TG5/SAR Meeting

ODIN: Integrated Tests

R. Woracek, A. Tartaglione, R. Ammer, S. Athanasopoulos, S. Schmidt,
T. Chulapakorn, S. Xu
+ support groups

LUND
17 DEC 2025

Components that require Integrated Testing

3.4. System overview

3.4.1. General

The conceptual ODIN instrument, see Figure 2, is subdivided into the following generic main functional blocks:

- Neutron guide
- Prompt pulse suppression
- Shielding
- Chopper system
- Shutters
- Cave interior
- Beam manipulation and analysis equipment
- Detectors
- Beam stop
- Personnel Safety System, PSS
- Control hutch
- Instrument control

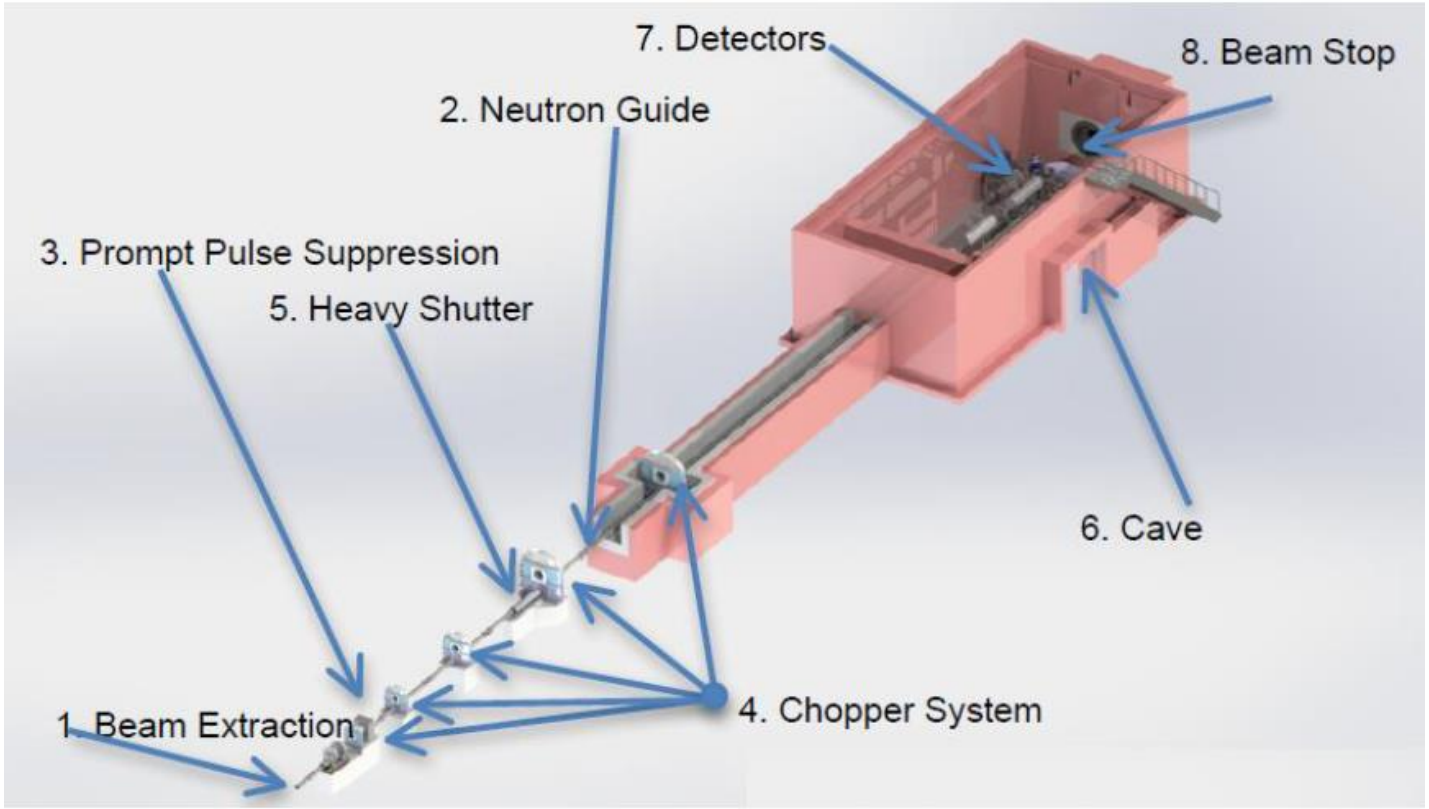


Figure 2 - ODIN conceptual layout

ODIN SAR

Components that require Integrated Testing

- Neutron Chopper System
- Beam Geometry Conditioning (-> Slits and pinholes -> Motion)
- Beam Filtering System (-> Motion)
- Beam Validation System (-> Beam monitors) -> Note: Misleading terminology as beam on ODIN is validated with its detectors
- Sample Positioning System (-> Motion)
- Detectors (ODIN is special case: scope of ODIN team)

Integrated Tests Plans *(Total of 7)*

				Operation and Maintenance Manuals		Verification & Validation Plan (includes Hot Commissioning Plan, RP survey plan)	
Level	**Tag**	**Description**	**Classification**	**Document - number, type**	**Status**	**Document - number, type**	**Actions/comments**
0	=ESS.NSS.H01.ODIN	ODIN	ODIN	ESS-1075657, ODIN Operation and Maintenance Manual	ESS-1075657, CHESS RELEASED REV 2	ESS-1075656 ODIN - Verification & Validation Plan	CHESS RELEASED REV 2
1	=ESS.NSS.H01.ODIN.F01	Personnel Safety System (PSS)	Safety System	ESS-5545610: Operations Manual for ODIN Personnel Safety System (Elaboration ongoing by PSS) ESS-3540345: Concepts of Operations for ODIN Personnel Safety System	To be ready for SRR		
1	=ESS.NSS.H01.ODIN.A02	Sample Exposure System	Infrastructure System	Included in ESS-1075657, O&M listed above.		NA	
2	=ESS.NSS.H01.ODIN.A02.W01	Sample Positioning	Positioning System	ESS-4962602, Supplier manuals (Axilon)	CHESS RELEASED REV 3	ESS-5820454. INTEGRATED TEST PLAN FOR ODIN – SAMPLE POSITIONG SYSTEM	CHESS RELEASED REV 1
2	=ESS.NSS.H01.ODIN.A02.W02	Support & Rail System	Positioning System	Included in ESS-1075657, O&M listed above.		NA	
1	=ESS.NSS.H01.ODIN.A04	Support Systems	Infrastructure System	Covered in sub-nodes below		NA	
2	=ESS.NSS.H01.ODIN.A04.A01	Control Hutch	Control Hutch	ESS-4123361, Datasheets - as additional information ESS-4962613, Maintenance Manuals	ESS-4123361: CHESS RELEASED REV 1 ESS-4962613 : CHESS RELEASED REV 1	NA	
2	=ESS.NSS.H01.ODIN.A04.A02	Sample Preparation Facility	Infrastructure System	N/A		NA	
2	=ESS.NSS.H01.ODIN.A04.F01	Fire Protection	Fire Fighting System		To be ready for SRR		
2	=ESS.NSS.H01.ODIN.A04.GM01	Crane in Experimental Cave	Crane	Included in ESS-4962602 listed above		NA	
2	=ESS.NSS.H01.ODIN.A04.GM02	External cave lift	Crane	ESS-5307364, Operation and Maintenance Manual	CHESS RELEASED REV 1	NA	
1	=ESS.NSS.H01.ODIN.A05	Supply Systems	Infrastructure System	ESS-5605131 (O&M manual. Premablock) ESS-5067485 (CEP Maintenance plan Power distribution systems) ESS-2756565 (Timing framework)	ESS-5605131: CHESS PRELIMINARY ESS-5067485: CHESS RELEASED REV 1 ESS-2756565: CHESS RELEASED REV 2	NA	
1	=ESS.NSS.H01.ODIN.G01	Vacuum System	Vacuum System		NA	NA	
1	=ESS.NSS.H01.ODIN.A01	Beam Transport and Conditioning	Infrastructure System	Included in ESS-1075657, O&M listed above.		NA	
2	=ESS.NSS.H01.ODIN.A01.B01	Beam Validation	Beam Validation System	ESS-5354704 (I-BM manual) ESS-5846556. Datasheet for ODIN BM1 ESS-5847440. Datasheet for ODIN BM2 ESS-5847461. Datasheet for ODIN BM3	ESS-5354704 : CHESS RELEASED REV 4 ESS-5846556. CHESS RELEASED REV 1 ESS-5847440. CHESS RELEASED REV 1 ESS-5847461. CHESS RELEASED REV 1	ESS-5820250. INTEGRATED TEST PLAN FOR ODIN –BEAM MONITORS	CHESS RELEASED REV 2
2	=ESS.NSS.H01.ODIN.A01.F01	Shielding	Shielding System	ESS-5551590: ODIN Sliding door Operation & maintenance manual (MIRROTRON) Included in ESS-1075657, O&M listed above.	ESS-5551590: CHESS RELEASED REV 1	NA	

2	=ESS.NSS.H01.ODIN.A01.R01	Neutron Chopper System	Chopper System	ESS-4123348: Datasheets for maintenance ESS-5456760: Operation Manual prepared by supplier (AIRBUS) ESS-4962591: BOM for maintenance	ESS-4123348: CHESS RELEASED REV 1 ESS-5456760: CHESS RELEASED REV 1 ESS-4962591: CHESS RELEASED REV 1	ESS-5815722. INTEGRATED TEST PLAN FOR THE ODIN CHOPPER SYSTEM	CHESS RELEASED REV 1
2	=ESS.NSS.H01.ODIN.A01.R02	Beam Geometry Conditioning	Beam Geometry Conditioning System	ESS-5200993, Supplier Manuals (JJXRay)	CHESS RELEASED REV 1	ESS-5860915. INTEGRATED TEST PLAN FOR ODIN – BEAM GEOMETRY CONDITIONING	CHESS RELEASED REV 1
2	=ESS.NSS.H01.ODIN.A01.R03	Beam Cut off	Beam Cut Off System	ESS-3049036: NSS Instrument safety Shutter Operation and Maintenance Manual	CHESS RELEASED REV 3	NA	
2	=ESS.NSS.H01.ODIN.A01.R04	Beam Filtering System	Beam Filtering System	Included in ESS-1075657, O&M listed above. ESS-3762735: Motion Control design description	ESS-3762735: CHESS RELEASED REV 2	ESS-5866584 INTEGRATED TEST PLAN FOR ODIN – BEAM FILTERING SYSTEM	CHESS RELEASED REV 1
2	=ESS.NSS.H01.ODIN.A01.W01	Beam Delivery System	Beam Transport System	Included in ESS-1075657, O&M listed above.		NA	
2	=ESS.NSS.H01.ODIN.A01.W02	Beam Extraction System	Beam Transport System	Included in ESS-1075657, O&M listed above.		NA	
3	=ESS.NSS.H01.ODIN.A01.W02.WH01	NBOA - Neutron Beam Optics Assembly	Neutron Guide System	N/A		NA	
3	=ESS.NSS.H01.ODIN.A01.W02.WH02	BBG- Bridge Beam Guide	Neutron Guide System	ESS-5227353: NSS BBGOA Maintenance Manual	ESS-5227353 : CHESS RELEASED REV 1	NA	
2	=ESS.NSS.H01.ODIN.A01.U01	In Bunker Mechanical support system	Mechanical Support	Included in ESS-1075657, O&M listed above.		NA	
2	=ESS.NSS.H01.ODIN.A01.W03	Flight Tube System	Beam Transport System	Included in ESS-1075657, O&M listed above.		NA	
1	=ESS.NSS.H01.ODIN.B01	Scattering Characterization System	Neutron Detector System	Covered in the nodes below			
3	=ESS.NSS.H01.ODIN.B01.B01.B01	TimePix3 CMOS Camera	Neutron Detector System	ESS-5066842: (SoPhy user Manual and TPX3CAM Manual) ESS-5512704: (Image intensifier manual) ESS-5283134: (TimePix3 camera manuals) ESS-5066841: Datasheets for cameras, lenses and scintillators ESS-5091491: Datasheets for camera box and Instructive/Manual to mount the mirror	ESS-5066842: CHESS RELEASED REV 1 ESS-5066841: CHESS RELEASED REV 1 ESS-5091491: CHESS RELEASED REV 1 ESS-5512704: CHESS RELEASED REV 3 ESS-5283134: CHESS RELEASED REV 3	ESS-5820246. INTEGRATED TEST PLAN FOR ODIN – TIMEPIX3 DETECTOR	CHESS RELEASED REV 1
3	=ESS.NSS.H01.ODIN.B01.B01.B02	Orca Flash v3 CMOS Camera	Neutron Detector System	Included in ESS-5066842: (CMOS camera Manual) listed above		ESS-5754643. LOCAL AND SYSTEM INTEGRATED TEST PLAN FOR ODIN – CMOS DETECTOR	ESS-5754643 CHESS RELEASED REV 1
1	=ESS.NSS.H01.ODIN.K01	Instrument Automation Control System	Motion Control System	ESS-5483415 (generic service & maintenance document) the operation manual (generic for each type of controller) is coming separately	CHESS RELEASED REV 2	NA	
1	=ESS.NSS.H01.ODIN.U01	Experimental Cave	Structural System	Included in ESS-1075657, O&M listed above. ESS-5551590 (Mirrotron O&M)	ESS-5551590 : CHESS RELEASED REV 1	NA	

Integrated Tests Reports *(Total of 7)*

Integrated Tests

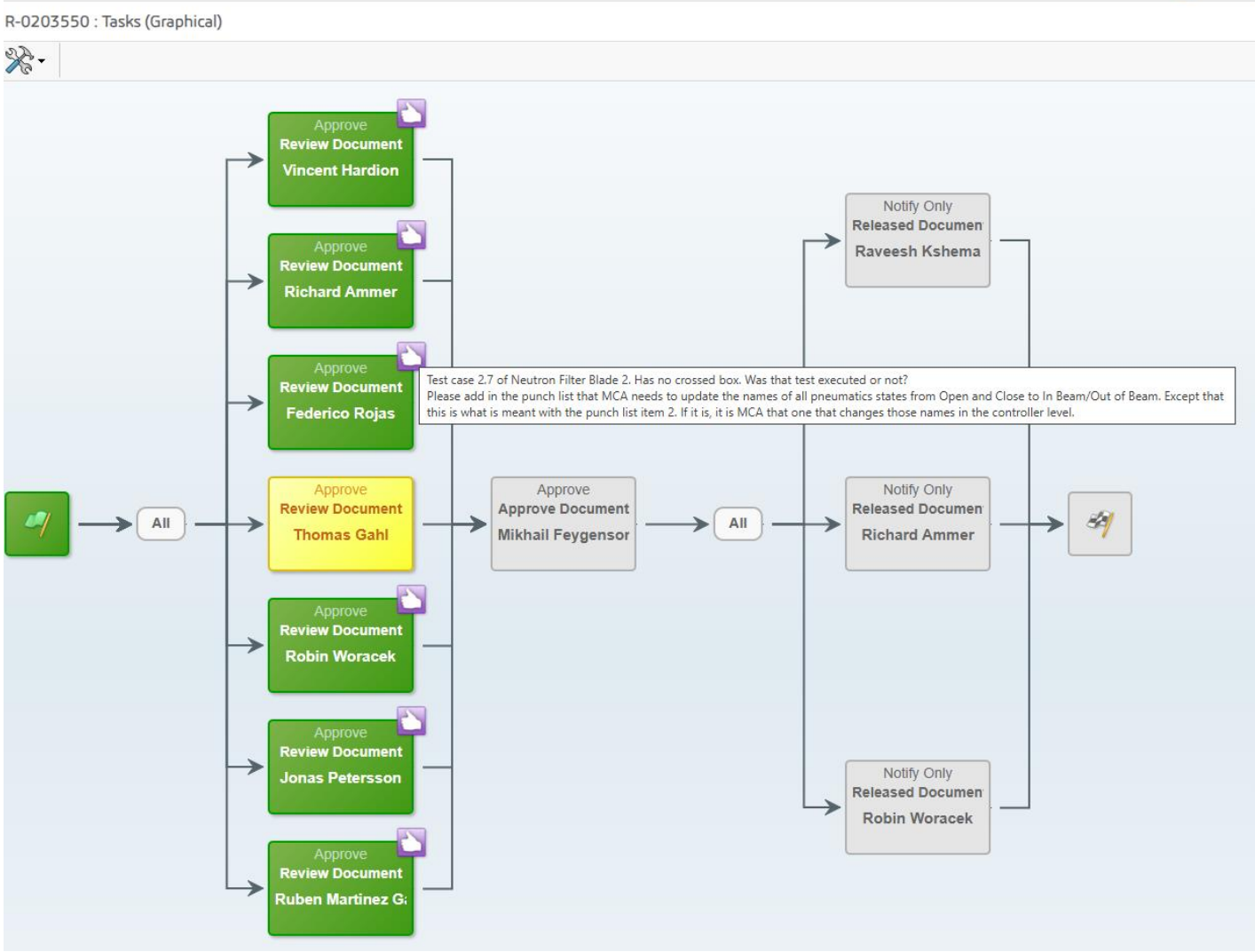
Rev 1
Internal

ODIN INTEGRATED TEST REPORT – BEAM FILTERING SYSTEM

Routes

		Task completion date	Owner	Graphical Overview	Res...	Comment	State
1.	R-0203392			Review Document		Please review and leave your comments if any. Thanks!	Archive
2.	R-0203532			Review Document		new version of document. Software version added in Section 2. Please review and leave your comments if any. Thanks!	Archive
3.	R-0203550			Review Document		new version of document. Software version added in Section 2. Please review and leave your comments if any. Thanks!	In Process

Example CHESS workflow of Integrated test report



				FAT/DAT reports		SAT/Local test reports		Integrated Test reports	
				Document - number. Name	Status	Document - number. Name	Status	Document - number, type	Status
0	=ESS.NSS.H01.ODIN	ODIN	ODIN						
1	=ESS.NSS.H01.ODIN.F01	Personnel Safety System (PSS)	Safety System						
1	=ESS.NSS.H01.ODIN.A02	Sample Exposure System	Infrastructure System	NA	NA	NA	NA		
2	=ESS.NSS.H01.ODIN.A02.W01	Sample Positioning	Positioning System	**FAT Reports Sample Manipulators** ESS-5090193. (ODIN - Small sample stage FAT) ESS-5090204. ODIN - Small sample stage metrology report ESS-5090194. ODIN - Large sample stage FAT. ESS-5090205. ODIN - Large sample stage metrology report ESS-5090195. ODIN - Ancillary stages FAT. ESS-5090203. ODIN - Ancillary stages metrology report **ESS MCA DAT reports for sample manipulators** ESS-5590716. DAT Report For ODIN Ancillary Stage: Rotary. ESS-5581819. DAT for ODIN Ancillary stages:Linear. ESS-5589842. DAT for ODIN Ancillary Stage: Goniometer. ESS-5118683. DAT of ODIN Large Sample Stage 1a.	ESS-5090193 CHESS RELEASED Rev.1 ESS-5090204 CHESS RELEASED Rev. 1 ESS-5090194. CHESS RELEASED Rev. 1 ESS-5090205 CHESS RELEASED Rev. 1 ESS-5090195 CHESS RELEASED Rev. 1 ESS-5090203 CHESS RELEASED Rev. 1 ESS-5590716 CHESS RELEASED Rev. 2 ESS-5581819 CHESS RELEASED Rev 1 ESS-5589842 CHESS RELEASED Rev 2 ESS-5589842. CHESS RELEASED Rev. 2 ESS-5118683. CHESS RELEASED Rev 1	ESS-5765134. MCA Local Testing (SAT1) report for ODIN MCC1	ESS-5765134. CHESS RELEASED Rev 2	ESS-5849575. ODIN INTEGRATED TEST REPORT – SAMPLE AND CAMERAS POSITIONG SYSTEM	ESS-5849575. CHESS RELEASED REV 1
2	=ESS.NSS.H01.ODIN.A02.W02	Support & Rail System	Positioning System	ITEM PROFILES structure to support flight tubes and slits). NA	NA	ESS-5841787. ODIN Optical bench - SAM work request.	ESS-5841787 CHESS RELEASED Rev 1		
1	=ESS.NSS.H01.ODIN.A04	Support Systems	Infrastructure System	NA	NA	NA	NA		
2	=ESS.NSS.H01.ODIN.A04.A01	Control Hutch	Control Hutch	ESS-5840239. ODIN - Precast Concrete FAT. ESS-5840240. ODIN - Steel FAT	ESS-5840239 CHESS RELEASED Rev. 1 ESS-5840240 CHESS RELEASED Rev. 1	ESS-4812810. Site Acceptance Test of ODIN Control Hutch and Sample preparation & storage area. ESS-5510167. Electrical inspection ib1054. ESS-5572438. Electrical inspection ODIN Hutch Distribution Board.	ESS-4812810 CHESS RELEASED Rev 2 ESS-5510167 CHESS RELEASED Rev 1 ESS-5572438 CHESS RELEASED Rev 1		
2	=ESS.NSS.H01.ODIN.A04.A02	Sample Preparation Facility	Infrastructure System	Included in ESS-5840239 and ESS-5840240 listed above		ESS-4812810. Site Acceptance Test of ODIN Control Hutch and Sample preparation & storage area. ESS-5510167. Electrical inspection ib1054. ESS-5572438. Electrical inspection ODIN Hutch Distribution Board.	ESS-4812810 CHESS RELEASED Rev 2 ESS-5510167 CHESS RELEASED Rev 1 ESS-5572438 CHESS RELEASED Rev 1		
2	=ESS.NSS.H01.ODIN.A04.F01	Fire Protection	Fire Fighting System		Excluded from TG5				
2	=ESS.NSS.H01.ODIN.A04.GM01	Crane in Experimental Cave	Crane		NA (superceded by SAT reports)	ESS-5339213. Electrical inspection ODIN overhead crane. ESS-5840241. ODIN - Cave overhead crane installation approval by ESS. ESS-5864512. ODIN Cave Crane Installation report	ESS-5339213 CHESS RELEASED Rev 1 ESS-5840241 CHESS RELEASED Rev 1 ESS-5864512. CHESS RELEASED Rev 1		
2	=ESS.NSS.H01.ODIN.A04.GM02	External cave lift	Crane	NA		NA			
1	=ESS.NSS.H01.ODIN.A05	Supply Systems	Infrastructure System		NA	ESS-5855522. ODIN SAT for CUP system	CHESS PRELIMINARY https://jira.ess.eu/browse/NIT-592		

2	=ESS.NSS.H01.ODIN.A04.GM02	External cave lift	Crane	NA		NA		
1	=ESS.NSS.H01.ODIN.A05	Supply Systems	Infrastructure System		NA	ESS-5855522. ODIN SAT for CUP system	CHESS PRELIMINARY https://jira.ess.eu/browse/NIT-592		
1	=ESS.NSS.H01.ODIN.G01	Vacuum System	Vacuum System	ESS-5533791. INSPECTION AND TEST PLAN FOR ODIN VACUUM CONTROL RACK BUNKER ZONE ESS-5533790. Inspection and test plan for ODIN Vacuum control rack Instrument zone.	ESS-5533791: CHESS RELEASED ESS-5533790: CHESS RELEASED	ESS-5516287. Test and Verification report of installed electrical equipment ODIN Vac Bnkr ESS-5516288. Test and Verification report of installed electrical equipment ODIN Vac Instr	ESS-5516287. CHESS RELEASED ESS-5516288. CHESS RELEASED	ESS-5726992. Verification and Validation Report for ODIN Vacuum Control System	ESS-5726992. CHESS RELEASED REV 1
1	=ESS.NSS.H01.ODIN.A01	Beam Transport and Conditioning	Infrastructure System						
2	=ESS.NSS.H01.ODIN.A01.B01	Beam Validation	Beam Validation System	ESS-5467066. ODIN I-BM 100 BM1 Factory Acceptance Test ESS-5467069. ODIN I-BM 100 BM2 Factory Acceptance Test ESS-5467071. ODIN I-BM 100 BM3 Factory Acceptance Test.	ESS-5467066 CHESS RELEASED Rev. 1 ESS-5467069 CHESS RELEASED Rev. 1 ESS-5467071 CHESS RELEASED Rev. 1	ESS-5859479. LOCAL TEST REPORT FOR THE ODIN BEAM MONITORING SYSTEMS	ESS-5859479.. CHESS RELEASED	ESS-5849585. ODIN INTEGRATED TEST REPORT – BEAM MONITORS	ESS-5849585. CHESS RELEASED REV 1
2	=ESS.NSS.H01.ODIN.A01.F01	Shielding	Shielding System	**Guide shielding:** ESS-3218932. QC Dossier from PACADAR LOT1 ((BIFFROST,CSPEC,DREAM,ODIN,BEER,NMX,MAGIC).	ESS-3218932 CHESS RELEASED Rev 1	**Guide shielding:** ESS-5719515. SAT ODIN Guide Shielding.	ESS-5719515. CHESS RELEASED REV 1		
2	=ESS.NSS.H01.ODIN.A01.R01	Neutron Chopper System	Chopper System	ESS-5356485 (FAT reports)	CHESS RELEASED Rev 1	ESS-5471971 ODIN Chopper system SAT (Chopper group) ESS-5856556 ODIN Chopper system SAT (AIRBUS)	ESS-5471971: CHESS RELEASED REV 2 ESS-5856556 CHESS RELEASED REV 1	ESS-5849588. ODIN INTEGRATED TEST REPORT - CHOPPER SYSTEM	ESS-5849588. CHESS RELEASED
2	=ESS.NSS.H01.ODIN.A01.R02	Beam Geometry Conditioning	Beam Geometry Conditioning System	**DAT Reports for Slits** ESS-5648051. DAT Report For ODIN Pinhole Slits Set 1,2. ESS-5607179. ODIN-DAT Beam Limiters Slits- Set1,2,3. **FAT Reports for Slits** ESS-5630884. FAT report form JJXRAY	ESS-5648051 CHESS RELEASED Rev 1 ESS-5607179 CHESS RELEASED Rev 2 ESS-5630884 CHESS RELEASED Rev 1	**SAT Plans for Slits Motion Control Cabinets** Pinhole slits Set 1,2: Included in ESS-5768812. MCA Local Testing (SAT1) Plan for ODIN MCC2. Beam Limiters Slits- Set1: Included in ESS-5768833. MCA Local Testing (SAT1) Plan for ODIN MCC4. Beam Limiters Slits- Set2,3:		ESS-5849593. ODIN INTEGRATED TEST REPORT – BEAM GEOMETRY CONDITIONG	ESS-5849593.. CHESS RELEASED REV 1
2	=ESS.NSS.H01.ODIN.A01.R03	Beam Cut off	Beam Cut Off System	ESS-3896040. Material Cerificates for the ODIN shutter ESS-5337026. Material quality traceability report for the ODIN Heavy Shutter Attenuator. ESS-5487758. Repeatability report. ESS-3730101 (FAT of ODIN WFMC Translation Stage) ESS-5090200 ODIN - (Fast shutter FAT)	ESS-3896040 CHESS RELEASED Rev 2 ESS-5337026 CHESS RELEASED Rev 1 ESS-5487758 CHESS RELEASED Rev 1 ESS-3730101 CHESS RELEASED Rev 1 ESS-5090200 CHESS RELEASED rev 1	ESS-5688779. (ODIN Safety shutter Local test 2) Included in ESS-5768812 (MCA Local Testing (SAT1) Plan for ODIN MCC2) listed below	ESS-5688779 CHESS RELEASED REV 1		
2	=ESS.NSS.H01.ODIN.A01.R04	Beam Filtering System	Beam Filtering System	NA	NA	ESS-5768812. MCA Local Testing (SAT1) report for ODIN MCC2 rev 2	ESS-5768812. CHESS RELEASED REV 2	ESS-5849592. ODIN INTEGRATED TEST REPORT – BEAM FILTERING SYSTEM	ESS-5849592.. CHESS RELEASED REV 1
2	=ESS.NSS.H01.ODIN.A01.W01	Beam Delivery System	Beam Transport System	ESS-4121247. ODIN Neutron guides FAT report. ESS-4121257. ODIN Neutron guides Final test report . ESS-4121258. Vacuum forces FAT verification. ESS-4121259. Vacuum vessels FAT leak tests. ESS-4121261. Vacuum vessels FAT visual inspection. ESS-4121248. SNTP Files	ESS-4121247. CHESS RELEASED Rev 1 ESS-4121257. CHESS RELEASED Rev 1 ESS-4121258 CHESS RELEASED Rev 1 ESS-4121259 CHESS RELEASED Rev 1 ESS-4121261 CHESS RELEASED Rev 1 ESS-4121248 CHESS RELEASED Rev 1	Neutron Guides SAT folder. ESS-5855072 Vacuum leak tests: ESS-4047603. ODIN Bunker Wall Insert leak test ESS-5556971. Leak test report - Odin Neutron guide 27-11-2024 ESS-5657921. Leak test report - ODIN In-bunker 21-03-2025	ESS-5855072. CHESS RELEASED Rev 1 ESS-4047603. CHESS RELEASED Rev 1 ESS-5556971. CHESS RELEASED Rev 1 ESS-5657921. CHESS RELEASED Rev 1		
2	=ESS.NSS.H01.ODIN.A01.W02	Beam Extraction System	Beam Transport System						
3	=ESS.NSS.H01.ODIN.A01.W02.WH01	NBOA - Neutron Beam Optics Assembly	Neutron Guide System	ESS-5845389: NBOA FAT reports	CHESS RELEASED Rev 1	ESS-5843385. ODIN NBOA - SAT Documentation	ESS-5843385. CHESS RELEASED Rev 1		

3	=ESS.NSS.H01.ODIN.A01.W02.WH02	BBG- Bridge Beam Guide	Neutron Guide System	ESS-5285733. ODIN BBGOA FAT	CHESS RELEASED Rev 1	ESS-5548726. ODIN BBGOA SAT Report.	ESS-5548726 CHESS RELEASED Rev 1		
2	=ESS.NSS.H01.ODIN.A01.U01	In Bunker Mechanical support system	Mechanical Support	ESS-5851538. All chopper supports FAT ESS-4121257. ODIN Neutron guides Final test report.	ESS-5851538 CHESS RELEASED Rev 1 ESS-4121257. CHESS RELEASED Rev 1	ESS-5067529. ODIN - Chopper pedestal In-Bunker- Survey and alignment report. ESS-5314683. RE-INSTALLATION ODIN - In bunker 2024 ESS-5646661. ODIN Guides - Installation campaign March 2025	ESS-5067529. CHESS RELEASED Rev 1 ESS-5314683. CHESS RELEASED Rev 1 ESS-5646661. CHESS RELEASED Rev 1		
2	=ESS.NSS.H01.ODIN.A01.W03	Flight Tube System	Beam Transport System	ESS-5857427. ODIN Flight tubes - QC/FAT documentation	ESS-5857427 CHESS RELEASED Rev 1	ESS-5861460. ODIN Long Flight Tube ESS-5861462. ODIN Medium Flight Tube ESS-5861464. Short Flight Tube ESS-5861467. ODIN Small Flight Tube	ESS-5861460. CHESS RELEASED Rev 1 ESS-5861462. CHESS RELEASED Rev 1 ESS-5861464. CHESS RELEASED Rev 1 ESS-5861467. CHESS RELEASED Rev 1		
1	=ESS.NSS.H01.ODIN.B01	Scattering Characterization System	Neutron Detector System	Covered in the sub nodes below		Covered in the sub nodes below		Covered in the sub nodes below	
3	=ESS.NSS.H01.ODIN.B01.B01.B01	TimePix3 Camera	Neutron Detector System	ESS-5844511. ODIN - FAT TIMEPIX3 DETECTOR ESS-5586286 (Motion FAT Report For ODIN Camera Boxes)	ESS-5844511 CHESS RELEASED Rev 1 ESS-5586286 CHESS RELEASED Rev 1	Detector SAT superseded by Integrated Test Included in ESS-5768833. MCA Local Testing (SAT1) Plan for ODIN MCC4 listed below		ESS-5849590. ODIN INTEGRATED TEST REPORT – TIMEPIX3 DETECTOR	ESS-5849590. CHESS RELEASED Rev 1
3	=ESS.NSS.H01.ODIN.B01.B01.B02	CMOS Camera	Neutron Detector System	ESS-5654274. FAT - CMOS Detector Included in ESS-5586286 listed above	ESS-5654274. CHESS RELEASED Rev 1 ESS-5586286 CHESS RELEASED Rev 1	Detector SAT superseded by Integrated Test Included in ESS-5768833. MCA Local Testing (SAT1) Plan for ODIN MCC4 listed below		ESS-5849591. ODIN INTEGRATED TEST REPORT – CMOS DETECTOR	ESS-5849591. CHESS RELEASED Rev 1
1	=ESS.NSS.H01.ODIN.K01	Instrument Automation Control System	Motion Control System	**FAT Reports: Motion Control Cabinets** ESS-5164945 FAT2 Report for ODIN MCC1 ESS-5423366 FAT2 Report for ODIN MCC2 ESS-5423367 FAT2 Report for ODIN MCC3 ESS-5423368 FAT2 Report for ODIN MCC4 ESS-5423369 FAT2 Report for ODIN MCC5 ESS-5423370 FAT2 Report for ODIN MCC6	ESS-5164945 : CHESS RELEASED REV 2 ESS-5423366 : CHESS RELEASED REV 2 ESS-5423367 : CHESS RELEASED REV 2 ESS-5423368 : CHESS RELEASED REV 2 ESS-5423369 : CHESS RELEASED REV 2 ESS-5423370 : CHESS RELEASED REV 2	**SAT Plans/Reports: Motion Control** ESS-5765134. MCA Local Testing (SAT1) report for ODIN MCC1. ESS-5768812. MCA Local Testing (SAT1) report for ODIN MCC2 rev 2 ESS-5768833. MCA Local Testing (SAT1) report for ODIN MCC4 rev 2 ESS-5768834. MCA Local Testing (SAT1) report for ODIN MCC5 rev 2	ESS-5765134 CHESS RELEASED Rev 2 ESS-5768812 CHESS RELEASED Rev 2 ESS-5768833 CHESS RELEASED Rev 2 ESS-5768834 CHESS RELEASED Rev 2		
1	=ESS.NSS.H01.ODIN.U01	Experimental Cave	Structural System	ODIN Cave FAT 1. Mirrotron • Sliding door mechanical ESS-5423496. ODIN ESS-TUM FAT Report ESS-5423497. FAT compiled ESS-5423498. Dimentional and functional test compiled • Beam stop non concrete parts ESS-5423482. Visual and dimensional tests 1 ESS-5423485. Visual and dimensional tests 2 • Roof top blocks ◦ Casting and concrete evaluation: ESS-5358612. Concreting and vibration plan • Wall elements: ESS-5066826. ODIN CAVE SHIELDING FAT - Wall elements 1. C3C and TLC • Roof bottom blocks ESS-5556603 **12 Final inspection.pdf** • Beam stop concrete parts: ESS-5855067 ◦ Concrete casting inspection : ESS-5551946. Beam stop Castig Inspection C3C	ESS-5423496. CHESS RELEASED Rev 1 ESS-5423497. FCHESS RELEASED Rev 1 ESS-5423498. CHESS RELEASED Rev 1 ESS-5423482. CHESS RELEASED Rev 1 ESS-5423485. CHESS RELEASED Rev 1 ESS-5358612 CHESS RELEASED Rev 1 ESS-5556603 CHESS RELEASED Rev 1 ESS-5551946 CHESS RELEASED Rev 1 ESS-5066826 CHESS RELEASED Rev 1 ESS-5855067 CHESS RELEASED Rev 1 ESS-5855071 CHESS RELEASED Rev 1	ODIN Cave SAT 1. Mirrotron • Sliding door ESS-5551597. Quality inspection ODIN sliding door ESS-5551596. Site Acceptance Test ESS-5551613. Final SAT documentation. ESS-5626797. Updated as built dose map calculations for closed ODIN Cave sliding door • Base slab: ESS-5851533 • Walls SAT: ESS-5851534 1. C3C and TLC • Roof bottom blocks • Beam stop • ODIN Cave railings ESS-5637663. ODIN Final installation (Roof-Stair-Rail). QC ESS.	ESS-5551597 CHESS RELEASED Rev 1 ESS-5551596. CHESS RELEASED Rev 1 ESS-5551613. CHESS RELEASED Rev 1 ESS-5626797. CHESS RELEASED Rev 1 ESS-5851533 CHESS RELEASED Rev 1 ESS-5851534 CHESS RELEASED Rev 1 ESS-5637663. CHESS RELEASED Rev 1		

Examples from Integrated Tests

ODIN Integrated Tests

VACUUM

No Integrated Test needed by instrument

Verification and Validation report was issued: All passed

EUROPEAN SPALLATION SOURCE

Document Type	Verification Report
Document Number	ESS-5726982
Date	Jun 17, 2025
Revision	1 (2/2)
State	Preliminary
Confidentiality Level	Internal
Page	1 (15)

VERIFICATION AND VALIDATION REPORT FOR ODIN VACUUM CONTROL SYSTEM

	Name	Role/Title
Owner	Hilko Spoelstra	Vacuum Control System Engineer
Reviewer	André Bengtsson	Automation Engineer, Hardware & integration, ICS
Approver	Laurence Page	Vacuum System Engineer

Document Type	Verification Report
Document Number	ESS-5548852
Revision	1 (2/2)
Date	Jun 17, 2025
State	Preliminary
Confidentiality Level	Internal

7.8. Test case ODIN-VacInstr:Vac-VPDP-018

Primary Pump	ODIN-VacInstr:Vac-VPDP-018			
Test				OK
25.1	Check the cable number on both sides of the cables		6LB050384	✓
			6LC050385	✓
25.2	Check the interlock preventing the pump to start	No interlock configured		✓
25.3	Check the start/stop functionality of the pump and compare with the OPI for:			
25.4		Pump	OPI	
	Pump Off	✓	✓	✓
	Pump Accelerating	✓	✓	✓
	Pump On	✓	✓	✓
25.5	Check that the status of the pump is archived			✓

7.9. Test case ODIN-VacInstr:Vac-VPDP-021

Primary Pump	ODIN-VacInstr:Vac-VPDP-021			
Test				OK
26.1	Check the cable number on both sides of the cables		6LB050386	✓
			6LC050387	✓
26.2	Check the interlock preventing the pump to start	No interlock configured		✓
26.3	Check the start/stop functionality of the pump and compare with the OPI for:			
26.4		Pump	OPI	
	Pump Off	✓	✓	✓
	Pump Accelerating	✓	✓	✓
	Pump On	✓	✓	✓
26.5	Check that the status of the pump is archived			✓

ODIN Integrated Tests

CHOPPER SYSTEM

EUROPEAN SPALLATION SOURCE

Document Type	Integration Report
Document Number	ESS-5849588
Date	Nov 11, 2025
Revision	1
State	Released
Confidentiality Level	Internal
Page	1 (21)

ODIN INTEGRATED TEST REPORT - CHOPPER SYSTEM

	Name	Role/Title
Owner	Aureliano Tartaglione	ODIN Instrument Scientist
Author	Robin Woracek	ODIN Instrument Scientist
Reviewer	Markus Olsson	Neutron Chopper Group
	Nikolaos Tsapatsaris	Neutron Chopper Group Leader
	Jonas Petersson	Data Acquisition Software Engineer (EC/DC)
	Federico Rojas	Automation Engineer - Motion Control Neutrons Instruments
	Søren Schmidt	ODIN IDS
	Ruben Martinez Garcia	MCA Engineer
Approver	Mikhail Feygenson	Head of Diffraction and Imaging Division

TEST CASE(S) TO BE PERFORMED	SUMMARY FINDINGS				
	Pass	Fail	NA	Signature	Date
1. Band Pass Choppers	☒	☐	☐	Robin Woracek	29.10.2025
Comments:					
2. Wavelength Frame Multiplication Choppers 1 and 2 (WFMC1 and WFMC2)	☒	☐	☐	Robin Woracek	29.10.2025
Comments:					
3. FOC1 – FOC 5 chopper	☒	☐	☐	Robin Woracek	29.10.2025
Comments:					
4. Operate all nine choppers simultaneously	☒	☐	☐	Robin Woracek	29.10.2025
Comments:					
5. Data acquisition	☒	☐	☐	Robin Woracek	29.10.2025
Comments:					
6. Data Visualization	☒	☐	☐	Robin Woracek	29.10.2025
Comments:					
7. Documentation	☒	☐	☐	Robin Woracek	29.10.2025
Comments:					

ODIN Integrated Tests

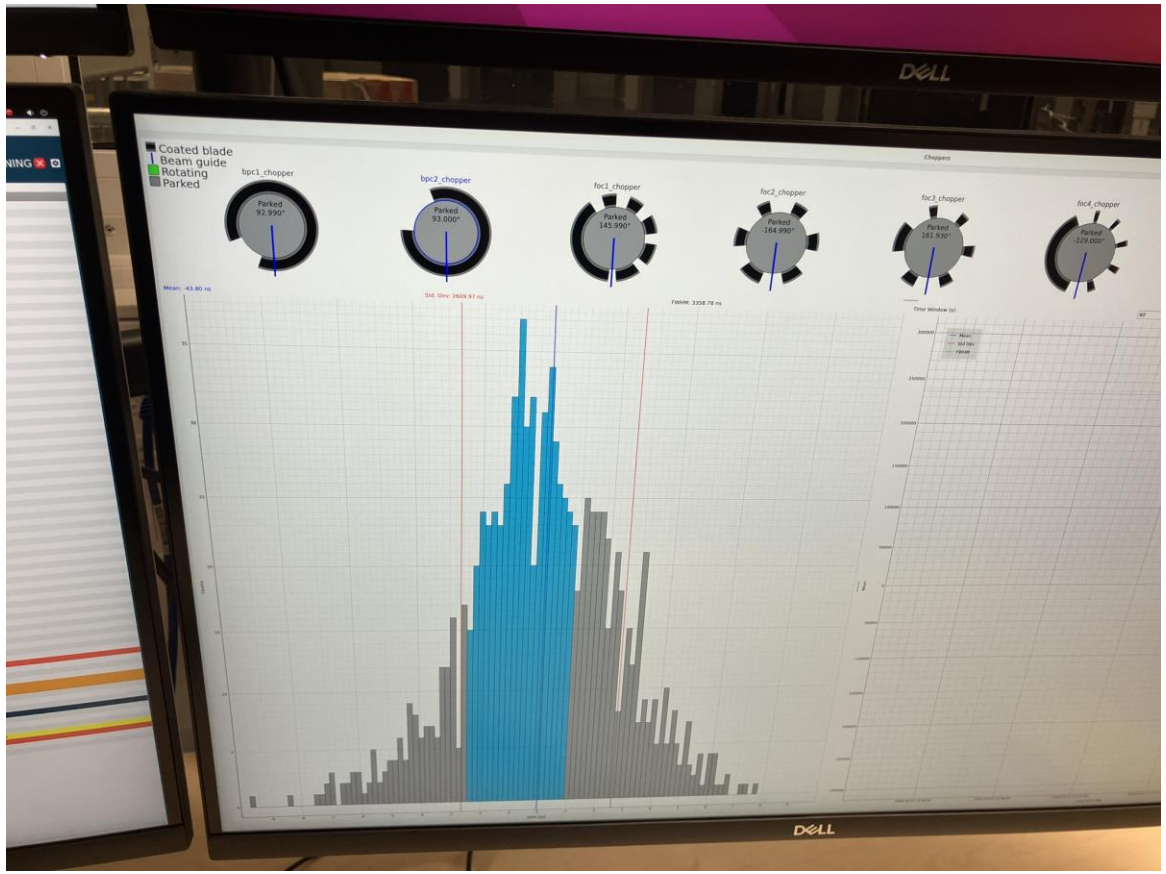
CHOPPER SYSTEM

LIST OF EQUIPMENT TO BE TESTED	
SIGNATURE:	
DATE:	

1. =ESS.NSS.H01.ODIN.A01.R01 – Chopper System
2. =ESS.NSS.H01.ODIN.A01.R01.R01 – Chopper System – Bunker 1 Chopper System
3. =ESS.NSS.H01.ODIN.A01.R01.R01.K01 – Control System – Bunker 1 Chopper Control System
4. =ESS.NSS.H01.ODIN.A01.R01.R01 – Chopper System – Bunker 1 Chopper System
5. =ESS.NSS.H01.ODIN.A01.R01.R01.K01 – Control System – Bunker 1 Chopper Control System
6. =ESS.NSS.H01.ODIN.A01.R01.R01.R01 – Chopper System – Bunker 1 WFMC Mechanical Assembly
7. =ESS.NSS.H01.ODIN.A01.R01.R01.R02 – Chopper System – Bunker 1 FOC-BPC-100 Mechanical Assembly
8. =ESS.NSS.H01.ODIN.A01.R01.R01.UH01 – Instrumentation and Control Cabinet – Bunker 1 Chopper System Control Cabinet
9. =ESS.NSS.H01.ODIN.A01.R01.R02 – Chopper System – Bunker 2 Chopper System
10. =ESS.NSS.H01.ODIN.A01.R01.R02.K01 – Control System – Bunker 2 Chopper Control System
11. =ESS.NSS.H01.ODIN.A01.R01.R02.R01 – Chopper System – Bunker 2 FOC-BPC-200 Mechanical Assembly
12. =ESS.NSS.H01.ODIN.A01.R01.R02.R02 – Chopper System – Bunker 2 FOC-300 Mechanical Assembly
13. =ESS.NSS.H01.ODIN.A01.R01.R02.R03 – Chopper System – Bunker 2 FOC-400 Mechanical Assembly
14. =ESS.NSS.H01.ODIN.A01.R01.R02.UH01 – Instrumentation and Control Cabinet – Bunker 2 Chopper System Control Cabinet

ODIN Integrated Tests

CHOPPER SYSTEM



ODIN Integrated Tests

CHOPPER SYSTEM

ITEM	DESCRIPTION	CATEGORY	RESPONSIBLE	COMPLETION DATE
2.5	Fact that choppers sometimes did not respond from NICOS and needed to repeat command to be stress-tested: This was fixed during the test and seemed to work. No real impact on mots pressing functionality for HC, should be tracked by NIT.	d	Markus Olsen	Nov 2025
0	Chopper direction and phase to be agreed between McStas and NICOS: Cannot be tested in this plan. A meeting has been held and discussions ongoing.	d	Robin Woracek	Nov 2025

-> tracked via NIT

ODIN Integrated Tests

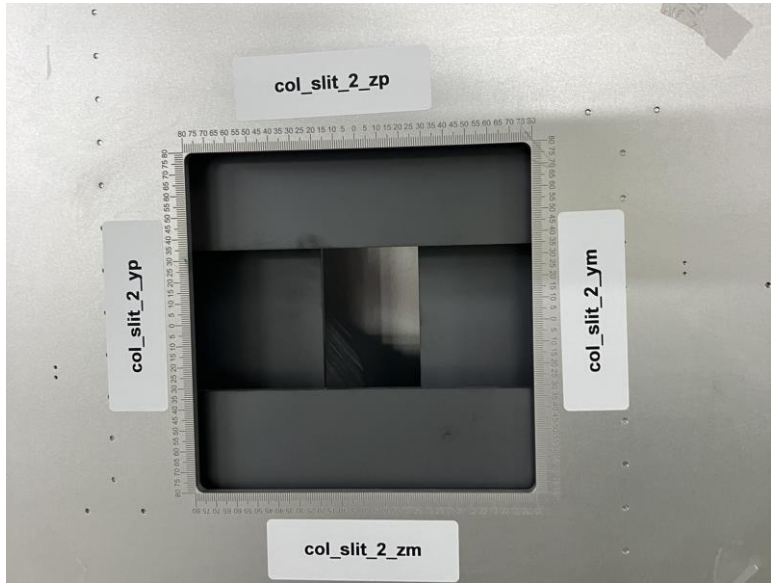
BEAM GEOMETRY CONDITIONG

EUROPEAN SPALLATION SOURCE

Document Type	Integration Report
Document Number	ESS-5849593
Date	Dec 3, 2025
Revision	1
State	Released
Confidentiality Level	Internal
Page	1 (17)

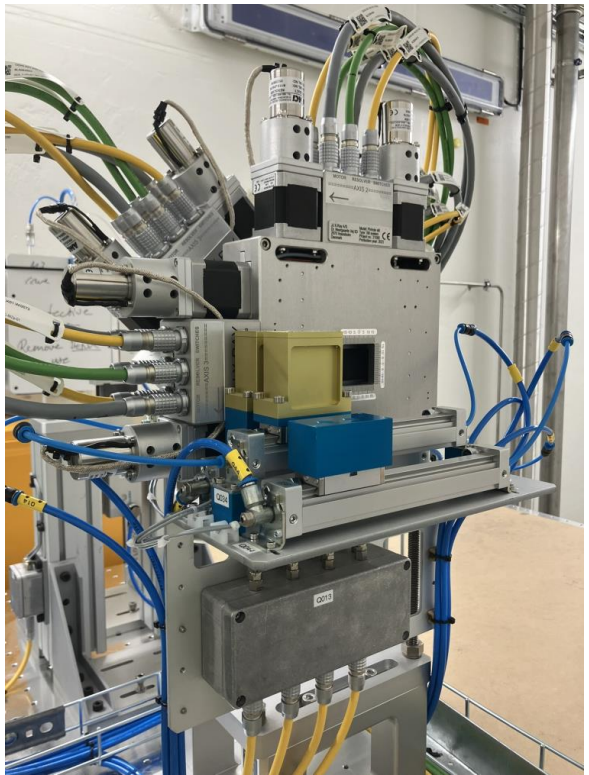
ODIN INTEGRATED TEST REPORT – BEAM GEOMETRY CONDITIONG

	Name	Role/Title
Owner	Robin Woracek	Instrument scientist (ESS)
Author	Aureliano Tartaglione	Instrument scientist (TUM
Reviewer	Jonas Petersson Federico Rojas Vincent Hardion Thomas Gahl Ruben Martinez Garcia Richard Ammer	EC/DC motion control engineer MCA motion control engineer EC/DC group leader MCA group leader MCA motion control engineer ODIN IOE
Approver	Mikhail Feygenson	Head of Diffraction and Imaging Division



Beam Limiters

‘Pinhole’ slits



ODIN Integrated Tests

BEAM GEOMETRY CONDITIONG

LIST OF EQUIPMENT TO BE TESTED	
SIGNATURE:	
DATE:	
1. ESS.NSS.H01.ODIN.A01.R02.R01.R01 – Pinhole Slit Set 1	
2. ESS.NSS.H01.ODIN.A01.R02.R01.R02 – Pinhole Slit Set 2	
3. ESS.NSS.H01.ODIN.A01.R02.R02.R01 – Beam Limiter Slit Set 1	
4. ESS.NSS.H01.ODIN.A01.R02.R02.R02 - Beam Limiter Slit Set 2	
5. ESS.NSS.H01.ODIN.A01.R02.R02.R03 - Beam Limiter Slit Set 3	

ODIN Integrated Tests

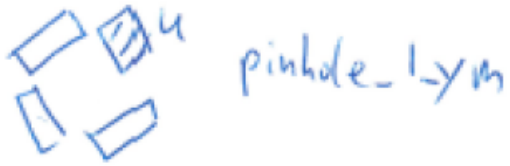
BEAM GEOMETRY CONDITIONG

2.7 Verify that the positioning readback values of the right and left blade of Pinhole Slit Set 1 and slit positioning set values can be monitored and shown in NICOS

☐N/A ☒Pass ☐Fail ☐Remark:

2.8 Verify that the upper blade of Pinhole Slit Set 1 can be independently controlled via NICOS from the hutch

☐N/A ☒Pass ☐Fail ☐Remark:



2.9 Verify that the TwinCAT motion limits for Pinhole Slit 1 upper blade can be read in NICOS

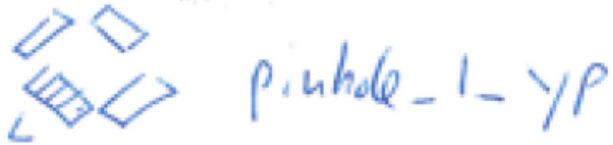
☐N/A ☒Pass ☐Fail ☐Remark:

2.10 Verify that referencing/homing the Pinhole Slit Set 1 upper blade from NICOS is possible and the axis homing status is accessible.

☐N/A ☒Pass ☐Fail ☐Remark:

2.11 Verify that the lower blade of Pinhole Slit Set 1 can be independently controlled via NICOS from the hutch

☐N/A ☒Pass ☐Fail ☐Remark:



ODIN Integrated Tests

BEAM GEOMETRY CONDITIONG

ITEM	DESCRIPTION	CATEGORY	RESPONSIBLE	COMPLETION DATE
1	3.2 Models still "preliminary" in EPL. Process of being "Released" by the moment of the Integrated Test is "Ongoing".	d	NSS Technical Projects Group	Dec 15th 2025

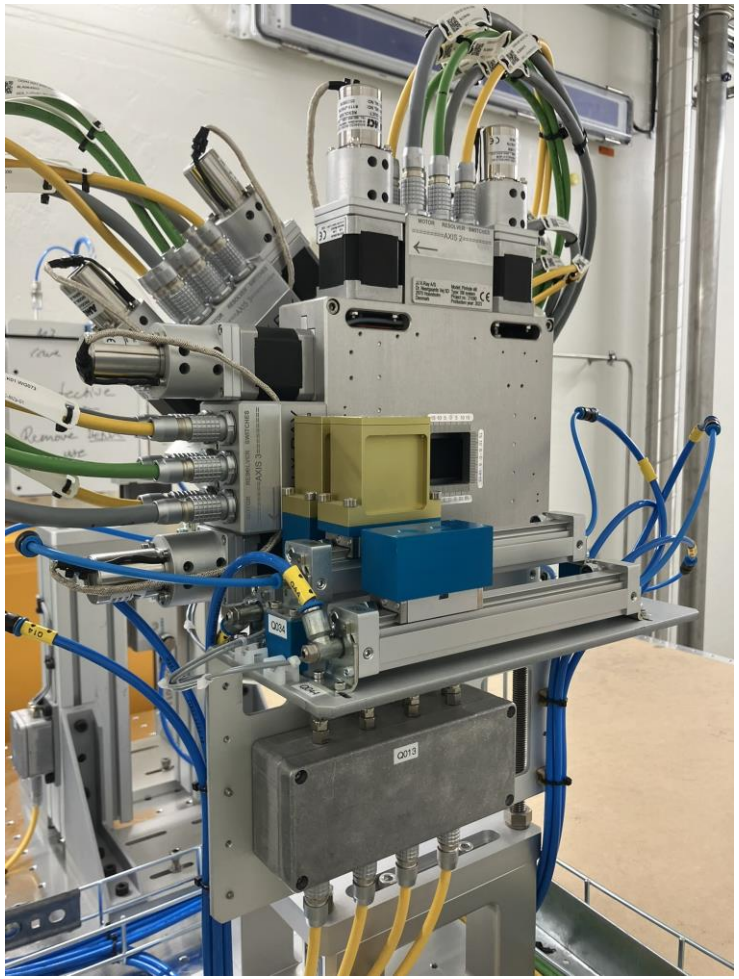
-> tracked via NIT

ODIN Integrated Tests

BEAM FILTERING SYSTEM

EUROPEAN SPALLATION SOURCE

Document Type	Integration Report
Document Number	ESS-5849592
Date	Dec 3, 2025
Revision	1
State	Released
Confidentiality Level	Internal
Page	1 (9)



ODIN INTEGRATED TEST REPORT – BEAM FILTERING SYSTEM

	Name	Role/Title
Owner	Robin Woracek	Instrument scientist (ESS)
Reviewer	Jonas Petersson Federico Rojas Vincent Hardion Thomas Gahl Ruben Martinez Garcia Richard Ammer	EC/DC motion control engineer MCA motion control engineer EC/DC group leader MCA group leader MCA motion control engineer ODIN IOE
Approver	Mikhail Feygenson	Head of Diffraction and Imaging Division

ODIN Integrated Tests

BEAM FILTERING SYSTEM

LIST OF EQUIPMENT TO BE TESTED	
SIGNATURE:	
DATE:	
1. ESS.NSS.H01.ODIN.K01.K02 - ODIN Motion Control 2 (Optical Cave)	
2. ESS.NSS.H01.ODIN.K01.K02.Q01 - Pneumatics Box for Motion Control	
3. ESS.NSS.H01.ODIN.A01.R04.R01.W01 - Filter In-Beam Positioning System	
4. ESS.NSS.H01.ODIN.A01.R03.R03 - Experiment Shutter	
5. ESS.NSS.H01.ODIN.A01.R04.R01.V01 – Graphite Diffuser	
6. ESS.NSS.H01.ODIN.A01.R04.R01.V02 – Neutron Filter Blade 1	
7. ESS.NSS.H01.ODIN.A01.R04.R01.V03 - Neutron Filter Blade 2	
8. ESS.NSS.H01.ODIN.A01.R04.R01.V04 - Neutron Filter Blade 3	

ODIN Integrated Tests

BEAM FILTERING SYSTEM

ITEM	DESCRIPTION	CATEGORY	RESPONSIBLE	COMPLETION DATE
1	3.2 Models still "preliminary" in EPL. Process of being "Released" by the moment of the Integrated Test is "Ongoing".	d	NSS Technical Projects Group	Dec 15th 2025
2	For Hot Commissioning would be nice to have an improved naming convention of the filters axis in NICOS	e	ECDC	March 2026

-> tracked via NIT

ODIN Integrated Tests

BEAM MONITORS

EUROPEAN SPALLATION SOURCE

Document Type	Integration Report
Document Number	ESS-5849585
Date	Dec 1, 2025
Revision	1
State	Released
Confidentiality Level	Internal
Page	1 (8)

ODIN INTEGRATED TEST REPORT – BEAM MONITORS

	Name	Role/Title
Owner	Aureliano Tartaglione	ODIN Instrument Scientist
Author	Robin Woracek	ODIN Instrument Scientist
Reviewer	Søren Schmidt	ODIN IDS
	Ioannis Katsioulas	Beam monitors WP manager (Detector Group)
	Kevin Fissum	Detector Group Leader
	Vincent Hardion	ECDC Group Leader
	Torbjörn Grahm	FPGA Team Leader and SONDE Detector Readout Group Leader
	Tibor Bukovics	ICS WP12 engineer
	Douglas Araujo	DMSC EFU Lead
	Morten Jags Christensen	Detector Group - Test Engineer
	Roy Andersson	EC/DC EFU engineer
	Jonas Petersson	EC/DC NICOS engineer
	Nicklas Holmberg	ICS WP12 manager
Approver	Mikhail Feygenson	Head of Diffraction and Imaging Division

ODIN Integrated Tests

BEAM MONITORS

ITEM	DESCRIPTION	CATEGORY	RESPONSIBLE	COMPLETION DATE
1.4	Missing cable tags with FBS number	d	Detector Group	
2.6	Check that the monitor rack crate UPS voltage can be read out in EPICS, for monitor racks 1, 2 and 3. Already a ECDC ticket: ECDC-4248	d	ICS, ECDC	
2.7	Check that the RMM can be power cycled remotely, via the connection to the PDU. Already a ECDC ticket: ECDC-4248	d	ICS, ECDC	
4				

-> tracked via NIT

ODIN Integrated Tests

SAMPLE AND CAMERAS POSITIONING SYSTEM

EUROPEAN SPALLATION SOURCE

Document Type	Integration Report
Document Number	ESS-5849575
Date	Dec 10, 2025
Revision	1
State	Released
Confidentiality Level	Internal
Page	1 (18)

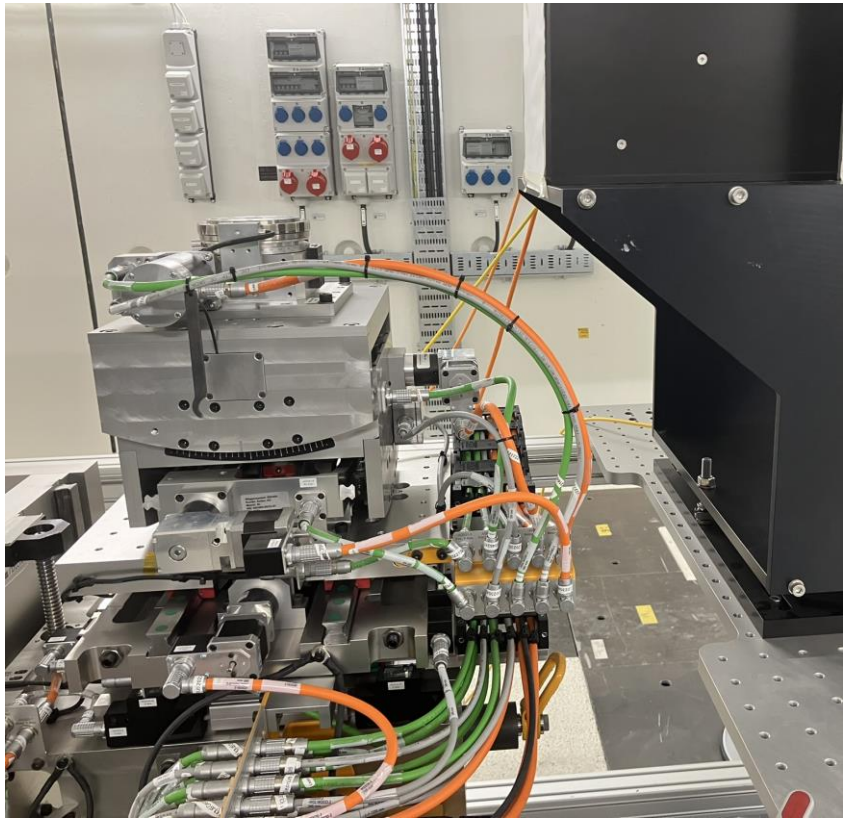
ODIN INTEGRATED TEST REPORT – SAMPLE AND CAMERAS POSITIONING SYSTEM

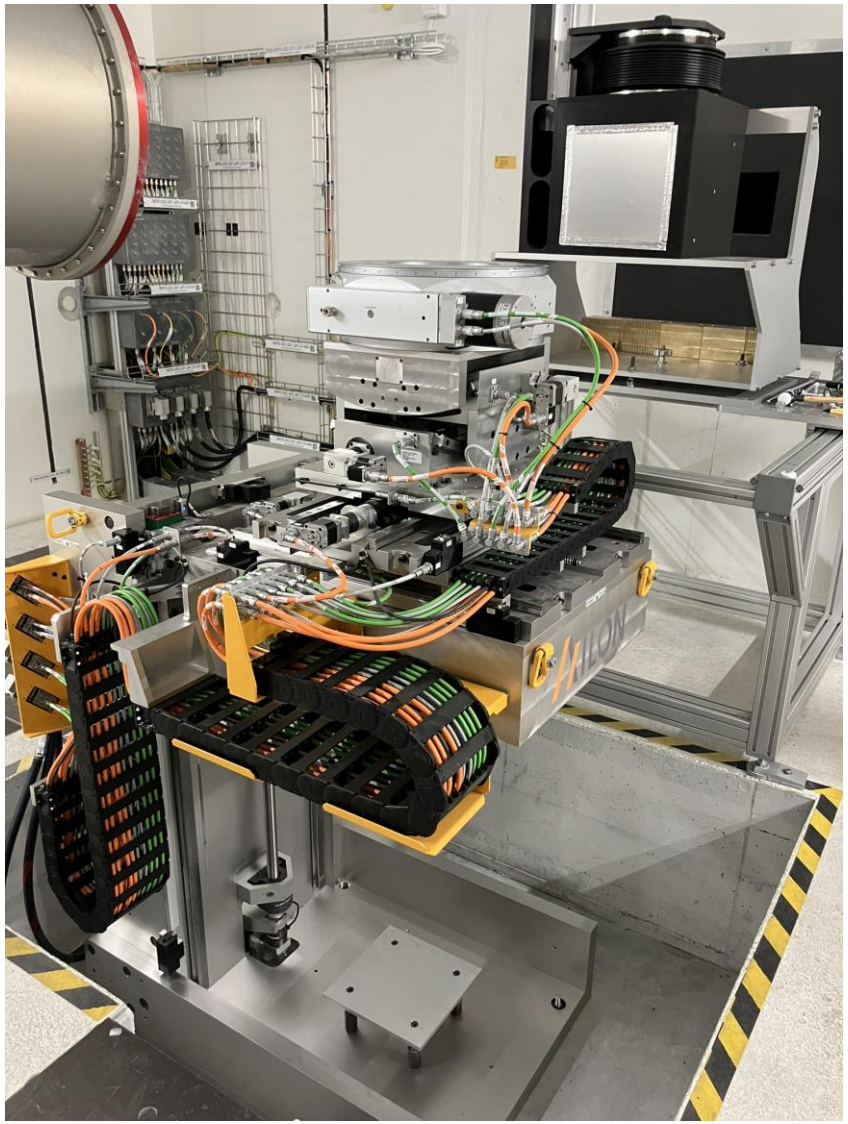
	Name	Role/Title
Owner	Robin Woracek	Instrument scientist (ESS)
Author	Aureliano Tartaglione	Instrument scientist (TUM
Reviewer	Jonas Petersson Federico Rojas Vincent Hardion Thomas Gahl Ruben Martinez Garcia Richard Ammer Robin Woracek	EC/DC motion control engineer MCA motion control engineer EC/DC group leader MCA group leader MCA motion control engineer ODIN IOE Instrument scientist (ESS)
Approver	Mikhail Feygenson	Head of Diffraction and Imaging Division

1.	ESS.NSS.H01.ODIN.A02.W01.W01: Large Sample Stage
2.	ESS.NSS.H01.ODIN.A02.W01.W02: Small Sample Stage
3.	ESS.NSS.H01.ODIN.A02.W01.W03.W01: Ancillary Stage 1 (Linear stage 1)
4.	ESS.NSS.H01.ODIN.A02.W01.W03.W02: Ancillary Stages 2 (Linear stage 2)
5.	ESS.NSS.H01.ODIN.A02.W01.W03.W03: Ancillary Stages 3 (Goniometer)
6.	ESS.NSS.H01.ODIN.A02.W01.W03.W04: Ancillary Stages 4 (Rotary stage)
7.	ESS.NSS.H01.ODIN.B01.B01.B01.W01: Small Camera Positioning System
8.	ESS.NSS.H01.ODIN.B01.B01.B02.W01: Large Camera Positioning System

ODIN Integrated Tests

SAMPLE AND CAMERAS POSITIONING SYSTEM





ODIN Integrated Tests

SAMPLE AND CAMERAS POSITIONING SYSTEM

Small Sample Stage

2.31 Test that the X axis movement (***SpSt2:MC-LinX-01)*** can be controlled via NICOS from the hutch

☐N/A ☒Pass ☐Fail ☒Remark: write here the NICOS name for SpSt2:MC-LinX-01(.....**spst2_lin_x** .....)

2.32 Test that both X axis positioning readback values from TwinCAT and X axis positioning set values can be monitored in NICOS

☐N/A ☒Pass ☐Fail ☐Remark:

2.33 Confirm that all motor readout values are timestamped and broadcast to Kafka.

☐N/A ☒Pass ☐Fail ☐Remark:

2.34 Confirm that the motor timestamp is synchronized with the global ESS clock to within a time zone

-> several issues were observed during initial testing

-> all of them were fixed within the duration of the test

-> re-assuring for becoming a functional facility *(however the control system 'chain' overall appears a bit fragile and should be stress-tested now)*

ODIN Integrated Tests

SAMPLE AND CAMERAS POSITIONING SYSTEM

PUNCH LIST

Any incomplete work or non-conformities shall be recorded in the SAT2 punch list and categorized as follows:

a) To be cleared on the spot, test to be continue after rectification
b) Ongoing rectification during test
c) Test to be repeated (motivate why)
d) Modifications to be made after test, before the system is shipped to its final location on site
e) Remaining work to be rectified once in its final location on site

Non-conformities need to be registered in the Enterprise Asset Management (EAM) system.

ITEM	DESCRIPTION	CATEGORY	RESPONSIBLE	COMPLETION DATE
1	3.2 Models still "preliminary" in EPL. Process of being "Released" by the moment of the Integrated Test is "Ongoing".	d	NSS Technical Projects Group	Dec 15th 2025
2				

-> tracked via NIT

ODIN Integrated Tests

Time of Flight Detector (LumaCam: Timepix3 camera)

EUROPEAN SPALLATION SOURCE

Document Type	Integration Report
Document Number	ESS-5849590
Date	Nov 7, 2025
Revision	1
State	Released
Confidentiality Level	Internal
Page	1 (12)

ODIN INTEGRATED TEST REPORT – TIMEPIX3 DETECTOR

	Name	Role/Title
Owner	Aureliano Tartaglione	ODIN Instrument Scientist
Author	Thawatchart Chulapakorn Robin Woracek	TBL Instrument Scientist ODIN Instrument Scientist
Reviewer	Irina Stefanescu Vincent Hardion Nicklas Holmberg Torben Roland Nielsen Søren Schmidt	Detector Scientist ECDC Group Leader ICS WP12 Manager Group Leader for DRAM ODIN IDS
Approver	Mikhail Feygenson	Head of Diffraction and Imaging Division

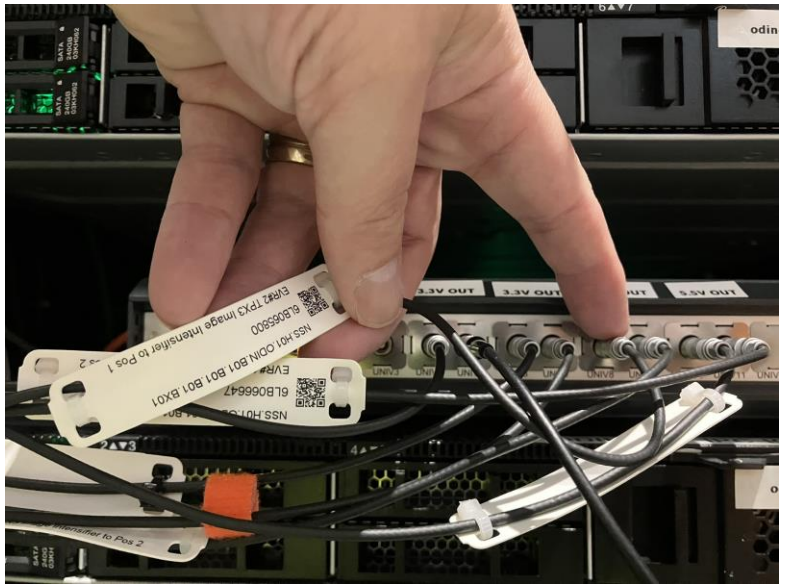
ODIN Integrated Tests

Time of Flight Detector (LumaCam: Timepix3 camera)

LIST OF EQUIPMENT TO BE TESTED	
1) ESS.NSS.H01.ODIN.K02 – Data Management and Analysis System: Data Management & Experiment Control System 2) ESS.NSS.H01.ODIN.K02.K01 – Control System: Experiment Control 3) ESS.NSS.H01.ODIN.K02.K02 – Data Management and Analysis System: Data Curation 4) ESS.NSS.H01.ODIN.K02.K03 – Data Management and Analysis System: Data Reduction 5) ESS.NSS.H01.ODIN.K02.K04 – Data Management and Analysis System: Data Analysis 6) ESS.NSS.H01.ODIN.B01.B01 – Neutron Detector System: Neutron Detector System 7) ESS.NSS.H01.ODIN.B01.B01.B01 – Detector System: TimePix3 Camera 8) ESS.NSS.H01.ODIN.A05.K01 – Timing System 9) ESS.NSS.H01.ODIN.A05.W01 – Electrical Power Distribution System: Neutron Detector Electronics	

ODIN Integrated Tests

Time of Flight Detector (LumaCam: Timepix3 camera)



Thanks for legwork on TBL!

ODIN Integrated Tests

Time of Flight Detector (LumaCam: Timepix3 camera)

ITEM	DESCRIPTION	CATEGORY	RESPONSIBLE	COMPLETION DATE
2.9	The physical mount for the detector needs a new plate, which is under manufacturing at time of test. Needs a follow up when done: NIT. No re-testing needed as this had no impact on the camera test itself.	d	Robin Woracek	Dec 2025
4.4	# of neutron pulses to control detector. Coordination needed between ICS, ECDC and instrument teams. System functioning as is. This is a typical issue that will become clear during HC and is not deemed critical by ODIN team as such.	d	Nicklas Holmberg	Dec 2025
6.1	Live View in ESS Live Data did not allow to change to different histrogram time bins. Report as NIT and follow up. Not hindering functionality of the detector hence no re-testing needed for this report.	d	Soeren Schmidt	Nov 2025
6.2	Normalize by Open Beam in Live View: It is a 'nice-to have'. Not hindering functionality of the detector hence no re-testing needed for this report/	d	Soeren Schmidt	Jan 2026
6.6	The effective pixel size is to be determined from a marker; the procedure on where to enter this info in the metadata is yet to be agreed upon. Report as NIT to track this. Not hindering functionality of the detector hence no re-testing needed for this report.	d	Soeren Schmidt	Nov 2025

-> tracked via NIT

ODIN Integrated Tests

CMOS detector

EUROPEAN SPALLATION SOURCE

Document Type	Integration Report
Document Number	ESS-5849591
Date	Nov 26, 2025
Revision	1
State	Released
Confidentiality Level	Internal
Page	1 (11)

ODIN INTEGRATED TEST REPORT – CMOS DETECTOR

	Name	Role/Title
Owner	Aureliano Tartaglione	ODIN Instrument Scientist
Author	Robin Woracek	ODIN Instrument Scientist
	Richard Ammer	Instrument Operations Engineer for ODIN
	Israa Ali	MCA Engineer
	Marco Filho	Control System Integrator
	Andre de Oliveira Favoto	Control System Integrator
	Douglas Araujo	Control System Integrator
	George Kontogiorgos	Data Acquisition Software Engineer
	Jonas Petersson	Data Acquisition Software Engineer
	Neil Vaytet	Senior Research Software Engineer
	Simon Heybrock	Software Scientist
Reviewer	Irina Stefanescu	Detector Scientist
	Thomas Gahl	MCA Group Leader
	Vincent Hardion	ECDC Group Leader
	Nicklas Holmberg	ICS WP12 Manager
	Søren Schmidt	Senior Instrument Data Scientist for ODIN
	Ruben Martinez Garcia	MCA Group Engineer
	Jonas Petersson	Data Acquisition Software Engineer
Approver	Mikhail Feygenson	Head of Diffraction and Imaging Division

ODIN Integrated Tests

CMOS detector

LIST OF EQUIPMENT TO BE TESTED	
ESS.NSS.H01.ODIN.B01 – Scattering Characterization System	
ESS.NSS.H01.ODIN.B01.B01 – Neutron Detector System	
ESS.NSS.H01.ODIN.B01.B01.BX01– CMOS Camera	
ESS.NSS.H01.ODIN.B01.C01 – Neutron Detector Electronics / DAQ System	
ESS.NSS.H01.ODIN.K02.K04 – Data Analysis	
ESS.NSS.H01.ODIN.A05.K01 – Timing System	
ESS.NSS.H01.ODIN.A05.W01 – Electrical Power & Earthing	
ESS.NSS.H01.ODIN.A04.A01 – Control Hutch	
ESS.NSS.H01.ODIN.B01.B01.B01.W01: Small Camera Positioning System	

ODIN Integrated Tests

CMOS detector

ITEM	DESCRIPTION	CATEGORY	RESPONSIBLE	COMPLETION DATE
2.8, 3	Cable routing and organization require improvement by the ODIN team, resulting in restrictions of test case 3.	d (no re-testing needed for this report: this can be tested and verified independently)	Richard Ammer	Nov 2025
7.2, 7.4	Live view experienced intermittent issues. Functionality to be revisited and verified.	d (no re-testing needed for this report: this can be tested and	Søren Schmidt	Feb 2026
7.5	MTF analysis from resolution mask to be re-evaluated; measured values did not match expected physical parameters.	d (no re-testing needed for this report: this can be tested and verified independently)	Søren Schmidt	Jan 2026

-> tracked via NIT


THANK YOU!
ODIN