EADS astrium

Herschel Integrated Satellite Test Procedure: Instruments FDIR OBCP

Herschel

Title: **Herschel IST Test Case 'Test of Redundant Instrument FDIR OBCP'**

CI-No: 100000

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Issue	Date	Sheet	Description of Change	Release
1	12.01.2009		Initial version	

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1 Scope

1.1 Objective

This Procedure represents the instruments FDIR OBCP part of the S/C IST. In this test case we trigger some specific FDIR actions during the operation day (Autonomy period) of each of the three instruments. It has been agreed to keep the date of the CCS to the current UTC and that the execution of the three tests (one per instrument) can be performed in one session, thus with the same starting condition. The starting configuration chosen for this sequencial test is the end of the CDMS management test case, with S/C link in umbilical.

According to the IST specification (AD1) and following agreements (RD2, RD3), the following OBCPs will be tested:

Table 1 - HIFI OBCPs

HIFI OBCP (refer to chapter 7.3)	APID	TM	Event ID	type	trigger
DB_OBCP_H_HIFI_RESET	16	5,x	151	DLL FDIR	jamming

Table 2 - PACS OBCPs

PACS OBCPs (refer to chapter 7.4)	APID	TM	Event ID	type	trigger
DB_OBCP_H_PACS_ SAFE	1152/1153	5,2	4		PACS_StartAutonomy_ Function_14_OBS_Shell.tcl
DB_OBCP_H_PACS_POWER_CYCLE	1152/1153	5,2	6		OBCP Start TC
DB_OBCP_H_PACS_NORMAL_OFF	1152/1153	5,2	25		PACS_StartAutonomy_ Function_17_OBS_Shell.tcl
DB_OBCP_H_PACS_IMMEDIATE_OFF	16	5,x	153 ⇨ replaced by 186	DLL FDIR ⇨ replaced by TFL TM	PACS_Disable_HK_OBS_Shell.tcl

Table 3 - SPIRE OBCPs

SPIRE OBCPs (refer to chapter 7.5)	APID	TM	Event ID	type	trigger
DB_OBCP_H_SPIRE_DRCU_OFF	1280/1281	5,2	xC000		SPIRE-OBCPTest-DRCUAnomaly.tcl
DB_OBCP_H_SPIRE_OPE_STOP	1280/1281	5,2	xC100		SPIRE-OBCPTest-ObservationAnomaly.tcl
DB_OBCP_H_SPIRE_OPE_RESUME	1280/1281	5,2	xC110		SPIRE-OBCPTest-ObservationAnomalyCorrected.tcl
DB_OBCP_H_SPIRE_OFF	16	5,x	152	DLL	jamming
DB_OBCP_H_SPIRE_OFF_CTRL	16	5,x	185	TFL TM FDIR	SPIRE provided TCs to clear HK. SPIRE_OBCPTest_StopHK.tcl

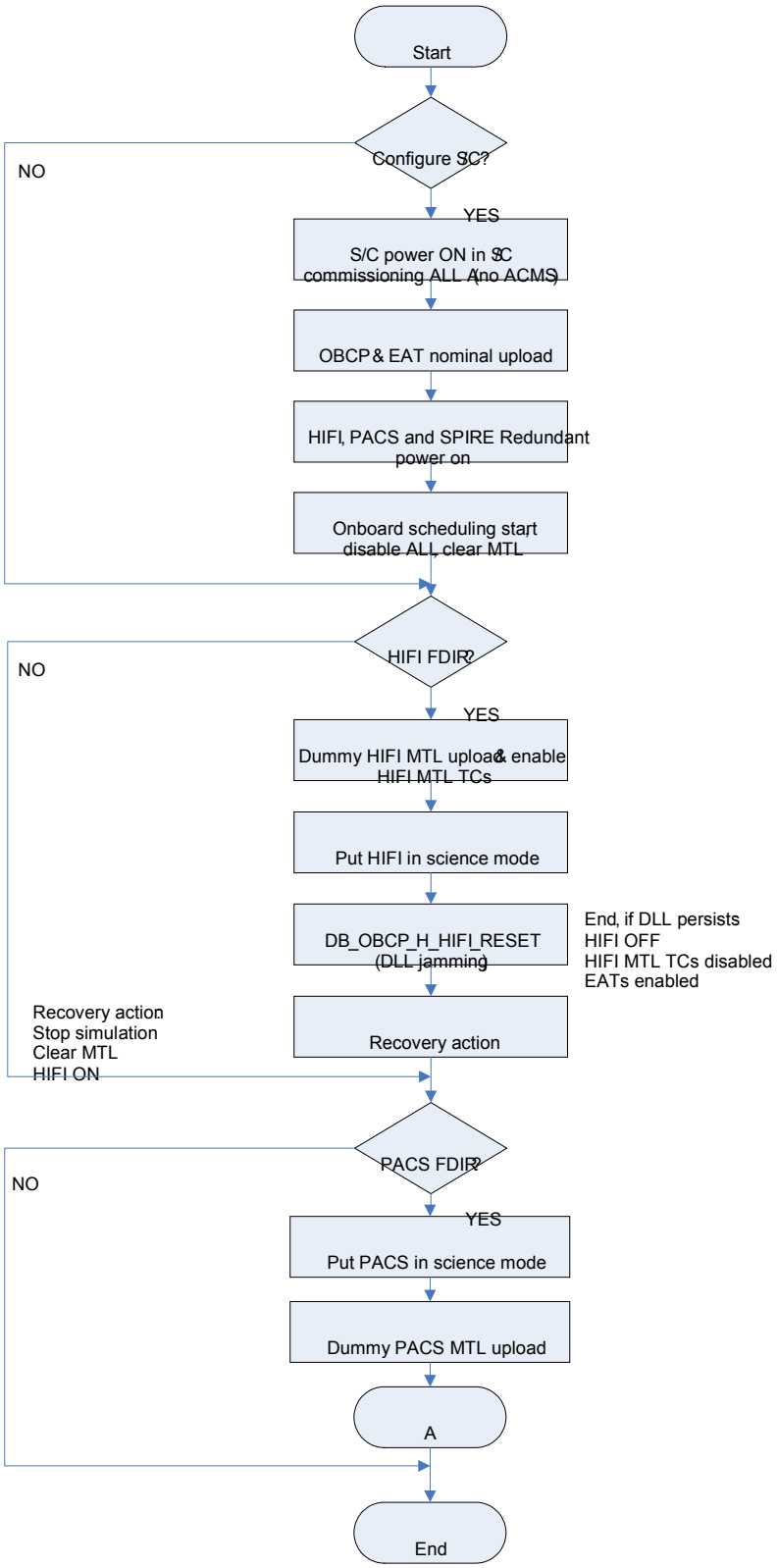
Note:
DB_OBCP_H_PACS_BOLC_OFF has been eliminated from the test because never called by PACS S/W of NC-3981(RD-7)

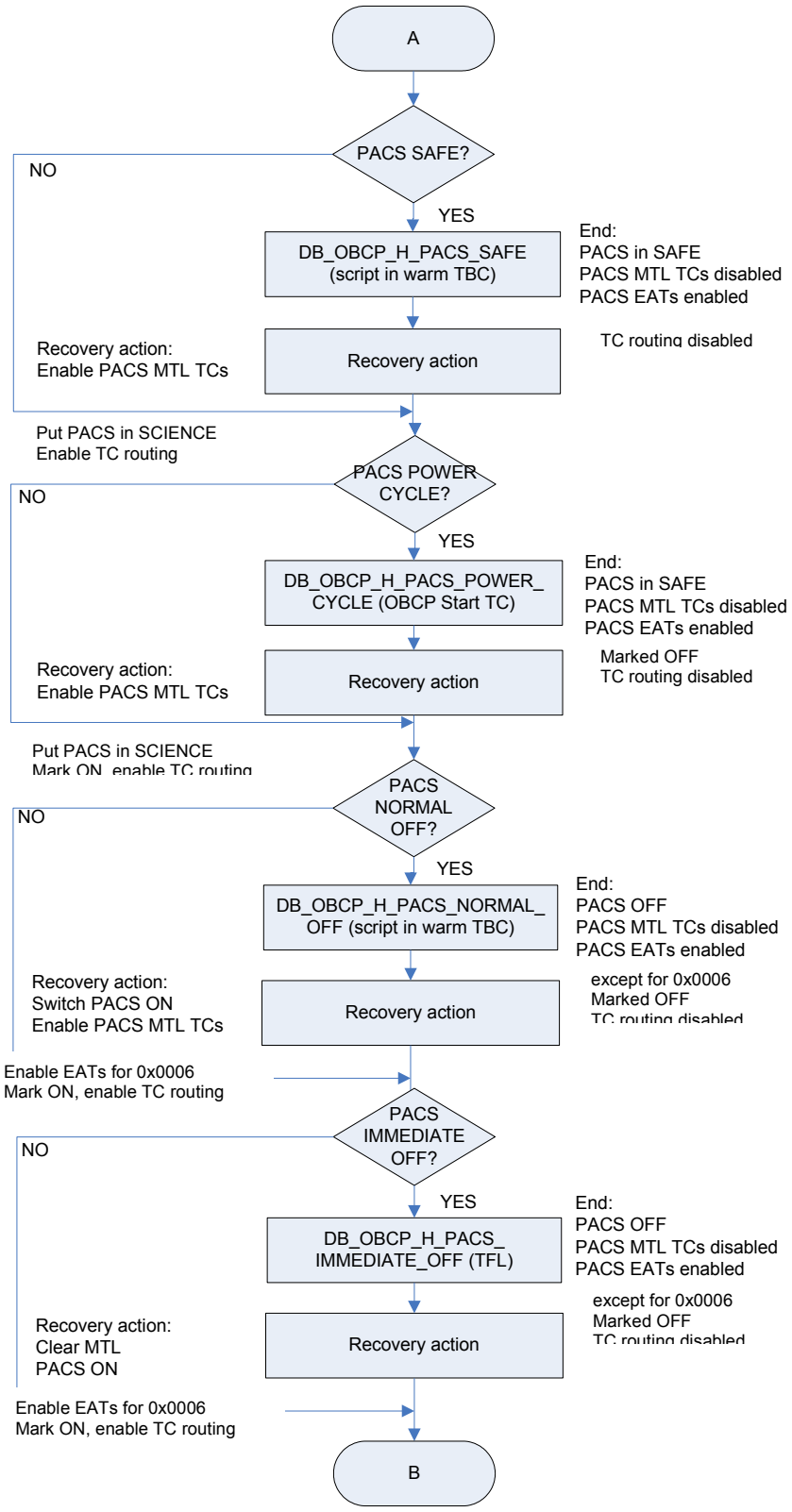
DB_OBCP_H_PACS_IMMEDIATE_OFF DLL has been replaced by TFL (RD-8).

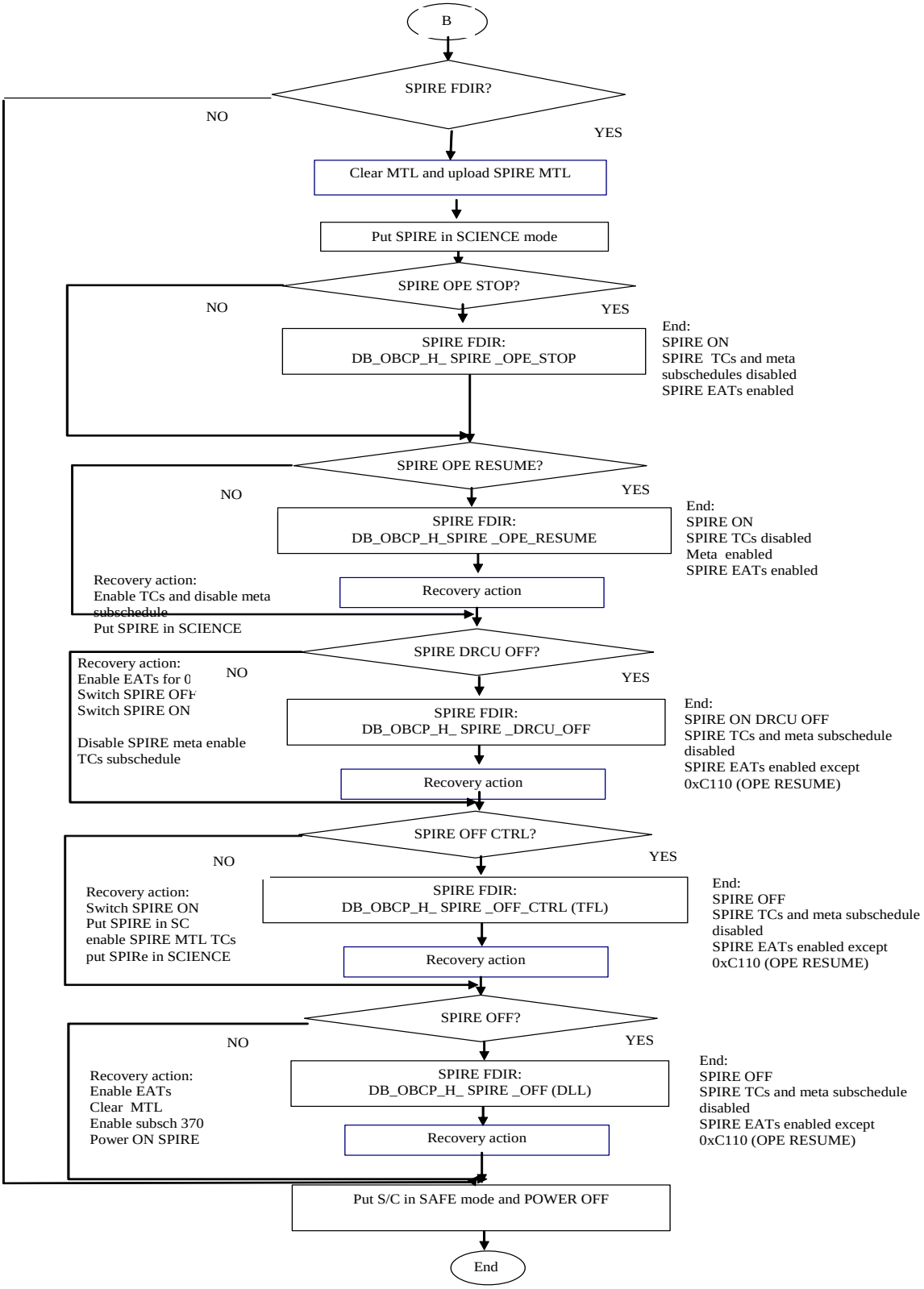
PACS and SPIRE TFL TM tests (PACS IMMEDIATE_OFF and SPIRE OFF_CTRL) will be started with the instrument in STANDBY instead of science (RD-5)

1.2 Operational Flow

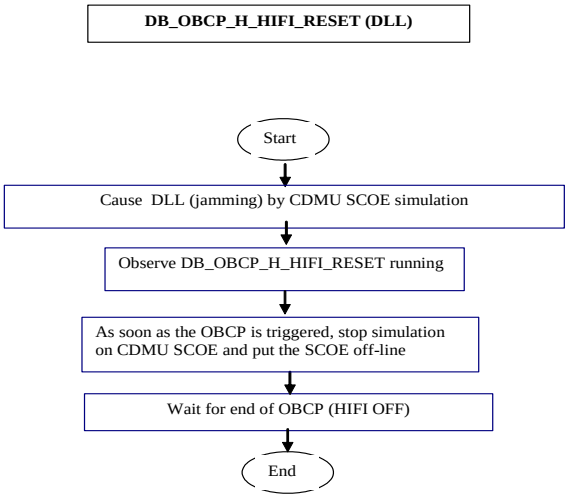
The overall flow of the Instruments FDIR is shown in the schemas of the following pages.


Start
Configure SC?
NO
YES
S/C power ON in SC commissioning ALL A (no ACMS)
OBCP & EAT nominal upload
HIFI, PACS and SPIRE Redundant power on
Onboard scheduling start disable ALL, clear MTL
HIFI FDIR?
NO
YES
Dummy HIFI MTL upload & enable HIFI MTL TCs
Put HIFI in science mode
DB_OBCP_H_HIFI_RESET (DLL jamming)
End, if DLL persists
HIFI OFF
HIFI MTL TCs disabled
EATs enabled
Recovery action
Stop simulation
Clear MTL
HIFI ON
Recovery action
PACS FDIR?
NO
YES
Put PACS in science mode
Dummy PACS MTL upload
A
End

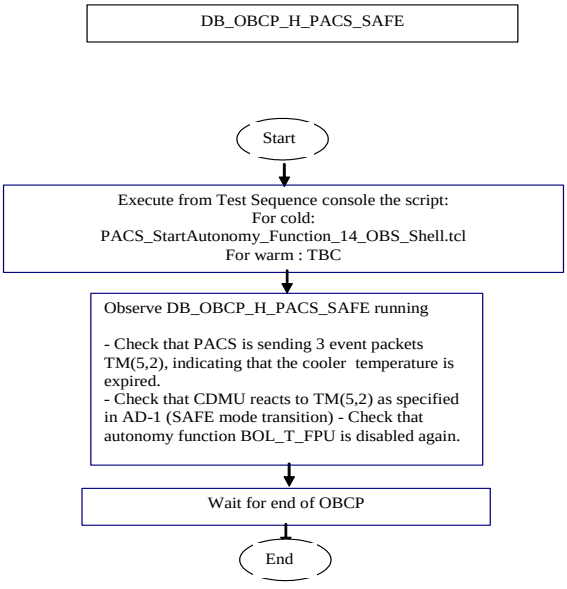

A
PACS SAFE?
NO
YES
DB_OBCP_H_PACS_SAFE (script in warm TBC)
End: PACS in SAFE PACS MTL TCs disabled PACS EATs enabled
Recovery action: Enable PACS MTL TCs
Recovery action
TC routing disabled
Put PACS in SCIENCE Enable TC routing
PACS POWER CYCLE?
NO
YES
DB_OBCP_H_PACS_POWER_CYCLE (OBCP Start TC)
End: PACS in SAFE PACS MTL TCs disabled PACS EATs enabled
Recovery action: Enable PACS MTL TCs
Recovery action
Marked OFF TC routing disabled
Put PACS in SCIENCE Mark ON, enable TC routing
PACS NORMAL OFF?
NO
YES
DB_OBCP_H_PACS_NORMAL_OFF (script in warm TBC)
End: PACS OFF PACS MTL TCs disabled PACS EATs enabled
Recovery action: Switch PACS ON Enable PACS MTL TCs
Recovery action
except for 0x0006 Marked OFF TC routing disabled
Enable EATs for 0x0006 Mark ON, enable TC routing
PACS IMMEDIATE OFF?
NO
YES
DB_OBCP_H_PACS_IMMEDIATE_OFF (TFL)
End: PACS OFF PACS MTL TCs disabled PACS EATs enabled
Recovery action: Clear MTL PACS ON
Recovery action
except for 0x0006 Marked OFF TC routing disabled
Enable EATs for 0x0006 Mark ON, enable TC routing
B


B
SPIRE FDIR?
NO
YES
Clear MTL and upload SPIRE MTL
Put SPIRE in SCIENCE mode
SPIRE OPE STOP?
NO
YES
SPIRE FDIR:
DB_OBCP_H_ SPIRE _OPE_STOP
End:
SPIRE ON
SPIRE TCs and meta subschedules disabled
SPIRE EATs enabled
SPIRE OPE RESUME?
NO
YES
SPIRE FDIR:
DB_OBCP_H_SPIRE _OPE_RESUME
End:
SPIRE ON
SPIRE TCs disabled
Meta enabled
SPIRE EATs enabled
Recovery action:
Enable TCs and disable meta subschedule
Put SPIRE in SCIENCE
Recovery action
SPIRE DRCU OFF?
Recovery action:
Enable EATs for 0
Switch SPIRE OFF
Switch SPIRE ON
Disable SPIRE meta enable TCs subschedule
NO
YES
SPIRE FDIR:
DB_OBCP_H_ SPIRE _DRCU_OFF
End:
SPIRE ON DRCU OFF
SPIRE TCs and meta subschedule disabled
SPIRE EATs enabled except 0xC110 (OPE RESUME)
Recovery action
SPIRE OFF CTRL?
NO
YES
Recovery action:
Switch SPIRE ON
Put SPIRE in SC
enable SPIRE MTL TCs
put SPIRe in SCIENCE
SPIRE FDIR:
DB_OBCP_H_ SPIRE _OFF_CTRL (TFL)
End:
SPIRE OFF
SPIRE TCs and meta subschedule disabled
SPIRE EATs enabled except 0xC110 (OPE RESUME)
Recovery action
SPIRE OFF?
NO
YES
Recovery action:
Enable EATs
Clear MTL
Enable subsch 370
Power ON SPIRE
SPIRE FDIR:
DB_OBCP_H_ SPIRE _OFF (DLL)
End:
SPIRE OFF
SPIRE TCs and meta subschedule disabled
SPIRE EATs enabled except 0xC110 (OPE RESUME)
Recovery action
Put S/C in SAFE mode and POWER OFF
End

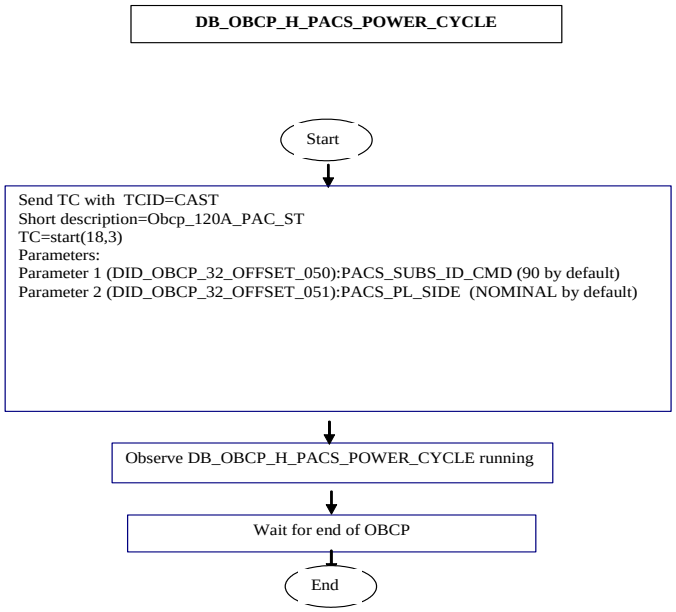
DB_OBCP_H_HIFI_RESET



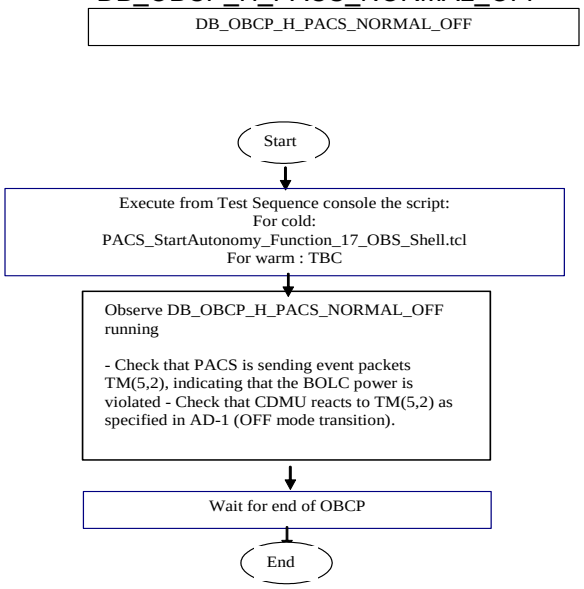
DB_OBCP_H_PACS_SAFE



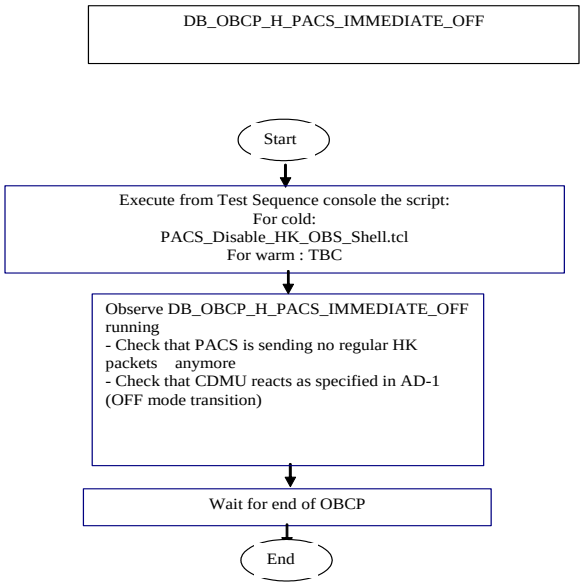
DB_OBCP_H_PACS_POWER_CYCLE (OBCP Start TC)



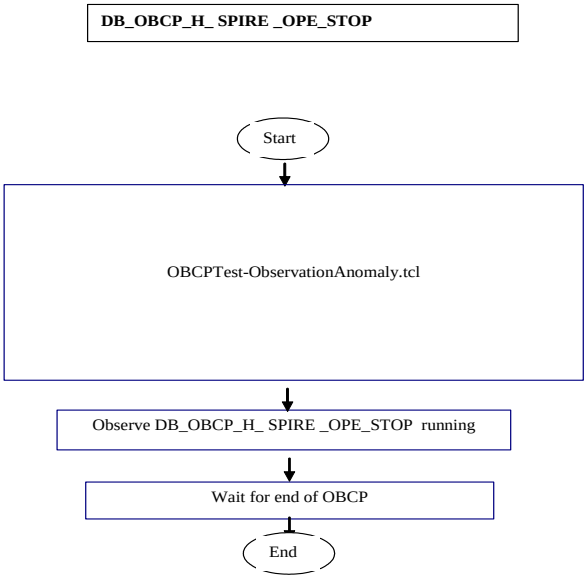
DB_OBCP_H_PACS_NORMAL_OFF



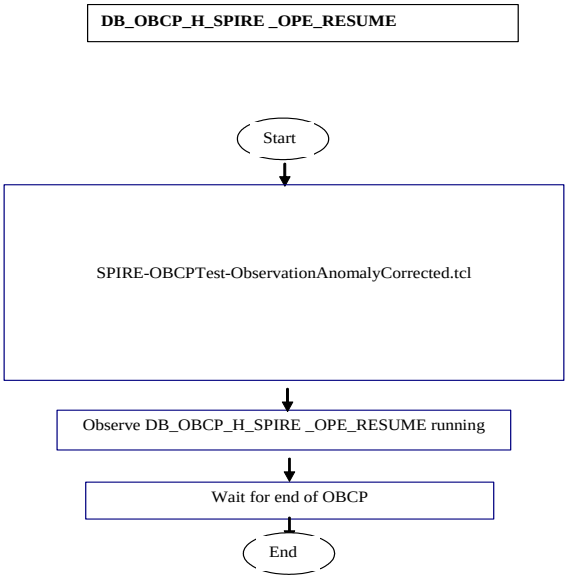
DB_OBCP_H_PACS_IMMEDIATE _OFF (TFL)



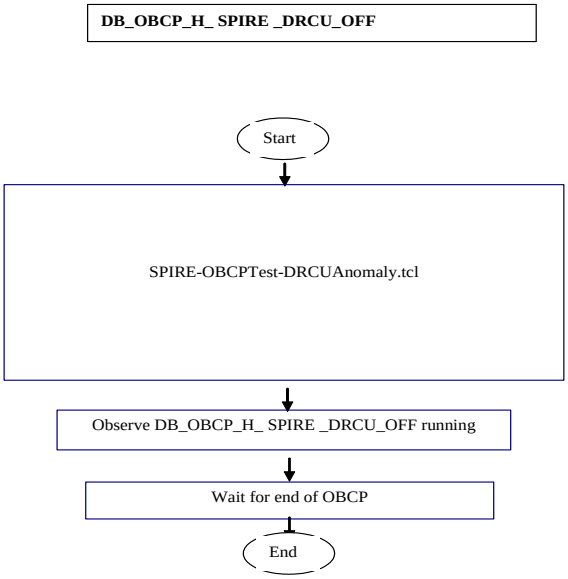
DB_OBCP_H_ SPIRE _OPE_STOP



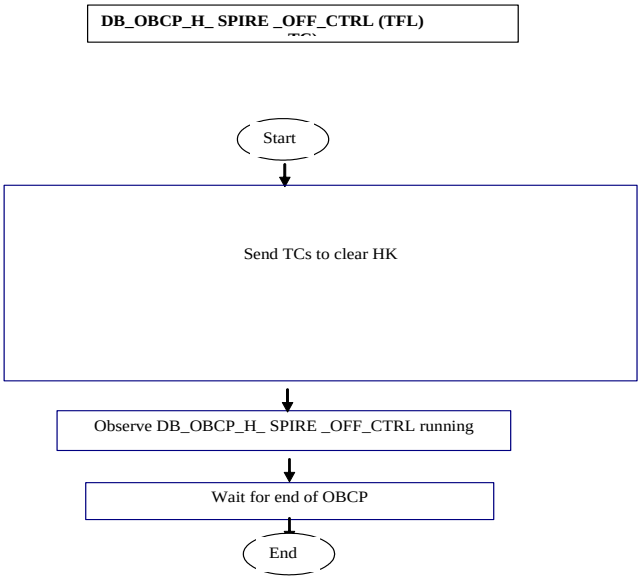
DB_OBCP_H_SPIRE _OPE_RESUME



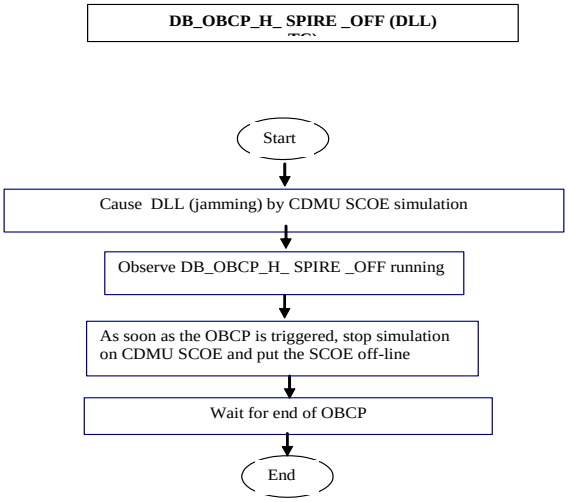
DB_OBCP_H_ SPIRE _DRCU_OFF



DB_OBCP_H_ SPIRE _OFF_CTRL (TFL)



DB_OBCP_H_ SPIRE _OFF (DLL)



2 Documents/Drawings

This section contains the list of documents originator of the test procedure, the list of documents filled with the requirement applicable to the activities explained in this procedure, the list of documents used to define the activities on the items (like design reports)

2.1 Applicable Documents

AD-1 Herschel Integrated Satellite Test Specification
H-P-2-ASP-SP-0939, Issue 7

AD-2 Payload management and OBCP
H-P-ASPI-TN-1072, issue 8

AD-3 Test Specification for Herschel Instruments AVM and FM Tests performed at Satellite Level
HP-2-ASP-TS-1083, issue 2

2.2 Reference Documents

This section contains a list of documents filled with statements necessary to organise and to detail the operative execution of the test activities

RD-1 Herschel SVM User Manual
H-P-MA-AI-0001

RD-2 Herschel/Planck List of Acronyms
H-P-ASP-LI-0077

RD-3 Herschel Instruments power ON-OFF and Mode Switching Procedure for functional Testing
HP-2-ASED-TP-0206, Issue 3

RD-4 Leading Procedure for Herschel Integrated Satellite Test 'IST'
HP-2-ASED-TP-0134 iss 7

RD-5 H-P-TASF-MN-10377

RD-6 H-P-TASF-MN-10378

RD-7 H-P-TASF-MN-10199

RD-8 Mail to S. Hamer

2.3 Other Documents

None

2.4 Acronyms

Acronyms are specified in RD-2 and are therefore not listed in this document.

3 Requirements to be verified

The requirements of AD-1, chapter 5.8.13 "TEST OF INSTRUMENT FDIR", are to be verified for redundant instrument configuration.

4 Configuration

4.1 Herschel S/C Configuration

Refer to RD4, for IST specifications chapter 5.8.13 "TEST OF INSTRUMENT FDIR",

4.1.1 Hardware Configuration

Refer to RD4, for IST specifications chapter 5.8.13 "TEST OF INSTRUMENT FDIR",

4.1.2 Software Configuration

Refer to RD4

4.1.3 Test Configuration

Refer to RD4

4.1.4 Simulated Equipments

Refer to RD4

4.2 Set-up

Refer to RD4

5 Conditions

5.1 Personnel

Refer to RD4

5.2 Environmental

Refer to RD4

5.3 General Precautions and Safety

Refer to RD4

5.3.1 General Safety Requirements, Precautions

Refer to RD4

5.3.2 ESD constraints

Refer to RD4

5.3.3 Special QA Requirements

Refer to RD4

5.4 GSE

Refer to RD4

5.4.1 MGSE

Refer to RD4

5.4.2 CVSE

Refer to RD4

5.4.3 EGSE

5.4.3.1 EGSE Hardware Configuration

Refer to RD4

NOTE: for HIFI and PACS OBCP tests, IEGSEs shall be running !

5.4.3.2 EGSE User Software

Refer to RD4

5.4.3.3 Grounding Configuration

Refer to RD4

5.4.3.4 Test Equipment

Refer to RD4

5.4.3.5 Data Acquisition System

Refer to RD4

5.4.4 OGSE

Refer to RD4

5.4.5 Special Equipment

Refer to RD4

6 Verification Requirements and Test Criteria

PASS/FAIL CRITERIA

At each test stage completion, the test success is determined comparing the results obtained against the expected values.

If the compliance between obtained and expected values has been met, and authorisation to proceed with the next stage of the test is given, then the actual test stage must be considered satisfactory.

The success of the overall testing activities is determined from the satisfactory completion of all test stages.

Successful criteria to be satisfied in each test stage shall be:

- Test conditions according to specification requirement;
- Complete verification of the requirement aspects according to the test specification [AD-1];
- Fulfilment of test results with respect to required data;
- Verification that all the unexpected TM parameters used to monitor the SVM do not exceed the limit thresholds loaded in the HPSDB (OOL display);
- Verification that the TM(5,2), TM(5,4) and TM(1,8) received event reports are only those ones expected to fulfil the pass test criteria.

7 Test Execution Step-by-Step Procedure

7.1 S/C Initialization

Follow the steps in the power ON procedure of RD4, selecting the Test Case Instruments FDIR (5.8.13).

If the test case is run after the CDMS management (5.8.7), the S/C is already configured for an Autonomy Period and the mastr GUI will already be available:

- on the master GUI, select Test Case Instruments FDIR (5.8.13)
- SKIP the step to launch the IST_START
- Continue with step 1 §7.2 of this procedure calling the master script Z010999MCVT161_IST_INSTR_FDIR_R

NOTE: In this sequence, SKIP the step 3 of §7.2 “Configure for Instrument FDIR test”, because this is meant to configure the S/C in the Autonomy Period status.

If the test case is run stand-alone (e.g. during debugging), the S/C will be off at the beginning, so it will need to be switched on and then configured as in Autonomy Period.

Steps:

- Follow AD 4 selecting Test Case Instruments FDIR (5.8.13) from the GUI
- PERFORM the IST_START step
- Continue with step 1 §7.2 of this procedure calling the master script Z010999MCVT161_IST_INSTR_FDIR_R

NOTE: In this sequence, PERFORM the step “Configure for Instrument FDIR test”

7.2 Test Specific Initialization

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1.	*Enter the following In the CCS Test Console:* *callasync Z010999MCVT161_IST_INSTR_FDIR_R.tcl*	PASS					
2.	*During Z010999MCVT161_IST_INSTR_FDIR_R.tcl* *START HERSCHEL INSTRUMENTS FDIR, SECTION 5.8.13* *⇨ Click the button "YES" to proceed*	YES			If NO, the sequence is terminated.		
3.	*During Z010999MCVT161_IST_INSTR_FDIR_R.tcl* *Configure for Instruments FDIR test? - SKIP if S/C already on and configured by CMDS MGMT* *⇨ Click the button "Confirm" to proceed*	CONFIRM			If "SKIP" the sequence continues from step 37. NOTE: SKIP this step, if test follows cdms management and S/C already in A.P.		

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
4.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"CDMS setting for separation"* *⇨ Click the button "Confirm" to proceed*	CONFIRM					
5.	*During …* *D103159SCVT138_IST_LAUNCH_SUNACQ* *⇨ Wait, go to script …ACMS_CONFIG25*	PASS					
6.	*During A102109SPVT103_ACMS_CONFIG25* *⇨ enter option 88, to go to Main Menu 3* *⇨ Click the button "OK"* *⇨ then press "Continue"*	88 OK CONTINUE					

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
7.	*During A102109SPVT103_ACMS_CONFIG25* *(1,6,4,5,20,99,88)* *SEPARATION (open separation straps)* *Main Menu 3.0: option 2* *⇨ Click the button "OK" and then* *⇨ Click the button "Continue"*	2 OK CONTINUE					
8.	*During Z010999MCVT089_ACMS_SAM_MON* *Do you want to continue to monitor SAM Sun Pointing mode?* *⇨ Enter your choice: no* *and then click OK*	NO					
9.	*At end of* *D102159SCVT138_IST_LAUNCH_SUNACQ* *⇨ Click the button "End TS!" to proceed*	ENDTS					
10.	*During* *Z010999MCVT161_IST_INSTR_FDIR_R* *Transition to Nominal* *⇨ Click the button "Confirm" to proceed*	CONFIRM			At the end check, from SAT.ilv, that CDMS FDIR mode (DE81D170) is AFO before switching instruments on		

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
11.	During *D102159SCVT138_IST_LAUNCH_SUNACQ* *⇨ Click the button "End TS!" to proceed*	ENDTS					
12.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *At the prompt "Command ACMS (via OCM/Earth) to SCM/Earth"* *⇨ Click the button "OK" to proceed*	OK					
13.	*During A102109SPVT103_ACMS_CONFIG25* *Select Transition to OCM.* *Main Menu 4.0 SAM Phase: Option 6* *⇨ Click the button "OK" and then* *⇨ Click the button "Continue" to proceed*	6 OK CONTINUE					
14.	*During A102109SPVT036_ACMS_STR_ON* *Do you want to change the current STR in use ? Answer no* *⇨ Click the button "NO" to proceed*	NO					

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
15.	*During A102109SPVT043_TRANSITION_TO_OCM* *Only for info:* *⇨ Verify after ca.7 min if ACMS mode is = OCM point fine (Earth pointing)* *⇨ Verify in AND: ZAA00999 if Est Attitude Q1..Q4 is close to Target* *⇨ Verify AESM3002 = OCM point fine or in synoptic SAT – ACMS – ACC – Mode Nominal*	PASS					
16.	*During A102109SPVT103_ACMS_CONFIG25* *Select Transition to SCM (Science mode).* *Main Menu 7.0: Option 3* *⇨ Click the button "OK" and then* *⇨ Click the button "Continue" to proceed*	3 OK CONTINUE					
17.	*During A102109SPVT038_RWL_ON* *"Do you want to change actual on-board wheel set selected in the nominal configuration?* *RWL 1-2-3-4 selected* *⇨ Click the button "NO" to proceed ?*	NO			AEW1A002, AEW2A002, AEW3A002, AEW4A002 LOW expected until wheels are spun up on AND AA01W109		

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
18.	*During A102109SPVT042_RWL_SPINUP* *"Change actual Angular Momentum (initial values)?" Option: no* *⇨ click OK and wait for about 10 minutes*	NO RWL-1 ang momentum 10.0 RWL-2 ang momentum -10.0 RWL-3 ang momentum 10.0 RWL-4 ang momentum -10.0					
19.	*Only for info:* *⇨ Verify RWL speed in plotting window* *1. Select REALTIME => DESKTOP => MONITORING => TM Plotting Tool* *2. Select Directory: Home/heracms/plotting* *3. Select FILE => LOAD =>* */home/heracms/plotter/RWLsSPEED.txt*	PASS					

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
20.	*Only for info:* *⇨ Verify 4x RWL momentum parameters are within +/-20%* *AEWMA002 = 10.0 (RWL1 momentum)* *AEWMB002 = -10.0 (RWL2 momentum)* *AEWMC002 = 10.0 (RWL3 momentum)* *AEWMD002 = -10.0 (RWL4 momentum)* *⇨ Verify in SAT synoptic SAT – ACMS – ACC – Mode Nominal = OCM Point Fine* *⇨ Verify in Telemetry window ZAAF0999 (diagnostic TM)* *As long as the ACMS is switched On the Menu Box has to be present !!!*	PASS					
21.	*During A102109SPVT042_RWL_SPINUP* *If script SUSPENDs because of reaction wheels spin up time out* *⇨ Resume sequence from thest conductor console*				*ACZ2T109 may timeout because of slew time too short.*		

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
22.	*At end of A102109SPVT042_RWL_SPINUP* *⇨ Click the button "End TS!" to proceed*	ENDTS			After pressing EndTS wait until AESM3002 is "SCM pnt F rdy"		
23.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Transition from SAS 900W and BS 24V to SAS 1475W and BS full charged"* *⇨ Click the button "Confirm" to proceed*	CONFIRM					
24.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Switch on SREM and start acquisition service"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
25.	*During Z102999SCVT003_SREM_ACQ_START* *⇨ Click the button "End TS!" to proceed*	ENDTS			SPR-290		

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
26.	*Configure the instruments IEGSEs to support the specific test.* *For HIFI, perform §7.3.1 of RD3 (mandatory for HIFI power ON and FDIR test)* *For PACS, perform §7.1.1 of RD3 (mandatory for PACS FDIR test)* *For SPIRE, perform §7.2.1of RD3 (optional for SPIRE FDIR test, mandatory if instruments want to follow the test on IEGSEs)* *Then continue with the next step.*	PASS PASS PASS			If planning to switch HIFI ON, switch the cooling on in cleanroom		
27.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"POWER ON HIFI (REDUNDANT)"* *⇨ Click the button "Confirm" to continue*	CONFIRM			Conditions may change so check on RD-3 §7.3.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
28.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"POWER ON PACS (REDUNDANT)"* *⇨ Click the button " Confirm" to continue*	CONFIRM			Conditions may change so check on RD-3 §7.1.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		
29.	*During Z010999MCVT161_IST_INSTR_FDI_RR* *"POWER ON SPIRE (REDUNDANT)"* *⇨ Click the button " confirm" to continue*	CONFIRM			Conditions may change, so check on RD-3 §7.2.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		
30.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *At the prompt "SET RX2" RATE FROM 4000 to 125 BPS?"* *⇨ Click the button "Confirm" to continue*	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
31.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"SAVING ORIGINAL SCBP"* *⇨ Click the button "Confirm" to continue*	YES					
32.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Clear MTL and start ON BOARD SCHEDULING?"* *⇨ Click the button "Confirm" to proceed*	CONFIRM			The following TM parameters are related to the MTL and might be of importance in case of problems: - DE82F170 - DEA74170 - DEH26170 Open also the OnBoardQueue		
33.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Check that all subschedules from 1 to 256, plus the 370 are enabled"* *⇨ Perform activity then click the button "OK" to proceed*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
34.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Start the instrument specific FDIR sequence""* *⇨ 'callasync' the specific instrument FDIR sequence from test console and* *⇨ only at the END of it click the "OK" button.*	Callasync proper sequence and continue from - chapter 7.3 for HIFI - chapter 7.4 for PACS - chapter 7.5 for SPIRE Sequences can be performed also one after the other. Otherwise continue from §7.6 for end of test activities			Note down: chapter - time stamp		

Test location:	Operator	Product-Assurance:	Date:

7.3 HIFI

Note: HHIFIEGSEs shall be already running and set up as per step 27!!

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
35.	*Callasync* *Z010999MCVT162_IST_HIFI_FDIR_R* *to perform the HIFI related part of the Instruments FDIR IST*	PASS					
36.	*During* *Z010999MCVT162_IST_HIFI_FDIR_R* *"PERFORM HIFI FDIR TEST (REDUNDANT)?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it exits the script		
37.	*During* *Z010999MCVT162_IST_HIFI_FDIR_R* *"Starting condition check"* *⇨ Click the button "Confirm" to continue*	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
38.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Please check that no instrument is in science. If so, put it in standby"* *⇨ Click the button "OK" to continue*	OK			RD-3 for details.		
39.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"INITIAL S/C STATUS CHECK"* *⇨ Click the button "confirm" to continue*	CONFIRM					
40.	*During Z010999MCVT153_IST_STATUS* *"Do you want to stop and notice each failure"* *⇨ Click the button "NO" to continue*	NO					
41.	*During Z010999MCVT153_IST_STATUS* *⇨ Check the Satellite State* *⇨ Click the button "OK" to continue*	OK			Compare with AD-1 for chapter 5.8.7 of IST specifications		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
42.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Set SCBP to HIFI Prime (2)"* *⇨ Click the button " Confirm" to continue*	CONFIRM					
43.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"upload dummy MTL with HIFI connection test in subschedule 70"* *⇨ Click the button "Confirm to continue"*	CONFIRM					
44.	*During D102159SCVT214_IST_HIFI_MTL_PING* *“Check the parameters"* *⇨ Check that there is 1 HIFI PING TC every 5 minutes starting within 15 minutes for 10 hours* *⇨ Click the button "OK" to confirm*	PASS OK					
45.	*During D102159SCVT214_IST_HIFI_MTL_PING* *⇨ Click the button "EndTS!" to continue*	ENDTS					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
46.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Check that subschedule 60 (meta-HIFI) is disabled and 70 (HIFI TCs) are enabled, then press OK"* *⇨ Perform activity and then press the button "OK" to proceed*	PASS OK					
47.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Wait for execution of the first command, then press OK"* *⇨ Click the button "OK" to confirm*	PASS OK					
48.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Put HIFI in science mode"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
49.	Check if the downlink rate is set to 1.5 Mbps, if not, send to change **DC27F170**	1.5Mbps					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
50.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Insert call to science mode sequence"* *⇨ Click the button "OK" to confirm* *Execute: Z102999SCVT020_ASDGEN_HIFISTBY_2OPS_P.tcl*	Callasync sequence according to RD-3 and current condition. At the end of it, press OK			Note down chapter of RD-3 that has been executed:		
51.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Perform HIFI RESET OBCP (DLL)?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it continues at step 70. DB_OBCP_H_HIFI_RESET is the OBCP under test.		
52.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"HIFI RESET DLL FDIR triggering"* *⇨ Click the button "confirm" to continue*	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
53.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Please filter one TMPKT History for TM(5,4) and one for TM(5,1)"* *⇨ Click the button "OK" to continue*	PASS OK					
54.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Please start the HIFI-B (RT 19) simulation on the CDMU SCOE to create jamming"* *⇨ Click the button "OK" to proceed*	OK			OK, then move to the CDMU SCOE desktop		
55.	*On CDMS SCOE* *Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE workstation.*	PASS					
56.	*On CDMS SCOE* *Select Menu:* *Mode⇨ Local Mode* *Password: H-P*	PASS					
57.	*On CDMS SCOE* *Select from menu:* *Setup⇨ RTSim Configuration*	PASS					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
58.	*On CDMS SCOE* *Select file:* *R:\(192.168.90.32)\Herschel.rtc* *and then click the button "OK"*	PASS					
59.	*On CDMS SCOE* *Select from menu:* *Mode ⇨ On Line*	PASS					
60.	*On CDMS SCOE* *In window: "System Control/RT controls"* *⇨ Select RT 19 (HIFI-B)* *⇨ Click the button "Enable" for:* - *control* - *TM queue* - *TC queue* *Within 8 seconds perform next step*	PASS			JAMMING STARTED!!!!!! Very important to stop within 8 sec, to avoid subsequent reconfigurations!! CAN BE STOPPED AS SOON AS THE OBCP STARTED EVENT IS RECEIVED.		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
61.	*On CDMS SCOE* *In window: "System Control/RT controls"* *Click the button "Disable" for:* - *control* - *TM queue* - *TC queue*	PASS			Very important to stop within 8 sec, to avoid subsequent reconfigurations!!		
62.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *At the prompt* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x130D"* *Check that* *⇨ OBCP HIFI_RESET has been triggered -TM(5,1) with SPID 4014817 procID 0x130D* *⇨ events TM(5,4) have been sent with EvID 0x3001 (SOFT RESET) 0x3000 (HARD RESET)* *⇨ TM(5,1) with SPID 40145170 procID 0x130D has been received* *⇨ Click the button "OK" to confirm*	PASS OK			If soft reset, HIFI is left ON If hard reset HIFI is left OFF.		
63.	*If hard reset happened and you intend to leave HIFI off, switch off the cooling in cleanroom*	PASS					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
64.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"RECOVERY ACTION"* *⇨ Click the button "Confirm to continue*	CONFIRM					
65. If HARD RESET	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"please check subschedules 60 and 70 are disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					
66. If SOFT RESET	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"please check subschedules 60 is disabled and 70 is enabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
67.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *" Set the CDMU SCOE OFF LINE"* *On CDMS SCOE, select from menu:* *Mode → Off Line* *⇨ Perform activity and then click the button "OK" to proceed*	PASS OK					
68.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"End of HIFI RESET OBCP (DLL)"* *"check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm*	PASS OK					
69.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
70.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"RESET starting conditions"* *⇨ click the "confirm" to continue*	CONFIRM					
71.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Check that all subschedules from 1 to 256, plus the 370 are enabled"* *⇨ Click the "OK" button to continue*	OK					
72. If HARD RESET	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Switching HIFI ON (REDUNDANT)"* *⇨ click the "CONFIRM" button to confirm*	CONFIRM			Conditions may change, so check on RD-3 §7.3.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
73.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"End of HIFI Test"* *"check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm*	PASS OK					
74.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS					
75.	*At end of Z010999MCVT162_IST_HIFI_FDIR_R* *⇨ Click the button "End TS!" to proceed*	ENDTS					

Test location:	Operator	Product-Assurance:	Date:

7.4 PACS

Note: HPACSEGSE shall be already running and set up as per step 27!!

Step-	***Test-Step-Description***	Nominal Value	***Tolerance***	***Actual Value***	***Remarks***	***P***	***N***
76.	*Callasync Z010999MCVT163_IST_PACS_FDIR _R* *to perform the PACS related part of the Instruments FDIR IST*	PASS					
77.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"PERFORM PACS FDIR TEST (REDUNDANT)?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it exits the script .		
78.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Starting condition check"* *⇨ Click the button "Confirm" to proceed*	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
79.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check that no instrument is in science. If so put it in standby"* *⇨ Perform the activity and then click the button "OK" to confirm*	OK			RD-3 for details.		
80.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"INITIAL S/C STATUS CHECK"* *⇨ Click the button "Confirm" to continue*	PASS					
81.	*During Z010999MCVT153_IST_STATUS* *"Do you want to stop and notice each failure"* *⇨ Click the button "NO" to continue*	NO					
82.	*During Z010999MCVT153_IST_STATUS* *⇨ Check the Satellite State* *⇨ Click the button "OK" to continue*	PASS OK			Compare with AD-1 for chapter 5.8.13 of IST specification		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
83.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Set SCBP to PACS Prime (4)"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
84.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"upload and enable dummy MTL with PACS connection test in subschedule 90"* *⇨ Click the button "Confirm" to continue*	CONFIRM			Open an On-Board Queue Display for monitoring the MTL status		
85.	*During D102159SCVT125_IST_PACS_MTL_PING* *"Check MTL parameters"* *⇨ Check that there is 1 PACS PING TC every 5 minutes starting within 15 minutes for 10 hours* *⇨ Click the button "OK" to continue*	PASS OK					
86.	*During D102159SCVT125_IST_PACS_MTL_PING* *⇨ Click the button "EndTS!" to continue*	ENDTS					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
87.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that the MTL contains one PC023280 (DPU_TEST_CONN) every 5 minutes for 10 hours in subshcedule 90"* *⇨ Click the button "OK" to continue*	PASS OK			120 TC's are put in the MTL.		
88.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	OK					
89.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Wait for execution of the first command, then press OK"* *⇨ Click the button "OK" to continue*	OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
90.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Put PACS in SCIENCE MODE"* *⇨ Click the button "Confirm" to continue*	CONFIRM			Refer to RD-3 §7.1.6 for current message and expected OOL. When PC012380 is sent proceed to next step Note: TC will remain pending until end of science		
91.	Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.	PASS					
92.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"TEST the PACS SAFE FDIR?"* *⇨ Click the button "Confirm to continue*	CONFIRM			If SKIP, it continues at step 108. DB_OBCP_H_PACS_SAFE is the OBCP under test.		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
93.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Execute PACS SCRIPT FOR AUTONOMY FUNCTION 14?"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
94.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Filter a TMPKT history for TM(5,2) and one for TM(5,1)"* *⇨ Check the script name and click the "OK" button to confirm*	OK					
95.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"check that BOL_T_FPU is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PM165380 (DP_EV_BOL_T_FPU) = Disabled			Leave TQD of PM165380 open to monitor during OBCP		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
96.	*During Z010999MCVT163_IST_PACS_FDIR_R* *At the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1208"* *Check that:* ⇨ PACS-B (APID=1153) is sending 3 event packets TM(5,2) EXCEPTION_REPORT_04 before OBCP Started event ⇨ 2x TM(1,8) from APID 16 prior to OBCP start ⇨ PM165380 (DP_EV_BOL_T_FPU) is enabled ⇨ OBCP PACS_SAFE has been triggered – TM(5,1) with SPID 40148170 procID 0x1208 ⇨ PM165380 (DP_EV_BOL_T_FPU) BOL_T_FPU is disabled again *⇨ OBCP is OVER: TM(5,1) with SPID 40145170 procID 0x1208* *⇨ Click the "OK" button to confirm*	PASS OK			Apart from checking the OBCP start and end events against the Proc ID, the other checks can be done off-line.		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
97.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"please check that PACS is in SAFE mode and that its MTL commands have been disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedule 80 OFF 90 OFF OK					
98.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"RECOVERY ACTION"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
99.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"If still running, please terminate the sequence that keeps PACS in SCIENCE"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
100.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					
101.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio DISABLED					
102.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
103.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is enabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio ENABLED					
104.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	subschedules 80 OFF 90 ON					
105.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"End of PACS SAFE OBCP TEST"* *"check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
106.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS					
107.	*During P102999SCVT904_ASDGENPACS_NomSpect* *(called asynchronously by the master) PACS will be put in prime mode.* Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.	YES			Refer to RD-3 §7.1.6 for current message and expected OOL. When PC012380 is sent proceed to next step Note: TC will remain pending until end of science		
108.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"TEST the PACS POWER CYCLE OBCP?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it continues at step 124. DB_OBCP_H_PACS_POWER_CYCLE is the OBCP under test.		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
109.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"TRIGGER OBCP WITH START TC"* *⇨ Click the button "Confirm to continue*	CONFIRM					
110.	*Z010999MCVT163_IST_PACS_FDIR_R* *"Filter a TMPKT history for TM(5,1)"* *⇨ Check script name and then click the button "OK" to confirm*	PASS OK					
111.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"sending EGSE_tcsend_CEV DCAST185 { DPV32185 90 }* *{ DPV32185 0}"* *⇨ click the "OK" button to confirm*	OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
112.	*During Z010999MCVT163_IST_PACS_FDIR_R* *At the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x120A"* *Check that:* *⇨ OBCP PACS_POWER_CYCLE has been triggered – TM(5,1) with SPID 40148170 procID 0x120A* ⇨ TM(5,4) with Event ID = 0x2001, SID = 0 (as a result of the called-up "PACS normal off" OBCP) ⇨ TM(5,4) with Event ID = 0x2000, SID = 0 (as a result of the called-up "PACS normal off" OBCP) ⇨ TM(5,4) with Event ID = 0x2002, SID = 0 *⇨ OBCP is OVER: TM(5,1) with SPID 40145170 procID 0x120A* *⇨ click the "OK" button to continue*	PASS OK			Please note that the execution time of the OBCP takes about 9 minutes and that after OK there will be another waiting time of 5 minutes for safety		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
113.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"please check that PACS is in SAFE mode and that its MTL commands have been disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedule 80 (meta-PACS) OFF 90 (PACS TCs) OFF OK					
114.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"RECOVERY ACTION"* *⇨ Click the button "Confirm to continue*	CONFIRM					
115.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"if still running, please terminate the sequence that keeps PACS in SCIENCE"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
116.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					
117.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio DISABLED OK					
118.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
119.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is enabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio ENABLED OK					
120.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 80 OFF 90 ON OK					
121.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"End of PACS POWER CYCLE TEST. check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
122.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS					
123.	*During P102999SCVT904_ASDGENPACS_NomSpect* *(called asynchronously by the master) PACS will be put in prime mode.* Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.	PASS			Refer to RD-3 §7.1.6 for current message and expected OOL. When PC012380 is sent proceed to next step Note: TC will remain pending until end of science		
124.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"PACS NORMAL OFF OBCP"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it continues at step 143. DB_OBCP_H_PACS_NORMAL_OFF is the OBCP under test.		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
125.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Execute PACS SCRIPT FOR AUTONOMY FUNCTION 17?"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
126.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Calling script PACS_StartAutonomy_Function_17_OBS_Shell.tcl"* *⇨ Perform activity and then click the "OK" button to confirm*	OK			If script is not correct, abort the test sequence		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
127.	*During Z010999MCVT163_IST_PACS_FDIR_R* *At the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x120C"* *Check that:* *⇨ PACS is sending event packets TM(5,2) - BOLC power violated EXCEPTION_REPORT_0_25* *⇨ OBCP PACS_NORMAL_OFF has been triggered TM(5,1) with SPID 40148170 procID 0x120C* ⇨ TM(5,4) with Event ID = 0x2001, SID = 0 ⇨ TM(5,4) with Event ID = 0x2000, SID = 0 ⇨ PACS goes OFF ⇨ OBCP is OVER: TM(5,1) with SPID 40145170 procID 0x120C *⇨ then click the "OK" button to confirm*	PASS OK			Apart from start and end events checks, the other can be done offline.		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
128.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that PACS is OFF and MTL TCs are disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 80 OFF 90 OFF All PACS-B LCLs (28, 42,36,69) OFF OK			LCL 28 = BOLC LCL 42 = DPU LCL 36 = SPU LCL 69 = DECMEC		
129.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"check that all EATs are enabled except 0x006 for APIDs 0x0480 and 0x0481"* *⇨ Perform activity from D102159SCVT192_GET_EAT_REPORT* *Then press OK*	PASS OK			APID 0x0480 = 1152 (PACS-A) APID 0x0481 = 1152 (PACS-B)		
130.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click EndTS to continue*	ENDTS					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
131.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"RECOVERY ACTION"* *⇨ Click the "Confirm" button to continue*	CONFIRM					
132.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"If still running, please terminate the sequence to keep PACS in SCIENCE"* *⇨ Perform activity and then click the "OK" button to confirm*	OK					
133.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
134.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio DISABLED OK					
135.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					
136.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is enabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio ENABLED OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
137.	*During Z010999MCVT163_IST_PACS_FDIR_R "check that all EATs are enabled"* *⇨ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK*	PASS OK					
138.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click EndTS to continue*	ENDTS					
139.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Switching PACS ON (REDUNDANT)"* *⇨ Click the "OK" button to confirm*	OK			Conditions may change, so check on RD-3 §7.1.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		
140.	*During P102999SCVT918_ASDISTPACS_MarkON* *"Mark PACS Units ON?"* *⇨ click "confirm" to continue*	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
141.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled Then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 80 OFF 90 ON OK					
142.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"End of PACS NORMAL OFF TEST.* *⇨ click the "OK" button to confirm*	OK					
143.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"PACS IMMEDIATE OFF OBCP?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it continues at step 165. DB_OBCP_H_PACS_IMMEDIATE_OFF is the OBCP under test.		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
144.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Execute PACS script for clearing HK?"* *⇨ click the "Confirm" button to continue*	CONFIRM					
145.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Filter one TMPKT History for PACS HK and one for TM(5,1)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK			PACS APID 1153/1155		
146.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"check that PACS is sending no regular packets any more"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
147.	*During Z010999MCVT163_IST_PACS_FDIR_R* *At the prompt:* *"Wait until the end of the OBCP - TM(5,1) with SPID 40145170 procID 0x120B* *Check that:* *⇨ OBCP PACS IMMEDIATE OFF has been triggered - TM(5,1) with SPID 40148170 procID 0x120B* *⇨ PACS goes OFF* *⇨ OBCP is OVER: TM(5,1) with SPID 40145170 procID 0x120B* *⇨ then click the "OK" button to confirm*	 PASS OK			NC3958 (evt Hifi Off) Expected: TM(5,1)-0579 SDB PACS failed TM TM(5,2)-0586 SDB PACS non vital RT Sick TM TM(5,1) OBCP Started TM(5,1)-48 subschedule status changed 3x TM(5,1) Unit already marked OFF TM(5,1) OBCP ended		
148.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that subschedule 80 (meta-PACS) and 90 (PACS TCs)are disabledd Then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 80 OFF 90 OFF OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
149.	*During Z010999MCVT163_IST_PACS_FDIR_R "check that all EATs are enabled except 0x006 for APIDs 0x0480 and 0x0481"* *⇨ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK*	PASS OK			APID 0x0480 = 1152 (PACS-A) APID 0x0481 = 1152 (PACS-B)		
150.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click EndTS to continue*	ENDTS					
151.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"RECOVERY ACTION"* *⇨ click Confim to continue*	CONFIRM					
152.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"If still running, please terminate the sequence to keep PACS in SCIENCE"* *⇨ Perform activity and then click the "OK" button to confirm*	OK			PACS SHOULD NOT BE IN SCIENCE		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
153.	*During Z010999MCVT163_IST_PACS_FDIR_r* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					
154.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio DISABLED OK					
155.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
156.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is enabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio ENABLED OK					
157.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"check that all EATs are enabled"* *⇨ Perform activity from D102159SCVT192_GET_EAT_REPORT* *Then press OK*	PASS OK					
158.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click EndTS to continue*	ENDTS					
159.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Switching PACS ON (REDUNDANT)"* *⇨ Click the "OK" button to confirm*	OK			Conditions may change, so check on RD-3 §7.1.4 or current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
160.	*During P102999SCVT918_ASDISTPACS_MarkON* *"Mark PACS Units ON?"* *⇨ click "confirm" to continue*	CONFIRM			Monitor ZAD1E999		
161.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled Then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	80 OFF 90 ON OK					
162.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"End of PACS IMMEDIATE OFF TEST "* *⇨ click the "OK" button to confirm*	OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
163.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"End of PACS FDIR TEST (REDUNDANT) check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm*	PASS OK					
164.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS					
165.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"RESET the starting condition"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
166.	*During Z010999MCVT163_IST_PACS_FDIR_R* *" Terminate ALL_SubscribeParams.tcl"* *⇨ perform §7.1.9 of RD3 then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
167.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that PACS is ON but in no prime (STDBY)"* *⇨ Click the "OK" button to confirm*	PASS OK					
168.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that all subschedules from 1 to 256, plus 370 are enabled"* *⇨ Click the button "OK" to confirm*	PASS OK					
169.	*At end of Z010999MCVT163_IST_PACS_FDIR_R* *⇨ Click the button "End TS!" to proceed*	ENDTS					

Test location:	Operator	Product-Assurance:	Date:

7.5 SPIRE

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
170.	*Callasync* *Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *to perform the SPIRE related part of the Instruments FDIR IST*	PASS					
171.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"PERFORM SPIRE FDIR TEST (REDUNDANT)?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it exits the script		
172.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Starting condition check"* *⇨ Click the button "Confirm" to continue*	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
173.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please check that no instrument is in science. If so, put it in standby"* *⇨ Click the button "OK" to confirm*	PASS OK			RD-3 for details		
174.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"INITIAL S/C STATUS CHECK"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
175.	*During Z010999MCVT153_IST_STATUS* *"Do you want to stop and notice each failure"* *⇨ Click the button "NO" to continue*	NO					
176.	*During Z010999MCVT153_IST_STATUS* *⇨ Check the Satellite State* *⇨ Click the button "OK" to continue*	PASS OK			Compare with AD-1 for chapter 5.8.13 of IST specification		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
177.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Set SCBP to SPIRE Prime (3)"* *⇨ Click the button "confirm" to continue*	CONFIRM					
178.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Upload and enable dummy MTL with SPIRE connection test in subschedule 370"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
179.	*During D102159SCVT218_IST_SPIRE_MTL_PING* *"Check the parameters"* *⇨ Check that there is 1 SPIRE PING TC every 5 minutes starting within 15' for 10 hours* *⇨ Click the button "OK" to confirm*	PASS OK			120 TCs are expected.		
180.	*During D102159SCVT218_IST_SPIRE_MTL_PING* *⇨ Click the button "EndTS!" to continue*	ENDTS					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
181.	*Check that the MTL contains one SCL00500 (TEST CONNECTION) every 5 minutes for 10 hours in subschedule 370*	PASS OK					
182.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Check that subschedule 100 (meta-SPIRE) is disabled and 370 (SPIRE TCs) is enabled, then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	 Subschedules 100 OFF 370 ON OK					
183.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Wait for execution of the first command, then press OK"* *⇨ Click the button "OK" to continue*	 PASS OK					
184.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Put SPIRE in SCIENCE MODE"* *⇨ Click the button "Confirm" to continue*	 CONFIRM			Refer to RD3 §7.2.6 for prompts and expected OOLs.		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
185.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *" Check that SPIRE is producing science packets"* *⇨ Click the button "OK" to continue*	PASS OK			Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1284		
186.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TEST the SPIRE OPE STOP FDIR?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it continues at step 194. DB_OBCP_H_SPIRE_OPE_STOP is the OBCP under test. <u>IMPORTANT NOTE:</u> If the test of the SPIRE OPE STOP is executed then the SPIRE RESUME OBCP MUST be executed after-wards, too.		
187.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TRIGGER OBCP WITH SPIRE SCRIPT"* *⇨ Click the button "Confirm" to continue*	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
188.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please filter one TMPKT History for APID 16 and type 5 and one for APID 1281 Type 5"* *⇨ Click the button "OK" to continue*	PASS OK					
189.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"executing script SPIRE-OBCPTest-ObservationAnomaly.tcl"* *⇨ Click the button "OK" to confirm*	OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
190.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *at the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1106"* ⇨ Wait for ~5 seconds for the reception of TM(5,2) event report with APID 1281 Event ID 0xC100 and SID 0x5200 ⇨ check that OBCP SPIRE OPE STOP has been triggered - TM(5,1) with APID 16, SPID 40148170 procID 0x1106 ⇨ TM(5,4) with APID 16 EvID 0x1003 SPIRE Operations Stopped" is received ⇨ check that TM(5,1) with APID 16, SPID 40145170 procID 0x1106 is received ⇨ *Click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
191.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"please check SPIRE status and that subschedule 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled":* ⇨ check that SPIRE DRCU is ON ⇨ check that SPIRE DPU is ON and generating nominal and critical HK ⇨ check that subschedule 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled *⇨ Click the "OK" button to confirm*	 LCL12 ON LCL52 ON TM (3,25) with APID 1281= CRIT HK 1283= NOM HK OK					
192.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"End of SPIRE OPE STOP TEST"* *"check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT and click the "OK" button to confirm*	 PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
193.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS					
194.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Test SPIRE OPE RESUME OBCP?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it continues at step 204. DB_OBCP_H_SPIRE_OPE_RESUME is the OBCP under test. WARNING: if OPE STOP is performed, OPE RESUME MUST be performed before carrying on.		
195.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Trigger OBCP with SPIRE script"* *⇨ click the button "Confirm" to continue*	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
196.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please filter one TMPKT History for TM type 5"* *⇨ Perform activity then click the button "OK" to continue*	PASS OK					
197.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"executing script SPIRE-OBCPTest-ObservationAnomalyCorrected.tcl "* *⇨ Click the button "OK" to confirm*	OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
198.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1107"* ⇨ Wait for ~5 seconds for the reception of TM(5,2) event report with Event ID 0xC110 and SID 0x5200 ⇨ check that OBCP SPIRE OPE RESUME has been triggered - TM(5,1) with APID 16, SPID 40148170 procID 0x1107 ⇨ TM(5,4) with EvID 0x1004 “SPIRE Operations Resumed” is received ⇨ check that TM(5,1) with APID 16, SPID 40145170 procID 0x1107 is received*"* ⇨ *Perform activities and then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
199.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"please check the SPIRE status and that subschedule 370 (SPIRE TCs) is DISABLED and 100 (meta-SPIRE) is ENABLED"* ⇨ check that SPIRE DRCU is ON ⇨ check that SPIRE DPU is ON and generating nominal and critical HK ⇨ check that SPIRE is in PHOTOPS mode ⇨ check that Photometer science data are being generated ⇨ check that subschedule 370 (SPIRE TCs) is disabled and 100 (meta-SPIRE) is enabled " ⇨ *Click the "OK" button to confirm*	LCL12 ON LCL52 OFF File in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1284 Subschedules 370 OFF 100 ON OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
200.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"RECOVERY ACTION"* *⇨ Click Confirm to continue*	CONFIRM					
201.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"please check status of SPIRE, that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled"* *⇨ perform activity and then click the "OK" button to confirm*	Subschedules 370 ON 100 OFF OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
202.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"End of SPIRE OPE RESUME TEST"* *"check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK					
203.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS					
204.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TEST the SPIRE DRCU OFF OBCP?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it continues at step 219. DB_OBCP_H_SPIRE_DRCU_OFF is the OBCP under test.		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
205.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TRIGGER OBCP WITH SPIRE SCRIPT"* *⇨ Click the button "confirm" to continue*	CONFIRM					
206.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please filter one TMPKT History for APID 16 and type 5 and one for APID 1281 Type 5 subtype 2"* *⇨ Click the button "OK" to continue*	PASS OK					
207.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"executing script SPIRE-OBCPTest-DRCUAnomaly.tcl "* *⇨ Click the "OK" button to confirm*	OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
208.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1102"* ⇨ Wait for ~5 seconds for the reception of TM(5,2) event report with APID1281, Event ID 0xC000 and SID 0x5200 ⇨ check that OBCP SPIRE DRCU OFF has been triggered - TM(5,1) with APID 16 SPID 40148170 procID 0x1102 ⇨ TM(5,4) with APID 16, EvID 0x1000 SPIRE DRCU OFF" is received ⇨ check that TM(5,1) with SPID 40145170 procID 0x1102 is received ⇨ *click the "OK" button to confirm*	PASS OK			Expected : TM(5,4) for o MCU o SCU o DCU At DRCU OFF, also TM(5,4) with SID 5420. SVMCOPYTBLFAULT TM(5,1) and many OOLs also expected (TBD)		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
209.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"* ⇨ Check that the DRCU has been powered off ⇨ Check that the DPU is on and generating nominal and critical HK ⇨ subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled" *⇨ Click the "OK" button to confirm*	LCL52 OFF LCL12 ON 1283 producing NOMHK 1281 producing CRITHK Subschedules 370 OFF 100 OFF OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
210.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"check that all EATs are enabled except 0xC110 for APIDs 0x0500 and 0x0501"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK			APID 0x0500 = 1280 (SPIRE-A) APID 0x0501 = 1281 (SPIRE-B)		
211.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ click the "EndTS" button to continue*	ENDTS					
212.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"RECOVERY ACTION"* *⇨ Click the button "confirm" to continue*	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
213.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK					
214.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ click the "EndTS" button to continue*	ENDTS					
215.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Switching SPIRE OFF (REDUNDANT)"* *⇨ Click the button "OK" to confirm*	OK			See RD-3 §7.2.5 for exact messages and expected OOLs.		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
216.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Switching SPIRE ON (REDUNDANT)"* *⇨ Click the button "OK" to confirm*	OK			Conditions may change, so check on RD-3 §7.2.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		
217.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 370 ON 100 OFF OK					
218.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"End of SPIRE DRCU OFF TEST "* *⇨ click the "OK" button to confirm*	OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
219.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TEST the SPIRE OFF CONTROLLED OBCP?"* *⇨ Click the button "Confirm to continue*	CONFIRM			If SKIP, it continues at step 235. DB_OBCP_H_SPIRE_OFF_CTRL is the OBCP under test.		
220.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TRIGGER OBCP "* *⇨ Click the button "Confirm" to continue*	CONFIRM					
221.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please filter one TMPKT History for TM(5,1) and one for TM(5,4)"* *⇨ Click the button "OK" to continue*	PASS OK					
222.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please callasync the sequence to trigger SPIRE OFF CONTROLLED"* *⇨ Click the button "OK" to confirm*	PASS OK			Callasync SPIRE_OBCPTest_StopHK And wait for end of NOM and CRIT HK.		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
223.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"Wait until the end of the OBCP -TM(5,1) with SPID 40145170 procID 0x1104"* *⇨ check that OBCP SPIRE OFF CONTROLLED has been triggered - TM(5,1) with SPID 40148170 procID 0x1104,* *⇨ TM(5,4) EvID0x1002 SPIRE Shutdown" is received* *⇨ check that TM(5,1) with SPID 40145170 procID 0x1104 is received* *⇨ Click the "OK" button to confirm*	PASS OK			Expected: TM(5,1)-0578 SDB SPIRE Failed TM TM(5,2)-0585 SDB SPIRE nom RT sick TM TM(5,1) – subschedule status changed		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
224.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"Please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"* *⇨ Check that both the SPIRE DRCU and DPU have been switched off* *⇨ Check that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled* *⇨ Click the "OK" button to confirm*	LCL 52 and 12 OFF Subschedules 370 OFF 100 OFF OK					
225.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"check that all EATs are enabled except 0xC110 for APIDs 0x0500 and 0x0501"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK			APID 0x0500 = 1280 (SPIRE-A) APID 0x0501 = 1281 (SPIRE-B)		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
226.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ click the "EndTS" button to continue*	ENDTS					
227.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"RECOVERY ACTION"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
228.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
229.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ click the "EndTS" button to continue*	ENDTS					
230.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Switching SPIRE ON (REDUNDANT)"* *⇨ click "OK" to confirm*	OK			Conditions may change, so check on RD-3 §7.2.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		
231.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled and then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 370 ON 100 OFF OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
232.	*During Z102999SCVT008_ASDGEN_SPIRESTBY2OPS* *(called asynchronously by the master) SPIRE will be put into simulated science.* *⇨ perform §7.2.6 of RD3 then go to next step*	YES					
233.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Check that SPIRE is producing Science packets"* *⇨ Perform the activity and click the button "OK" to continue*	PASS OK			Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1284		
234.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"End of SPIRE OFF CONTROL TEST "* *⇨ click the "OK" button to confirm*	OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
235.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TEST the SPIRE OFF (DLL) OBCP?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it continues at step 258. DB_OBCP_H_SPIRE_OFF is the OBCP under test.		
236.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"SPIRE OFF DLL FDIR triggering* *⇨ Click the button "Confirm" to continue*	CONFIRM					
237.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please filter one TMPKT History for TM(5,1) and one for TM(5,4)"* *⇨ Perform activity, then click the button "OK" to continue*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
238.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"start the SPIRE (RT 21) simulation on the CDMU SCOE to create jamming"* *⇨ Click the button "OK" to proceed*	OK					
239.	*On CDMS SCOE* *Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE application.*	PASS					
240.	*On CDMS SCOE* *Select Menu:* *Mode⇨ Local Mode* *Password: H-P*	PASS					
241.	*On CDMS SCOE* *Select from menu:* *Setup⇨ RTSim Configuration*	PASS					
242.	*On CDMS SCOE* *Select file:* *R:\(192.168.90.32)\Herschel.rtc* *and then click the button "OK"*	PASS					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
243.	*On CDMS SCOE* *Select from menu:* *Mode ⇨ On Line*	PASS					
244.	*On CDMS SCOE* *In window: "System Control/RT controls":* *⇨ Select RT22 (SPIRE-B)* *⇨ Click the button "Enable" for:* - *control* - *TM queue* - *TC queue* *Within 8 seconds proceed immediately with next step*	PASS			Don´t stay longer than 8 seconds, since the FDIR might keep on triggering and reconfigure the spacecraft. Can be stopped as soon as the OBCP started TM is received		
245.	*On CDMS SCOE* *In window: "System Control/RT controls"* *Click the button "DISABLE" for:* - *control* - *TM queue* - *TC queue*	PASS			To be performed within 8 seconds!!!		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
246.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"Wait until the end of the OBCP -TM(5,1) with SPID 40145170 procID 0x1103"* *⇨ check that OBCP SPIRE OFF has been triggered - TM(5,1) with SPID 40148170 procID 0x1103,* *⇨ TM(5,4) EvID 0x1001 SPIRE Switched OFF" is received* *⇨ check that TM(5,1) with SPID 40145170 procID 0x1103 is received* *⇨ Click the "OK" button to confirm*	PASS OK			Expected: TM(5,1) SDB unhealthy TM(5,2)-0552 SPIRE non vital RT Invalid TM(5,1) subschedule status changed		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
247.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"Please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"* *⇨ check that SPIRE is OFF* *⇨ check that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled* *⇨ Click the "OK" button to confirm*	LCL 52 and 12 OFF Subschedules 370 OFF 100 OFF OK					
248.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"check that all EATs are enabled except 0xC110 for APIDs 0x0500 and 0x0501"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK			APID 0x0500 = 1280 (SPIRE-A) APID 0x0501 = 1281 (SPIRE-B)		

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
249.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ click the "EndTS" button to continue*	ENDTS					
250.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"RECOVERY ACTION"* *⇨ Click the button " confirm" to continue*						
251.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *“check that all EATs are enabled”* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
252.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ click the "EndTS" button to continue*	ENDTS					
253.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"set the CDMS SCOE OFF LINE"* *⇨ Perform the activities of the next step, then click the button "OK"*	PASS OK					
254.	*On CDMS SCOE* *Select from menu:* *Mode⇨ Off Line*	PASS					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
255.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Switching SPIRE ON (REDUNDANT)"* *⇨ Click the button "OK" to continue*	OK			Conditions may change, so check on RD-3 §7.2.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		
256.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled and then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 370 ON 100 OFF OK					
257.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"End of SPIRE FDIR TEST "* *⇨ click the "OK" button to continue*	OK					

Test location:	Operator	Product-Assurance:	Date:

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
258.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"RESET the STARTING CONDITION"* *⇨ Click the button "Confirm" to continue*	CONFIRM					
259.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Check that all subschedules from 1 to 256 plus the 370 are enabled* *⇨ Click the button "OK" to continue*	Subschedules 1-256 ON 370 ON Others OFF OK					

Test location:	Operator	Product-Assurance:	Date:

7.6 Specific Post-Test Activities

Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
260.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Start the instrument specific FDIR sequence"* *⇨ click the "OK" button to proceed*	OK					
261.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"End of INSTRUMENTS FDIR Tests. Select OK to switch off"* *⇨ click the "OK" button to proceed*	OK			Perform this test step AFTER ALL the relevant FDIR tests have been performed		
262.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Check that all EATs are enabled""* *⇨ perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to proceed*	PASS OK					

Test location:	Operator	Product-Assurance:	Date:

Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
263.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS					
264.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"RESET to the original SCBP?"* *⇨ Click the button "Confirm to continue*	CONFIRM					
265.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"POWER OFF HIFI (REDUNDANT)"* *⇨ Click the button "Confirm" to continue*	CONFIRM			Conditions may change, so check on RD-3 $7.3.5 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		
266.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"POWER OFF PACS (REDUNDANT)"* *⇨ Click the button "Confirm" to continue*	CONFIRM			Conditions may change, so check on RD-3 § 7.1.5 for current prompts and expected OOL. At the end of it choose to reset		

Test location:	Operator	Product-Assurance:	Date:

Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
					the previous bus profle.		
267.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"POWER OFF SPIRE (REDUNDANT)"* *⇨ Click the button "Confirm" to continue*				Conditions may change, so check on RD-3 §7.2.5 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.		
268.	*Reset to initial conditions the IEGSEs to revert what done at step 27.* *For HIFI, perform §7.3.8 of RD3* *For PACS, perform §7.1.9 of RD3* *For SPIRE, perform §7.2.8 of RD3*				If HIFI cooling is ON, and HIFI is OFF, switch the cooling off in cleanroom		
269.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Bring the S/C into a SAFE mode and switch OFF"* *⇨ Click the button "OK" to continue*	OK			The IST_END sequence shall be called-up. Therefore, continue with chapter 7.4 of RD4. step 1.		

Test location:	Operator	Product-Assurance:	Date:

7.7 S/C Power OFF

Follow the steps in the power OFF procedure of RD4, 7.4 - step 1.

Test location:	Operator	Product-Assurance:	Date:

8 Script Hierarchy

8.1 Master script

```
Z010999MCVT161_IST_INSTR_FDIR_R
    A102109SPVT202_ACMS_STATUS_H
    D102159SCVT138_IST_LAUNCH_SUNACQ
    D102159SCVT137_IST_SUNACQ_NOM
    W102584SPVT101_PCDU_TRANSITION_FDIR
    Z102999SCVT001_SREM_ON
    Z102999SCVT016_ASDGEN_HIFIPWRON_R
    Z102999SCVT012_ASDGEN_PACSPWRON_R
    Z102999SCVT006_ASDGEN_SPIREPWRON_R
    Z102999SCVT017_ASDGEN_HIFIPWROFF_R
    Z102999SCVT013_ASDGEN_PACSPWROFF_R
    Z102999SCVT007_ASDGEN_SPIREPWROFF_R
    D102159SCVT193_IST_UPLOAD_OBCP
    D102159SCVT192_IST_UPLOAD_EAT
    D102159SCVT192_GET_EAT_REPORT.tcl
    Z010999MCVT004_IST_END
```

8.2 HIFI script

```
Z010999MCVT162_IST_HIFI_FDIR_R
    Z010999MCVT153_IST_STATUS
    D102159SCVT214_IST_HIFI_MTL_PING
    D102159SCVT192_GET_EAT_REPORT
    Z102999SCVT016_ASDGEN_HIFIPWRON_R
```

8.3 PACS script

```
Z010999MCVT163_IST_PACS_FDIR_R
    Z010999MCVT153_IST_STATUS
    D102159SCVT215_IST_PACS_MTL_PING
    Z102999SCVT019_ASDGEN_PACSNomSpect
    D102159SCVT192_GET_EAT_REPORT
    D102159SCVT192_GET_EAT_REPORT
    Z102999SCVT012_ASDGEN_PACSPWRON_R
    PACS_Disable_HK_OBS_Shell
```

8.4 SPIRE script

```
Z010999MCVT164_IST_SPIRE_FDIR_R_formal
  Z010999MCVT153_IST_STATUS
  D102159SCVT218_IST_SPIRE_MTL_PING
  Z102999SCVT008_ASDGEN_SPIRESTBY2OPS
  D102159SCVT192_GET_EAT_REPORT
  Z102999SCVT007_ASDGEN_SPIREPWROFF_R
  Z102999SCVT006_ASDGEN_SPIREPWRON_R
```

9 Summary Sheets

9.1 Procedure Variation Summary

	Test Change	Curr. No.: Date Page of	
Test designation	Test Procedure HP-2-ASED-TP-0197	Issue 1	Rev.
Test step changed	Reason for Change		
Prepared by:	Resp. Test Leader	Project Engineer	
PA/QA	Prime	Customer	

Table 9.1-1: Procedure Variation Sheet

9.2 Non Conformance Report (NCR) and SPR Summary

The status of all NCRs/SPRs, generated during the test, shall be given-in in the table below:

NCR/SPR	NCR/SPR - Title	Date	Open Closed	PA sig.

NCR/SPR	NCR/SPR - Title	Date	Open Closed	PA sig.

Table 9.2-1: Non-Conformance Record Sheet

9.3 Sign-off Sheet

To finalise the test campaign, all responsible personnel shall sign-off the filled-in procedure in the following table:

	Date	Signature
Test Director		
Test Conductor		
PA Responsible		

10 Session Record

Test Description	
Session ID	
Start Time:	
End Time	
CVS Tag for Test	
Applicable IST Specification	
Test conductor	
QA Approval	

Test Description	
Session ID	
Start Time:	
End Time	
CVS Tag for Test	
Applicable IST Specification	
Test conductor	
QA Approval	

Test Description	
Session ID	
Start Time:	
End Time	
CVS Tag for Test	
Applicable IST Specification	
Test conductor	
QA Approval	

E N D O F D O C U M E N T

Distribution List

	Name	Dep./Comp.		Name	Dep./Comp.
	Baldock Richard	FAE12	X	Sonn Nico	ASG51
	Barlage Bernhard	AED13		Steininger Eric	AED321
	Bayer Thomas	ASA42	X	Stritter Rene	AED11
	Brune Holger	ASA45		Suess Rudi	OTN/ASA44
X	Chen Bing	HE Space	X	Theunissen Martijn	DSSA
X	Davis William	Captec	X	Vascotto Riccardo	HE Space
	Edelhoff Dirk	AED21		Wagner Klaus	ASG23
	Fehringer Alexander	ASG15	X	Wietbrock Walter	AET12
X	Fricke Wolfgang Dr.	AED 65		Wöhler Hans	ASG23
	Geiger Hermann	ASA42		Wössner Ulrich	ASE252
	Grasl Andreas	OTN/ASA44		Zumstein Armin	AED15
X	Grasshoff Brigitte	AET12			
X	Hamer Simon	Terma			
	Hanka, Erhard	FI522			
X	Hendrikse Jeffrey	HE Space			
X	Hendry David	Terma			
	Hengstler Reinhold	ASA42			
	Hinger Jürgen	ASG23			
X	Hohn Rüdiger	AED65			
	Hopfgarten Michael	AET32			
	Huber Johann	ASA42			
	Hund Walter	ASE252			
X	Idler Siegmund	AED312			
	Ivády von András	FAE12			
	Jahn Gerd Dr.	ASG23			
	Jolk Matthias	AET1	X	ESA/ESTEC	ESA
	Klenke Uwe	ASG72	X	Thales Alenia Space Cannes	TAS-F
	Kölle Markus	ASA43		Thales Alenia Space Torino	TAS-I
	König Werner	AET32			
X	Koppe Axel	AED312			
X	Kroeker Jürgen	AED65		**Instruments:**	
	La Gioia Valentina	Terma	X	MPE (PACS)	MPE
	Lang Jürgen	ASE252	X	RAL (SPIRE)	RAL
	Langenstein Rolf	AED15	X	SRON (HIFI)	SRON
	Langfermann Michael	ASA41			
	Leitermann Stefan	AET12			
X	Liberatore Danilo	Rhea		**Subcontractors:**	
X	Martin Olivier	Altec		Austrian Aerospace	AAE
X	Maukisch Jan	ASA43		Austrian Aerospace	AAEM
X	Much Christoph	ASA43		BOC Edwards	BOCE
X	Müller Martin	ASA43		Dutch Space Solar Arrays	DSSA
	Pietroboni Karin	AED65		EADS Astrium Sub-Subsyst. & Equipment	ASSE
	Reichle Konrad	ASA42		EADS CASA Espacio	CASA
	Runge Axel	OTN/ASA44		EADS CASA Espacio	ECAS
	Saal Christoph	External		European Test Services	ETS
	Schink Dietmar	AED321		Patria New Technologies Oy	PANT
	Schmidt Thomas	AED15		SENER Ingenieria SA	SEN
	Schweickert Gunn	ASG23		Thales Alenia Space, Antwerp	TAS-ETCA