

SKA1-MID Continuous Product Integration Flowchart

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TABLE OF CONTENTS

IN	ITRODUCTION	. 3
1.1	Purpose of the Document	3
1.2	Scope of the Document	3
IN	ITEGRATION ENVIRONMENTS	. 3
2.1	SAFe® Software	3
2.2	Prototype System Integration Facility (PSI)	4
2.3	Integration Test Facility (ITF)	6
2.4	On-Site Telescope Array Assemblies	7
Сс	ONTINUOUS INTEGRATION FLOW CHART	. 8
3.1	Products	8
3.2	Integration Schedule	9
3.3	Test Schedule	14
Re	EFERENCES	15
A.1	Applicable Documents	15
A.2	Reference Documents	15
	IN 1.1 1.2 IN 2.1 2.2 2.3 2.4 CC 3.1 3.2 3.3 RE A.1 A.2	INTRODUCTION. 1.1 Purpose of the Document. 1.2 Scope of the Document. INTEGRATION ENVIRONMENTS 2.1 SAFe® Software 2.2 Prototype System Integration Facility (PSI) 2.3 Integration Test Facility (ITF) 2.4 On-Site Telescope Array Assemblies CONTINUOUS INTEGRATION FLOW CHART 3.1 Products 3.2 Integration Schedule 3.3 Test Schedule A.1 Applicable Documents. A.2 Reference Documents.

LIST OF FIGURES

Figure 1: Block Diagram and Interfaces for First System Under Test at the PSI .
Figure 2: Block Diagram and Interfaces for Products at the PSI
Figure 3: Block Diagram and Interfaces for Products at the ITF
Figure 4: Block Diagram and Interfaces for Products at AA0.5 and AA1
Figure 5: Product Versions for Delivery at early Stages
Figure 6: Product Delivery and Integration Schedule Flow for early stages incorporating Integration Events

LIST OF TABLES

Table 1: ICD Interfaces to be Tested	13
Table 2: Test Plan Schedule	14

*	Document Number	SKAO-TEL-00001876	SKAO			
	Revision	01	Author: D. Gammon			
	Date	2021-11-2626		Page 2 of 18		

1 Introduction

1.1 Purpose of the Document

This document describes the products for integration and the stages of integration of these products at the early integration environments for the SKA1-MID Telescope. The process of integration of evolving versions of products at the Prototype System Integration (PSI) Facility, the System Integration Test Facility (ITF) and on to the on-site Array Assemblies, is being planned in the Continuous Integration Flowchart, a snapshot of which is shown in this document.

The master CI-Flowchart Spreadsheet is a live document that should be consulted for the most recent information. A snapshot is provided herein and a copy of the spreadsheet provided as Annexure A.

This version is only showing the early stages of integration (up to AA0.5) and serves as an input into the MID AIV Plan.

1.2 Scope of the Document

The document predominantly describes system Level-1 Integration. It describes Hardware and Software Products according to the Work Breakdown Structure for Tier 1 Contractors, delivering Level 2 and Level 3 Products, according to the Product Breakdown Structure (PBS). The early integration environments are SAFe[®], PSI Facility, System ITF and the first on-site Array Assembly, AA0.5.

The document does not show in any detail lower Level-2 and Level-3 integration, the Infrastructure build process or the Dish integration AIV process, which are described in their own plans, for example [RD10] for Dish AIV. These integrations are part of Tier 1 contracts that are not the responsibility of the AIV team.

2 Integration Environments

The are three integration environments that are covered by this document, each of which are described below.

2.1 SAFe[®] Software

The Scaled Agile Framework (SAFe[®]) environment is used by software developers working in Agile Release Train teams to incrementally develop, integrate and test software in an agile, continuous manner. Observation Management and Control (OMC) and Science Data Processing (SDP) software is developed in this environment prior to deployment to a site. The AIV team participates in the 3 monthly Program Increment (PI) cycles to prioritise features required for the Telescope.



Document NumberSKAO-TEL-00001876UNRESTRICTEDRevision01Date2021-11-2626

The virtual software integration platform is referred to as SKAMPI (SKA Minimum Viable Product Integration) which is used to facilitate software deployment to all environments.

2.2 Prototype System Integration Facility (PSI)

The MID PSI is a laboratory environment facility and is associated with the CSP Correlator/Beamformer (CBF) development. It provides an ad hoc development integration platform for use by the SAFe teams and Product Contractors to perform early prototype software and hardware integration as part of their development work. The PSI may also be used as a platform to perform supplier and FAT tests, using interfaces provided by other validated prototypes or emulators. It is expected that the PSI will largely be run by the CSP integrator and the SKAO software team. Refer to the PSI General Framework document, [RD21][RD21].

Although not part of the formal system AIV process, planned prototype product integrations at the PSI are shown in this document to ensure that there are no gaps in the system integration process. As part of the Services Agile Release Train, the MID-AIV SAFe[®] team, Atlas, has been defining the first system integration and tests at the PSI for the period PI13 to PI15. This is shown in the <u>PSI MID System</u> <u>Integration Test 1</u> Confluence page, [RD22]. The first system under test and interfaces for this is shown in Figure 1.



Figure 1: Block Diagram and Interfaces for First System Under Test at the PSI

The block diagram for a possible complete PSI system under test is shown in Figure 2.

*	Document Number	SKAO-TEL-00001876	UNRESTRICTED	SKAO				
*	Revision	01		Author: D. Gammon				
	Date	2021-11-2626		Page 5 of 18				



Figure 2: Block Diagram and Interfaces for Products at the PSI

The numbers in cricles show interface numbers referrred to in Table 1.

2.3 Integration Test Facility (ITF)

The MID ITF is a laboratory environment facility located in Cape Town where a representative line up of Telescope products is to be assembled. This allows integration and interface testing and a degree of system level testing and verification to be performed, prior to deployment of the actual site products to the remote Karoo Telescope site. This allows easier and earlier identification of issues in a user friendly environment.

Refer to [RD19] [RD19] for the ITF Establishment Plan. Refer to the ITF Test Procedures, [RD13], [RD14] for a prelimary description of Verification Events, Test Equipment and Test Procedures in the ITF. The ITF is also described in the Rollout Plan, [RD5].

The block diagram for the ITF system under test is shown in Figure 3. It is not the intention to send live Dish data from site to the ITF.

*	Document Number	SKAO-TEL-00001876	SKAO				
	Revision	01	Author: D. Gammon				
	Date	2021-11-2626		Page 6 of 18			



Figure 3: Block Diagram and Interfaces for Products at the ITF

2.4 On-Site Telescope Array Assemblies

As described in the Roll-out Plan, [RD5], the on-site Telescope is deployed in a staged process from AA0.5, AA1, AA2, AA3 and AA4, with increasing number of Dishes and modes of operation. This document currently only describes integration for AA0.5.

Refer to the AA1 Test Procedures, [RD15], [RD16] for a prelimary description of Verification Events, Test Equipment and Test Procedures relevant for AA0.5 and AA1.

The block diagram for the AA0.5 and AA1 is shown in Figure 4.

*	Document Number	SKAO-TEL-00001876	UNRESTRICTED	SKAO				
*	Revision	01		Author: D. Gammon				
	Date	2021-11-2626		Page 7 of 18				



Figure 4: Block Diagram and Interfaces for Products at AA0.5 and AA1

3 Continuous Integration Flow Chart

The Continuous Integration Plan is currently in the form of a spreadsheet and continually evolving, [AD1]. It describes integration of hardware and software products according to the Work Breakdown Structure for Tier 1 Contractors delivering Level 2 and Level 3 products, according to the Product Breakdown Structure (PBS). The two main sections are Products and Schedule.

3.1 Products

The Products page provides a description of the evolving versions of each product expected for each stage, with the currently estimated delivery dates expected, as negotiated with product suppliers. This should match the information in the Integrated Product Schedule (IPS) and a constant synchronisation with the IPS is required.

The product versions are shown as V1, V2, V3 etc. and are estimated descriptions of major versions required for each product, showing the deployment location for each . The version numbers do not correspond specifically in order to PSI, ITF AA0.5 locations and differ from product to product.

	Document Number	SKAO-TEL-00001876	SKAO			
*	Revision	Author: D. Gammon				
	Date	2021-11-2626		Page 8 of 18		

Colour coding is used to show:

- Red text: Product item supply to be discussed and agreed.
- Orange date text: Critical targeted delivery dates for products that drive the schedule.
- Blue text: Prototype products.
- Brown text: Pre-production products.

Refer to the <u>Product Delivery Issues to be Resolved</u> Confluence page, [RD23] for a list of issues relating to product delivery derived from items marked in red in this sheet.

The current version of the Product Versions sheet is shown in Figure 5. Further detail in hidden columns should be viewed on the spreadsheet.

3.2 Integration Schedule

The Schedule page provides an estimated schedule showing the flow of products for each of the different versions identified, for integration at the PSI, ITF and onsite AA0.5. This is shown in time by year quarters and PIs. The schedule also indicates relevant product factory and site acceptance test points (FAT and SAT). This is provided for information only – the master schedule is the Integrated Project Schedule (IPS), which has been consulted in preparing this document.

Colour coding is used to show:

• Red schedule box: Critical path driving schedule.

Planned Integration Events for testing interfaces between Level-2 and Level-3 products at each location are indicated. Interfaces, as per the existing Element ICDs, to be partially tested at each stage are shown in Table 1. The numbers correspond to interface numbers in the block diagrams.

The current version of the CI Flowhcart is shown on the Schedule sheet is shown in Figure 6.

	Document Number	SKAO-TEL-00001876	UNRESTRICTED	SKAO			
*	Revision	01		Author: D. Gammon			
	Date	2021-11-2626		Page 9 of 18			

		V1			V2			V3		V4				V5		
PRODUCT	Work Package	Festures / Canabilities	Location	Date Required /	Festures / Canabilities	Location	Date Required /	Fastures / Canabilities	Location	Date Required /	Features / Canabilities	Location	Date Required /	Festures / Canabilities	Location	Date Required /
	inde indinider	reactives / oupublicities	Location	PW	reactives / oupublices	Location	PW	reatares reapaonnes	Location	PW		Location	PW	reatines roupabilities	Location	PI#
SAFe SOFTWARE																
OMC Telescope Monitoring & Control (TMC) SW	01.04.02.05	Refer to OMC Roadmap.	SKAMPI	Mar 2021 PI9	Refer to OMC Roadmas: MVP depixed on PSI textwee. Configure and monitor CBF TDC. Than integration tests. Rain integration tests. Index for Broked on Panels for and expanditure for the MAD. S. OMC mathing: format for the to provide that for the one of the format of the top short depixed for the one of the test of the top short depixed for the one of the test of the test of the L. Ordgrated for departure (Integrating Andrewson, the test). Sub-arrays 6. Control Dah Panting / Pointing Model.	SKAMPI	Sept 2021 Pi11	Ader to NUC Readmap: MVP deployed on 2018 Individues. Configue and monitor CBF TDC. Tarranta Cashboard Tarranta Cashboard Ran Indigen to Read on 2018 Reader to Read on 2018 Reader to Read on 2018 Reader to Read and Plant for to De priorities define to Reader and Section 2018 Adviss. To All Cashboard Section 2018 1. Society and readers. Display alorms, health SW & Society and readers. Deplay alorms, health SW & Society and readers. Deplay alorms, health SW & Society and readers. Deplay alores, health SW & Society and readers. Deplay alores, health SW & Society and Planting Deving Model. Cashboard Deplay for Dair Clearly Model.	PSI	January 2022 Pi13	Refer to OMC Roadmap. Refer to RoBost Plan for tat of capabilities for ITF / AGS. OMC campaign bowards the to be prontined: 1. Ourfiguration for observation (Date, CSP GBF SQP VM & FV versions. Display automa, Isability 3. Scripting Interface, programmable GUs 6. Control Dah Pointing / Pointing Model. 7. Calculate Delays per Dish / Delay Model	ना	Sept 2022 PI 15	Refer to DMC Readmap. Refer to DMC Readmap. Refer to Data-da Clare for lat of expetibilities for THF // ALO_5_OMC coatings lowards this to be profraident 1. Configuration for desention (Dial, CSP, SDP) 2. Monitor sensori, alamma. Datapoy alamma, health, 3. Sorphirg refersory, programmable CLIs 4. Logging, anthroling 5. Sobarrang 7. Calculate Design per Dain/ Dataford 8. Control Teal Array Beamforming (breaster).	AA0.5	Feb 2023 P117
OMC Observatory Science Operations (OSO) SW	01.04.02.04	MVP. OET scripting interface	SKAMPI	Mar 2021 PI9	MVP. OET scripting interface. ODT / ODA ability to create and save simple observing scripts and SB definitions. Sensitivity calculator?	SKAMPI	Sept 2021 PI11	MVP. OET scripting interface. ODT / ODA ability to creat and save simple observing scripts and SB definitions. Sensitivity calculator?	PSI	January 2022 P113	OET scripting interface. ODT / ODA ability to create and save simple observing scripts and SB definitions. Sensitivity calculator?	ITF	Sept 2022 PI15	OET scripting interface. ODT / ODA ability to create and save simple observing scripts and SB definitions. Sensitivity calculator?	AA0.5	Feb 2023 PI17
DISH LMC SW	01.04.02.08.02		Qual Dish, SKAMPI	Mar 2021 PI9	Include SPFRx control for PSI	PSI, Qual Dish	PI14	Include SPFRx, DS (emulated), SPF (emulated) control fo PSI	^{If} PSI, Dish	PI15	Include SPFRx, DS (emulated), SPF (emulated) control for ITF	ITF, Dish	PI16		Dish, AA0.5	
MeerKAT Dish LMC SW	01.04.02.08.03															
CSP LMC SW	01.04.02.08.04		SKAMPI	Mar 2021 PI9	Configure and monitor CBF TDC.	PSI	PI13	Configure and monitor CBF TDC.	ITF	P116	Configure and monitor CBF TDC.	AA0.5		Configure and monitor CBF TDC.	AA0.5	
SAT LMC SW	01.04.02.08.05	For STFR FRQ control	ITF			AA0.5										
Network Manager SW	01 04 02 10		AA0 5													
INFRA SA (LMC?) SW	01.04.02.08.01		AA0.5													
SDH&P Science Data Processing (SDP) SW	01.04.01.04	Refer to SDP Roadmap	SKAMPI	Mer 2021 Pi9	Refer to SDP Roadmap for SDP PSI NVF: Demonstration of a minimal SDP system tested in an integration environment capable of faceling contributed by an integration environment capable of faceling contributed by an environment of termention. 1. Basic workflow execution (varing subarray reflaced DB) Single node operation, -4 stationaritidines, -10k charanet DB are written to MS-2. CDP disa altern environmentation for testing DB: disal-termentation for testing DB: disa	SKAMPI / PSI	Sept 2021 P111	V2 and: 1. Individual visibilies auto and cross correlation signal decision actions and activity for generating SKA1 MID 2. Bit State Recalitation for MID Parting 4. Special free addression for MID Parting 4. Special free and continuum batch (office) imaging recarding: Bit State Recalitation for MID Parting 0. Special free addression for MID Parting 0. Special fr	PSI	January 2022 P113	A per Rol-cul Plan ist of capabilities for SDP at ITF: 1. Data viabilities ingest 2. Commissioning and AV support 2. Commissioning and AV support 2. Commissioning and AV support 4. MS format storage for CASA 5. Baa: Th CGM Trapp interface 6. Reat time calibration in support of MID pointing 7. Baaic continuum and spectral line imaging	ना	Nov 2022 PI 16	A parking a second seco	A40.5	Apr 2023 Pi18
Non Imaging Processing																
Pulsar Timing (PST) SW	01.04.01.06															
Pusar Search (PSS) SW	01.04.01.05															
Enabling / Support																
(Hidden below)																
HARDWARE	4	1							-	-						
TM OMC Computing HW	01.02.07.04	PSI server (provided by?)	PSI	Feb 2022 PI13	ITF server (provided by?)	ITF	Oct 2022 PI16	Server	AA0.5, CPF	April 2023 PI18						
SDP Computing HW (Compute & Preservation)	01.02.07.01	PSI server (provided by?)	PSI	Mar 2022 PI13	ITF server (provided by?)	ITF	Nov 2022 PI16	Milli-SDP	AA0.5, CPF	July 2023 PI19						
CSP - integrated by CSP		1			1			+								
Integrator Correlator / Beamformer (CBF) SW, FW & HW	01.02.04.01	Early non functional interface test system, Control and monitoring interface.	PSI	Jan 2022 PI13	Talon Demonstrator Correlator (TDC) MVP, auto- correlator orty?, 200MHz BW, coarse channelisation	PSI	May 2022 PI14	** TDC, 4 input, 200 (possibly 800 MHz) BW, Bands 1 & 2, coarse channelisation (15k channels). Possibly, 1 boresight PST lied array beam, 200MHz BW. Prioritise Band 5 functionality ahead of beam?	ITF	Dec 2022 PI16	1 TDC, 4 input (possibly 8 input?), 200 (possibly 800 MH2) BW, Bands 1 & 2, coarse channelsation (16k channels). Possibly, 1 boresight PST lied array band 200MHz BW. Prioritise Band 5 functionality ahead of beam? (Same as ITF Correlator?).	AA0.5 CPF	Feb 2023 PI17	** TOC, 8 input, 800MHz BW, Band 1 & 2, coarse channelisation (16k channels per freq slice). 1 boresight PST lied array beam, 400 MHz BW. Band 5 support.	AA1 CPF	January 2024
CSP LMC HW	01.02.07.04		PSI			PSI			ITF			AA0.5 CPF				
PST Computing HW	01.02.07.03															
PSS Computing HW	01.02.07.02															



Document NumberSKAO-TEL-00001876UNRESTRICTEDRevision01

SKAO

Author: D. Gammon

Revision Date

2021-11-26

Page 10 of 18

Networks	01 02 01 02 07 082	1	1		1	1				-			1			
Networks Fibre Cabling &	01.02.01.02.07.10	For AA0.5 ODF / patch panel to CBF, TM, SDP,	AA0.5	Jan 2023												
Connectivity in MID CPP (Activity)		Lab version.1 or 2 switches / routers with														
Networks NSDN	01.02.01.02.07.03	network interconnect to TM & SDP servers, LMCs (CSP, Dish). VPN and internet connections for remote access. (Provided by ?) Who Provides PTP?	PSI	Feb 2022	Lab version 1 or 2 switches / robuers with network interconnect to TM & SOP servers, LMCs (CSP, Dish, SAT). VPN and internet connections for remote access. (Provided by Networks Contractor?). Who Provides PTP?	ITF	Sep 2022	Network for Control & Monitoring from TM to LMCs (Dish, CSP SAT, NMGR), SDP. Includes 4 x Dish side installation. Who Provides PTP?	AA0.5 CPF, Dish	Feb 2023						
Networks DDBH	01.02.01.02.07.01															
Networks CPF-SPC (Site to CT)	01.02.01.02.07.04	Link Site to Cape Town. Existing MeerKAT link? Assumes CBF, SDP in CPF.														
Networks NMGR HW	01.02.01.02.07.09	Required for NSDN?	AA0.5	Apr 2023												
SAT - integrated by SAT																
Integrator	01.02.03.0X?				Control on Distribution of the New York Concerning of the New York New York New York New York New York New York											
SAT Timescale (Clocks)	01.02.03.02	(Provided by PSI owner?)	PSI	February 2022	Provided by AIV or Clocks contractor)?	ITF	Oct 2022	First on site clock system using MeerKAT maser.	AA0.5 CPF	Apr 2023						
SAT STFR FRQ	01.02.03.04.01	Signal generator for 4GHz sample clock. (Provided by PSI owner)	PSI	February 2022	Lab version distribution to 2 Digitisers. Possibly just use signal generator, splitter and electrical to optical converter?	ITF	Oct 2022	Lab system distribution to 4 Dishes. RM integrated into Digitisers. With freq offset available. Use fibre reels for distance?	ITF	Jan 2023	** Pre-production system to 4 Dishes. RM integrated into Digitisers.	AA0.5 CPF, Dish	Apr 2023			
SAT STFR UTC	01.02.03.04.02	1PPS from clock.	PSI	February 2022	Lab version to 2 or 4 Digitisers. 1PPS via White Rabbit (if necessary to test) or direct from clock. Use fibre reels for distance? Distribution amplifier	ITF	Oct 2022	White Rabbit 1 PPS to 4 Dishes.	AA0.5 CPF, Dish	Apr 2023						
SAT LMC HW	01.02.07.07		ITF?	Sep 2022		AA0.5	May 2023									
DISH (incl SPFRx) - integrated by	01.02.02.02															
DISH AIV PSC																
		2 x prototype Digitisers and 1 bench top version available from Sep 2021, pre ECP (no integrated freq dist), for sharing. One to	our Disk (1 (or possibly 2) x prototype Sampler and Packetiser,			2 x prototype qualification Sampler and Packetiser, Band			Update 19.11.20, from BL, proposal for contract: 4 pre-production Digitisers to System ITF Jan 2023. 4 more pre-production Digitisers to Dish AIV for AA0.5 May 2023.			Update 19.11.20, from BL, proposal for contract: 4 pre-production Digitisers to Dish AIV for AA0.5 May 2023.		
SPFRx (Digitiser)	01.02.02.02.07	qualification dish, one to Sweden.	Sweden	September 2021	Band 2. Pre-ECP, no integrated freq dist. Sampler to Packetiser fibre inter-connect provided?	PSI	January 2022	2. Post-ECP with integrated freq dist. Sampler to Packetiser fibre inter-connect provided?	ITF	Sep 2022	22.6.21: Delayed to April 2023?	ITF	Apr 2023	22.6.21: Delayed to July 2023?	Dish AA0.5	July 2023
		1 x prototype Sampler and Packetiser, Band 2. Pre-ECP non integrated freq dist.									** 4 x pre-production Sampler and Packetiser, Band 2. Fibre inter-connect?			4 x pre-production Sampler and Packetiser, Band 2, Band 1. Band 5 support.		
Sampler B12(3)	01.02.02.02.07.01	1 x prototype Digitiser, Band 2. Pre-ECP, no integrated freq dist.	Qual Dish / Sweden	September 2021	1 x prototype Digitiser, Band 2. Pre-ECP, no integrated freq dist.	PSI	January 2022	2 x prototype Swedish qualifaction units. Post-ECP with integrated freq dist. Band 2.	ITF	Sep 2022	4 x pre-production Sampler, Band 2.	ITF	Apr 2023	4 x pre-production Sampler, Band 2, Band 1.	Dish AA0.5	July 2023
Sampler B(4)5	01.02.02.02.07.02	Will not be ready. Use analogue down converter to B1 Sampler.	Qual Dish	Feb 2022	Will not be ready.	ITF		Will not be ready. Use analogue down converter to B1 Sampler.	Dish AA0.5	May 2023						
RxPU (Packetiser)	01.02.02.02.07.03	1 x prototype Packetiser, pre ECP, Band 2. Talon.	Qual Dish / Sweden	September 2021	1 x prototype Packetiser, pre ECP, Band 2. Talon.	PSI	January 2022	2 x protoype qualification Packetiser, post ECP, Band 2. Talon.	ITF	Aug 2022	** 4 x pre-production Packetiser, Band 2, Band 1. Talon.	ITF	Feb 2023	** 4 x pre-production Packetiser, Band 2, Band 1. Talon.	Dish AA0.5	May 2023
DISH (excl SPFRx) - integrated and tested by DISH AIV PSC (using DVS)																
DISH LMC HW	01.02.02.02.08	Ongoing with DISH.	Qual Dish, PSI	Nov 2021		ITF	Sep 2022									
Dish Structure (DS)	01.02.02.02.01	MPI Qualification Dish. Ongoing with DISH.	Qual Dish			Dish										
DS Controller / Emulator		DS Controller / Emulator for PSI. To emulate DS states & modes and pointing behaviour (maybe? (provided bv?)) PSI	Apr 2022	DS Controller / Emulator for ITF. To emulate DS states & modes and pointing behaviour. (provided by?)	ITF	Jan 2023									
SPF Band 1	01.02.02.02.02	Prototype qualification version. Ongoing with DISH	Qual Dish			Dish										
SPF Band 2	01.02.02.02.03	Pre-production versions. Ongoing with DISH.	Qual Dish			Dish										
SPF Band (34)5	01.02.02.02.04	Prototype on Qualification Dish	Qual Dish	Jan 2022	2 or 4 x Band 5. Required for high freq Dish / AA0.5	Dish	Mar 2023									
B5 to B1 Analogue Downconverter			Qual Dish	March 2022		Dish	Mar 2023									
SPF Vacuum	01.02.02.02.05	Ongoing with DISH.	Qual Dish			Dish										
SPF Helium (Cryo)	01.02.02.02.06	Ongoing with DISH.	Qual Dish			Dish										
SPF Controller	01.02.02.02.10	Ongoing with DISH.	Qual Dish		PDE Controlles / Emulator for ITE To condate SDE states	Dish										
SPF Controller / Emulator		SPF states & modes (maybe?). (provided by?)	PSI	May 2022	& modes. (provided by?)	ITF	Jan 2023									
Dish Fibre Network	01.02.02.02.09	Ongoing with DISH.	Qual Dish			Dish										
MeerKAT Integration MeerKAT Dish LMC HW	01.02.02.03 01.02.07.04??															
INCOMPTING																
Local Infrasructure (LINFRA)								Fibre, ODF, patch panels etc, for AA0.5 to 4 Dishes.	AA0.5 CPF.							
(for Networks, SAT)	??	Fibre, patch panels etc for PSI (Provided by ?)	PSI	Feb 2022	Fibre, patch panels etc for ITF (Provided by ?)	ITF	Sep 2022	Includes KAPB fibre eg. Correlator to ODF? SAT fibre, ODF patch panels?	Dish	Jan 2023						
Power & Fibre Reticulation	u1.U2.01.02.07.05	At least for AA0.5 Dishes	AA0.5													
Antenna Foundation	01.02.01.02.07.07	At least for AA0.5 Dishes	AA0.5		l											
Weather Stations	01.02.01.02.05.01	At least 1 in core	AA0.5													
Site Power Buiding Management System	01.02.01.02.08.01	Sufficient for AA0.5 array and KAPB	AA0.5, KAPB													

Figure 5: Product Versions for Delivery at early Stages



Document Number SKAO-TEL-00001876 UNRESTRICTED 01

SKAO

Author: D. Gammon

Revision

Date

2021-11-26

Page 11 of 18

SAFA SOFTWARE		Q3 2021	Q4 2021	Q1 2022	!		22 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024
	WDS Number	PI11	PI12	PI13		F	414	P115	Pi16	Pf17	P118	P119	P120	P121
Telescope Manager (TM)														
OMC Telescope Monitoring & Control (TMC) SW (OMC Observatory Science Observations (OSO) SW	01.04.02.05	V2 SKAMPI		V3 PSI	<u> </u>	_		V3 iterations PSI	V4 ITF 0		V5 AA0.5	_		
Unic Observatory Science Operations (030) 3W	01.04.02.04	V2 SROWIFT		VO FOI	1			V3 Iterations P31	V4 IIF		V37000.5			
LMCs														
DISH LMC SW	01.04.02.08.02	V1 Qual Dish				8	/2 PSI, Qual Dish	V3 PSI, Dish 🕴 👳		V3 ITF	V4 AA0.5 0			
CSP LMC SW	01.04.02.08.03	V1 SKAMPI		V2 PSI					V3 ITF		V4 AA0.5 👩			
SAT LMC SW	01.04.02.08.05									V1 ITF	V2 AA0.5 🛛 💡			
NMGR SW	01.04.02.10					-					V1 AA0.5			
Science Data Processing (SDP)	01.04.02.08.01			-		-					V1700.5			
SDH&P Science Data Processing (SDP) SW	01.04.01.04	V2 SKAMPI	9	V3 PSI	1 2			V3 iterations PSI		V4 ITF 🔋		V5 AA0.5 ,		
Non Imaging Processing Dulear Timing (PST) SW	01.04.01.06				+++	-								
Pusar Search (PSS) SW	01.04.01.05					-								
Enabling / Support (Hidden below)					+++	-						11 1		
COMPUTING HARDWARE						-								
TM OMC Computing HW	01.02.07.04			V1 PSI	2				V2 ITF o		V3 AA0.5, CPF 💡			
SDP Computing HW (Compute & Preservation)	01.02.07.01			V1 PSI		9			V2 ITF			V3 AA0.5, CPF		
DS Controller / Emulator						N	/1 PSI 💡			V2 ITF				
SPF Controller / Emulator						Ň	/1 PSI 🦿			V2 ITF				
SKAMPI (SAFe SW Integration Environment)					111	1	19	· · · · ·			, ř	1 X X		
						11								
					ÖÒ	ö.	Ö	***						
					1	-	Integration Events: **	TM - DISH (2)						
PSI						1	TM - DISH (1) TM - SDP	SPFRx - CBF (2) CBE - SDP (2)						
						s	SPFRx - CBF (1)	SPFRx - CBF - SDP						
					1 *	1 1	28F - SDP (1)							
					11	Ħ	11		Að	A A A	SAT FRQ - SPFRx			
									Integration Events	TM - CSP	SAT UTC - SPFRx SPFRx - CBF (2)			
					-				Events:	TM - DISH	SPFRx - CBF - SDP			
ITF					- 11 1				Network: NSDN - TM, SDD, LMC+	TM - SAT	System Verification			
					- 1				SDF, LMCS	SPERx - CBF (1)	Events - See Verif			
					- 1			^			Reds, Test Procedures			
					111			Ŷ	1 î î		Î Ó /		SAT FRQ - SPFRx	
											1 7 ⁻	TM - CSP	SAT UTC - SPFRx	0
											Integration Events:	TM - DISH	SPERx - CBE (2)	System Verification Events
SITE (AA0.5)											Network: NSDN - TM.	TM - SDP	SPF - SPFRx - CBF -	See Verification
											SDP, LMCs	SPERx - CBF (1)	SUP	Requirements, Test Procedures
												CBF - SDP	System Verification	
PRODUCT					1111						7 7 1 1	7 7		
NANDWARE														
CSP - integrated by CSP Integrator (at PSI and on-site?)	01.02.04.01				0		0			QA /	QA			
Correlator / Beamformer (CBF) SW, FW & HW	01.02.04.01			V1 PSI	9		/2 PSI				V4 M0.5. CPF			
CSP - integrated by CSP Integrator (at PSI and on-site?) Correlator / Beamformer (CBF) SW, FW & HW CSP LMC HW CSP LMC HW	01.02.04.01 01.02.04.02 01.02.07.04			V1 PSI (V1 PSI	9	N	/2 PSI //2 PSI		V3 ITF		V4 M0.5, CPF V4 M0.5, CPF			
CSP - Integrated by CSP Integrator (at PSI and on-site?) Correlator / Beamformer (CBF) SW, FW & HW CSP LMC HW PST Computing HW PSS Computing HW	01.02.04.01 01.02.04.02 01.02.07.04 01.02.07.03 01.02.07.02			V1 PSI	9	N	/2 PSI		V3 ITF C	VSIII A	V4 M0.5, CPF V4 M0.5, CPF			
CSP - integrated by CSP integrator (at PSI and on-site?) Correlator / Beanformer (CBF) SW, FW & HW CSP LMC HW PST Computing HW PSS Computing HW	01.02.04.01 01.02.04.02 01.02.07.04 01.02.07.03 01.02.07.02			V1 PSI V1 PSI	9		/2 PSI /2 PSI		V3 ITF C		V4 AAD.5, CPF			
CSP - Integrated by CSP Integrator (at PSI and gn-ski2) Correlator / Beanformer (CBF) SW, FW & HW CSP LMC HW PST Computing HW PST Computing HW Networks Incore Cabling & Competibility in MID CPF	01.02.04.01 01.02.04.02 01.02.07.04 01.02.07.03 01.02.07.02 01.02.07.02 01.02.07.02			V1 PSI V1 PSI			/2 PSI /1		V3 ITF C		V4 AAD 5, CPF		SN deployed onto site bit	N.
CBP - integrated by CSP Integrator (at PSI and constate) Correlator / Beamformer (CBP) SW, FW & HW CSP LMC HW PSI Computing HW PSI Computing HW PSI Computing HW Networks Fire Cabling & Connectivity in MID CPF MetWorks Fire Cabling & Connectivity in MID CPF	01.02.04.01 01.02.04.02 01.02.07.04 01.02.07.03 01.02.07.02 01.02.01.02.07.087 01.02.01.02.07.087 01.02.01.02.07.087 01.02.01.02.07.03			V1 PSI (V1 PSI			12 PSI / 1 12 PSI / 1 12 PSI / 1	V2 ITF	V3 ITF	V1 AA0.5	V4 M0.5, CPF	8	SW deployed onto site Hi Tire 1 Integration by Integ	V
TOP - Invested by CSP Integrator (at PSI and <u>orshaft)</u> Carrelater I Beenfermer (CBF) SW, FW & HW Carpudge HW PSI Computing HW PSI Computing HW Networks PSi Computing AU Networks Networks Fore Cabling & Connectivity in MID CPF MétWorks NSCM Networks DDH	01.02.04.01 01.02.07.04 01.02.07.04 01.02.07.03 01.02.07.02 01.02.01.02.07.087 01.02.01.02.07.10 01.02.01.02.07.03 01.02.01.02.07.01			V1 PSI V1 PSI V1 PSI			/2 PSI / 0 /2 PSI 0	V2 ITF	V3 ITF	VI AA0.5	V4 A46.5' CPF	8	SW deployed onto site M Tier 1 Integration by Integ FAT	V rator
CDP - Imparted by CSP Integrator (dl PSI and orated) Constator / Beandrame (CBP) SW, FW & HW 951 Computing HW 951 Computing HW 955 Computing HW Hetworks Resource For Cabing & Consectivity in MID CPF Methods SCO Methods SCO Methods SCO (SC) (Stella to CT)	01.02.04.01 01.02.04.02 01.02.07.04 01.02.07.03 01.02.07.02 01.02.07.02 01.02.01.02.07.08 01.02.01.02.07.08 01.02.01.02.07.03 01.02.01.02.07.03 01.02.01.02.07.01 01.02.01.02.07.04		VI	V1 PSI V1 PSI V1 PSI			/2 PSI / 0	V2 ITF	V3 ITF	VI AAO.5 VI AAO.5 OPF, Dish	V4 AV6 5, CPF	8	SW deployed onto sile M Tier 1 Integration by Integ FAT SAT	V rator
COP - Invegred by CSP Integrator (d PSI and ost80) Cornstator / Beamformer (CBF) SW, FW & HW PSI Concepting HW PSI Concepting HW PSI Concepting HW Networks FXP Cabing & Convectivity in MID CPF Metworks TXP Cabing & Convectivity in MID CPF Metworks CDBH Networks CPF (Set to C1) Networks MAGR HW	01.02.04.01 01.02.04.02 01.02.07.04 01.02.07.03 01.02.07.02 01.02.07.02 01.02.07.02 01.02.07.03 01.02.07.03 01.02.07.03 01.02.07.03 01.02.07.03 01.02.07.04 01.02.01.02.07.09		V1	V1 PSI V1 PSI V1 PSI			/2 PSI //3 /2 PSI //3	V2 ITF		VI AAO.5 CPP ⁴ , Dish	V4 445, CPF V4 445, CPF	8	SW deployed onto site M Tier 1 Integration by Integ FAT SAT Inspection on site and/or	V rator SAT (COTS products)
CBP - Integrated by CBP Integrator (al PSI and contain) Correlator Beamformer (CBP) SW, FW & HW OST Computing HW PSI Computing HW Hetworks Fare Cabling & Correctivity in MID CPF HetWorks Carl Corr SPC (Site Iso C1) HetWorks MCR HW SAT - Integrated by SAT Integrator (on-alta)	01 02.04.01 01 02.04.02 01 02.07.04 01 02.07.04 01 02.07.03 01 02.07.02 01 02.07.02 01 02.01.02.07.087 01 02.01.02.07.03 01 02.01.02.07.04 01 02.01.02.07.09 01 02.03.0X7		V1	V1 PSI V1 PSI V1 PSI			/2 PSI // 2 PSI	V2 ITF	V3 ITF 0	V1 AA0.5	V4 AMD 5, CPF	8	SW deployed orto sile H Tier 1 Integration by Integ FAT SAT Impection on sile and/or	V rator SAT (COTS products)
CBP - Minepared by CSP Medgeator (at PSI and constant) Constant CBeandcame (CBF) SW, FW & HW CSE LUC HW PSI Computing HW PSI Computing HW PSI Computing HW Networks Psicross File Cabing & Connectivity in MID CPF Metworks TSP Cabing & Connectivity in MID CPF Metworks CDBH Networks CDBH Networks CDBH Networks CDBH Networks CDBH Networks NMCR'HW SAT - Integrated by SAT Integrator (on-site) SAT Timescale (Cocks)	01 02 04 01 01 02 04 02 01 02 07 04 01 02 07 04 01 02 07 03 01 02 07 02 01 02 07 08 01 02 07 08 01 02 01 02 07 08 01 02 03 08 01 02 01 02 07 01 02 01 02 07 01 02 00 01 00 01 02 00 01 00		VI	V1 PSI V1 PSI V1 PSI V1 PSI			2 PSI 4	V2/IF		уйтг А Ууйтг А Уулаад Сребрын	Vi Avi S. CPF	8	SW deployed orto site H Tier 1 Integration by Integ FAT SAT Impection on site and/or	V rator SAT (COTS products)
CDP - Integrated by CSP Integrator (al PSI and contails?) Correlator Beamformer (CBP) SW, FW & HW OFI Computing HW PSI Computing HW PSI Computing HW Hearonts CBMC Staffy & Connectivity in MID CPF MetWorks FASION Hearonts ALSON Hearonts MCM CPF SPC (Se to CT) Hearonts ALSON Hearonts MCM Hearont SMCM Hearont SMCM SAT - Integrated by SAT Integrator (on-alte) SAT 15TRF PQ	01 02 04 01 01 02 04 02 01 02 07 04 01 02 07 04 01 02 07 04 01 02 07 03 01 02 07 03 01 02 07 03 01 02 01 02 07 087 01 02 01 02 07 087 01 02 01 02 07 03 01 02 01 02 07 03 01 02 01 02 07 09 01 02 00 007 01 02 03 07 01 02 03 07 01 02 03 07		VI	V1 PSI (V1 PSI) V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI (V1 PSI)			2PSi 4	V2 ITF	Varre v		VI AVD 5	8	SW deployed onto site M Ter 1 Integration by Integ FAT SAT Impection on site and/or	V rator SAT (COTS products)
CDP - Integrated by CDP Integrator (at PSI and orated) Correlator (CDP) SW, FW & HW OSE LUC HW PSI Computing HW PSI Computing HW Networks Research Face Cabling & Connectitivity in MID CPF MetWorks Accom Networks FCPS (bit is c CT) Networks Correct Networks Accom Networks Correct Networks Accom Networks Correct Networks Accom Networks Correct Networks Accom Networks Correct Networks Accom Networks Accom Networks Accom Networks Accom Networks Accom Networks Networks Statistics Accompany Statistics Accompany Statistics Accompany Networks Accompany Networks Accompany Networks Accompany Networks Accompany Networks Accompany Networks Networks Statistics Accompany Networks Net	01.02.04.01 01.02.04.02 01.02.07.04 01.02.07.03 01.02.07.03 01.02.07.02 01.02.07.02 01.02.07.02 01.02.07.02 01.02.07.02 01.02.07.02 01.02.07.04 01.02.07.07 01.02.03.02 01.02.03.02 01.02.03.02 01.02.03.02 01.02.03.02 01.02.03.02 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 01.02.03.04 02.04 01.02.03.04 02.04 01.02.05 01.02.05 01.02.05 01.02.05 01.02.05 01.02.05 01.02.05 01.02.05 01.02.05 01.02.05 01.02.07 01.02.05 01.02.07 01.02.05 01.02.07 01.02.05 01.02.07 01.02.03 01.02.07 01.02.03 01.02.07 01.02.03 02.03 02.0		VI	V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI			/2 PSI 0	V2 ITF		VI AAD 5 CPP Den V3 AAD 5 CPP Den V3 AAD 5 CPP Den	VI AND 5. CPF VI AND 5. CPF. CPM	8	SW deployed onto site M Ter 1 Integration by Integ FAT SAT Impection on site and/or	V rator SAT (COTS products)
CDP - Integrated by CBP Integrator (# PB and order) Correlator (Bambone (CBP) SW, PW & HW OPT Computing HW 2015 Computing HW 2015 Computing HW 2015 Computing HW Networks The Cabling & Connectinity in MID CPP Networks Cabling & Connectinity in MID CPP Networks CABLING (Seles Is CT) Heritorias CACH HW SAT - Integrated by SAT Integrator (on-elie) SAT Times (CACH) SAT STEPL (CASH) SAT STEPL (CASH)	01 02 04 01 01 02 04 02 01 02 07 04 01 02 07 04 01 02 07 03 01 02 07 03 01 02 07 03 01 02 07 03 01 02 01 02 07 087 01 02 01 02 07 087 01 02 01 02 07 087 01 02 01 02 07 09 01 02 03 07 04 01 02 03 087 01 02 03 04 01 01 02 03 04 01 01 02 03 07 01 02 03 04 01 01 02 03 04 01 01 02 03 04 02 01 02 05 05 01 02 05 01		V1	V1 PSI (V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI			Z PSI Z PSI	V2ITF		Votire V Votire V Vi AAA.5 / CRP/ Den Vi AAA.5 / CRP/ Den Vi TF-5 0	VI AVG 5 CPF VI AVG 5 CPF		SW deployed orto alle M Tree Integration by Integ FAT SAT Impection on alle and/or	V rator SAT (COTS products)
CDP - Integrated by CDP Integrator (all PSI and object) Correlator (Damiformer (CDP) SW, PW & HW OST Computing HW SBI Computing HW SBI Computing HW Herworks SBI Computing & Comechility in MID CPF Herworks FAC Herworks ACON Herworks ACON Herworks ACON Herworks ACON SAT STRF FIQ SAT STRF FIG SAT STRF FIG	01 02 04 01 01 02 04 02 01 02 07 04 01 02 07 02 01 02 01 02 07 08 01 02 01 02 07 09 01 02 01 02 07 09 01 02 00 00 01 02 00 00 01 02 00 00 01 02 00 04 00 01 02 00 04 00 01 02 00 04 00 01 02 00 02 01 02 02 02 01 02 02 01 02 02 02 01 0		VI	(1975) 1975 1975 1975 1975 1975 1975				V2 ITF		V1 AAO 5 14 V3 AAO	VI AND 5 0 VI AND 5 0	Bohen to AUG	SW deployed onto alle M The 1 traggation by Integ An Suf Impettion on alle and/or	V afor BAT (COTS products)
CDP - Integrated by CSP Integrator (at PSI and oralize) Correlator / Beandcreen (CBP) SW, FW & HW SSI Corputing HW SSI Corputing HW SSI Corputing HW Hetworks Resource Cating & Correctivity in MID CPF Hetworks (RC Cating & Correctivity in MID CPF Hetwor	01 02 04 01 01 02 04 02 01 02 07 04 01 02 07 04 01 02 07 03 01 02 07 02 01 02 07 03 01 02 07 03 01 02 01 02 07 03 01 02 03 0X7 01 02 03 0X7 01 02 03 0X7 01 02 03 0X 01 02 02 0X 01 02 0X 01 02 0X 00 0X 01 02 0X 00 0X 0X 0X 0X 0X 0X 0X 0X 0X 0X		VI	V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI				V2 ITF		V3177- A V3 AAO.5. CPR ⁴ , Den V3 AAO.5. CPR ⁴ , Den V3 ATF-5A	VI AVE 5 VI	Bitter is Aug	SW deployed orto site H Ter I Integration by Integ FAT SAT Impection on site and/or	V ator SAT (COTS products)
CPP - Integrated by CSP Integrator (al PSI and contailer) Correlator Beamformer (CBP) SW, FW & HW CSP Loc Public PSI Computing HW PSI Computing HW PSI Computing HW Hearonts Calling & Connectivity in MID CPF MetWorks KSDN Hearonts All Config & Connectivity in MID CPF MetWorks KSDN Hearonts MCR (CSP SPC (Se to CT) Hearonts All Config & Connectivity in MID CPF MetWorks KSDN Hearonts MCR (Se SPC (Se to CT) Hearonts All Config (Se SPC (Se	01 02 04 01 01 02 04 02 01 02 07 04 01 02 07 04 01 02 07 03 01 02 07 03 01 02 07 03 01 02 01 02 07 08 01 02 01 02 07 08 01 02 01 02 07 08 01 02 01 02 07 09 01 02 03 04 01 02 02 02 01 02 01 02 02 01 02 0	VI Qual Dish	VI	(V1 PSI V1 PSI				V2 ITF			Via And S. CPF Via An		SW deployed onto alle Int Text Integration by Integ SAT Impection on site and/or	V rator SAT (COT'S products)
CBP - Integrated by CBP Integrator (all PSI and orality) Correlator (CBP) SW, FW & HW Oral CBP Company (CBP) SW, FW & HW PSI Company HW PSI Company HW Heards SS Company HW SS To Integrated By SSI Integrator (on-site) SSI STEP LTC SSI STEP	01 02 04 01 01 02 04 02 01 02 04 02 01 02 07 04 01 02 07 03 01 02 01 02 07 08 01 02 02 02 08 01 02 01 02 07 08 01 02 02 02 07 01 02 02 02 07 07 07 07 07 07 07 07 07 07	V1 Qual Dish V1 Qual Dish	VI	(V1 PSI V1 P				V2ITF 0		VI AAO 5 0 VI AAO 5 0	VI AND 5 S	Bitters for AAGS	SW deployed or to sile M The 1 Integration by Integ FAT SNAT Impertion on site and/or	V rator BAT (COTS products)
CDP - Integrated by CDP Integrator (al P3 and order) Correlator (CDP) SW, FW & HW P3 Computing HW P3 Computing HW P3 Computing HW P3 Computing HW Heards 52 Kenders far Colling & Connectivity in MID CPF Heards HI Colling & Colling & Connectivity in MID CPF Heards HI Colling & Colling & Connectivity in MID CPF Heards HI Colling & Colling & Colling & Colling & Colling Hight Colling & Colling & Colling & Colling & Colling Hight Colling & Colling & Colling & Colling & Colling Hight Colling & Colling & Colling & Colling & Colling & Colling Hight Colling & Colling & Colling & Colling & Colling & Colling Hight Colling & Colling & Colling & Colling & Colling & Colling Hight Colling & Colling & Colling & Colling & Colling & Colling & Colling Hight Colling & Collin		V1 Qual Dich V1 Qual Dich V1 Qual Dich	VI	V1 P81 V1				V2IIF			VI AVÓ 5. CPF VI AVÓ 5. CPF, SA VI AVÓ 5. CPF,	A Dides Str AND 5	SW depkyed orto sile H Ter I triagation by Idea FAT SAT Impection on site and/or	V rator SAT (COTS products)
CDP Integrated by CDP Integrator (all PSI and objects) Correlator (CDP) SW, PW & HW Orstator (CDP) SW, PW & HW PSI Computing HW PSI Computing HW PSI Computing HW Hermotis Fabr Colling & Comechility in MID CPF Helmotis Account Hermotis Account (CDR) Hermotis Account (CDR) Hermotis Account (CDR) SAT STRF RD SAT STRF RD	01 02 04 01 01 02 04 02 01 02 04 02 01 02 01 02 01 02 01 01 02 01 02 01 02 01 02 01 02 01 01 02 02 02 01 01 02 01 02 01 01 02 0	VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish	VI	(1 PSI (1PSI (1 PSI (1PSI (1PS				V2IIF ¢			Vid Apd S. CPF Vid Apd S. CPF, Deal Vid Apd S. CPF, De	e Dinhes Gr AND S Ar State And And Ar State And Ar Stat	SW deployed onto site M The 1 trengmion by integ FAT Imprecision on site and/or	V rator SAT (COTS products)
CSP - Integrated by CSP Integrator (al PSI and charter) Carrelated T Beamformer (CSP) SW, FW & HW OST Carryothy (W SSI Concurs) (SSI Concurs) (W SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI Concurs) (SSI		VI Qual Dish VI Qual Dish VI Qual Dish	V1	(1 PSI V1				V2ITF 0		V3177 V1 AAO.5 (° / V3 AAO.5 (° / °) (°) (°) (°) (°) (°) (°)	V4 AV5 5 CPF V4 AV5 5 CPF V1 AV5 5 CPF V3 AV5 5 CPF V3 AV5 5 CPF 5 V3 AV5 5 CPF 5 V4 AV5 5 CPF 5 V5 DFF 5 V5 DF		SW deployed orto sile H The Integration by Integ FAT SAT Impection on site and/or	V ator SAT (COTS products)
CIP - Integrated by CIP Integrator (al PSI and carteliar) Carteliar / Beandcrane (CIP) SW, FW & HW CSI Luc HW PSI Computing HW PSI Computing HW PSI Computing HW Heriorits Farc Carting & Connectivity in MID CPF MetWorks KSIN Heriorits KSIN Heriorits KSIN Heriorits KSIN Heriorits KSIN Heriorits KSIN SAT Integrated by SAT Integrator (on-site) SAT integrated by SAT Integrator (on-site) SAT STRF RPQ SAT STRF RPQ SAT STRF RPQ SAT STRF RPQ SAT STRF RPQ SAT STRF RPQ SAT Luc LW DIBH (incl SPFRe) - Integrated by DISH AV PSC SFFRe (Digitizer) Sampler B(2)S Rampler B(VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish	V1	(V1 PSI / V1 PSI V1 P				v2пт «		VI AAO S VI AAO S VI AAO S VI AAO S VI AAO S VI AO S V	VI AND 5 CPF VI AND 5 CPF CPF CPF VI AND 5 C	E Dither for AAO 5	SW deployed onto site In Ter 1 triggnation by integ RAT Impection on site and/or	V rator
CBP - Integrated by CSP Integrator (# PSI and constant) Correlator / Beandhamer (CBP) SW, FW & HW OSE Concuting HW PSI Concuting HW PSI Concuting HW Metworks Tare Colling & Connectivity in MID CPF Metworks CRO Networks Tare Colling & Connectivity in MID CPF Metworks CRO Networks Tare Colling & Connectivity in MID CPF Metworks CRO Networks Tare Colling & Connectivity in MID CPF Metworks CRO Networks Tare Colling & Connectivity in MID CPF Metworks CRO Networks Tare Colling & Connectivity in MID CPF Metworks CRO Networks Tare Colling & Connectivity in MID CPF Metworks CRO Networks Tare Colling & Connectivity in MID CPF Metworks CRO Networks Tare Colling & Connectivity in MID CPF Metworks CRO Networks Tare Colling & Connectivity in MID CPF Metworks CRO Networks Tare Colling & Col		VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish	V1	(1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V2 PSI V2 PSI V2 PSI			7 PSI	V2/ITF 0		V3 A0.5 CPF Per V3 A0.5 CPF Per V3 A0.5 CPF Per V4 TTF A0.5 V4 TTF A0.5	VI AND 5. CPF VI	A Dame for AAD 5	SW deployed onto alle M Tre 1 Integration by Integ FAT SAT Impection on site and/or	V ator SAT (COTS products)
CDP - Integrated by CSP Integrator (al PBI and challer) Carrelator / Beandcreer (CBP) SW, FW & HW OBL Luc HW PBI Computing HW PBI Computing HW PBI Computing HW Hetworks BBI Computing HW Hetworks CBOBH EAD (CBI III) Hetworks CARD (CBI III) Hetworks CARD (CBI III) ANT STRF IPD SAT Integrated by SAT Integrator (on-alte) SAT STRF IPD SAT IIII (III) SAT IIII (III) SAT IIII (IIII) SAT IIIII (IIII) SAT IIIII (IIIII) DBH (IIIII) SAT (IIIIIIII) Sample B1(3) Sample		VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish	V1	(1 1 1 2 1 1 1 1 1 2 1 1 1 1 1 1 2 1			7 P31 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	V2 ITF 0 V3 ITF 0 V3 ITF 0	Varre	VI AMS VI AMS	VI AVI S COFF VI	Piber Ir AADS VS Dan AADS	SW deployed onto alle Int Ter Integration by Integ SAT Impection on site and/or	V rator SAT (COTS products)
CDP Integrated by CDP Integrator (all PSI and objects) Correlator (CDP) SW, FW & HW Orstator (CDP) SW, FW & HW SSI Corputing HW SSI Corputing HW SSI Corputing HW Heinorbs F2R Colling & Connectivity in MID CPF Heinorbs RCSN SSI Corputing HW Heinorbs RCSN Heinorbs RCSN Heinorbs RCSN Heinorbs RCSN SSI Corputing HW SSI Corputing HW		VI Qual Dinh VI Qual Dinh VI Qual Dinh VI Qual Dinh VI Qual Dinh VI Qual Dinh VI Qual Dinh	V1 V1 V1 Qual Dah	(1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V2 PSI V2 PSI V2 PSI					Va ITF 0	VI AAO 5 0 VI AAO 5 0	Via And S. CPF Via An	A Ditase for AddS	SW deployed orto site M The 1 Integration by integ FAT Impetion on site and/or	V zator BAT (COTS products)
CDP - Integrated by CDP Integrator (at P3 and order) Correlator (CDP) SW, FM & HW P3 Computing HW P3 Computing HW P3 Computing HW P3 Computing HW Heavests Ether Colling & Connectivity in MID CPF Heavests CPC Colling & Connectivity in MID CPF CPC (CDpC) Statistics (CDC) & CDC) Statistics (CDC) & CDC) DSH (MC MPS (Connectivity CPC)		VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish VI Qual Dish	V1 V1 V1 V1 Qual Dish	(1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V1 PSI V2 PSI V2 PSI V2 PSI			27 P31 // 1 (27 P3	V2 ITF V2 ITF V2 ITF V2 Dah V2 Dah V2 Dah V2 Dah V2 Dah		V3177 V1 AA0.5 CPC Pen V3 AA0.5 CPC Pen V3 AA0.5 CPC Pen V3 TF 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	V4 AV5 5 V1 AV5 5 V1 AV5 5 V1 AV5 5 V2	Piber le Mass	SW deployed orto sile H Ter I Integration by Integ FAT SAT Impection on site and/or	V ator SAT (COTS products)
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CSP - Integrated by CSP Integrator (24 PS land character) Correlator (CSP) SW, PW & HW PST Computing HW PST Computing HW PST Computing HW PST Computing HW PST Computing HW Heavens Farther Calating & Connectivity in MID CPP Heavens Calating		VI Qual Dinh VI Qual Dinh	V1 V1 V1 V1 V1 V1 Qual Dah	(1 PSI) VI PSI VI PS	Deh Deh		/2 PSI // 0	V2 ITF • •		V3 107 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	VI AND 5 UN		SW deployed onto alle M Tre 1 Integration by Integ FAT SAT Impection on site and/or	V SAT (COTS products)
CDP - Integrated by CDP Integrator (at P3 and obtain) Carrelator Beamformer (CDP) SW, FW & HW P31 Computing HW P31 Computing HW P31 Computing HW P32 Computing HW Heaveds B32 Computing HW Heaveds CDB H Heaveds CDB H Heaveds CDB H Heaveds CDB H Heaveds CDB H Heaveds CDB H Heaveds ACDB H Heaveds CDF SPC (3te to CT) Heaveds ACDB H Heaveds CDF SPC (3te to CT) Heaveds ACDB H Heaveds ACDB H ACD H Heaveds ACDB H Heaveds ACDB H Heaved H		VI Qual Dish VI Qual Dish	V1 V1 V1 V1 V1 V1 V1 V1 V1 V1 V1 V1 V1	(VI PSI VI PSI VI VI PSI VI PSI VI PSI VI PSI VI V	Deh		7 P31 7 5	V2 ITF • • • • • • • • • • • • • • • • • • •		V3 AUS CPP Date V3 AUS CPP Date V3 AUS CPP Date V3 AUS CPP Date V2 AUT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	VI AND 5 COPF VI AND 5 COPF COPIN VI		SW deployed onto site Int Ter I triggesion by inter SAT Impection on site and/or Impection on si	V rator SAT (COTS products)
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CDP - Integrated by CDP Integrator (2 FP3 and charter) Correlator (2 Bandhomer (2 BF) SW, FW & HW PS1 Computing HW PS1 Computing HW PS1 Computing HW PS1 Computing HW Hetworks Colling & Connectivity in MID CPF Hetworks KCSN PS1 (2 Be to C1) Hetworks COS PS2 (2 Be to C1) DS3 HAR PS2 (2 Be to C1) DS3 HA		VI Qual Dish VI Qual Dish	V1 Cual Deh	(1 PSI JSI PSI PSI PSI PSI PSI PSI PSI PSI PSI P	Deh Deh		7 P31 7 0 7 P31 7 P31 7 0 7 P31	V2 ITF • • • • • • • • • • • • • • • • • • •	Varre 0 Varre	VI 1115 0 VI 111	VI AVI 2: COFF VI AVI 2: COFF VI AVI 5: COFF VI AVI		SW deployed onto alle IM The Tregration by Integration by Integration SAT Impection on site and/or SW deployed onto alle IM The 1 Integration by Integ FAT	V SAT (COTS products) SAT (COTS products)
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CDP - Integrated by CDP Integrator (24 PS land character) Correlator (26 PS SW, PW & 14/W Correlator (26 PS SW, PW & 14/W Networks Correlativg in MID CPF Networks Networks (26 PS SW) SW Times Correlativg in MID CPF Networks Networks (26 PS SW) SW Times Correlativg in MID CPF Networks (26 PS SW) CDEN (Correlativg CPF) CDEN (Correlativg C		Y1 Qual Dish V1 Qual Dish	V1	(VI PS VI PS	Deh		/2 PSI // 2 // 2 PSI // 2 // PSI // 2 // PSI // PSI	V2 ITF		V3 117 4 4 5 6 7 9 9 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	VI AND 5 UN		SW deployed onto alle M Tre 1 Integration by Integ FAT SAT Impection on alle and/or SW deployed onto alle M Tre 1 Integration by Integ FAT SAT Impection on alle and/or	V SAT (COTS products) SAT (COTS products)
CDP - Integrated by CDP Integrator (al PSI and object) Correlator (CDP) SW, FW & HW Correlator (CDP) SW (CDP) SW, FW & HW Correlator (CDP) SW (CDP) SW (CDP) SW Correlator (CDP) SW (CDP) SW (CDP) SW Correlator (CDP) SW (CDP) SW (CDP) SW SW (CDP) SW (CDP) SW (CDP) SW (CDP) SW (CDP) SW SW (CDP) SW (CDP) SW (CDP) SW (CDP) SW (CDP) SW SW (CDP) SW (CDP) S		VI Qual Dish VI Qual Dish	V1 V1 V1 V1 V1 V1 Qual Deh	(1 PSI 4 PS	Dah		/2 P31 0 0	V2 ITF 0 V2 ITF 0 V2 ITF 0 V2 Dah 0 V2 V		V1 AAO.5	VI AND 5 COPF VI AND 5 COPF CONT VI AN	A Dobes Sr AAD S	SW deployed onto site M Ter 1 triegration by inter FAT respection on site and/or projection on site and/or SW deployed onto site M Ter 1 triegration by Inter FAT SAT	V rator BAT (COTS products) V rator
CSP - Integrated by CSP Integrator (2 FS Iand Carriador (2 Earlichmer (CSP) SW, FW & HW Carriador (2 Earlichmer (CSP) SW, FW & HW PST Computing HW PST Computing HW PST Computing HW PST Computing HW Heavens Farle Calcing & Connectivity in MID CPF Heavens Calcing A Connectivit		VI Qual Dinh VI Qual Dinh	V1 Qual Deh	VI PSI VI PSI VI	Dish Dish		2 PSI / / 0	V2 ITF • • • • • • • • • • • • • • • • • • •	Varre o Varre	V1 AAO 5 0 V1 AAO 5 0 V3 AAO 5 0	VI AND 5 VI		SW deployed or to site M The 1 Integration by Integ FAT SAT Impertion on site and/or SW deployed or to site M The 1 Integration by Integ FAT SAT	V V sator SAT (COTS products)
CDP - Integrated by CDP Integrator (at P3 and order) Correlator (CDP) SW, FM & MW Correlator (CDP) SW, FM & MW P3 Computing MW P3 Computing MW P3 Computing MW P3 Computing MW P40005 ACC Coding & Connectivity in MID CPF 448/456 ASDN Heinorks ACC ACC ACC (at a connectivity in MID CPF 448/456 ASDN Heinorks ACC ACC ACC (at a connectivity in MID CPF 448/456 ASDN Heinorks ACC ACC ACC (at a connectivity in MID CPF 448/456 ASDN Heinorks ACC ACC (at a connectivity in MID CPF 448/456 ASDN Heinorks ACC ACC (at a connectivity in MID CPF 448/456 ASDN Heinorks ACC ACC (at a connectivity in MID CPF 448/456 ASDN Heinorks ACC ACC (at a connectivity in MID CPF 448/456 ASDN ACC ACC ACC (at a connectivity in MID CPF 448/456 ASDN ACC ACC ACC (at a connectivity in MID CPF 458/457 ASDN ASDN ACC (at a connectivity in MID CPF 458/457 ASDN ASDN ACC (at a connectivity in MID CPF 458/457 ASDN ASDN ASDN ASDN ASDN ASDN ASDN ASDN		VI Qual Dish VI Qual Dish	V1	VI PSI VI	Dah		7 P31 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	V2 ITF 4		V3 AUG 5, CPF, Deh	VI AND 5 COPF VI AND 5 COPF CONT VI AND 5 CONT	Context to AAO.5	SW deployed onto sile IM The Integration by Integ SAT Impection on site and/or SAT SW deployed onto sile IM The Integration by Integ FAT SAT Impection on site and/or	V rator BAT (COTS products) V rator SAT (COTS products)
CDP - Integrated by CDP Integrator (all PSI and objects) Correlator (CDP) SW, FW & MW Setter) Correlator (CDP) SW, FW & MW Setter) SS Correlator (MW SS Correlator (MW SS Correlator (MW SS Correlator (MW SS Correlator (MW SS Correlator (SS SS Correlator (SS SS		VI Qual Dish VI Qual Dish	V1	(U PSI JU PSI J	Dah		2 P31 / 0 2 P31 / 0 1 P31 / 0 1 P31 / 0	V2 ITF • • • • • • • • • • • • • • • • • • •	Va ITF 0 Va	VI AND 5 CPF CHI	Via Avá S. CPF Via Avá S. CPF, CPS Via Avá S. CPF Via Avá S.	A Dibles for AUCS	SW deployed orto site M The 1 Integration by Integ FAT Impetien on site and/or SW deployed orto site M The 1 Integration by Integ FAT SAT	V ator BAT (COTS products) V rator BAT (COTS products)
CDP - Integrated by CDP Integrator (2 PS Integrator Correlator (2 Bandhormer (CDP) SW, FM & MW PSI Computing HW PSI Computing HW PSI Computing HW PSI Computing HW Heaves 5 Resource State (2 Councellably in MID CPF Heaves 5 Resource State (2 Councellable) State (2 Councellable)		VI Qual Dish VI Qual Dish	V1 Qual Dah	VI PSI VI PSI VI VI PSI VI PSI VI VI	Dah		7 P31 7 0 7 P31 7 P31 7 0 7 P31	V2 ITF 4	Va ITF 0	VI 1115 0 VI 111	VI AVA 5 COF VI AV		SW deployed onto alle IM The Tintegration by Integration SAT Impection on site and/or SW deployed onto a life IM The T Integration by Integ FAT The T Integration by Integ FAT	V ator SAT (COTS products) SAT (COTS products) v rator
CSP - Insequence by CSP Integrator (at PSI and ontact) Correlator (CSP) SW, FW & HW Correlator (CSP) SW & HW CORRELA		VI Qual Dish VI Qual Dish	V1 V1 V1 V1 V1 V1 Qual Deh	VI PSI VI				V2 ITF • • • • • • • • • • • • • • • • • • •	Va ITF 0 Va Add 5 Va	VI AND 5 00 000 VI AND 5 0000 VI AND 5 0000 VI AND 5 000 VI AND 5 0000 VI AND 5 0000 VI	Via And S. CPF Via And S. CPF Via And S. CPF Via And S. CPF Via And S. CPF, DNA Via An	R Dithes Gr AUS S Data AcCS of	SW deployed onto alle M Tre 1 letegration by integ FAT Impedien on alle and/or SW deployed onto alle M Tre 1 letegration by integ SW deployed onto alle M Tre 1 letegration by integ SAT	V ator SAT (COTS products)

Figure 6	: Product	Delivery	and	Integration	Schedule	Flow	for	early	stages,	incorpo	rating
				Integrat	tion Events	s					

Document Number	SKAO-TEL-00001876	UNRESTRICTED	SKAO
Revision	01		Author: D. Gammon
Date	2021-11-26		Page 12 of 18

Table 1: ICD Interfaces to be Tested

ICD	Interface	Products / Function	Number	PSI	ITF	AA0.5
SADT/SAT - TM						
SKA-TEL-SKO-0000153						
	I.S1M.TM_SADT.001	TM - SADT.NMGR	21		?	Y
	I.S1M.TM SADT.002	TM - SAT.LMC	16		?	Y
	I.S1M.TM SADT.003	TM - SADT.NSDN	1	Y	Y	Y
	I.S1M.TM SADT.004	TM - SADT Timing			?	Y
		5				
SADT/SAT - DISH						
300-000000-026						
000 000000 020	LS1M SADT_DSH 001	Physical layer DSH-CSP	4	2	2	Y
	LS1M SADT_DSH 002a	SAT STER FRO - SPERY	7	· ·	Ŷ	Ŷ
	LS1M SADT_DSH 002b	SAT STER LITC - SPERYPU	8	-	Ŷ	Ŷ
	LS1M SADT DSH 003a	NSDN Switch - DISH I MC HW	10		v	v
	LS1M SADT_DCH.0000	NSDN Switch - Lanton	10			V V
		I INERA Dich Structure				V
	LS1M SADT_DS1.004	NCDN Switch SDEByDU for LMC data	11	2	v	I V
	LS1M SADT_DS1.005a	NSDN Switch - SPERVELIAr DTD	11	2	I V	I V
	I.STM.SADI_DSH.0050	NODN Switch - SPERXPUTOLPTP		?	ř V	ř V
	I.SIM.SADI_DSH.006a	NSDN Switch - Dish Structure, for LNC data DS Controller	14		Ý	Y
	I.S1M.SADI_DSH.006b	NSDN Switch - Dish Structure, for PTP DS Controller			Y	Y
	I.S1M.SADT_DSH.006c	NSDN Switch - Dish Structure, for PTP DS PDU				Y
	I.S1M.SADT_DSH.007	Outer Array Pedestal Terminal Node Equipment - DS				Y
	I.S1M.SADT_DSH.008a	SAT.STFR.FRQ - DS				Y
	I.S1M.SADT_DSH.008b	SAT.STFR.UTC - DS				Y
	I.S1M.SADT_DSH.009	NSDN Switch - SPFRx Controller			Y	Y
SADT/SAT - CSP						
300-000000-023						
	I.S1M.SADT CSP.001	NSDN - CSP.LMC	2	?	Y	Y
	LS1M.SADT_CSP.002	NSDN - CSP.CBF PTP		?	Y	Y
	I S1M SADT_CSP 003	SAT Timescale - CSP CBF 1PPS	6	No lon	aer requi	red?
	LS1M SADT_CSP 004	SAT Timescale - CSP CBF 100MHz	6	No lon	ger requi	red?
	LS1M SADT_CSP 005	CSP-SDP - CSP CBF	0		2	2
	LS1M SADT_CSP 006					
	LS1M SADT_CSP.000			-	-	
	LSIM SADI_CSP.007					
	LSIM.SADI_CSP.009					V
	I.STM.SADI_CSP.010	LINFRA - CSP.CBF				ř
SADI - SDP						
300-000000-025				-	-	
	I.S1M.SADI_SDP.001	NSDN - SDP LMC	12	?	?	Y
	I.S1M.SADT_SDP.002	NSDN - SDP for PTP		?	Y	Y
	I.S1M.SADT_SDP.003	CSP-SDP - SDP Visibility	13	?	?	?
	I.S1M.SADT_SDP.004	CSP-SDP - SDP Pulsar Search				
	I.S1M.SADT_SDP.005	CSP-SDP - SDP Pulsar Timing				
	I.S1M.SADT_SDP.006	External Delivery				
	I.S1M.SADT_SDP.008	CSP-SDP - SDP VLBI				
	_					
TM - DISH						
SKA-TEL-SKO-0000150						
	LS1M.TM DSH.001		1, 10	Y	Y	Y
			.,			
TM - CSP						
300-000000-021						
	LS1M CSP_TM 001		1 2	V	Y	Y
			1, 2	<u> </u>	· ·	
TM - SDP				+		
300-00000 020						
000-00000-023	LS1M SDP TM 001	Control and Monitoring	1 12	v	v	v
		Talaasana Stata Information & Talaasana Configuration	1, 12	- ·	2	I V
		Peiercope State miormation & relescope Conliguration			ſ	T V
	1.3 INI.30P_IM.003			-	-	Y
	1.51M.5DP_1M.004	QA				Y
DISH - CSP						
SKA-IEL-SKU-0000124						
	I.S1M.DSH_CSP.001	SPFRxPU - CBF Layer 3 and above	4	Y	Y	Y
	I.S1M.DSH_CSP.002	SPFRxPU - CBF Layer 2	4	Y	Y	Y
CSP - SDP						
300-000000-002						
	I.S1M.SDP CSP.001	Visibility Data	13	Y	Y	Y
	I.S1M.SDP CSP.002	Pulsar Search and Transient Data				
	LS1M.SDP_CSP.003	Pulsar Timing	24	1	?	Y
	LS1M.SDP_CSP 004	Transient Buffer		1	· ·	· ·
l						

Document Number SKAO-TEL-00001876 UNRESTRICTED

SKAO

Author: D. Gammon Page 13 of 18

Revision

Date

3.3 Test Schedule

A preliminary test plan schedule example , based on required integration tests and those identified in the Test Procedures, [RD13], [RD14], [RD15], [RD16] is shown in Table 2. The sequence and structure of these will change as more detail becomes available.

Phase	ITE SUT	type	Test description	Requirement ID	Test procedure reference	External instruments
Q4/2022	SDP-TM (I.S1M.SDP TM.001)	IF	Sanity check of all tango devices	N/A	N/A	N/A
	DISHLMC-TM(I.S1M.TM_DSH.001)	IF	Sanity chech of all tango devices	N/A	N/A	N/A
Q1/2023	Q1/2023 TM-CSP(I.S1M.CSP TM.001)		Sanity chech of all tango devices	N/A	N/A	N/A
	TM-SAT	IF	Sanity chech of all tango devices	N/A	N/A	N/A
		IF	Signal Chain test	N/A	N/A	N/A
		L1	Signal Displays Verification Test	113: Signal Displays MID	SKA-TEL-AIV-2510000 P23	SG
	SPFRx-CBF(1) (I.S1M.DSH_CSP.001)	L1	Signal Chain test	17: Channelisation	SKA-TEL-AIV-2510000 P49	SG
		L1	Signal Chain test	19: Channelisation Stability MID	SKA-TEL-AIV-2510000 P49	SG
		Others	Signal Chain test	C.3: RF Chain and Correlator Linearity	SKA-TEL-AIV-2510000 P49	SG
	CBF-SDP	IF	Signal Chain test	N/A	N/A	N/A
		L1	Signal Displays Verification Test	113: Signal Displays MID	SKA-TEL-AIV-2510000 P23	SG
			TBD			
Q2/2023	SAT.FRQ-SPFRx	IF	Signal Chain test	N/A	N/A	N/A
	SAT.UTC-SPFRx	IF	Signal Chain test	N/A	N/A	N/A
		IF	Signal Chain test	N/A	N/A	N/A
		L1	Signal Chain test	17: Channelisation	SKA-TEL-AIV-2510000 P49	SG
	SPERX-CBF(2) (I.SIMI.DSH_CSP.001)	L1	Signal Chain test	19: Channelisation Stability MID	SKA-TEL-AIV-2510000 P49	SG
		Others	Signal Chain test	C.3: RF Chain and Correlator Linearity	SKA-TEL-AIV-2510000 P49	SG
	SPFRx- CBF-SDP	IF	Signal Chain test	N/A	N/A	N/A
	End-to-End		TBD			

Table 2:	Test P	lan So	chedule
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	Document Number	SKAO-TEL-00001876	UNRESTRICTED	SKAO	
*	Revision	01		Author: D. Gammon	
	Date	2021-11-26		Page 14 of 18	

A References

A.1 Applicable Documents

The following documents are applicable to the extent stated herein. In the event of conflict between the contents of the applicable documents and this document, **the applicable documents** shall take precedence.

- [AD1] "SKA1-MID Continuous Integration Plan", spreadsheet "MID Products for System Integration"
- [AD2] SKA-TEL-SKO-0000120, SKA1 Configuration Management Plan

A.2 Reference Documents

The following documents are referenced in this document. In the event of conflict between the contents of the referenced documents and this document, **this document** shall take precedence.

- [RD1] D. Gammon and R.T. Lord, "Integration & Verification Plan for SKA1_MID", SKA-TEL-AIV-2430001.
- [RD2] R.T. Lord, D. Gammon and M. Hayes, "SKA Phase 1 System (Level 1) Verification Requirements", SKA-TEL-AIV-1420003.
- [RD3] R.T. Lord, D. Gammon and M. Hayes, "SKA Phase 1 System (Level 1) Verification Requirements Spreadsheet", SKA-TEL-AIV-1420004.
- [RD4] R.T. Lord, "SKA1 Telescope Roll-Out Strategy", SKA-TEL-AIV-1410004.
- [RD5] R.T. Lord and D. Gammon, "Roll-Out Plan for SKA1_MID", SKA-TEL-AIV-2410001.
- [RD6] R.T. Lord, T. Cheetham, A. Schinckel and A. MacLeod, "SKA1 Integration Test Facility (ITF)", SKA-TEL-AIV-1100004.
- [RD7] R.T. Lord and A. MacLeod, "Product Hand-Over Process", SKA-TEL-AIV-1450001.
- [RD8] N. Ebbendorf, "AIV Safety Management Plan", SKA-TEL-AIV-1470001.
- [RD9] R.T. Lord and A. MacLeod, "EMC Control Plan for AIV", SKA-TEL-AIV-1480001.
- [RD10] T. Kusel, "SKA Dish Element Integration and Verification Plan", SKA-TEL-DSH-0000024.

	Document Number	SKAO-TEL-00001876	UNRESTRICTED	SKAO
₩.	Revision	01		Author: D. Gammon
	Date	2021-11-26		Page 15 of 18

- [RD11] G. van der Merwe, "SKA1 Dish Qualification Model (SDQM) Integration and Verification Plan (I&VP)", 301-000000-007.
- [RD12] Scaled Agile Framework (SAFe), http://www.scaledagileframework.com
- [RD13] "Test Procedures for Verification Event: ITF MID Functional and Performance Capabilities (VE.M.ITF.2)", SKA-TEL-AIV-2510000.
- [RD14] "Test Procedures for Verification Event: ITF MID Non-Functional (VE.M.ITF.3)", SKA-TEL-AIV-2510001.
- [RD15] "Test Procedures for Verification Event: AA1 MID Functional and Performance Capabilities (VE.M.AA.1.2)", SKA-TEL-AIV-2510002.
- [RD16] "Test Procedures for Verification Event: AA1 MID Non-Functional (VE.M.AA.1.3)", SKA-TEL-AIV-2510003.
- [RD17] "Test Procedures for Verification Event: AA2 MID Functional and Performance Capabilities (VE.M.AA.2.2)", SKA-TEL-AIV-2510004.
- [RD18] "Test Procedures for Verification Event: AA2 MID Non-Functional (VE.M.AA.2.3)", SKA-TEL-AIV-2510005.
- [RD19] J. Obiebi, "SKA ITF Establishment Plan", SKA-TEL-SKO-0000857.
- [RD20] J. Obiebi, "System ITF Test Environment Product Requirements Specification", SKA-TEL-SKO-0001662.
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- [RD22] <u>PSI MID System Integration Test 1</u> Confluence page.
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LIST OF ABBREVIATIONS

AA	Array Assembly
AD	Applicable Document
AIV	Assembly, Integration and Verification
CBF	.Correlator/Beamformer
CSP	Central Signal Processor
FAT	Factory Acceptance Test
ICD	Interface Control Document
ITF	Integration Test Facility
OMC	Observation Management and Control
PBS	Product Breakdown Structure
PI	Program Increment
PSI	Prototype System Integration
RD	Reference Document
SAT	Site Acceptance Test
SDP	Science Data Processing
SKA	.Square Kilometre Array
SKAO	SKA Observatory

DOCUMENT HISTORY

Revision	Date Of Issue	Engineering Change Number	Comments
01	2021-11-26		Initital Release

DOCUMENT SOFTWARE

	Package	Version	Filename
Word processor	MS Word	Office 365	SKAO-TEL-0001876-01_SKA1-MID Continuous Product Integration Flowchart.docx
Block diagrams			
Other			

ORGANISATION DETAILS

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	Date	2021-11-26		Page 18 of 18