

Antenna switching via Mission Specific commands  
File: H\_CRP\_TTC\_SWXF.xls  
Author: E. Picallo



## Procedure Summary

### Objectives

This procedure describes the steps needed to move the RFDN switches, via mission specific TC(2,3), in order to achieve a specific configuration.

### Summary of Constraints

The downlink is disabled through ASW TCs(8,4,115,1) thus the status of the ASW function "TTC Management" has to be "running".

Note that:

- downlink has to be disabled before moving RFDN switches;
- after that a pair of RFDN switches has been moved could be necessary to re-sweep the uplink signal to re-acquire the lock in order to move the other two switches.

Moreover it is necessary:

- disable all the RFDN switches MOT (Monitoring Table) entries and then re-enable the needed ones;
- disable and then re-enable all the RFDN switches EAT (Event-Action Table) entries;
- update the switches positions in UIU (Unit In Use Table).

Thus the status of the ASW functions "Event/Action Management" and "FDIR Management" have to be "running".

### Spacecraft Configuration

#### Start of Procedure

CDMU in default configuration;  
Downlink active via TX and TWTA marked as "Nominal" and "Not Failed" in the "Unit in Use" table (nominally the branch 1).

#### End of Procedure

CDMU in default configuration;  
Downlink disabled (TX1/2 and TWTA1/2 OFF);  
XPND LCL (23/16) closed;  
TX in use configured "ON" and "VALID" on the 1553 S/C bus;  
TWTA OPLCL (49/50) open;  
RFDN SW positions changed and relevant entries in UIU updated.

### Reference File(s)

#### Input Command Sequences

#### Output Command Sequences

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HRRSWXF1  
 HRRSWXF2  
 HRRSWXF3  
 HRRSWXF4  
 HRRSWXF5  
 HRRSWXF6

**Referenced Displays**

**ANDs**      **GRDs**      **SLDs**  
 ZAZ7J999  
 ZAZ7M999

**Configuration Control Information**

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
15/07/08	1	1	Created	R. Miniscalco	
06/11/08		2	display update	E. Picallo	
09/01/09	2	3	CDMU ASW V3.8 and BSW V2.4 alignment	E. Picallo	
07/04/09	2.3	4	Steps to check if MOT entries have been disabled added	E. Picallo	
04/05/09	2.4	4.01	Validation : Typo in Objectives paragraph corrected: TC(2,3) are used	E. Picallo	

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## Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
<b>Beginning of Procedure</b>				
TC Seq. Name :HRRSWXFI (Antenna Switch Init) Antenna switching via mission specific commands Initial  TimeTag Type: B Sub Schedule ID:  <input type="checkbox"/>				
1		Acquire switches position		Next Step: 2
		Verify RFDN SW1 Position A Telemetry RFDN SW1 Pos A RMB05436		AND=ZAZ7J999
		Verify RFDN SW1 Position B Telemetry RFDN SW1 Pos B RMB09436		AND=ZAZ7J999
		Verify RFDN SW2 Position A Telemetry RFDN SW2 Pos A RMB06436		AND=ZAZ7J999
		Verify RFDN SW2 Position B Telemetry RFDN SW2 Pos B RMB10436		AND=ZAZ7J999
		Verify RFDN SW3 Position A Telemetry RFDN SW3 Pos A RMB07436		AND=ZAZ7J999
		Verify RFDN SW3 Position B Telemetry RFDN SW3 Pos B RMB11436		AND=ZAZ7J999
		Verify RFDN SW4 Position A Telemetry RFDN SW4 Pos A RMB08436		AND=ZAZ7J999
		Verify RFDN SW4 Position B Telemetry RFDN SW4 Pos B RMB12436		AND=ZAZ7J999
2		Acquire RFDN switches position from UIU table		Next Step: 3
		Verify Telemetry Rfdn1FuncSts DEH49170		AND=ZAZ7M999
		Verify Telemetry Rfdn2FuncSts DEH53170		AND=ZAZ7M999
		Verify Telemetry Rfdn3FuncSts DEH57170		AND=ZAZ7M999
		Verify Telemetry Rfdn4FuncSts DEH61170		AND=ZAZ7M999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
3		<p>Choose one of the following up/downlink path:            XPND1 Launch/Sun after separation/Survival (SUR1)            XPND1 Sun otherwise (SUN1)            XPND1 Nominal/Earth (NOM1)            XPND2 Launch/Sun after separation/Survival (SUR2)            XPND2 Sun otherwise (SUN2)            XPND2 Nominal/Earth (NOM2)</p>		Next Step: SUR1 4 SUN1 17 NOM1 30 SUR2 43 SUN2 56 NOM2 69
		<p><b>XPND1 configurations:</b>  <b>- Launch/Sun acquisition after separation/Survival (SUR1)</b>  <b>RFDN SWs position BBBB</b>            D/L path: TX1 - TWTA1 - LGA1            U/L path: LGA1 - RX1 (LGA2 - RX2)</p> <p><b>- Sun acquisition otherwise (SUN1)</b>  <b>RFDN SWs position BBAB</b>            D/L path: TX1 - TWTA1 - LGA1            U/L path: LGA1 - RX1 (MGA - RX2)</p> <p><b>- Nominal/Earth acquisition (NOM1)</b>  <b>RFDN SWs position ABAB</b>            D/L path: TX1 - TWTA1 - MGA            U/L path: MGA - RX1 (LGA1 - RX2)</p>		
		<p><b>XPND2 configurations:</b>  <b>- Launch/Sun acquisition after separation/Survival (SUR2)</b>  <b>RFDN SWs position ABBB</b>            D/L path: TX2 - TWTA2 - LGA1            U/L path: LGA1 - RX2 (LGA2 - RX1)</p> <p><b>- Sun acquisition otherwise (SUN2)</b>  <b>RFDN SWs position ABAB</b>            D/L path: TX2 - TWTA2 - LGA1            U/L path: LGA1 - RX2 (MGA - RX1)</p> <p><b>- Nominal/Earth acquisition (NOM2)</b>  <b>RFDN SWs position BBAB</b>            D/L path: TX2 - TWTA2 - MGA            U/L path: MGA - RX2 (LGA1 - RX1)</p>		
<p>TC Seq. Name : HRRSWXF1 (RFDNSW SUR1 HP XPND1)            XPND1 Launch/Sun after separation/Survival via mission specific</p> <p>TimeTag Type: Y            Sub Schedule ID:  <input type="checkbox"/></p>				
4		Send TC (19,5) to disable relevant EAT entry		Next Step: 5

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																																						
		<p><b>When this request is received, the action-telecommand associated with the corresponding event shall be disabled. In the TC(19,5) it is necessary to set the following parameters:</b></p> <p><b>N</b>, number of events to be disabled, in this case equal to 8.  <b>APID</b>, repeated N times, identifier of the Application Process generating this event report, in this case always equal to 16 (CDMU).  <b>Event ID</b>, repeated N times, identifier of the event to be disabled, in this case equal to 0x9200 (SW1 position failure), 0x9201 (SW1 position failure), 0x9202 (SW2 position failure), 0x9203 (SW2 position failure), 0x9204 (SW3 position failure), 0x9205 (SW3 position failure), 0x9206 (SW4 position failure), 0x9207 (SW4 position failure).</p>																																																								
	ET=+00.00.00 UT=+	<p>Execute Telecommand</p> <p style="text-align: center;"><b>DisableActions</b></p> <p>Command Parameter(s) :</p> <table border="0"> <tr> <td style="padding-left: 40px;">N_Repetition</td> <td>DH041170</td> <td>8 &lt;dec&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9200 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9201 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9202 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9203 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9204 &lt;hex&gt;</td> </tr> <tr> <td colspan="3"> </td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9205 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9206 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9207 &lt;hex&gt;</td> </tr> </table> <p>TC Control Flags :</p> <p style="text-align: center;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10      Det. descr. : TEMPLATE Disable Actions TC(19,5)</p>	N_Repetition	DH041170	8 <dec>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9200 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9201 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9202 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9203 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9204 <hex>				APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9205 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9206 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9207 <hex>	DCT85170	
N_Repetition	DH041170	8 <dec>																																																								
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APID_for_EAT_TC	DH236170	CDMS (Def)																																																								
EventId	DH146170	9207 <hex>																																																								
5		Send TC(19,6) to acquire the detection list		Next Step: 6																																																						
	ET=+00.00.05 UT=+	<p>Execute Telecommand</p> <p style="text-align: center;"><b>ReptEvtActTable</b></p> <p>TC Control Flags :</p> <p style="text-align: center;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10      Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)</p>	DCT86170																																																							

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify that TM(19,7) have been received and actions related to RFDN SWs are disabled: RFDNSW1_Not_In_PosB_Fail (event ID 0x9200) RFDNSW1_Not_In_PosA_Fail (event ID 0x9201) RFDNSW2_Not_In_PosB_Fail (event ID 0x9202) RFDNSW2_Not_In_PosA_Fail (event ID 0x9203) RFDNSW3_Not_In_PosB_Fail (event ID 0x9204) RFDNSW3_Not_In_PosA_Fail (event ID 0x9205) RFDNSW4_Not_In_PosB_Fail (event ID 0x9206) RFDNSW4_Not_In_PosA_Fail (event ID 0x9207)		
6		Disable SWs MOT entries		Next Step: 7
	ET+=00.00.05 UT=+	Execute Telecommand  ArmDisableMon  TC Control Flags :  Subsch. ID : 10 Det. descr. : Arm Disable On Board Monitoring, TC(8,4,106,1)	DC54F170	
	ET+=00.00.05 UT=+	Execute Telecommand  DisMonitOfParam_Templ  Command Parameter(s) : N_Repetition          DH041170          8 <dec> ParameterId          DH042170          2070 <dec> MonitorId            DH043170          9 <dec> ParameterId          DH042170          2070 <dec> MonitorId            DH043170          13 <dec> ParameterId          DH042170          2070 <dec> MonitorId            DH043170          10 <dec> ParameterId          DH042170          2070 <dec> MonitorId            DH043170          14 <dec> ParameterId          DH042170          2070 <dec> MonitorId            DH043170          11 <dec>  ParameterId          DH042170          2070 <dec> MonitorId            DH043170          15 <dec> ParameterId          DH042170          2070 <dec> MonitorId            DH043170          12 <dec> ParameterId          DH042170          2070 <dec> MonitorId            DH043170          16 <dec>  TC Control Flags :  Subsch. ID : 10 Det. descr. : TEMPLATE Disable Monitoring of Parameter, TC(12,2)	DCT27170	
7		Verify that the MOT entries have been disabled		Next Step: 8

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.05 UT=+	Execute Telecommand  <b>ReportMonitList</b>  <i>TC Control Flags :</i>  Subsch. ID : 10 Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data  GBM IL DSE --Y -- --	DC51F170	
		<b>Verify all 8 MOT entries related to RFDN SWs are disabled:</b> <b>RFDN_SW1_NotInPos_B (monit ID 09)</b> <b>RFDN_SW1_NotInPos_A (monit ID 13)</b> <b>RFDN_SW2_NotInPos_B (monit ID 10)</b> <b>RFDN_SW2_NotInPos_A (monit ID 14)</b> <b>RFDN_SW3_NotInPos_B (monit ID 11)</b> <b>RFDN_SW3_NotInPos_A (monit ID 15)</b> <b>RFDN_SW4_NotInPos_B (monit ID 12)</b> <b>RFDN_SW4_NotInPos_A (monit ID 16)</b>		
8		<i>Send TCs(8,4,116,25/26) to change the SWs position in UIU</i>		Next Step: 9
		<b>Note that TCs(8,4,116,25/26) does not command the HW; they only modifies the RFDN SWs status in the Unit in Use table.</b>		
	ET=+00.00.05 UT=+	Execute Telecommand  <b>H_FdirMarkUnitOn_Templ</b>  <i>Command Parameter(s) :</i> H_ConfStsUnitId                    DHZ00170  <i>TC Control Flags :</i>  Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit On, TC(8,4,116,26), Herschel Version  GBM IL DSE --Y -- --	DC93H159  RfdnSw1	
	ET=+00.00.05 UT=+	Execute Telecommand  <b>H_FdirMarkUnitOn_Templ</b>  <i>Command Parameter(s) :</i> H_ConfStsUnitId                    DHZ00170  <i>TC Control Flags :</i>  Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit On, TC(8,4,116,26), Herschel Version  GBM IL DSE --Y -- --	DC93H159  RfdnSw2	





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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<b>The following command will Switch OFF the TWT Amplifier (TWT), the EPC and the OP-LCL TWTA in use (that is marked as "Nominal" and "Not Failed" in "Unit in Use" table)</b>		
	ET=+00.00.05 UT=+	Execute Telecommand  <b>TtcCommandTwtaInUseOff</b>  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : Ttc Command Twta In Use Off TC(8,4,115,1)	DC08E170	
12		Switch OFF XPND TX in use RF output		Next Step: 13
		<b>The following command switch OFF the TX in use; the status of the XPND LCL does not change (it remains closed) as well as the configuration of the TX on the 1553 S/C bus (it remains "ON" and "Valid").</b>		
	ET=+00.00.05 UT=+	Execute Telecommand  <b>TtcCommandTxInUseOff</b>  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : Ttc Command Tx InUse Off TC(8,4,115,1)	DC05E170	
13		Send TC(2,3) to move SWs 1 and 2		Next Step: 14
		<b>WARNING: after the execution of this TC, Ground station has to re-sweep the uplink to re-acquire the lock and sent the second TC.</b>		
	ET=+00.00.05 UT=+	Execute Telecommand  <b>RFDN_Sw1_PosB_Sw2_PosB</b>  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : RFDN SW1 Pos B and RFDN SW2 Pos B - Mission specific	XC300991	
14		Wait 30 seconds and send TC(2,3) to move SWs 3 and 4		Next Step: 15

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch															
	ET=+00.00.30 UT=+	Execute Telecommand  RFDN_Sw3_PosB_Sw4_PosB  TC Control Flags :  Subsch. ID : 10 Det. descr. : RFDN SW3 Pos B and RFDN SW4 Pos B - Mission specific	XC302991																
15		Re-enable SW1 Pos B and SW3 Pos B MOT entry		Next Step: 16															
		Execute Telecommand  EnabMonitOfParam_Templ  Command Parameter(s) : <table border="0"> <tr> <td>N_Repetition</td> <td>DH041170</td> <td>2 &lt;dec&gt;</td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2070 &lt;dec&gt;</td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>9 &lt;dec&gt;</td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2070 &lt;dec&gt;</td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>11 &lt;dec&gt;</td> </tr> </table> TC Control Flags :  Subsch. ID : 10 Det. descr. : TEMPLATE Enable Monitoring of Parameter, TC(12,1)	N_Repetition	DH041170	2 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	9 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	11 <dec>	DCT26170	
N_Repetition	DH041170	2 <dec>																	
ParameterId	DH042170	2070 <dec>																	
MonitorId	DH043170	9 <dec>																	
ParameterId	DH042170	2070 <dec>																	
MonitorId	DH043170	11 <dec>																	
16		Send TC(19,4) to re-enable relevant EAT entry		Next Step: END															
		<b>When this request is received, the action-telecommand associated with the corresponding event shall be enabled. In the TC(19,4) it is necessary to set the following parameters: N, number of events to be enabled, in this case equal to 8. APID, repeated N times, identifier of the Application Process generating this event report, in this case always equal to 16 (CDMU). Event ID, repeated N times, identifier of the event to be enabled, in this case equal to 0x9200 (SW1 position failure), 0x9201 (SW1 position failure), 0x9202 (SW2 position failure), 0x9203 (SW2 position failure), 0x9204 (SW3 position failure), 0x9205 (SW3 position failure), 0x9206 (SW4 position failure), 0x9207 (SW4 position failure).</b>																	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.05 UT=+	Execute Telecommand  <b>EnableActions</b>  <i>Command Parameter(s) :</i> N_Repetition                  DH041170 APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170  APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170  <i>TC Control Flags :</i> GBM IL DSE --Y -- --  <i>Subsch. ID : 10</i> <i>Det. descr. : TEMPLATE Enable Actions TC(19,4)</i>	DCT84170	
TC Seq. Name : HRRSWXF2 (RFDNSW SUN1 HP XPND1) XPND1 Sun acquisition otherwise via mission specific  <i>TimeTag Type: Y</i> <i>Sub Schedule ID:</i> <input type="checkbox"/>				
17		Send TC (19,5) to disable relevant EAT entry		Next Step: 18
		<b>When this request is received, the action-telecommand associated with the corresponding event shall be disabled. In the TC(19,5) it is necessary to set the following parameters:</b> <b>N, number of events to be disabled, in this case equal to 8.</b> <b>APID, repeated N times, identifier of the Application Process generating this event report, in this case always equal to 16 (CDMU).</b> <b>Event ID, repeated N times, identifier of the event to be disabled, in this case equal to 0x9200 (SW1 position failure), 0x9201 (SW1 position failure), 0x9202 (SW2 position failure), 0x9203 (SW2 position failure), 0x9204 (SW3 position failure), 0x9205 (SW3 position failure), 0x9206 (SW4 position failure), 0x9207 (SW4 position failure).</b>		



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.05 UT=+	Execute Telecommand  <b>ArmDisableMon</b>  TC Control Flags :  Subsch. ID : 10 Det. descr. : Arm Disable On Board Monitoring, TC(8,4,106,1)  GBM IL DSE --Y -- ---	DC54F170	
	ET=+00.00.05 UT=+	Execute Telecommand  <b>DisMonitOfParam_Templ</b>  Command Parameter(s) : N_Repetition            DH041170            8 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            9 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            13 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            10 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            14 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            11 <dec>  ParameterId            DH042170            2070 <dec> MonitorId              DH043170            15 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            12 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            16 <dec>  TC Control Flags :  Subsch. ID : 10 Det. descr. : TEMPLATE Disable Monitoring of Parameter, TC(12,2)  GBM IL DSE --Y -- ---	DCT27170	
20		Verify that the MOT entries have been disabled		Next Step: 21
	ET=+00.00.05 UT=+	Execute Telecommand  <b>ReportMonitList</b>  TC Control Flags :  Subsch. ID : 10 Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data  GBM IL DSE --Y -- ---	DC51F170	



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.05 UT=+	Execute Telecommand <b>H_FdirMarkUnitOn_Templ</b>  Command Parameter(s) : <b>H_ConfStsUnitId</b> <b>DHZ00170</b>  TC Control Flags :  <b>GBM IL DSE</b> <b>--Y -- ---</b>  Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit On, TC(8,4,116,26), Herschel Version	<b>DC93H159</b>  <b>RfdnSw4</b>	
22		Verify RFDN switches position in UIU table		Next Step: 23
		Verify Telemetry <b>Rfdn1FuncSts</b> <b>DEH49170</b>	<b>= PosB</b>	AND=ZAZ7M999
		Verify Telemetry <b>Rfdn2FuncSts</b> <b>DEH53170</b>	<b>= PosB</b>	AND=ZAZ7M999
		Verify Telemetry <b>Rfdn3FuncSts</b> <b>DEH57170</b>	<b>= PosA</b>	AND=ZAZ7M999
		Verify Telemetry <b>Rfdn4FuncSts</b> <b>DEH61170</b>	<b>= PosB</b>	AND=ZAZ7M999
23		<i>WARNING downlink will be deactivate</i>		Next Step: 24
		<b>In the next step the downlink is deactivated. Therefore no CLCW will be available to acknowledge the TCs .</b>  <b>Switch to BD mode or send the TCs TT in order to avoid triggering the TC re-transmission</b>		
24		<i>Switch OFF the TWTA in use</i>		Next Step: 25
		<b>WARNING: the downlink has to be disabled before moving RFDN switches.</b>		
		<b>The following command will Switch OFF the TWT Amplifier (TWT), the EPC and the OP-LCL TWTA in use (that is marked as "Nominal" and "Not Failed" in "Unit in Use" table)</b>		
	ET=+00.00.05 UT=+	Execute Telecommand <b>TtcCommandTwtaInUseOff</b>  TC Control Flags :  <b>GBM IL DSE</b> <b>--Y -- ---</b>  Subsch. ID : 10 Det. descr. : Ttc Command Twta In Use Off TC(8,4,115,1)	<b>DC08E170</b>	





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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																												
		Execute Telecommand <p style="text-align: center;"><b>EnabMonitOfParam_Templ</b></p> <i>Command Parameter(s) :</i> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">N_Repetition</td> <td style="width: 20%;">DH041170</td> <td style="width: 20%;">2 &lt;dec&gt;</td> <td style="width: 30%;"></td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2070 &lt;dec&gt;</td> <td></td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>9 &lt;dec&gt;</td> <td></td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2070 &lt;dec&gt;</td> <td></td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>15 &lt;dec&gt;</td> <td></td> </tr> </table> <i>TC Control Flags :</i> <p style="text-align: center;">GBM IL DSE        --Y -- --</p> <i>Subsch. ID : 10</i> <i>Det. descr. : TEMPLATE Enable Monitoring of Parameter, TC(12,1)</i>	N_Repetition	DH041170	2 <dec>		ParameterId	DH042170	2070 <dec>		MonitorId	DH043170	9 <dec>		ParameterId	DH042170	2070 <dec>		MonitorId	DH043170	15 <dec>		DCT26170																									
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29		Send TC(19,4) to re-enable relevant EAT entry		Next Step: END																																												
		<p><b>When this request is received, the action-telecommand associated with the corresponding event shall be enabled. In the TC(19,4) it is necessary to set the following parameters:</b></p> <p><b>N</b>, number of events to be enabled, in this case equal to 8.  <b>APID</b>, repeated N times, identifier of the Application Process generating this event report, in this case always equal to 16 (CDMU).  <b>Event ID</b>, repeated N times, identifier of the event to be enabled, in this case equal to 0x9200 (SW1 position failure), 0x9201 (SW1 position failure), 0x9202 (SW2 position failure), 0x9203 (SW2 position failure), 0x9204 (SW3 position failure), 0x9205 (SW3 position failure), 0x9206 (SW4 position failure), 0x9207 (SW4 position failure).</p>																																														
	ET=+00.00.05 UT=+	Execute Telecommand <p style="text-align: center;"><b>EnableActions</b></p> <i>Command Parameter(s) :</i> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">N_Repetition</td> <td style="width: 20%;">DH041170</td> <td style="width: 20%;">8 &lt;dec&gt;</td> <td style="width: 30%;"></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> <td></td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>9200 &lt;hex&gt;</td> <td></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> <td></td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>9201 &lt;hex&gt;</td> <td></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> <td></td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>9202 &lt;hex&gt;</td> <td></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> <td></td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>9203 &lt;hex&gt;</td> <td></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> <td></td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>9204 &lt;hex&gt;</td> <td></td> </tr> </table>	N_Repetition	DH041170	8 <dec>		APID_for_EAT_TC	DH236170	CDMS (Def)		EventId	DH146170	9200 <hex>		APID_for_EAT_TC	DH236170	CDMS (Def)		EventId	DH146170	9201 <hex>		APID_for_EAT_TC	DH236170	CDMS (Def)		EventId	DH146170	9202 <hex>		APID_for_EAT_TC	DH236170	CDMS (Def)		EventId	DH146170	9203 <hex>		APID_for_EAT_TC	DH236170	CDMS (Def)		EventId	DH146170	9204 <hex>		DCT84170	
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : TEMPLATE Disable Actions TC(19,5)	CDMS (Def) 9205 <hex> CDMS (Def) 9206 <hex> CDMS (Def) 9207 <hex>	
31		Send TC(19,6) to acquire the detection list		Next Step: 32
	ET=+00.00.05 UT=+	Execute Telecommand  ReptEvtActTable  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	
		<b>Verify that TM(19,7) have been received and actions related to RFDN SWs are disabled:</b> RFDNSW1_Not_In_PosB_Fail (event ID 0x9200) RFDNSW1_Not_In_PosA_Fail (event ID 0x9201) RFDNSW2_Not_In_PosB_Fail (event ID 0x9202) RFDNSW2_Not_In_PosA_Fail (event ID 0x9203) RFDNSW3_Not_In_PosB_Fail (event ID 0x9204) RFDNSW3_Not_In_PosA_Fail (event ID 0x9205) RFDNSW4_Not_In_PosB_Fail (event ID 0x9206) RFDNSW4_Not_In_PosA_Fail (event ID 0x9207)		
32		Disable SWs MOT entries		Next Step: 33
	ET=+00.00.05 UT=+	Execute Telecommand  ArmDisableMon  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : Arm Disable On Board Monitoring, TC(8,4,106,1)	DC54F170	

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	ET=+00.00.05 UT=+	Execute Telecommand <b>DisMonitOfParam_Templ</b>  <i>Command Parameter(s) :</i> <table border="0"> <tr><td>N_Repetition</td><td>DH041170</td><td>8 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>9 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>13 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>10 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>14 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>11 &lt;dec&gt;</td></tr> <tr><td colspan="3"> </td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>15 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>12 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>16 &lt;dec&gt;</td></tr> </table> <i>TC Control Flags :</i> GBM IL DSE --Y -- ---  <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Disable Monitoring of Parameter, TC(12,2)	N_Repetition	DH041170	8 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	9 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	13 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	10 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	14 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	11 <dec>				ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	15 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	12 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	16 <dec>	DCT27170	
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MonitorId	DH043170	16 <dec>																																																								
33		Verify that the MOT entries have been disabled		Next Step: 34																																																						
	ET=+00.00.05 UT=+	Execute Telecommand <b>ReportMonitList</b>  <i>TC Control Flags :</i> GBM IL DSE --Y -- ---  <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data	DC51F170																																																							
		<b>Verify all 8 MOT entries related to RFDN SWs are disabled:</b> <b>RFDN_SW1_NotInPos_B (monit ID 09)</b> <b>RFDN_SW1_NotInPos_A (monit ID 13)</b> <b>RFDN_SW2_NotInPos_B (monit ID 10)</b> <b>RFDN_SW2_NotInPos_A (monit ID 14)</b> <b>RFDN_SW3_NotInPos_B (monit ID 11)</b> <b>RFDN_SW3_NotInPos_A (monit ID 15)</b> <b>RFDN_SW4_NotInPos_B (monit ID 12)</b> <b>RFDN_SW4_NotInPos_A (monit ID 16)</b>																																																								
34		Send TCs(8,4,116,25/26) to change the SWs position in UIU		Next Step: 35																																																						





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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch															
39		Send TC(2,3) to move SWs 1 and 2		Next Step: 40															
		<b>WARNING: after the execution of this TC, Ground station has to re-sweep the uplink to re-acquire the lock and sent the second TC.</b>																	
	ET+=00.00.05 UT=+	Execute Telecommand  RFDN_Sw1_PosA_Sw2_PosB  TC Control Flags :  Subsch. ID : 10 Det. descr. : RFDN SW1 Pos A and RFDN SW2 Pos B - Mission specific	XC301991																
40		Wait 30 seconds and send TC(2,3) to move SWs 3 and 4		Next Step: 41															
	ET+=00.00.30 UT=+	Execute Telecommand  RFDN_Sw3_PosA_Sw4_PosB  TC Control Flags :  Subsch. ID : 10 Det. descr. : RFDN SW3 Pos A and RFDN SW4 Pos B - Mission specific	XC303991																
41		Re-enable SW1 Pos A and SW3 Pos A MOT entry		Next Step: 42															
		Execute Telecommand  EnabMonitOfParam_Templ  Command Parameter(s) : <table border="0"> <tr> <td>N_Repetition</td> <td>DH041170</td> <td>2 &lt;dec&gt;</td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2070 &lt;dec&gt;</td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>13 &lt;dec&gt;</td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2070 &lt;dec&gt;</td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>15 &lt;dec&gt;</td> </tr> </table> TC Control Flags :  Subsch. ID : 10 Det. descr. : TEMPLATE Enable Monitoring of Parameter, TC(12,1)	N_Repetition	DH041170	2 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	13 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	15 <dec>	DCT26170	
N_Repetition	DH041170	2 <dec>																	
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MonitorId	DH043170	13 <dec>																	
ParameterId	DH042170	2070 <dec>																	
MonitorId	DH043170	15 <dec>																	
42		Send TC(19,4) to re-enable relevant EAT entry		Next Step: END															



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																																						
		<p><b>When this request is received, the action-telecommand associated with the corresponding event shall be enabled. In the TC(19,4) it is necessary to set the following parameters:</b></p> <p><b>N</b>, number of events to be enabled, in this case equal to 8.  <b>APID</b>, repeated N times, identifier of the Application Process generating this event report, in this case always equal to 16 (CDMU).  <b>Event ID</b>, repeated N times, identifier of the event to be enabled, in this case equal to 0x9200 (SW1 position failure), 0x9201 (SW1 position failure), 0x9202 (SW2 position failure), 0x9203 (SW2 position failure), 0x9204 (SW3 position failure), 0x9205 (SW3 position failure), 0x9206 (SW4 position failure), 0x9207 (SW4 position failure).</p>																																																								
	ET=+00.00.05 UT=+	<p>Execute Telecommand</p> <p style="text-align: right;"><b>EnableActions</b></p> <p>Command Parameter(s) :</p> <table border="0"> <tr> <td style="padding-left: 40px;">N_Repetition</td> <td>DH041170</td> <td>8 &lt;dec&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9200 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9201 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9202 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9203 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9204 &lt;hex&gt;</td> </tr> <tr> <td colspan="3"> </td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9205 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9206 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9207 &lt;hex&gt;</td> </tr> </table> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10          Det. descr. : TEMPLATE Enable Actions TC(19,4)</p>	N_Repetition	DH041170	8 <dec>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9200 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9201 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9202 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9203 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9204 <hex>				APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9205 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9206 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9207 <hex>	DCT84170	
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EventId	DH146170	9207 <hex>																																																								
<p>TC Seq. Name : HRRSWXF4 (RFDNSW SUR2 HP XPND2)          XPND2 Launch/Sun after separation/Survival via mission specific</p> <p>TimeTag Type: Y          Sub Schedule ID:</p> <p style="text-align: center;">□</p>																																																										
43		Send TC (19,5) to disable relevant EAT entry		Next Step: 44																																																						

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																																						
		<p><b>When this request is received, the action-telecommand associated with the corresponding event shall be disabled. In the TC(19,5) it is necessary to set the following parameters:</b></p> <p><b>N</b>, number of events to be disabled, in this case equal to 8.  <b>APID</b>, repeated N times, identifier of the Application Process generating this event report, in this case always equal to 16 (CDMU).  <b>Event ID</b>, repeated N times, identifier of the event to be disabled, in this case equal to 0x9200 (SW1 position failure), 0x9201 (SW1 position failure), 0x9202 (SW2 position failure), 0x9203 (SW2 position failure), 0x9204 (SW3 position failure), 0x9205 (SW3 position failure), 0x9206 (SW4 position failure), 0x9207 (SW4 position failure).</p>																																																								
	ET=+00.00.00 UT=+	<p>Execute Telecommand</p> <p style="text-align: center;"><b>DisableActions</b></p> <p>Command Parameter(s) :</p> <table border="0"> <tr> <td style="padding-left: 40px;">N_Repetition</td> <td>DH041170</td> <td>8 &lt;dec&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9200 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9201 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9202 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9203 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9204 &lt;hex&gt;</td> </tr> <tr> <td colspan="3"> </td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9205 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9206 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9207 &lt;hex&gt;</td> </tr> </table> <p>TC Control Flags :</p> <p style="text-align: center;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10      Det. descr. : TEMPLATE Disable Actions TC(19,5)</p>	N_Repetition	DH041170	8 <dec>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9200 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9201 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9202 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9203 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9204 <hex>				APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9205 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9206 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9207 <hex>	DCT85170	
N_Repetition	DH041170	8 <dec>																																																								
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EventId	DH146170	9207 <hex>																																																								
44		Send TC(19,6) to acquire the detection list		Next Step: 45																																																						
	ET=+00.00.05 UT=+	<p>Execute Telecommand</p> <p style="text-align: center;"><b>ReptEvtActTable</b></p> <p>TC Control Flags :</p> <p style="text-align: center;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10      Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)</p>	DCT86170																																																							



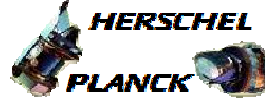
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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.05 UT=+	Execute Telecommand  <b>ReportMonitList</b>  <i>TC Control Flags :</i>  Subsch. ID : 10 Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data  GBM IL DSE --Y -- ---	DC51F170	
		<b>Verify all 8 MOT entries related to RFDN SWs are disabled:</b> <b>RFDN_SW1_NotInPos_B (monit ID 09)</b> <b>RFDN_SW1_NotInPos_A (monit ID 13)</b> <b>RFDN_SW2_NotInPos_B (monit ID 10)</b> <b>RFDN_SW2_NotInPos_A (monit ID 14)</b> <b>RFDN_SW3_NotInPos_B (monit ID 11)</b> <b>RFDN_SW3_NotInPos_A (monit ID 15)</b> <b>RFDN_SW4_NotInPos_B (monit ID 12)</b> <b>RFDN_SW4_NotInPos_A (monit ID 16)</b>		
47		<i>Send TCs(8,4,116,25/26) to change the SWs position in UIU</i>		Next Step: 48
		<b>Note that TCs(8,4,116,25/26) does not command the HW; they only modifies the RFDN SWs status in the Unit in Use table.</b>		
	ET=+00.00.05 UT=+	Execute Telecommand  <b>H_FdirMarkUnitOff_Templ</b>  <i>Command Parameter(s) :</i> H_ConfStsUnitId                    DHZ00170  <i>TC Control Flags :</i>  Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version  GBM IL DSE --Y -- ---	DC91H159  RfdnSw1	
	ET=+00.00.05 UT=+	Execute Telecommand  <b>H_FdirMarkUnitOn_Templ</b>  <i>Command Parameter(s) :</i> H_ConfStsUnitId                    DHZ00170  <i>TC Control Flags :</i>  Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit On, TC(8,4,116,26), Herschel Version  GBM IL DSE --Y -- ---	DC93H159  RfdnSw2	



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<b>The following command will Switch OFF the TWT Amplifier (TWT), the EPC and the OP-LCL TWTA in use (that is marked as "Nominal" and "Not Failed" in "Unit in Use" table)</b>		
	ET=+00.00.05 UT=+	Execute Telecommand  <b>TtcCommandTwtaInUseOff</b>  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : Ttc Command Twta In Use Off TC(8,4,115,1)	DC08E170	
51		Switch OFF XPND TX in use RF output		Next Step: 52
		<b>The following command switch OFF the TX in use; the status of the XPND LCL does not change (it remains closed) as well as the configuration of the TX on the 1553 S/C bus (it remains "ON" and "Valid").</b>		
	ET=+00.00.05 UT=+	Execute Telecommand  <b>TtcCommandTxInUseOff</b>  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : Ttc Command Tx InUse Off TC(8,4,115,1)	DC05E170	
52		Send TC(2,3) to move SWs 1 and 2		Next Step: 53
		<b>WARNING: after the execution of this TC, Ground station has to re-sweep the uplink to re-acquire the lock and sent the second TC.</b>		
	ET=+00.00.05 UT=+	Execute Telecommand  <b>RFDN_Sw1_PosA_Sw2_PosB</b>  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : RFDN SW1 Pos A and RFDN SW2 Pos B - Mission specific	XC301991	
53		Wait 30 seconds and send TC(2,3) to move SWs 3 and 4		Next Step: 54

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch															
	ET=+00.00.30 UT=+	Execute Telecommand  RFDN_Sw3_PosB_Sw4_PosB  TC Control Flags :  Subsch. ID : 10 Det. descr. : RFDN SW3 Pos B and RFDN SW4 Pos B - Mission specific	XC302991																
54		Re-enable SW1 Pos A and SW3 Pos B MOT entry		Next Step: 55															
		Execute Telecommand  EnabMonitOfParam_Templ  Command Parameter(s) : <table border="0"> <tr> <td>N_Repetition</td> <td>DH041170</td> <td>2 &lt;dec&gt;</td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2070 &lt;dec&gt;</td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>13 &lt;dec&gt;</td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2070 &lt;dec&gt;</td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>11 &lt;dec&gt;</td> </tr> </table> TC Control Flags :  Subsch. ID : 10 Det. descr. : TEMPLATE Enable Monitoring of Parameter, TC(12,1)	N_Repetition	DH041170	2 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	13 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	11 <dec>	DCT26170	
N_Repetition	DH041170	2 <dec>																	
ParameterId	DH042170	2070 <dec>																	
MonitorId	DH043170	13 <dec>																	
ParameterId	DH042170	2070 <dec>																	
MonitorId	DH043170	11 <dec>																	
55		Send TC(19,4) to re-enable relevant EAT entry		Next Step: END															
		<b>When this request is received, the action-telecommand associated with the corresponding event shall be enabled. In the TC(19,4) it is necessary to set the following parameters: N, number of events to be enabled, in this case equal to 8. APID, repeated N times, identifier of the Application Process generating this event report, in this case always equal to 16 (CDMU). Event ID, repeated N times, identifier of the event to be enabled, in this case equal to 0x9200 (SW1 position failure), 0x9201 (SW1 position failure), 0x9202 (SW2 position failure), 0x9203 (SW2 position failure), 0x9204 (SW3 position failure), 0x9205 (SW3 position failure), 0x9206 (SW4 position failure), 0x9207 (SW4 position failure).</b>																	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.05 UT=+	Execute Telecommand  <b>EnableActions</b>  <i>Command Parameter(s) :</i> N_Repetition                  DH041170 APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170  APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170 APID_for_EAT_TC              DH236170 EventId                  DH146170  <i>TC Control Flags :</i> GBM IL DSE --Y -- --  <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Enable Actions TC(19,4)	DCT84170	
TC Seq. Name : HRRSWXF5 (RFDNSW SUN2 HP XPND2) XPND2 Sun acquisition otherwise via mission specific  <i>TimeTag Type: Y</i> <i>Sub Schedule ID:</i> <input type="checkbox"/>				
56		Send TC (19,5) to disable relevant EAT entry		Next Step: 57
		<b>When this request is received, the action-telecommand associated with the corresponding event shall be disabled. In the TC(19,5) it is necessary to set the following parameters:</b> <b>N, number of events to be disabled, in this case equal to 8.</b> <b>APID, repeated N times, identifier of the Application Process generating this event report, in this case always equal to 16 (CDMU).</b> <b>Event ID, repeated N times, identifier of the event to be disabled, in this case equal to 0x9200 (SW1 position failure), 0x9201 (SW1 position failure), 0x9202 (SW2 position failure), 0x9203 (SW2 position failure), 0x9204 (SW3 position failure), 0x9205 (SW3 position failure), 0x9206 (SW4 position failure), 0x9207 (SW4 position failure).</b>		





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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.05 UT=+	Execute Telecommand  <b>ArmDisableMon</b>  TC Control Flags :  Subsch. ID : 10 Det. descr. : Arm Disable On Board Monitoring, TC(8,4,106,1)  GBM IL DSE --Y -- ---	DC54F170	
	ET=+00.00.05 UT=+	Execute Telecommand  <b>DisMonitOfParam_Templ</b>  Command Parameter(s) : N_Repetition            DH041170            8 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            9 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            13 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            10 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            14 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            11 <dec>  ParameterId            DH042170            2070 <dec> MonitorId              DH043170            15 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            12 <dec> ParameterId            DH042170            2070 <dec> MonitorId              DH043170            16 <dec>  TC Control Flags :  Subsch. ID : 10 Det. descr. : TEMPLATE Disable Monitoring of Parameter, TC(12,2)  GBM IL DSE --Y -- ---	DCT27170	
59		Verify that the MOT entries have been disabled		Next Step: 60
	ET=+00.00.05 UT=+	Execute Telecommand  <b>ReportMonitList</b>  TC Control Flags :  Subsch. ID : 10 Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data  GBM IL DSE --Y -- ---	DC51F170	



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.05 UT=+	Execute Telecommand <b>H_FdirMarkUnitOn_Templ</b>  Command Parameter(s) : <b>H_ConfStsUnitId</b> <b>DHZ00170</b>  TC Control Flags :  <b>GBM IL DSE</b> <b>--Y -- ---</b>  Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit On, TC(8,4,116,26), Herschel Version	<b>DC93H159</b>  <b>RfdnSw4</b>	
61		Verify RFDN switches position in UIU table		Next Step: 62
		Verify Telemetry <b>Rfdn1FuncSts</b> <b>DEH49170</b>	<b>= PosA</b>	AND=ZAZ7M999
		Verify Telemetry <b>Rfdn2FuncSts</b> <b>DEH53170</b>	<b>= PosB</b>	AND=ZAZ7M999
		Verify Telemetry <b>Rfdn3FuncSts</b> <b>DEH57170</b>	<b>= PosA</b>	AND=ZAZ7M999
		Verify Telemetry <b>Rfdn4FuncSts</b> <b>DEH61170</b>	<b>= PosB</b>	AND=ZAZ7M999
62		<i>WARNING downlink will be deactivate</i>		Next Step: 63
		<b>In the next step the downlink is deactivated. Therefore no CLCW will be available to acknowledge the TCs .</b>  <b>Switch to BD mode or send the TCs TT in order to avoid triggering the TC re-transmission</b>		
63		<i>Switch OFF the TWTA in use</i>		Next Step: 64
		<b>WARNING: the downlink has to be disabled before moving RFDN switches.</b>		
		<b>The following command will Switch OFF the TWT Amplifier (TWT), the EPC and the OP-LCL TWTA in use (that is marked as "Nominal" and "Not Failed" in "Unit in Use" table)</b>		
	ET=+00.00.05 UT=+	Execute Telecommand <b>TtcCommandTwtaInUseOff</b>  TC Control Flags :  <b>GBM IL DSE</b> <b>--Y -- ---</b>  Subsch. ID : 10 Det. descr. : Ttc Command Twta In Use Off TC(8,4,115,1)	<b>DC08E170</b>	



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																												
		Execute Telecommand <p style="text-align: center;"><b>EnabMonitOfParam_Templ</b></p> <i>Command Parameter(s) :</i> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">N_Repetition</td> <td style="width: 20%;">DH041170</td> <td style="width: 20%;">2 &lt;dec&gt;</td> <td style="width: 30%;"></td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2070 &lt;dec&gt;</td> <td></td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>13 &lt;dec&gt;</td> <td></td> </tr> <tr> <td>ParameterId</td> <td>DH042170</td> <td>2070 &lt;dec&gt;</td> <td></td> </tr> <tr> <td>MonitorId</td> <td>DH043170</td> <td>15 &lt;dec&gt;</td> <td></td> </tr> </table> <i>TC Control Flags :</i> <p style="text-align: center;">GBM IL DSE        --Y -- --</p> <i>Subsch. ID : 10</i> <i>Det. descr. : TEMPLATE Enable Monitoring of Parameter, TC(12,1)</i>	N_Repetition	DH041170	2 <dec>		ParameterId	DH042170	2070 <dec>		MonitorId	DH043170	13 <dec>		ParameterId	DH042170	2070 <dec>		MonitorId	DH043170	15 <dec>		DCT26170																									
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68		Send TC(19,4) to re-enable relevant EAT entry		Next Step: END																																												
		<p><b>When this request is received, the action-telecommand associated with the corresponding event shall be enabled. In the TC(19,4) it is necessary to set the following parameters:</b></p> <p><b>N</b>, number of events to be enabled, in this case equal to 8.  <b>APID</b>, repeated N times, identifier of the Application Process generating this event report, in this case always equal to 16 (CDMU).  <b>Event ID</b>, repeated N times, identifier of the event to be enabled, in this case equal to 0x9200 (SW1 position failure), 0x9201 (SW1 position failure), 0x9202 (SW2 position failure), 0x9203 (SW2 position failure), 0x9204 (SW3 position failure), 0x9205 (SW3 position failure), 0x9206 (SW4 position failure), 0x9207 (SW4 position failure).</p>																																														
	ET=+00.00.05 UT=+	Execute Telecommand <p style="text-align: center;"><b>EnableActions</b></p> <i>Command Parameter(s) :</i> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">N_Repetition</td> <td style="width: 20%;">DH041170</td> <td style="width: 20%;">8 &lt;dec&gt;</td> <td style="width: 30%;"></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> <td></td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>9200 &lt;hex&gt;</td> <td></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> <td></td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>9201 &lt;hex&gt;</td> <td></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> <td></td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>9202 &lt;hex&gt;</td> <td></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> <td></td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>9203 &lt;hex&gt;</td> <td></td> </tr> <tr> <td>APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> <td></td> </tr> <tr> <td>EventId</td> <td>DH146170</td> <td>9204 &lt;hex&gt;</td> <td></td> </tr> </table>	N_Repetition	DH041170	8 <dec>		APID_for_EAT_TC	DH236170	CDMS (Def)		EventId	DH146170	9200 <hex>		APID_for_EAT_TC	DH236170	CDMS (Def)		EventId	DH146170	9201 <hex>		APID_for_EAT_TC	DH236170	CDMS (Def)		EventId	DH146170	9202 <hex>		APID_for_EAT_TC	DH236170	CDMS (Def)		EventId	DH146170	9203 <hex>		APID_for_EAT_TC	DH236170	CDMS (Def)		EventId	DH146170	9204 <hex>		DCT84170	
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APID_for_EAT_TC	DH236170	CDMS (Def)																																														
EventId	DH146170	9203 <hex>																																														
APID_for_EAT_TC	DH236170	CDMS (Def)																																														
EventId	DH146170	9204 <hex>																																														



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170 APID_for_EAT_TC DH236170 EventId DH146170  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : TEMPLATE Disable Actions TC(19,5)	CDMS (Def) 9205 <hex> CDMS (Def) 9206 <hex> CDMS (Def) 9207 <hex>	
70		Send TC(19,6) to acquire the detection list		Next Step: 71
	ET=+00.00.05 UT=+	Execute Telecommand  ReptEvtActTable  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : TEMPLATE Report The contents of the event/action table TC(19,6)	DCT86170	
		<b>Verify that TM(19,7) have been received and actions related to RFDN SWs are disabled:</b> RFDNSW1_Not_In_PosB_Fail (event ID 0x9200) RFDNSW1_Not_In_PosA_Fail (event ID 0x9201) RFDNSW2_Not_In_PosB_Fail (event ID 0x9202) RFDNSW2_Not_In_PosA_Fail (event ID 0x9203) RFDNSW3_Not_In_PosB_Fail (event ID 0x9204) RFDNSW3_Not_In_PosA_Fail (event ID 0x9205) RFDNSW4_Not_In_PosB_Fail (event ID 0x9206) RFDNSW4_Not_In_PosA_Fail (event ID 0x9207)		
71		Disable SWs MOT entries		Next Step: 72
	ET=+00.00.05 UT=+	Execute Telecommand  ArmDisableMon  TC Control Flags :  GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : Arm Disable On Board Monitoring, TC(8,4,106,1)	DC54F170	



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																																						
	ET=+00.00.05 UT=+	Execute Telecommand <b>DisMonitOfParam_Templ</b>  <i>Command Parameter(s) :</i> <table border="0"> <tr><td>N_Repetition</td><td>DH041170</td><td>8 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>9 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>13 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>10 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>14 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>11 &lt;dec&gt;</td></tr> <tr><td colspan="3"> </td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>15 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>12 &lt;dec&gt;</td></tr> <tr><td>ParameterId</td><td>DH042170</td><td>2070 &lt;dec&gt;</td></tr> <tr><td>MonitorId</td><td>DH043170</td><td>16 &lt;dec&gt;</td></tr> </table> <i>TC Control Flags :</i> GBM IL DSE --Y -- ---  <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Disable Monitoring of Parameter, TC(12,2)	N_Repetition	DH041170	8 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	9 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	13 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	10 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	14 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	11 <dec>				ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	15 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	12 <dec>	ParameterId	DH042170	2070 <dec>	MonitorId	DH043170	16 <dec>	DCT27170	
N_Repetition	DH041170	8 <dec>																																																								
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MonitorId	DH043170	11 <dec>																																																								
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MonitorId	DH043170	12 <dec>																																																								
ParameterId	DH042170	2070 <dec>																																																								
MonitorId	DH043170	16 <dec>																																																								
72		Verify that the MOT entries have been disabled		Next Step: 73																																																						
	ET=+00.00.05 UT=+	Execute Telecommand <b>ReportMonitList</b>  <i>TC Control Flags :</i> GBM IL DSE --Y -- ---  <i>Subsch. ID : 10</i> Det. descr. : TEMPLATE Report current monitoring list, TC(12,8) no appl. data	DC51F170																																																							
		<b>Verify all 8 MOT entries related to RFDN SWs are disabled:</b> <b>RFDN_SW1_NotInPos_B (monit ID 09)</b> <b>RFDN_SW1_NotInPos_A (monit ID 13)</b> <b>RFDN_SW2_NotInPos_B (monit ID 10)</b> <b>RFDN_SW2_NotInPos_A (monit ID 14)</b> <b>RFDN_SW3_NotInPos_B (monit ID 11)</b> <b>RFDN_SW3_NotInPos_A (monit ID 15)</b> <b>RFDN_SW4_NotInPos_B (monit ID 12)</b> <b>RFDN_SW4_NotInPos_A (monit ID 16)</b>																																																								
73		Send TCs(8,4,116,25/26) to change the SWs position in UIU		Next Step: 74																																																						

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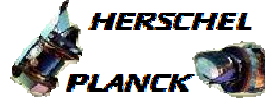
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		<b>Note that TCs(8,4,116,25/26) does not command the HW; they only modifies the RFDN SWs status in the Unit in Use table.</b>		
	ET=+00.00.05 UT=+	Execute Telecommand <b>H_FdirMarkUnitOn_Templ</b>  Command Parameter(s) : <b>H_ConfStsUnitId</b> <b>DHZ00170</b>  TC Control Flags :  <b>GBM IL DSE</b> <b>--Y -- ---</b>  Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit On, TC(8,4,116,26), Herschel Version	DC93H159  RfdnSw1	
	ET=+00.00.05 UT=+	Execute Telecommand <b>H_FdirMarkUnitOn_Templ</b>  Command Parameter(s) : <b>H_ConfStsUnitId</b> <b>DHZ00170</b>  TC Control Flags :  <b>GBM IL DSE</b> <b>--Y -- ---</b>  Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit On, TC(8,4,116,26), Herschel Version	DC93H159  RfdnSw2	
	ET=+00.00.05 UT=+	Execute Telecommand <b>H_FdirMarkUnitOff_Templ</b>  Command Parameter(s) : <b>H_ConfStsUnitId</b> <b>DHZ00170</b>  TC Control Flags :  <b>GBM IL DSE</b> <b>--Y -- ---</b>  Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit OFF, TC(8,4,116,25), Herschel Version	DC91H159  RfdnSw3	
	ET=+00.00.05 UT=+	Execute Telecommand <b>H_FdirMarkUnitOn_Templ</b>  Command Parameter(s) : <b>H_ConfStsUnitId</b> <b>DHZ00170</b>  TC Control Flags :  <b>GBM IL DSE</b> <b>--Y -- ---</b>  Subsch. ID : 10 Det. descr. : TEMPLATE FDIR: Mark Unit On, TC(8,4,116,26), Herschel Version	DC93H159  RfdnSw4	
74		Verify RFDN switches position in UIU table		Next Step: 75

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry Rfdn1FuncSts DEH49170	= PosB	AND=ZAZ7M999
		Verify Telemetry Rfdn2FuncSts DEH53170	= PosB	AND=ZAZ7M999
		Verify Telemetry Rfdn3FuncSts DEH57170	= PosA	AND=ZAZ7M999
		Verify Telemetry Rfdn4FuncSts DEH61170	= PosB	AND=ZAZ7M999
75		WARNING downlink will be deactivate		Next Step: 76
		<b>In the next step the downlink is deactivated. Therefore no CLCW will be available to acknowledge the TCs .</b>  <b>Switch to BD mode or send the TCs TT in order to avoid triggering the TC re-transmission</b>		
76		Switch OFF the TWTA in use		Next Step: 77
		<b>WARNING: the downlink has to be disabled before moving RFDN switches.</b>		
		<b>The following command will Switch OFF the TWT Amplifier (TWT), the EPC and the OP-LCL TWTA in use (that is marked as "Nominal" and "Not Failed" in "Unit in Use" table)</b>		
	ET=+00.00.05 UT=+	Execute Telecommand TtcCommandTwtaInUseOff  TC Control Flags : GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : Ttc Command Twta In Use Off TC(8,4,115,1)	DC08E170	
77		Switch OFF XPND TX in use RF output		Next Step: 78
		<b>The following command switch OFF the TX in use; the status of the XPND LCL does not change (it remains closed) as well as the configuration of the TX on the 1553 S/C bus (it remains "ON" and "Valid").</b>		
	ET=+00.00.05 UT=+	Execute Telecommand TtcCommandTxInUseOff  TC Control Flags : GBM IL DSE --Y -- ---  Subsch. ID : 10 Det. descr. : Ttc Command Tx InUse Off TC(8,4,115,1)	DC05E170	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
78		Send TC(2,3) to move SWs 1 and 2		Next Step: 79
		<b>WARNING: after the execution of this TC, Ground station has to re-sweep the uplink to re-acquire the lock and sent the second TC.</b>		
	ET=+00.00.05 UT=+	Execute Telecommand  RFDN_Sw1_PosB_Sw2_PosB  TC Control Flags :  Subsch. ID : 10 Det. descr. : RFDN SW1 Pos B and RFDN SW2 Pos B - Mission specific	XC300991	
		GBM IL DSE --Y -- --		
79		Wait 30 seconds and send TC(2,3) to move SWs 3 and 4		Next Step: 80
	ET=+00.00.30 UT=+	Execute Telecommand  RFDN_Sw3_PosA_Sw4_PosB  TC Control Flags :  Subsch. ID : 10 Det. descr. : RFDN SW3 Pos A and RFDN SW4 Pos B - Mission specific	XC303991	
		GBM IL DSE --Y -- --		
80		Re-enable SW1 Pos B and SW3 Pos A MOT entry		Next Step: 81
		Execute Telecommand  EnabMonitOfParam_Templ  Command Parameter(s) : N_Repetition DH041170 ParameterId DH042170 MonitorId DH043170 ParameterId DH042170 MonitorId DH043170  TC Control Flags :  Subsch. ID : 10 Det. descr. : TEMPLATE Enable Monitoring of Parameter, TC(12,1)	DCT26170	
		2 <dec> 2070 <dec> 9 <dec> 2070 <dec> 15 <dec>		
		GBM IL DSE --Y -- --		
81		Send TC(19,4) to re-enable relevant EAT entry		Next Step: END

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch																																																						
		<p><b>When this request is received, the action-telecommand associated with the corresponding event shall be enabled. In the TC(19,4) it is necessary to set the following parameters:</b></p> <p><b>N</b>, number of events to be enabled, in this case equal to 8.  <b>APID</b>, repeated N times, identifier of the Application Process generating this event report, in this case always equal to 16 (CDMU).  <b>Event ID</b>, repeated N times, identifier of the event to be enabled, in this case equal to 0x9200 (SW1 position failure), 0x9201 (SW1 position failure), 0x9202 (SW2 position failure), 0x9203 (SW2 position failure), 0x9204 (SW3 position failure), 0x9205 (SW3 position failure), 0x9206 (SW4 position failure), 0x9207 (SW4 position failure).</p>																																																								
	ET=+00.00.05 UT=+	<p>Execute Telecommand</p> <p style="text-align: right;"><b>EnableActions</b></p> <p>Command Parameter(s) :</p> <table border="0"> <tr> <td style="padding-left: 40px;">N Repetition</td> <td>DH041170</td> <td>8 &lt;dec&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9200 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9201 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9202 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9203 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9204 &lt;hex&gt;</td> </tr> <tr> <td colspan="3"> </td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9205 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9206 &lt;hex&gt;</td> </tr> <tr> <td style="padding-left: 40px;">APID_for_EAT_TC</td> <td>DH236170</td> <td>CDMS (Def)</td> </tr> <tr> <td style="padding-left: 80px;">EventId</td> <td>DH146170</td> <td>9207 &lt;hex&gt;</td> </tr> </table> <p>TC Control Flags :</p> <p style="text-align: right;">GBM IL DSE --Y -- ---</p> <p>Subsch. ID : 10          Det. descr. : TEMPLATE Enable Actions TC(19,4)</p>	N Repetition	DH041170	8 <dec>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9200 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9201 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9202 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9203 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9204 <hex>				APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9205 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9206 <hex>	APID_for_EAT_TC	DH236170	CDMS (Def)	EventId	DH146170	9207 <hex>	DCT84170	
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