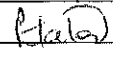


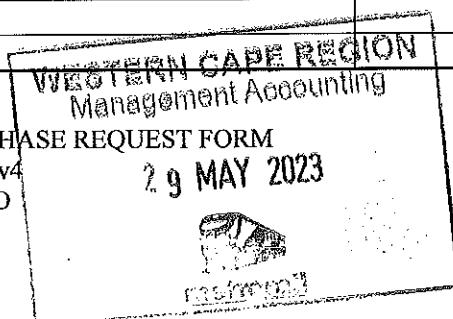
File Ref:	SUPPLY CHAIN MANAGEMENT		
Effective Date:	1 April 2010		
Title:	TENDER / PURCHASE REQUEST FORM		

NB: ALL REQUESTS MUST BE APPROVED BY FINANCE MANAGER BEFORE PROCESSING:

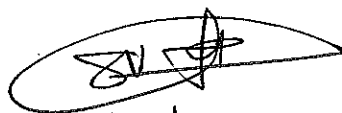
END-USER DEPARTMENT	Rolling Stock
COST CENTRE OR WBS Number(s):	1102
GL ACCOUNT	451005
FUNDING SOURCE (Operational /Essential Works):	Operational
VALUE OF APPROVED BUDGET	
ESTIMATED COST	R 8000.00
CIDB category (if applicable)	
DETAILED DESCRIPTION/SPECIFICATION: Include make, model numbers, frequency, etc. State alternative products if applicable (Please attach more details on specification and a DM5 reference number.)	QTY
Raspberry Pi 4B development kit (as per spec 279727)	2
Category (stock, non-stock/service)	Non-stock
Include material numbers (for stock or non-stock)	
REQUESTER	S DIRKS
MOTIVATION	
PRASA does not have a fully equipped laboratory in order to provide an environment to do proper research and development to facilitate engineering projects or investigations. This development kit will allow a technician to perform any testing and prototyping at their workstation as it is ultra-portable.	

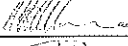
NB: APPROVAL LIMITS R0 – R200k : MANAGER(109) R200 000 – R500 000.00 (SENIOR MANAGER) R1m = GM R5m = RM	END-USER DEPARTMENT	FINANCE DEPARTMENT
APPROVED	P. Ngwenona	L. Mazarira
GRADE	MD	Finance Manager
EMPLOYEE NO.	20108192	20105610
DATE	26/05/23	29/5/2023
TEL.NO.	021 87447	021 4494389
SIGNATURE		
SUPPLY CHAIN MANAGEMENT:		
RECEIVED BY		
DATE:		

Document Name: PURCHASE REQUEST FORM
Document Number: 238075 v4
Document Author: RSETINO
Document Type: TEMPL



Bal Available R5,6m


29/05/23

TECHNICAL SPECIFICATION – RASPBERRY PI 4B KIT			
File Reference	DOCS_CENTRAL-#279727-v2-Specification_~_Raspberry_Pi_4B_Kit.docx		
Creation Date	2021-11-15	Last Edit Date	2023-05-25
Compiled	Snr Eng. Technician	Hulisani Murema	
Reviewed	System Engineer	Shaun Dirks	



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1. Definition

1.1. Purpose

The purpose of this specification is to outline the requirements in the purchasing of Raspberry Pi 4B Kit. The kit is required to assist with engineering projects as well as research and development.

1.2. Problem Statement

PRASA does not have a fully equipped laboratory in order to provide an environment to do proper research and development to facilitate engineering projects or investigations. This development kit will allow a technician to perform any testing and prototyping at their workstation as it is ultra-portable.

1.3. Benefits

The immediate benefits of the purchase will yield the following results:

- **Small form-factor** – The small size makes it ultra-portable and allows one to use it at a workstation including office environment.
- **Open-source** – The Pi uses open-source operating system and applications which results in no licensing issues and additional cost implications.
- **Low-cost** – The Pi offers a low-cost solution to an otherwise expensive alternative such as commercial/industrial laboratory equipment.

1.4. Composition of Kit

The kit comprises of the following:

- Raspberry Pi 4 Model B (at least 4GB memory, 8GB preferred) – specify when bidding
- Power supply (5V DC via USB-C connector minimum 3A) with input adaptors
- Official Case (white or black) – specify when bidding
- Official Fan Case
- HDMI cable (micro-HDMI to HDMI)
- microSD card (at least 16GB, 32GB preferred) – specify when bidding
- Raspberry Pi Power over Ethernet (PoE) HAT

2. Original Equipment Manufacturers

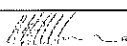
This section is aimed at providing guidance on the OEM(s) of the required product.

Original Equivalent Manufacturer			
1. Is it a Specialised Item?	• No, it can be purchased over the counter.	2. Known Original Equipment Manufacturer(s)	• Raspberry Pi
3. Item/Product Order Number/Name	• As per point 1.4 above	4. Is an equivalent product also preferred?	• Yes. • Alternative to be approved by end user.

3. Technical Requirements

The technical requirements for the product to be purchased are as follows:

Component, Part or Subassembly Requirements			
5. Mechanical Requirements:	• Operating Temperature - 0°C to 50°C	6. Electrical Requirements:	• Broadcom BCM2711, quad-core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz • 4GB/8GB LPDDR4 with on-die ECC • 5V DC via USB-C connector (minimum 3A), Power over Ethernet (PoE) – enabled (requires separate PoE HAT)
7. Electronic/ Software Requirements	• Not applicable	8. Metallurgical Requirements:	• Not applicable
9. Geometrical Requirements:	• See section 4. Pictorials	10. Handling, Storage Requirements	• Storage Temperature – -55°C to 100°C

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Reviewed	System Engineer	Shaun Dirks		



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Communication and Logging Requirements			
11. Communication Requirements:	• Not applicable	12. Data Logging Requirements:	• Not applicable
Health, Safety and Environment Requirements			
13. Safety Requirements:	• Not applicable	14. Health Requirements:	• Not applicable
15. Environmental Requirements:	• Not applicable	16. Training Requirements:	• Not applicable
Motor or Trailer Coach Interface Requirements			
17. Micro-Control Processor Requirements:	• Not applicable	18. Power Requirements:	• Not applicable
19. Geometrical Requirements:	• Not applicable	20. Temperature Requirements:	• Not applicable
21. Coupling Requirements:	• Not applicable	22. Underframe Requirements:	• Not applicable
Departmental Interface Requirements			
23. Maintenance Requirements	• Not applicable	24. Inspection Requirements	• Quality inspection will be done against approved submission and datasheet
25. PERWAY Requirements	• Not applicable	26. OHTE Requirements	• Not applicable
27. Driver Requirements	• Not applicable	28. Signalling Requirements	• Not applicable

4. Pictorials

An indication of how the product looks is shown below.

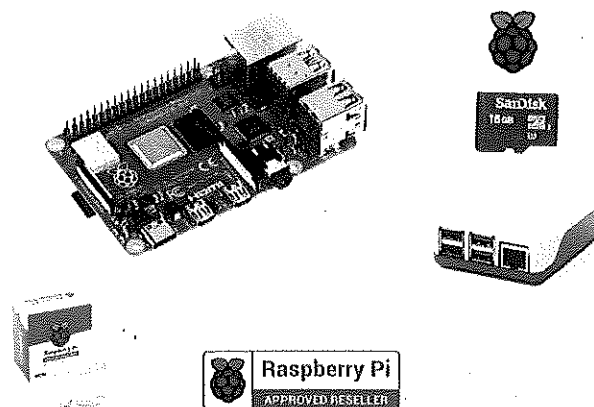


Figure 1: Raspberry Pi 4B Starter kit

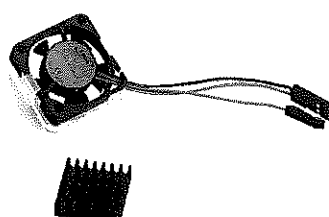
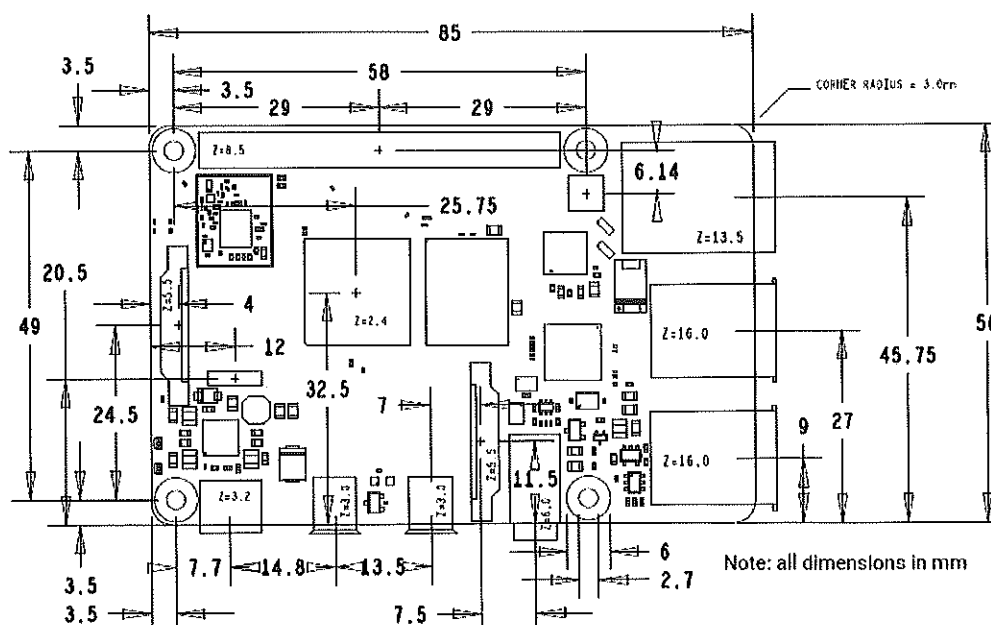
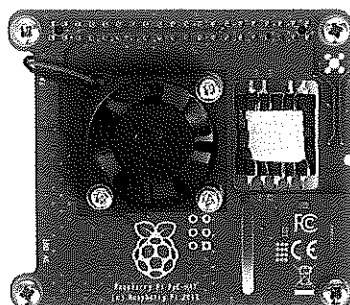


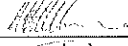
Figure 2: Raspberry Pi 4B Case Fan

TECHNICAL SPECIFICATION ~ RASPBERRY PI 4B KIT			
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5. Testing and Documentation Requirements

Test Requirements			
1. First Article Inspection Requirements	• Not applicable	2. Test Plan Requirements	• Not applicable
3. Type Testing Requirements	• Not applicable	4. Assembly Testing Requirements	• Not applicable
5. Commissioning Requirements	• Not applicable	6. Functional Testing	• Testing will be done when installed in desktop
Documentation Requirements			
7. Data Packs	• Not applicable	8. Specification Sheet	• To be supplied when bidding. • Quality Inspection to be done against specification/data sheet.
9. Intellectual Property	• Not applicable	10. Mechanical Drawings	• Not applicable

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11. Maintenance Manuals	• Not applicable	12. Operating Manuals	• Not applicable
13. Wiring Diagrams	• Not applicable	14. Spares Catalogues	• Not applicable

6. Compiled

This specification is confidential; it shall not be used for any other purpose other than the component procurement purposes. Any clarity needed, please consult the compiler/reviewer through respective supply chain management.

Reviewed by: **Shaun Dirks**

Signature: 

Date: **15 November 2021**

Email: sdirks@prasa.com