

MCU_OFF
 File: H_COP_SPI_MCUF.xls
 Author: L.Lucas-hp



Procedure Summary

Objectives

The purpose of this procedure is MCU switch OFF
 Based on Procedure:
 MCU_OFF (v3)

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

Mode: REDY

End of Procedure

Sub-Mode: SCU_ON

Reference File(s)

Input Command Sequences

Output Command Sequences

HCSMCUF

Referenced Displays

| ANDs | GRDs | SLDs |
|----------|------|------|
| SA_7_559 | | |
| ZAZ90999 | | |
| SA_1_559 | | |

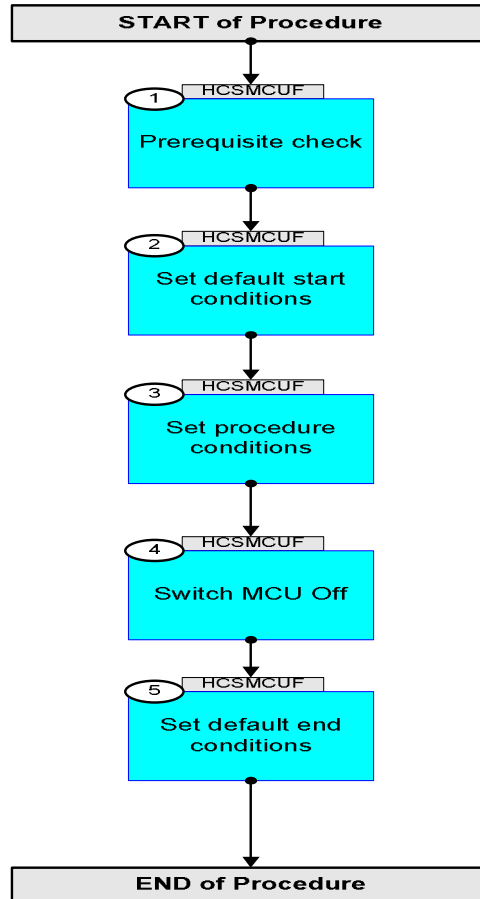
Configuration Control Information

| DATE | FOP ISSUE | VERSION | MODIFICATION DESCRIPTION | AUTHOR | SPR REF |
|----------|-----------|---------|--|------------|---------|
| 08/12/08 | | 1 | Created | L.Lucas-hp | |
| 08/12/08 | | 1.01 | Validation : | L.Lucas-hp | |
| 14/01/09 | | 1.02 | Validation : Update AND | L.Lucas-hp | |
| 27/01/09 | 2 | 2 | Remove ETs for ease of Loading to manual stack | L.Lucas-hp | |

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Procedure Flowchart Overview



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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|--|----------------------|---|--|-----------------|
| Beginning of Procedure | | | | |
| <p><i>TC Seq. Name : HCSMCUF (MCU OFF)</i></p> <p><i>TimeTag Type: Y</i> <i>Sub Schedule ID:</i></p> <p style="text-align: center;">□</p> | | | | |
| 1 | | <i>Prerequisite check</i> | | Next Step: 2 |
| 1.1 | | <i>HSC/ICC input</i> | | □ |
| | | <p>Verify that the HSC has supplied a valid OBSID value:</p> <p>OBS_ID = 0xnnnn nnnn</p> | | |
| 1.2 | | <i>Note TM Values Pre-execution</i> | | □ |
| | | <p>Verify Telemetry</p> <p style="text-align: center;">MCUP5V SM_4V515</p> | | AND=SA_7_559 |
| | | <p>Verify Telemetry</p> <p style="text-align: center;">MCUP14V SM_2V515</p> | | AND=SA_7_559 |
| | | <p>Verify Telemetry</p> <p style="text-align: center;">MCUP15V SM_0V515</p> | | AND=SA_7_559 |
| | | <p>Verify Telemetry</p> <p style="text-align: center;">MCUM14V SM_3V515</p> | | AND=SA_7_559 |
| | | <p>Verify Telemetry</p> <p style="text-align: center;">MCUM15V SM_1V515</p> | | AND=SA_7_559 |
| | | <p>Verify Telemetry</p> <p style="text-align: center;">MODE SM00M500</p> | | AND=SA_7_559 |
| 2 | | <i>Set default start conditions</i> | | Next Step: 3 |
| | | <p>Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands</p> | | |
| | ET=+ UT=+00.00.00 | <p>SET_OBS_STEP</p> <p style="text-align: center;">SET_OBS_STEP</p> <p>Command Parameter(s) :</p> <p style="text-align: center;">OBSERVATION_STEP SP03N500</p> <p>Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP</p> | <p>SC003500</p> <p>0 <hex></p> | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|----------------------|--|---|----------------------------------|
| | ET=+ UT=+00.00.01 | SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER | SET_BBID SP01N500 80010001 <hex> | SC001500 |
| | | Verify Telemetry BBFULLTYPE | SM2LN500 | = ClearObs AND=ZAZ90999 |
| | ET=+ UT=+00.00.00 | SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP | SET_OBS_STEP SP03N500 1 <hex> | SC003500 |
| | ET=+ UT=+00.00.01 | SET_OBSID Command Parameter(s) : OBSERVATION_ID Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER | SET_OBSID SP00N500 00000000 <hex> | SC000500 |
| | | Verify Telemetry OBSID | SM10N500 | = 00000000 <hex> AND=ZAZ90999 |
| | ET=+ UT=+00.00.00 | SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP | SET_OBS_STEP SP03N500 0 <hex> | SC003500 |
| | ET=+ UT=+00.00.01 | SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER | SET_BBID SP01N500 80000000 <hex> | SC001500 |
| | | Verify Telemetry BBFULLTYPE | SM2LN500 | = Null AND=ZAZ90999 |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|----------------------|---|--------------------------------|-----------------|
| | ET=+ UT=+00.00.00 | SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP | SC003500 0 <hex> | |
| | ET=+ UT=+00.00.01 | SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER | SC001500 80020001 <hex> | |
| | | Verify Telemetry BBFULLTYPE SM2LN500 | = StartObs | AND=ZAZ90999 |
| 3 | | Set procedure conditions | | Next Step: 4 |
| | ET=+ UT=+00.00.00 | RESET_DRCU_COUNTERS RESET_DRCU_COUNTERS Subsch. ID : 370 Det. descr. : RESET DRCU COUNTERS | SCD00505 | |
| | | Verify that the TRESET parameter has the same value as the THSK parameter TRESET SM01T500 | same as THSK | AND=SA_1_559 |
| | | THSK SM00T500 | any | AND=SA_1_559 |
| | | Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands | | |
| | ET=+ UT=+00.00.00 | SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP | SC003500 1 <hex> | |
| | ET=+ UT=+00.00.01 | SET_OBSID SET_OBSID Command Parameter(s) : OBSERVATION_ID SP00N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER | SC000500 OBS_ID | |
| | | Verify Telemetry OBSID SM10N500 | OBS_ID | AND=ZAZ90999 |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|----------------------|---|---|-----------------|
| | ET=+ UT=+00.00.00 | SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP | SC003500 0 <hex> | |
| | ET=+ UT=+00.00.01 | SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER | SC001500 80000000 <hex> | |
| | | Verify Telemetry BBFULLTYPE SM2LN500 | = Null | AND=ZAZ90999 |
| | ET=+ UT=+00.00.00 | SET_OBS_STEP SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP | SC003500 0 <hex> | |
| | ET=+ UT=+00.00.01 | SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER | SC001500 89080001 <hex> | |
| | | Verify Telemetry BBFULLTYPE SM2LN500 | = MCU_Off | AND=SA_7_559 |
| 4 | | Switch MCU Off | | Next Step: 5 |
| | ET=+ UT=+00.00.01 | SEND_DRCU_COMMAND SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --Y -- -- Subsch. ID : 370 Det. descr. : SEND A SINGLE COMMAND TO THE DRCU | SCD06505 A0870000 <hex> 0 <hex> (Def) | |

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| Step No. | Time | Activity/Remarks | TC/TLM | Display/ Branch |
|----------|----------------------|---|--|-------------------|
| 5 | | Set default end conditions | | Next Step: END |
| | | Note that a TM(5,1) packet [New_Step_Report] is generated after each of the following SET_OBS_STEP telecommands | | |
| | ET=+ UT=+00.00.00 | SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP | SET_OBS_STEP SC003500 0 <hex> | |
| | ET=+ UT=+00.00.01 | SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER | SET_BBID SC001500 80000000 <hex> | |
| | | Verify Telemetry BBFULLTYPE SM2LN500 | = Null | AND=ZAZ90999 |
| | | Verify Telemetry ~20V (0xFFFF RAW) MCUP5V SM_4V515 | | AND=SA_7_559 |
| | | Verify Telemetry ~75V (0xFFFF RAW) MCUP14V SM_2V515 | | AND=SA_7_559 |
| | | Verify Telemetry ~75V (0xFFFF RAW) MCUP15V SM_0V515 | | AND=SA_7_559 |
| | | Verify Telemetry ~75V (0xFFFF RAW) MCUM14V SM_3V515 | | AND=SA_7_559 |
| | | Verify Telemetry ~75V (0xFFFF RAW) MCUM15V SM_1V515 | | AND=SA_7_559 |
| | | Verify Telemetry MODE SM00M500 | = SCU_ON | AND=SA_7_559 |
| | ET=+ UT=+00.00.00 | SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP SP03N500 Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP | SET_OBS_STEP SC003500 0 <hex> | |

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|-------------------------|----------------------|--|---|-----------------|
| | ET=+ UT=+00.00.01 | SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER | SET_BBID SP01N500 80030001 <hex> | |
| | | Verify Telemetry BBFULLTYPE | SM2LN500 = EndObs | AND=ZAZ90999 |
| | ET=+ UT=+00.00.00 | SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP | SET_OBS_STEP SP03N500 1 <hex> | |
| | ET=+ UT=+00.00.01 | SET_OBSID Command Parameter(s) : OBSERVATION_ID Subsch. ID : 370 Det. descr. : SET OBSERVATION IDENTIFIER | SET_OBSID SP00N500 00000000 <hex> | |
| | | Verify Telemetry OBSID | SM10N500 = 00000000 <hex> | AND=ZAZ90999 |
| | ET=+ UT=+00.00.00 | SET_OBS_STEP Command Parameter(s) : OBSERVATION_STEP Subsch. ID : 370 Det. descr. : SET OBSERVATION STEP | SET_OBS_STEP SP03N500 0 <hex> | |
| | ET=+ UT=+00.00.01 | SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID Subsch. ID : 370 Det. descr. : SET BUILDING BLOCK IDENTIFIER | SET_BBID SP01N500 80000000 <hex> | |
| | | Verify Telemetry BBFULLTYPE | SM2LN500 = Null | AND=ZAZ90999 |
| End of Procedure | | | | |