p> <p>If APID = 0 all the five APIDs have been enabled.</p>												
		Verify Packet Reception CdmuAsw Event 5-1 APID Block Status Changed Packet Details: <table style="margin-left: 20px;"> <tr><td>APID:</td><td>16</td></tr> <tr><td>Type:</td><td>5</td></tr> <tr><td>Subtype:</td><td>1</td></tr> <tr><td>PI1:</td><td>26882</td></tr> <tr><td>PI2:</td><td>0</td></tr> </table>	APID:	16	Type:	5	Subtype:	1	PI1:	26882	PI2:	0	D_EvRp_049	
APID:	16													
Type:	5													
Subtype:	1													
PI1:	26882													
PI2:	0													
		Verify Packet Telemetry TM5xEventID DEZSJ170	= ApidBlkStsChng	(None)										
		Verify Packet Telemetry Apid DE053170	= APID	(None)										
		Verify Packet Telemetry Status_16bit DE099170	= Enabled	(None)										
		Verify Packet Telemetry Time DELA1170												
<p>TC Seq. Name :HFD3022C (Disable release of T)</p> <p>TimeTag Type: N Sub Schedule ID: Formal Parameter List : SubscheduleId SUBSCHID= <dec> APID_for_TC_11-x TC_APID=CDMS CDMS</p>														
7		Send TC(11,2) to disable release of TCs		Next Step: 8										
		<p><u>WARNING: the following TC is a variable length TC which does not allow the definition of a generic procedure. The following is therefore only an example.</u></p>												

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																								
		<p>In the TC(11,2) it is necessary to set the following parameters:</p> <p>N: number of Subschedule-IDs that follow. If N = 0 the TC addresses all MTL telecommands which destination Application Process are identified in the TC (whatever the subschedule they belong to).</p> <p>Subschedule-ID: repeated N times, identifies a set of Telecommands for one or several Applications/users, and to distinguish them from the rest of the MTL. If N=1 and Subschedule-ID=0 the TC addresses all subschedule(s).</p> <p>M: number of Application IDs that follow. If M = 0 the TC addresses all subschedule(s) identified in the TC.</p> <p>Application Process-ID: repeated M times, identification of the destination Application Process(es).</p>																										
		<p>On receipt of this TC release status of MTL telecommands</p> <ul style="list-style-type: none"> - belonging to the «N» subschedules listed in the TC shall be disabled. - related to the «M» APID listed in the TC shall be disabled. <p>The TCs allows to control independently the release status of MTL commands by APID or by subschedule. In order for a TC to be released both its destination APID and the subschedule it belongs to need to be enabled.</p>																										
		WARNING: the following TCs are intended to be just examples.																										
7.1		<p>Disable release of all TCs (all Subschedules and all APIDs)</p>		□																								
		<p>Execute Telecommand</p> <p style="text-align: center;">DisableRelOfTcs_Templ</p> <p>Command Parameter(s) :</p> <table border="0"> <tr> <td>N_Repetition</td> <td>DH041170</td> <td>1 <dec> (Def)</td> </tr> <tr> <td>SubscheduleId</td> <td>DH053170</td> <td>0 <dec></td> </tr> <tr> <td>M_nrOfApid</td> <td>DH054170</td> <td>5 <dec></td> </tr> <tr> <td>APID_for_TC_11-x</td> <td>DH235170</td> <td>CDMS</td> </tr> <tr> <td>APID_for_TC_11-x</td> <td>DH235170</td> <td>ACMS</td> </tr> <tr> <td>APID_for_TC_11-x</td> <td>DH235170</td> <td>HIFI</td> </tr> <tr> <td>APID_for_TC_11-x</td> <td>DH235170</td> <td>PACS</td> </tr> <tr> <td>APID_for_TC_11-x</td> <td>DH235170</td> <td>SPIRE</td> </tr> </table> <p>TC Control Flags :</p> <p style="text-align: center;">GBM IL DSE</p> <p style="text-align: center;">--Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : TEMPLATE DisableReleaseOfTcs, TC(11,2)</p>	N_Repetition	DH041170	1 <dec> (Def)	SubscheduleId	DH053170	0 <dec>	M_nrOfApid	DH054170	5 <dec>	APID_for_TC_11-x	DH235170	CDMS	APID_for_TC_11-x	DH235170	ACMS	APID_for_TC_11-x	DH235170	HIFI	APID_for_TC_11-x	DH235170	PACS	APID_for_TC_11-x	DH235170	SPIRE	DCT23170	
N_Repetition	DH041170	1 <dec> (Def)																										
SubscheduleId	DH053170	0 <dec>																										
M_nrOfApid	DH054170	5 <dec>																										
APID_for_TC_11-x	DH235170	CDMS																										
APID_for_TC_11-x	DH235170	ACMS																										
APID_for_TC_11-x	DH235170	HIFI																										
APID_for_TC_11-x	DH235170	PACS																										
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
7.2		Disable release of TCs for a given Subschedule		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: right;">DisableRelOfTcs_Templ</p> Command Parameter(s) : N_Repetition DH041170 1 <dec> (Def) SubscheduleId DH053170 SUBSCHID M_nrOfApids DH054170 0 <dec> TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE DisableReleaseOfTcs, TC(11,2)	DCT23170	
7.3		Disable release of TCs for a given APID		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: right;">DisableRelOfTcs_Templ</p> Command Parameter(s) : N_Repetition DH041170 0 <dec> M_nrOfApids DH054170 1 <dec> (Def) APID_for_TC_11-x DH235170 TC_APID TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE DisableReleaseOfTcs, TC(11,2)	DCT23170	
7.4		Disable release for a given Subschedule as well as for a given APID		<input type="checkbox"/>
		Execute Telecommand <p style="text-align: right;">DisableRelOfTcs_Templ</p> Command Parameter(s) : N_Repetition DH041170 1 <dec> (Def) SubscheduleId DH053170 SUBSCHID M_nrOfApids DH054170 1 <dec> (Def) APID_for_TC_11-x DH235170 TC_APID TC Control Flags : GBM IL DSE --Y -- --- Subsch. ID : 10 Det. descr. : TEMPLATE DisableReleaseOfTcs, TC(11,2)	DCT23170	
7.5		Check the change of release status for the specified Subschedule		<input type="checkbox"/>

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<p>Note that each change of release status of a Subschedule will be reported with an Event Report TM(5,1), returning the affected Subschedule ID and release status as parameters.</p> <p>Note: In case a Subschedule is disabled while already being disabled, no Event Report is issued as there is no change of release status.</p>		
		Verify Packet Reception CdmuAsw Event 5-1 Subschedule Status Changed <i>Packet Details:</i>	D_EvRp_048	
		APID: 16 Type: 5 Subtype: 1 PI1: 26881 PI2: 0		
		Verify Packet Telemetry TM5xEventID DEZSJ170	= SuschedStsChan	(None)
		Verify Packet Telemetry SubscheduleId_A DE075170		(None)
		Verify Packet Telemetry Status_16bit DE099170	= Disabled	(None)
		Verify Packet Telemetry SubScStsChReas DE287170	= TC11_lor2	(None)
		Verify Packet Telemetry Time DELA1170		
7.6		<i>Check the change of release status for the specified APID</i>		□
		<p>Note that each change of release status of an APID will be reported with an Event Report TM(5,1), returning the affected APID and release status as parameters.</p> <p>Note: In case a APID is disabled while already being disabled, no Event Report is issued as there is no change of release status.</p>		
		Verify Packet Reception CdmuAsw Event 5-1 APID Block Status Changed <i>Packet Details:</i>	D_EvRp_049	
		APID: 16 Type: 5 Subtype: 1 PI1: 26882 PI2: 0		
		Verify Packet Telemetry TM5xEventID DEZSJ170	= ApidBlkStsChng	(None)
		Verify Packet Telemetry Apid DE053170		(None)

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Packet Telemetry Status_16bit DE099170	= Disabled	(None)
		Verify Packet Telemetry Time DELA1170		
<p>TC Seq. Name :HFD3022D (Acquire new MTL sett)</p> <p>TimeTag Type: Sub Schedule ID: <input type="checkbox"/></p>				
8		Send TC(11,18) to acquire the new status of all 4095 sub-schedules and 5 APIDs		Next Step: 9
		<p>When this request is received, a Command Schedule Status Report (set of TM(11,19) packets) will be generated containing the release status (enabled or disabled) of all five Application Processes and of all 4095 Subschedules.</p> <p>When the dump of TM(11,19) has ended, an Event Report TM(5,1,105,12) indicating the number of reported TM(11,19) is issued.</p>		
		<p>Execute Telecommand</p> <p style="text-align: center;">RetStatusOfCmdSchedule</p> <p>TC Control Flags :</p> <p style="text-align: center;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10 Det. descr. : ReportStatusOfCmdSchedule, TC(11,18)</p>	DC89F170	
9		Verify that all TM(11,19) have been received for all 4095 Subschedules and 5 APIDs		Next Step: 10
		<p>Verify Packet Reception</p> <p>TM 11-19 Command schedule status report - Subschedule and Apid</p> <p>Packet Details:</p> <p style="text-align: right;">CmdSchStRpt</p> <p style="text-align: right;">APID: 16 Type: 11 Subtype: 19 PI1: PI2:</p>		
9.1		Subschedules status report		<input type="checkbox"/>
		Verify Telemetry N1 DE076170		(None)
		The following 2 parameters are repeated N1 times		

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SubscheduleId_A DE075170		(None)
		Verify Telemetry SubschedStatus DE078170		(None)
9.2		APID status report		□
		Verify Telemetry N2 DE077170		(None)
		The following 2 parameters are repeated N2 times		
		Verify Telemetry Apid DE053170		(None)
		Verify Telemetry ApidStatus DE079170		(None)
10		Verify that TM(5,1,105,12) has been received		Next Step: END
		Verify Packet Reception CdmuAsw Event 5-1 TM 11-19 Dump Ended D_EvRp_7042 Packet Details: APID: 16 Type: 5 Subtype: 1 PI1: 26892 PI2: 0		
		Verify Packet Telemetry TM5xEventID DEZSJ170	= Tm11_19_DmpEnd	(None)
		Verify Packet Telemetry NrOfTmPktIss DE100170	as many as the number of received TM(11,19) in step 9	(None)
End of Procedure				