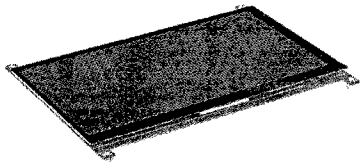
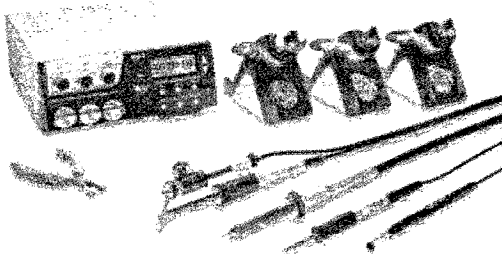
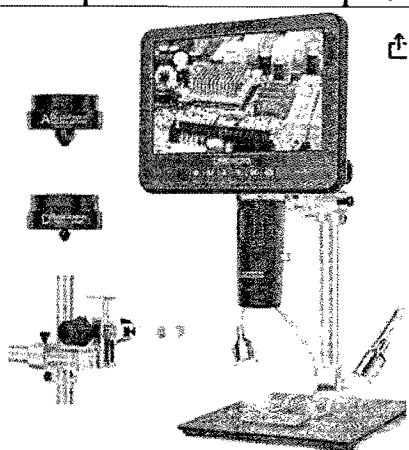


Project M4S2AD: Mutli-Modality & Multi-Model Surveillance System for Anomaly Detection component list (POC-PCC1)

S. No	Component	Specifications	Quantity
1	Thermal & Optical Bi-spectrum Network Bullet Camera/HIKVISION DS-2TD2637-15/P(B) Or Equivalent	 Specs and Features: • Image Sensor: Vanadium Oxide Uncooled Focal Plane Arrays • Resolution: 384 x 288 • Focal Length: 9.7 mm • Digital Zoom: ×2, ×4 • Image Sensor: 1/2.7" Progressive Scan CMOS • Resolution: 2688 × 1520 • Shutter Speed: 1 s to 1/100,000 s • Day & Night Mode: IR Cut Filter with Auto Switch • WDR: 120 dB • IR Distance: Up to 30 m • Protocols: IPv4/IPv6, HTTP, HTTPS, 802.1x, QoS, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE, TP, Bonjour, SFTP, SRTP, SSL • Communication Interface: 1, RJ45 10 M/100 M Self-adaptive Ethernet-Interface. 1, RS-485 interface (half duplex) • VCA Range for Humans: 70 m • VCA Range for Vehicles: 210 m • Accessories: • Mounts & Brackets • Cables & Connectors: Ethernet cables, coaxial cables. • Power Supply: 12V DC, 24V AC Adapter. • SD Card Storage: 512 GB • Warranty: OEM • Or Equivalent to Above Specs	1
2	7inch Capacitive Touch Screen LCD (C), 1024×600, HDMI, IPS, Low Power or Equivalent	 Specs and Features: • Size: 7 inch	2

		• Resolution: 1024x600 • HDMI Display Interface • Viewing angle (°): 170 • Capacitive touch type • Touch points: 5 • Touch Port: USB • Low power consumption • Voltage/Current: 5V/3A • CE Certified Accessories: • Power/Touch cable (USB Type-A to Micro-B) • HDMI Cable • Screw Pack Bicolor case for protection and unified device look • Warranty: OEM Or Equivalent to Above Specs	
3	3-Channel Rework Station, 420 W (600 W) WXR3030 Set 230V	 Specs and Features: • Power unit WXR 3, 3 channels with WXHAP 200 Hot air iron, WXDP 120 Desoldering iron and WXP 65 Soldering iron Warranty: OEM Or Equivalent to Above Specs	1
4	SX1278 LoRa Module 433MHz 10KM Ra-02 with Antenna Or Equivalent	Specs and Features: • Lora [™] Spread Spectrum modulation technology • Constant RF power output at + 20dBm-100mW voltage change • Half-duplex SPI communication • Supports FSK, GFSK, MSK, GMSK, LoRa [™] and OOK modulation modes • Automatic RF signal detection, CAD mode and very high speed AFC • Packet engine with CRC up to 256 bytes • Small footprint dual-row stamp-hole patch package • Shielded housing • Spring Antenna • Communication distance: 15KM • Sensitivity: down to -148dBm • Programmable bit rates: up to 300kbps • RSSI dynamic range: 127dB • Wireless frequency: 433MHz • Working voltage: 1.8-3.7v • Working temperature: -40-+80	4

		Warranty: OEM Or Equivalent to Above Specs	
5	Lego parts with parts number Or Equivalent	Specs and Features: • Batteries: • 8878 Power Functions Rechargeable Battery Box • Motors: • 99455 Electric, Motor EV3, Medium • 88003 Power Functions L-Motor • 8883 Power Functions M-Motor • Extension wires and Cables: • 8886 Power Functions Extension Wire (20cm) • 45514 Cable Pack EV3 • Gears: • 3649 Technic, Gear 40 Tooth • 3648 Technic, Gear 24 Tooth (2nd Version - 1 Axle Hole) • 6589 Technic, Gear 12 Tooth Bevel • 10928 Technic, Gear 8 Tooth with Dual Face • 4716 Technic, Gear Worm Screw, Long • 3743 Technic, Gear Rack 1 x 4 • 6588 Technic, Gearbox 2 x 4 x 3 1/3 • Pin connector: • 48496 Technic, Pin Connector Toggle Joint Smooth Double with 2 Pins • 32530 Technic, Pin Connector Plate 1 x 2 x 1 2/3 with 2 Holes (Double on Top) • 62462 Technic, Pin Connector Round 2L with Slot (Pin Joiner Round) • 6558 Technic, Pin 3L with Friction Ridges • 4459 Technic, Pin with Friction Ridges without Center Slots • 32002 Technic, Pin 3/4 • 4274 Technic, Pin 1/2 without Friction Ridges • Bushes: • 3713 Technic Bush • 4265c Technic Bush 1/2 Smooth • 4265a Technic Bush 1/2 Toothed, Four Interior Ridges • Axles: • 3737 Technic, Axle 10L • 44294 Technic, Axle 7L • 3706 Technic, Axle 6L • 3705 Technic, Axle 4L • 18651 Technic, Axle 2L with Pin with Friction Ridges • 43093 Technic, Axle 1L with Pin with Friction Ridges • Bricks: • 3703 Technic, Brick 1 x 16 with Holes	2

		• 2730 Technic, Brick 1 x 10 with Holes • 3894 Technic, Brick 1 x 6 with Holes • 3701 Technic, Brick 1 x 4 with Holes • Liftarm: • 1x 32525 Technic, Liftarm Thick 1 x 11 • 32524 Technic, Liftarm Thick 1 x 7 • 32316 Technic, Liftarm Thick 1 x 5 • 32523 Technic, Liftarm Thick 1 x 3 • 43857 Technic, Liftarm Thick 1 x 2 • 18654 Technic, Liftarm Thick 1 x 1 (Spacer) • 32526 Technic, Liftarm, Modified Bent Thick L-Shape 3 x 5 • 32140 Technic, Liftarm, Modified Bent Thick L-Shape 2 x 4 • 60484 Technic, Liftarm, Modified T-Shape Thick 3 x 3 • 32056 Technic, Liftarm, Modified Bent Thin L-Shape 3 x 3 • 41677 Technic, Liftarm Thin 1 x 2 - Axle Holes • Plates: • 4032 Plate, Round 2 x 2 with Axle Hole • 3020 Plate 2 x 4 • 3021 Plate 2 x 3 • 60479 Plate 1 x 12 • 4477 Plate 1 x 10 • 3666 Plate 1 x 6 • 3710 Plate 1 x 4 • 3023 Plate 1 x 2 • 3069 Tile 1 x 2 • 3003 Brick 2 x 2 • 3001 Brick 2 x 4 • 3004 Brick 1 x 2 • Lego propeller 3 blade (6041) Warranty: OEM Or Equivalent to Above Specs	
6	LM246MS 3 Lens 7 inch HDMI Digital Microscope 2000X for Soldering Or Equivalent	 Specs and Features:	1

		• LM246MS 3 Lens 7 inch HDMI Digital Microscope 2000X for Soldering with 13" Arm Boom Stand • UHD 2160P, Error Coin Microscope Full View of Coins • Microscope Kit for Adults, PCB Repair DIY Warranty: OEM Or Equivalent to Above Specs	
7	DJI Matrice 400 Or Equivalent	Specs and Features: • Aircraft Dimensions & Weight Unfolded Dimensions: 980 × 760 × 480 mm (L×W×H) (with landing gear) Folded Dimensions: 490 × 490 × 480 mm (with landing gear and gimbal) • Takeoff Weight: Without Batteries: ~5.02 kg With Batteries: ~9.74 kg • Maximum Takeoff Weight (MTOW): 15.8 kg • Performance & Flight Capabilities Max Payload: 6 kg (measured at sea level on third gimbal connector) Max Flight Time: 59 minutes (forward flight at 10 m/s with H30T payload) Hover Time: Up to 53 minutes Global Drone HQ Dronefl Max Horizontal Speed: 25 m/s Ascent/Descent Speed: 10 m/s ascent, 8 m/s descent Max Flight Distance: Up to ~49 km (no wind) Dronefly Global Drone HQ Max Wind Resistance: ~12 m/s Global Drone HQ • Environmental & Operational Ratings Operating Temperature Range: -20 °C to 50 °C Ingress Protection: IP55 — dust and rain resistant Launch/Landing Capability: Designed to take off from stationary vessels and land on moving ships—ideal for marine and offshore operations InDro Robotics Store Payload & Gimbal System Supports single, dual, and triple gimbal setups: Single connector: up to 1.4 kg Dual connector: up to 950 g Third connector: up to 3 kg (quick-release) or 6 kg (screw-lock) • Compatible with a wide array of payloads via E-Port V2 and PSDK interfaces, including: Zenmuse H30 / H30T (5-in-1 sensors)	1

Zenmuse L2 (LiDAR + RGB + IMU)
Zenmuse P1 (mapping camera)
Zenmuse S1 (spotlight), V1 (speaker), Manifold 3, and third-party modules

- **Navigation & Sensing Systems**

GNSS Support: GPS, Galileo, BeiDou, GLONASS
(GLONASS requires RTK module)

- **RTK Accuracy:**

Horizontal: 1 cm + 1 ppm

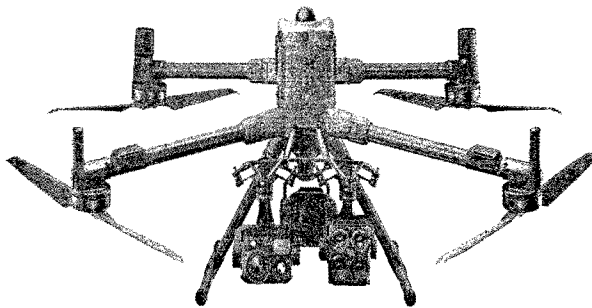
Vertical: 1.5 cm + 1 ppm

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- **Hovering Accuracy (in vision/RTK):**

Vertical: ± 0.1 m

Horizontal: ± 0.3 m



- **Obstacle Sensing Suite:**

Surround-view fisheye cameras (full-color, low-light)

360° rotating LiDAR (range up to 100 m; power-line detection up to ~35 m)

mmWave radar (six directional sensors; detect power lines up to ~50 m)

- **Video Transmission & Connectivity**

System: O4 Enterprise Enhanced Video Transmission

Max Transmission Range:

40 km (FCC);

20 km (CE/SRRC/MIC)

Live View: Triple-channel 1080p @ 30 fps or higher (some sources cite 60 fps)

- **FWF World Solutions**

Downlink Speed: Up to 80 Mbps

- **Intelligent Features & Ecosystem**

Edge AI via Manifold 3 supports over 100 TOPS for:

Object recognition, AR overlay (e.g., power-line AR)

Terrain following, autonomous flight modes (POI, Smart Track)

- **Automated 3D mapping routes**

Connectivity: 8 WLAN antennas, 2 sub-2G antennas, 4 ×

		4G antennas—supports Dual Control Mode, 2 × Cellular Dongle 2, Airborne Relay Mode • Intelligent Features & Ecosystem Edge AI via Manifold 3 supports over 100 TOPS for: Object recognition, AR overlay (e.g., power-line AR) Terrain following, autonomous flight modes (POI, Smart Track) Automated 3D mapping routes • Software & Developer Tools: DJI Pilot 2, FlightHub 2, DJI Terra, DJI Modify SDKs: Payload SDK, Mobile SDK, Cloud API, Open Data Access, Developer Mode support with Manifold 3 Accessories: • Gimbal Connectors • Power & Battery • Remote Transmission • RTK Positioning • Payload Integration • Maintenance Accessories • Propellers, Dampers, Cleaning/Protective Kits • E-Port V2 Kits, X-Port, SKYPORT V3 • D-RTK 3, D-RTK 2 • RC Plus 2, sub-2G SDR, 4G Dongle Warranty: OEM Or Equivalent to Above Specs	
8	DJI Zenmuse P1 Or Equivalent	Specs and Features • Sensor 45 MP full-frame, 4.4 μm pixels • Image Resolution: 8192 × 5460 pixels • Capture Interval: 0.7 seconds • Lenses Supported: 24 mm, 35 mm, 50 mm (DL mount) • Shutter Type: Mechanical (Global) & Electronic • Stabilization: 3-axis gimbal (±0.01°) • Accuracy: ~3 cm horiz / 5 cm vert • TimeSync: 2.0 Microsecond alignment • Smart Oblique Capture: Yes (20–50% post-	1

		processing gain) • Area Coverage per Flight: Up to 3 km² (up to 7.5 km²/day) • Size: 198 × 166 × 129 mm • Weight Approx.: 800 g • Temp Range: -20 °C to 50 °C • Protection Rating: IP4X Warranty: OEM Or Equivalent to Above Specs	
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- a) Required brands (where applicable, minimum 3 x brands).
- b) Specify if installation, testing, commissioning and training is required for machinery/equipment.
- c) Warranty requirement (where applicable).