

KETERANGAN PEMBELIAN TEMPATAN - JKP KEMENTAH

RUJUKAN SEBUTHARGA: MINDEF/DFA/FY2025/CSTRAD/LP/04

TARIKH TUTUP SEBUTHARGA: 26/05/2025 (ISNIN, 08:30 PAGI)

PETI PENERIMAAN SEBUTHARGA: BOX [04]

ALAMAT BARU: ARAS BAWAH, BANGUNAN AKRIB
KEMENTERIAN PERTAHANAN, BOLKIAH GARISEN

NAMA SYARIKAT: _____

COP SYARIKAT & TANDANTANGAN: _____

TEL PEMBEKAL: _____ FAX PEMBEKAL: _____

EMAIL PEMBEKAL: _____

TAFIS VENDOR ID: _____

BIL	KETERANGAN BARANG	KTI	HARGA SATU	HARGA SEMUA	TEMPOH SAH HARGA (MINIMUM 180 HARI)	TEMPOH PENGHANTARAN	BUATAN NEGERI
	<u>PEMBELIAN ALAT - ALAT ELEKTRONIK UNTUK PROJEK PENYELIDIKAN P3ST</u>						
1	Thermal Camera	1 unit					
2	Microprocessor Board	2 units					
3	Inertial Measurement Unit	2 units					
4	Tachometer	1 unit					
5	Anemometer	1 unit					
6	Raspberry Pi Camera	2 units					
7	LTE Antennae	2 units					
8	1-kilogram Load	20 units					
9	500-grams Load	4 units					

KETERANGAN PEMBELIAN TEMPATAN - JKP KEMANTAN



RUJUKAN SEBUTHARGA: MINDEF/DFA/FY2025/CSTRAD/LP/04

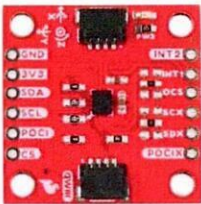
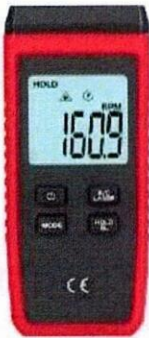
BIL	KETERANGAN BARANG	KTI	HARGA SATU	HARGA SEMUA	TEMPOH SAH HARGA (MINIMUM 180 HARI)	TEMPOH PENGHANTARAN	BUATAN NEGERI
10	100-grams Load	10 units					
11	10-grams Load	20 units					
	<p>Note; Seperti Spesifikasi Annex A</p> <p>PERHATIAN: Perkara-perkara yang perlu (mandatori) dihadapkan sebelum tarikh tutup sebutharga:</p> <p><input checked="" type="checkbox"/> Katalog</p> <p><input type="checkbox"/> Contoh</p> <p>Jika didapati gagal, sebutharga tersebut tidak akan dipertimbangkan.</p>						


JUMLAH SEMUA HARGA YANG DITAWARKAN - ANGKA B\$ _____ DAN PERKATAAN _____

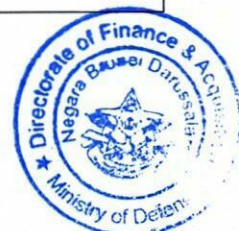
Ref: MINDEF/DFA/FY2025/CSTRAD/LP/04



SPESIFIKASI DAN CONTOH GAMBAR ALAT-ALAT ELEKTRONIK UNTUK PROJEK PENYELIDIKAN

Bil.	Alat / Contoh Gambar	Kuantiti	Spesifikasi
(a)	(b)	(c)	(d)
1	Thermal Camera 	1 unit	<ul style="list-style-type: none"> Handheld Thermal Camera suitable for research purposes RoHS-certified and IP54 (water and dust resistance) compliant Imaging and optics: <ul style="list-style-type: none"> Resolution: At least 160 x 120 Pixel Detector Type: Focal Plane Array (FPA), uncooled microbolometer Spectral Range: 7.5 μm to 14 μm Thermal Sensitivity: Less than 70 mK Minimum Focus Distance: 0.3 m Minimum Measurement Distance: 0.26 m Detector Pitch: 12 μm Object Temperature Range: From -25 °C to 1030 °C Measurement accuracy: Maximum ± 3.0 °C Digital camera resolution: At least 2 MP Display screen: At least 2.4" Display resolution: At least 320 x 240 Pixel Built-in storage media: At least 4 GB Power: Rechargeable battery Battery operating time: At least 5 hours battery life on continuous usage Weight: Approximately 350 g to 500 g Electromagnetic protection feature Includes user manual in English Language, supported USB cable for media transfer, and soft carrying case Supplied with valid calibration certificate from verified calibration centre/Original Equipment Manufacturer (OEM) After Sale support: <ul style="list-style-type: none"> Must have a minimum of 1-year warranty upon delivery
2	Microprocessor Board 	2 units	<ul style="list-style-type: none"> CPU: Minimum Quad-core Cortex A76 (ARM v8) based processor running at minimum frequency of 2.4GHz Processor type: 64-Bit SOC CPU features: <ul style="list-style-type: none"> Bluetooth 5.0 Low Energy (BLE) Cryptography extension Onboard GPU must support Vulkan 1.2 RAM: 16GB LPDDR4X MicroSD slot with support of High Speed SDR104 Equipped with RTC and RTC Battery connector Supplied with datasheet

Bil.	Alat / Contoh Gambar	Kuantiti	Spesifikasi
(a)	(b)	(c)	(d)
			<ul style="list-style-type: none"> Inclusive of compatible power adaptors for microprocessor board and at least 64GB microSD card for OS and data storage Connectivity: <ul style="list-style-type: none"> Dual Band 802.11ac Wireless WiFi at 2.4GHz and 5.0GHz Bluetooth 5.0 Low Energy (BLE) Gigabit Ethernet Port At least 1x PCIe 2.0 interface At least 2x USB 3.0 with maximum speed of 5Gbps At least 2x USB 2.0 port At least 2x micro-HDMI port and capable of outputting 4k@60p At least 2x 4-lane MIPI At least 40 General Purpose Input Output Pin Other Features: <ul style="list-style-type: none"> Capable of 4k60p HEVC Decoding After Sale support: <ul style="list-style-type: none"> Must have a minimum of 1-year warranty upon delivery on hardware board inclusive of the supplied microSD card.
3	Inertial Measurement Unit 	2 units	<ul style="list-style-type: none"> 9 DOF Inertial Measurement Unit (IMU) Breakout Board for prototyping purposes Utilising the following IC in one board: <ul style="list-style-type: none"> ISM330DHCX MMC5983MA 3D Accelerometer with selectable full scale up-to 16g 3D Gyroscope with selected full scale up-to 4000dps Magnetometer full scale range up-to 8 Gauss Maximum data output rate: At least 1000 Hz Inclusive of onboard sensitivity compensation and temperature sensor Serial communication capability: I2C and SPI (selectable with soldering pad) Voltage input range: From 1.70 V to 3.60 V Board interrupt output pin: 2 solderable output pads Optional: Qwiic connectors
4	Tachometer 	1 unit	<ul style="list-style-type: none"> Handheld non-contact tachometer for research purposes RPM Measurement: Up to 99,999 RPM RPM Measurement Accuracy: $\pm 0.04\%$ Measuring distance range: From 50 mm to 200 mm Battery-powered device Have the following feature: <ul style="list-style-type: none"> Automatic power off Data Hold MAX/MIN Overload indication Device display: <ul style="list-style-type: none"> High contrast backlit LCD display 5-digit reading display Device Operational range:

Bil.	Alat / Contoh Gambar	Kuantiti	Spesifikasi
(a)	(b)	(c)	(d)
			<ul style="list-style-type: none"> Operational temperature: From -10°C to 50°C Storage temperature: From -20°C to 60°C Operating and storage relative humidity: Up to 80% Device weight: Approximately 80 g to 150 g (without battery) Includes user manual in English Language After Sale support: <ul style="list-style-type: none"> Must have a minimum of 1-year warranty upon delivery
5	Anemometer 	1 unit	<ul style="list-style-type: none"> Handheld device measuring air velocity and air temperature simultaneously with accurate readings for research purposes Suitable for outdoor usage and capable measuring low wind speeds Comes with rotary vane and NTC-type precision thermistor RoHS-certified Measurement: <ul style="list-style-type: none"> Air velocity: <ul style="list-style-type: none"> Range: Up to 25 m/s Resolution: 0.01 m/s Accuracy: $\pm 3\%$ Air temperature: <ul style="list-style-type: none"> Range: From -10°C to 60°C Resolution: 0.1°C Accuracy: $\pm 2^\circ\text{C}$ Inclusive features: <ul style="list-style-type: none"> Data Hold MAX/MIN/AVG reading Automatic power off Low battery indication Must have either Data Storage or Bluetooth connectivity with suitable app for real-time and historical data logging Exchangeable units: <ul style="list-style-type: none"> Air velocity: At least m/s or knots Air temperature: °C or °F Device display: <ul style="list-style-type: none"> Backlit LCD display Dual-line 4-digit reading display Device Operational range: <ul style="list-style-type: none"> Operating temperature: From 0°C to 50°C Storage temperature: From -10°C to 60°C Operating and storage relative humidity: Up to 80% Battery-powered device <ul style="list-style-type: none"> Optional built-in rechargeable battery with compatible charging cable Device weight: $\leq 500\text{ g}$ Includes user manual in English Language, and soft carrying case After Sale support: <ul style="list-style-type: none"> Must have a minimum of 1-year warranty upon delivery



Bil.	Alat / Contoh Gambar	Kuantiti	Spesifikasi
(a)	(b)	(c)	(d)
6	Raspberry Pi Camera Sensor:  Lens: 	2 units	<ul style="list-style-type: none"> High Quality Camera Module with interchangeable lens for Raspberry Pi. Sensor Specification: <ul style="list-style-type: none"> Sensor size: 12.3 Megapixel Pixel Size: 1.55 μm x 55 μm Adjustable back focus from 12.5 mm to 4 mm Lens Mounts: C Mount or CS Mount Removable IR Filter With attached ribbon cable connector minimum length of 200 mm Output format: RAW12/10/8 and COMP8 Lens Specification: <ul style="list-style-type: none"> Lens Mount: C Mount or CS Mount to fit the supplied camera module Lens POV: Minimum 120 Degrees After Sale support: <ul style="list-style-type: none"> Product must have a minimum of 1-year warranty for both sensor and lens
7	LTE Antennae 	2 units	<ul style="list-style-type: none"> High Gain Antenna for LTE communication. No power required Minimum antenna gain: 7dBi Antenna connector: SMA Male Antenna Operating Frequency range: 800 MHz to 2100 MHz Antenna is equipped with weather protection for outdoor use under harsh conditions Include datasheet
8	1-kilogram Load 	20 units	<ul style="list-style-type: none"> Chrome Plated Steel Scale Weights used for weight calibration purposes Weight: 1000 g Precision Class: M3 or better
9	500-grams Load 	4 units	<ul style="list-style-type: none"> Chrome Plated Steel Scale Weights used for weight calibration purposes Weights Weight: 500 g Precision Class: M3 or better
10	100-grams Load 	10 units	<ul style="list-style-type: none"> Chrome Plated Steel Scale Weights used for weight calibration purposes Weight: 100 g Precision Class: M3 or better
11	10-grams Load 	20 units	<ul style="list-style-type: none"> Chrome Plated Steel Scale Weights used for weight calibration purposes Weight: 10 g Minimum Precision Class: M3 or better

