CDMU and ACC TC test (Serv 17 or BD/BSW counter only)
File: H_FCP_DHS_1029.xls
Author: S. Manganelli

Procedure Summary

Objectives

To execute a TC connection test against CDMU and ACC, either by use of service 17 or just verifying the increase of the related BSW TC counters

Summary of Constraints

In case the BSW TC counters have to be used (no service 17 TM available, for example after transition to SM) the procedure should be run while the allocated MSTACK is the only TC source, Ground and On-Board. If this is not the case, the increase of the BSW counters may not be related to the test commands from this procedure. The change of BD counters is certain verification that the TC has reached the spacecraft.

Spacecraft Configuration

Start of Procedure

Any

End of Procedure

Unchanged

Reference File(s)

Input Command Sequences

Output Command Sequences

HFD1029A
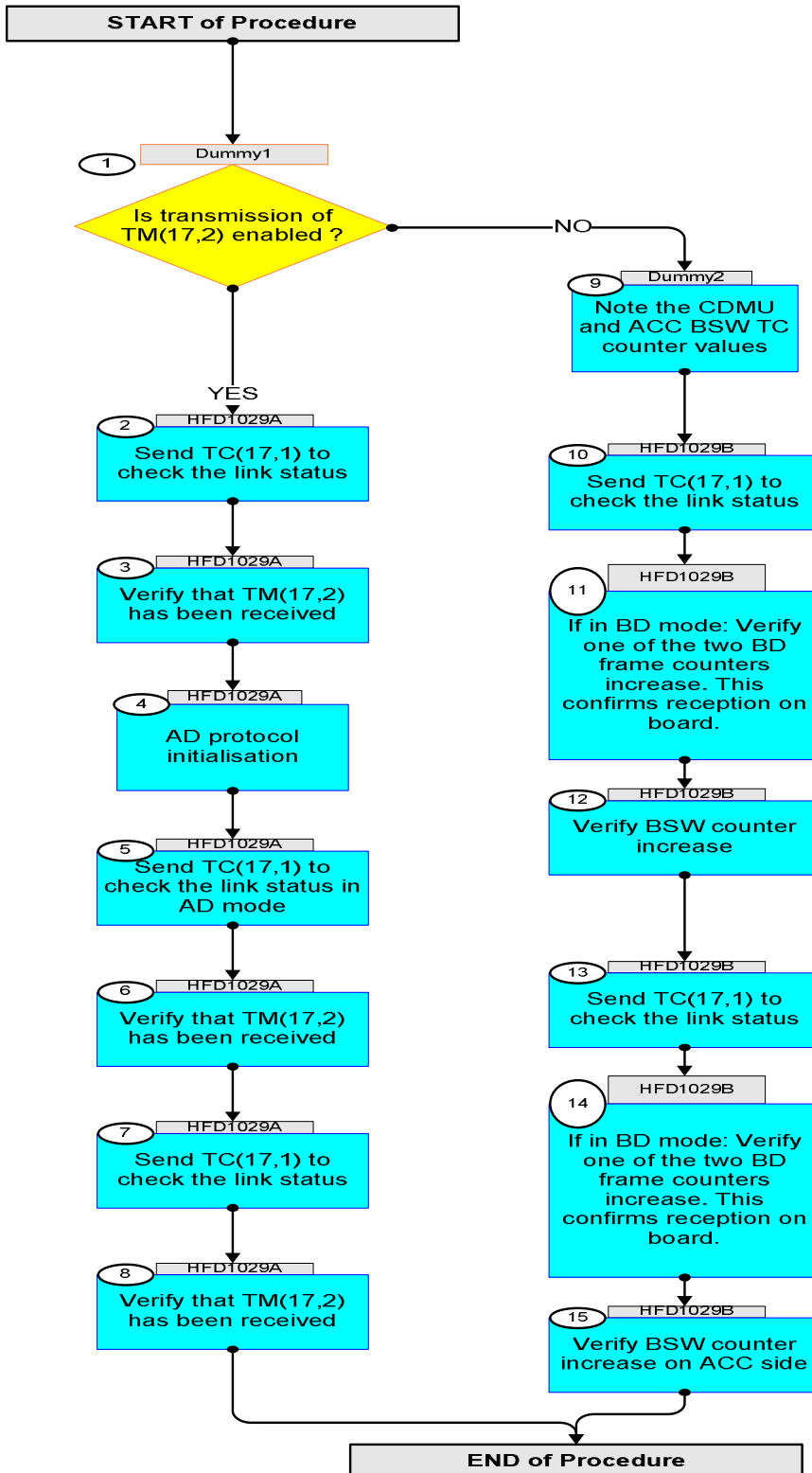HFD1029B

Referenced Displays

ANDs	GRDs	SLDs
ZAZ8T999	ZGZ61999	
ZAA08999		

Configuration Control Information

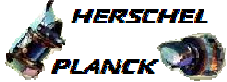| DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
28/10/08		1	Created	S. Manganelli	
11/11/08	2	2	Added AD mode setup	S. Manganelli	
19/03/09	2.2	3	Added use of BD counters DB changes due to OBSW 3_8_2	S. Manganelli	

Status   : Version 3 - Unchanged
Last Checkin: 19/03/09

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Procedure Flowchart Overview

START of Procedure

1 Dummy1

Is transmission of TM(17,2) enabled ? — NO

YES

2 HFD1029A
Send TC(17,1) to check the link status

3 HFD1029A
Verify that TM(17,2) has been received

4 HFD1029A
AD protocol initialisation

5 HFD1029A
Send TC(17,1) to check the link status in AD mode

6 HFD1029A
Verify that TM(17,2) has been received

7 HFD1029A
Send TC(17,1) to check the link status

8 HFD1029A
Verify that TM(17,2) has been received

9 Dummy2
Note the CDMU and ACC BSW TC counter values

10 HFD1029B
Send TC(17,1) to check the link status

11 HFD1029B
If in BD mode: Verify one of the two BD frame counters increase. This confirms reception on board.

12 HFD1029B
Verify BSW counter increase

13 HFD1029B
Send TC(17,1) to check the link status

14 HFD1029B
If in BD mode: Verify one of the two BD frame counters increase. This confirms reception on board.

15 HFD1029B
Verify BSW counter increase on ACC side

END of Procedure

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Beginning of Procedure			
Dummy1		*TC Seq. Name :* Dummy1 (Dummy sequence) *TimeTag Type:* *Sub Schedule ID:*			
1		Is transmission of TM(17,2) enabled ? type: [If]		Next Step: YES 2 NO 9	
		If the answer is not known, both cases can be tried. There is no risk asking for TM(17,2) when not enabled for transmission.			
		End of Sequence			
HFD1029A		*TC Seq. Name :* HFD1029A (TCtest CDMU ACC TM17) Using service 17 TM *TimeTag Type:* *Sub Schedule ID:*			
2		Send TC(17,1) to check the link status		Next Step: 3	
		At the reception of this TC, the CDMU will generate a TM(17,2) ("link connection report").			

		Execute Telecommand
		
		                               ConnectionTest
		
		TC Control Flags :
		                        GBM IL DSE
		                        --Y -- ---
		Subsch. ID : 10
		Det. descr. : Perform Connection Test
			DC810180	**TC**	

3		Verify that TM(17,2) has been received		Next Step: 4	
		Verify Packet Reception Link Connection Report Packet Mnemonic : LnkConnecRep APID : 16 Type : 17 Subtype : 2 PI1 : PI2 :			
4		AD protocol initialisation		Next Step: 5	
		In the '**Uplink Configuration**' Tab of the **TC SPACON** application set the value of **V(S)** to **0**. **After having set the value click on the 'Generate Packet' button.**			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Check that **BD mode is still selected** in the **Manual Stack** application.			

		Execute Telecommand
		
		         ConnectionTest
		
		TC Control Flags :
		         GBM IL DSE
		         --Y -- ---
		
		Subsch. ID : 10
		Det. descr. : Perform Connection Test
			DC810180	TC	

		Execute Telecommand
		
		         FARM1 Unlock Directive
		
		TC Control Flags :
		         GBM IL DSE
		         --Y -- ---
		
		Subsch. ID : 30
		Det. descr. : FARM1 Unlock Directive
			GCUNL000	TC	

		Execute Telecommand
		
		         FARM1 SET V-R- Directive
		
		Command Parameter(s) :
		         V-R- Value **GPVAL000**
		
		TC Control Flags :
		         GBM IL DSE
		         --Y -- ---
		
		Subsch. ID : 30
		Det. descr. : FARM1 SET V-R- Directive
			GCSET000
			
			0 <dec>
				TC	

		NOW Select **AD mode** in the **Manual Stack** application.			
5		Send TC(17,1) to check the link status in AD mode		Next Step: 6	
		At the reception of this TC, the CDMU will generate a TM(17,2) ("link connection report").			

		Execute Telecommand
		
		         ConnectionTest
		
		TC Control Flags :
		         GBM IL DSE
		         --Y -- ---
		
		Subsch. ID : 10
		Det. descr. : Perform Connection Test
			DC810180	TC	

6		Verify that TM(17,2) has been received		Next Step: 7	
		Verify Packet Reception Link Connection Report Packet Mnemonic : LnkConnecRep APID : 16 Type : 17 Subtype : 2 PI1 : PI2 :			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
6.1		Verify in TC History that this TC has now passed the "O" verification stage. If not, AD protocol has NOT been initialized correctly. Check and Repeat step 4 up to here.			
7		Send TC(17,1) to check the link status		Next Step: 8	
		At the reception of this TC, the ACC will generate a TM(17,2) ("link connection report").			
		Execute Telecommand **ConnectionTest** TC Control Flags : **GBM IL DSE** **--Y -- ---** Subsch. ID : 20 Det. descr. : Perform Connection Test	**AC810070**	TC	
8		Verify that TM(17,2) has been received		Next Step: END	
		Verify Packet Reception Link Connection Report Packet Mnemonic : LnkConnecRep APID : 512 Type : 17 Subtype : 2 PI1 : PI2 :			
		End of Sequence			
Dummy2		TC Seq. Name :Dummy2 (Dummy sequence) TimeTag Type: Sub Schedule ID:			
9		Note the CDMU and ACC BSW TC counter values		Next Step: 10	
		Verify Telemetry **BSW_TC_TO_BSW** **DELVF160**	**Note current value**	AND=ZAZ8T999	
		Verify Telemetry **BSW_TC_TO_BSW** **AEHKF050**	**Note current value**	AND=ZAA08999	
		End of Sequence			
HFD1029B		TC Seq. Name :HFD1029B (TCtest CDMU ACC BSW) Using BSW TC counters only TimeTag Type: N Sub Schedule ID:			

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
10		Send TC(17,1) to check the link status		Next Step: 11	
		At the reception of this TC, the CDMU will generate a TM(17,2) ("link connection report").			

		Execute Telecommand
		              ConnectionTest
		
		TC Control Flags :
		            GBM IL DSE
		            --Y -- ---
		Subsch. ID : 10
		Det. descr. : Perform Connection Test
			DC810180	**TC**	

11		If in BD mode: Verify one of the two BD frame counters increase. This confirms reception on board.		Next Step: 12	
		Verify Telemetry **FARM B CNT.** **XD170991**	**Changing value (cycles between 0 and 3)**	GRD=ZGZ61999	
		Verify Telemetry **FARM B CNT.** **XD199991**	**Changing value (cycles between 0 and 3)**	GRD=ZGZ61999	
12		Verify BSW counter increase		Next Step: 13	
		Verify Telemetry **BSW_TC_TO_BSW** **DELVF160**	**Previous value + 1**	AND=ZAZ8T999	
13		Send TC(17,1) to check the link status		Next Step: 14	

		Execute Telecommand
		              ConnectionTest
		
		TC Control Flags :
		            GBM IL DSE
		            --Y -- ---
		Subsch. ID : 20
		Det. descr. : Perform Connection Test
			AC810070	**TC**	

14		If in BD mode: Verify one of the two BD frame counters increase. This confirms reception on board.		Next Step: 15	
		Verify Telemetry **FARM B CNT.** **XD170991**	**Changing value (cycles between 0 and 3)**	GRD=ZGZ61999	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch	AIT Comment
		Verify Telemetry 　　　　**FARM B CNT.**　　　　**XD199991**	**Changing value (cycles between 0 and 3)**	GRD=ZGZ61999	
15		Verify BSW counter increase on ACC side		Next Step: 　END	
		Verify Telemetry 　　　　**BSW_TC_TO_BSW**　　　　**AEHKF050**	**Previous value + 1**	AND=ZAA08999	
		End of Sequence			
		End of Procedure			