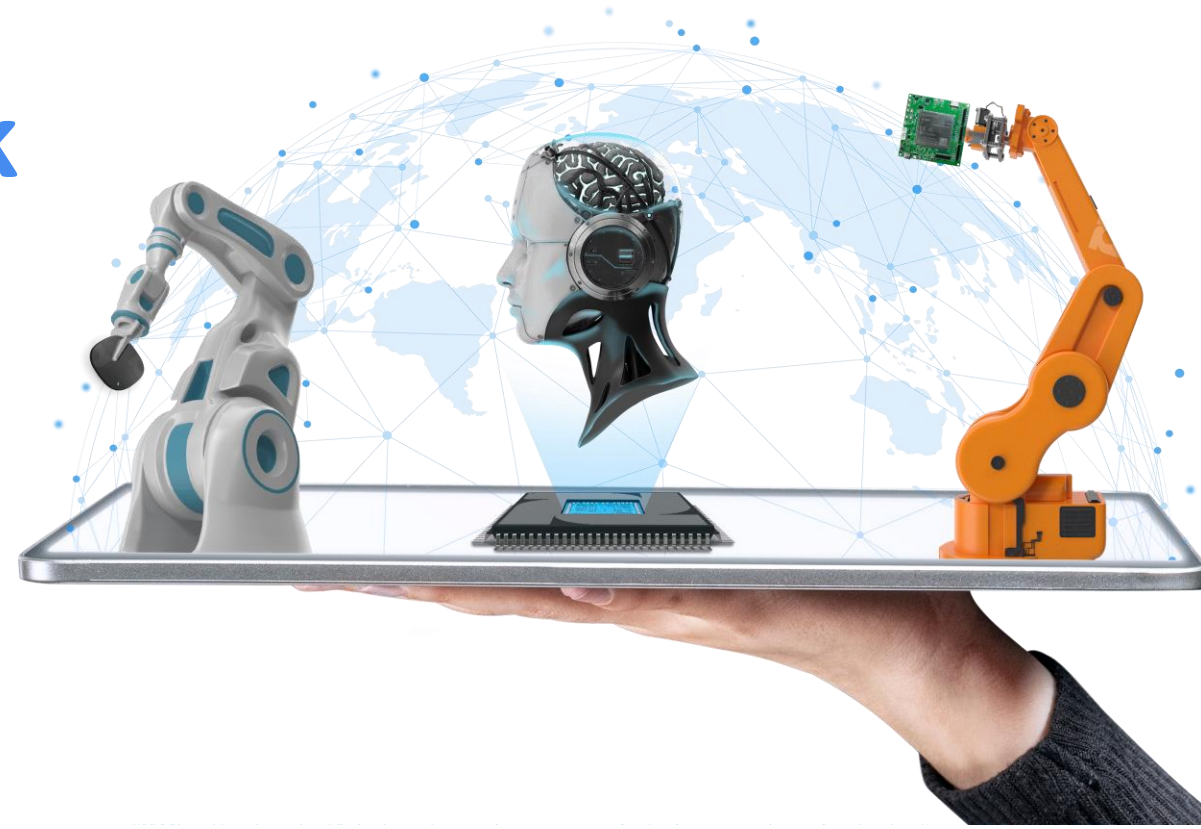


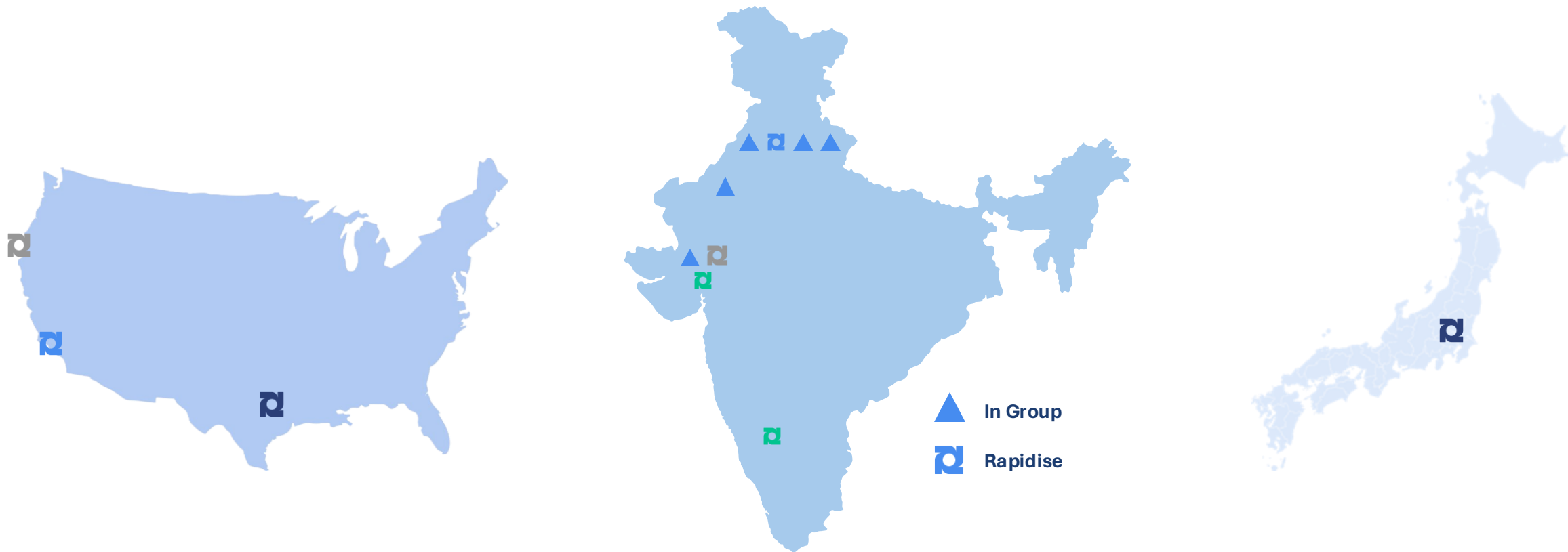
Cloud Based Product Engineering &
Electronics Manufacturing



Security and Surveillance Industry Capabilities Deck For MOBOTIX



Global Footprint:



- 1 Manufacturing Facility
- 1 Sales Offices
- 1 USA HQ



- 3 R & D Centers
- 9 Manufacturing Facilities
- 1 India HQ



- 1 Sales Office



Embedded Hardware

- Hardware Architecture
- BoM Optimization
- Electrical Schematic Design
- Multilayer PCB Layout Design
- High-Speed Board Design
- Analog & RF Design
- Certification & DFM
- Image, Audio, Antenna Tuning



AI Development

- Computer Vision
- Edge Computing & AI
- Algorithm Development
- Natural Language Processing
- Predictive Maintenance
- Object Detection
- Face Detection



Mechanical Design

- New ID concept generation
- Product Design & Development
- Reverse Engineering & Concept designing
- Simulation and Analysis
- IP Standards Validation
- 3D Engineering



Embedded Software

- Bare Metal, RTOS, Linux, AOSP
- BSP, Device Driver and Firmware
- Linux Kernel Customization
- HAL, I2C, SPI, PCIe, WiFi, Cellular, Sensors
- Multimedia Codec & Framework
- FOTA - Firmware Over the Air
- User Interface Software



Information Technology

- Video Based Surveillance Dashboard Development
- Web & Mobile App Development
- API Development and integration
- IoT Dataflow Architecture
- Data Visualization
- Managed DevOps Services
- Cloud Engineering - AWS, Azure, GCP
- Robotic Process Automation
- Metaverse, AR/VR App



New Product Introduction

- Certifications
- DFM Analysis
- Supply Chain Management
- Automated Test Jigs
- Feature Enhancing and Re-engineering
- BOM Optimization
- Performance Optimization

Security & Servailance Focused Services - Product Reliability Test Lab :



EMI Testing

- Electro Magnetic Interference
- ESD checker system
- ESD Simulator
- Semi Anechoic Chambers:
- EMI Test Receivers:
- RF Power Amplifiers:
- Pre-Amplifiers
- Antennas
- Directional Couplers
- BCI Probes



RF Tuning

- Spectrum Analyzers
- Vector network Analyzers
- Signal Generators
- RF and Microwave Switches



Vehicle Testing

- Vehicle Cold Chamber
- Chassis Dynamometer



IP Rating

- Air Showers
- Bench Top Environmental Chamber
- Temperature & Humidity Test
- Salt Spray Chamber
- Dust Chamber
- Water Spray
- Thermal Shock
- Vibration Test
- Transient Voltage
- Laboratory Oven



EPC Testing

- 100x Microscope
- Profile Tuning Suite
- ESD protected production floors
- Electro-Static Discharge
- Dark Room for camera lens calibration
- Resistance Meter
- Power Analyzer
- Thermal Imager
- Function Generator
- Insulation Test
- Electronic Lead Test
- LCR Meter
- Highly Accelerated Stress Test
- Switch Endurance
- Oscilloscope
- ACG Rig Test Bench (Vehicle Simulation)
- Digital Call Box and Analog Call Box



Water Spray Chamber



Salt spray & Thermal Shock



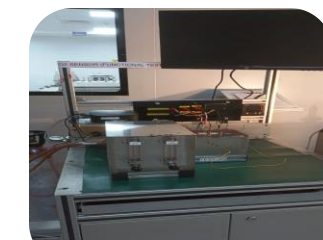
Accelerated Stress Test



Hot / Cold Environment Chamber



MID Motor Performance Test Rig



Sensor Functional Tester



Performance Measurement



EMI-EMC

Security & Surveillance



VMS System



Tejas Safety



Surveillance Camera



Smart BLE Lock



Smart Access Control System



LoWRA Gateway



Location Tracker



Wi-Fi Door Bell



Smart Mailbox



Security and Surveillance Core Expertise:

Video Management System

Camera Design & Manufacturing

AI on Edge

Access Control Systems

Identity and Access Management (IAM)

Security Information and Event Management (SIEM)

Asset Trackers

Various AI Algorithms supporting Security and Surveillance



Rapidise RISE Series & Multimedia Platform



RISE SERIES SMART IOT MODULE ROADMAP

Edge Computing
Smart Cameras
Autonomous
Vehicles

RISE Z1
CPU 8 Core
DSP 4 Core
NPU 48 Tops
GPU 719 MHz
ISP Triple (108MP)



Drones Real-time Object Tracking
Military Low Light Camera Vision
Defense Environment Monitoring

Edge Computing
Automotive
Industrial Robot
Digital Signage

RISE X4
CPU 8 Core
DSP 2 Core
NPU 12 Tops
GPU 812 MHz
ISP Triple (58MP)



Automotive Pedestrian Detection, Multi-Class Vehicle Detection
Smart Infra Real-time Incident Detection, Over Speed Detection
Healthcare SPO2, Heart Rate, Blood Pressure, Bilirubin

Edge Computing
Retail
Agritech
Security
Surveillance

RISE X3
CPU 8 Core
DSP 2 Core
NPU 8 Tops
GPU 550 MHz
ISP Triple (58MP)



Surveillance Face Recognition, Gun Detection, Tailgating
Automotive Lane Departure, Blind Spot, Seat Belt
Agritech Crop Health, Soil Analysis

Industrial
Automation
Smart City
Healthcare
Robotics

RISE X2
CPU 8 Core
DSP 2 Core
NPU 5 Tops
GPU 315 MHz
ISP Dual (44MP)



Industrial IoT PPE Compliance, Product Assembly QC
Smart City Signal-Light Violation Alerts, Light Traffic Analytics, ANPR
Healthcare Fall Detection, Patient Monitoring

Automotive
Retail
Health Care
Robotics

RISE X1
CPU 8 Core
DSP 2 Core
NPU 3.5 TOPS
GPU 315 MHz
ISP Dual (44MP)



Automotive Driver Drowsiness, Blink Detection, Forward Collision
Retail Smart Shelf Stock Alerts, Heatmap
Healthcare Basic Mask Detection, rPPG HR Estimation

Automotive
Retail
Health Care
Robotics

RISE Y1
CPU 8 Core
DSP 2 Core
NPU 2 TOPS
GPU 950 MHz
ISP Dual (25MP)



Automotive Driver Drowsiness, Blink Detection, Forward Collision
Retail Smart Shelf Stock Alerts, Heatmap
Healthcare Basic Mask Detection, rPPG HR Estimation

Automotive
Retail
Health Care
Robotics

RISE C1
CPU 8 Core
DSP Hexagon™
NPU 1 TOPS
GPU 950 MHz
ISP Dual (16+24)



Automotive Driver Drowsiness, Blink Detection, Forward Collision
Retail Smart Shelf Stock Alerts, Heatmap
Healthcare Basic Mask Detection, rPPG HR Estimation

1 TOPS
QCM 6125

2 TOPS
QCS SM6225

3.5 TOPS
QCS 5430

5 TOPS
QCS 5430

8 TOPS
QCS 5430

12 TOPS
QCS 6490

48 TOPS
QCS 8550

RISE C1 SERIES MODULE ROADMAP

Automotive
Legal & Insurance
Safety & Security
Analytics & AI
Fleet & Logistics

Automotive
Robotics & Machinery
Process Control

Healthcare
Traffic Cam
Industrial & Field Work
Transportation

Industrial Automation
Smart City
Security
Smart Hotel

Automotive
Security
Robotics

Dashcam
CPU 8 Core
DSP Hexagon™
NPU 1.1 TOPS
GPU 950 MHz
ISP Dual(16+24)



Automotive Surveillance
Legal Evidence, Verification
AI Analysis, Prediction

HMI
CPU 8 Core
DSP Hexagon™
NPU 1.1 TOPS
GPU 950 MHz
ISP Dual(16+24)



Automotive Navigation, Infotainment, Telematics
Robotics & Machinery Command, Calibration, Execution
Process Control Supervision, Feedback, Alarm

Body Camera
CPU 8 Core
DSP Hexagon™
NPU 1.1 TOPS
GPU 950 MHz
ISP Dual(16+24)



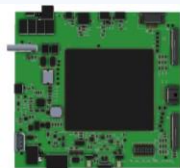
Traffic Cam Vehicle tracking, Car Accident Witness, Evidence
Healthcare Monitoring, Protection, Triage
Industrial & Field work Inspection, Auditing, Repair
Transportation Navigation, Validation

LTE Camera
CPU 8 Core
DSP Hexagon™
NPU 1.1 TOPS
GPU 950 MHz
ISP Dual(16+24)



Industrial IoT PPE Compliance, Product Assembly QC
Smart City Signal-Light Violation Alerts, Light Traffic Analytics, ANPR
Healthcare Fall Detection, Patient Monitoring
Security Theft Alert, Home Surveillance

RISE C1
CPU 8 Core
DSP Hexagon™
NPU 1.1 TOPS
GPU 950 MHz
ISP Dual(16+24)



Automotive Driver Drowsiness, Blink Detection, Forward Collision, Car Accident Witness
Security Home Surveillance, Alarms

RISE C1

LTE CAMERA

BODY CAMERA

HMI

DASH CAMERA

Rapidise AI Libraries





**Intrusion
detection**



**Safety
Gear**



**Fire and Smoke
Detection**



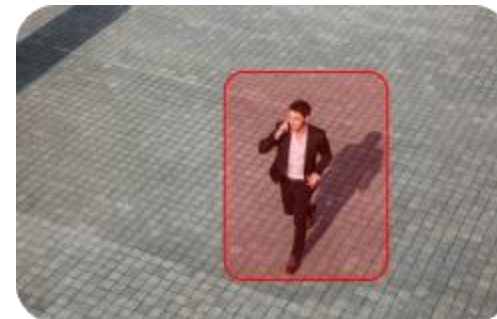
**Gun
Detection**



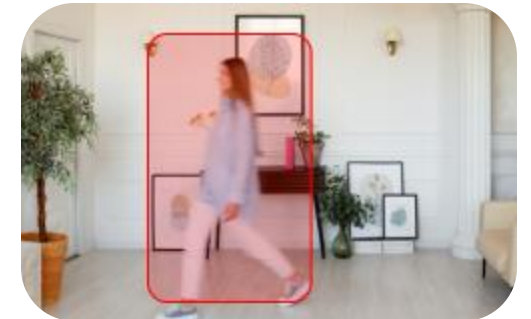
**Violence
Detection**



**Human Activity
Detection**



**Loitering
Detection**



**Motion
Detection**



**Leakage
Detection**



**Tailgating
Warning**



**Facial Recognition
System**



**Sign Language
Detection**



**Word
Spotting**



**Gesture
Control**



**License Plate
Recognition**



**Congestion
Detection**



**No Parking
Detection**



**Pothole
Detection**



**Garbage
Detection**



**Zebra crossing
Violation**



**Accident
detection**



**Deer / Animal
Alert**



**Vehicle in out
counting**



**Vehicle
Classification**



**Overspeed
Detection**



**No helmet
Detection**



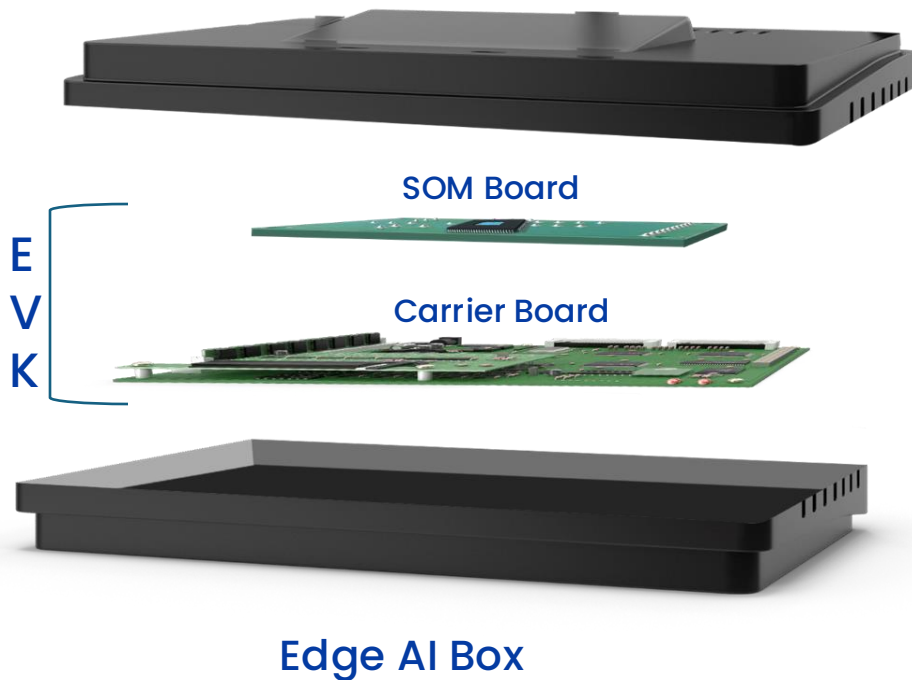
**Red Light Violation
Detection**



**Wrong turn
Detection**

Security and Surveillance focused Rapidise IP Products





On Carrier Board

Platform

SOC - Qualcomm QCS6490
CPU - Qualcomm® Kryo™ 670
GPU - Qualcomm® Adreno™ 643L
Video Processor - Adreno VPU 633
System Memory - RAM 8GB
NPU: 12 TOPS
Android OS

Wireless Connectivity

WiFi + BLE - Inbuilt Support for
Wi-Fi + BLE
4G - Support M.2 3042 4G/3052
(4G module optional)

Interfaces

USB | Ethernet | COM Port | DI/DO

Display Interfaces

1 x HDMI OUT | 1 x DP V1.4 (Over Type-C)

Audio Interfaces

1 x Speaker OUT | 1 x HDMI IN AND 1 x
HDMI OUT with Audio (Over I2S interface)

Camera Interface -

3 x 4-lane D-PHY Camera, 2 x GMSL

Storage

Flash - 128GB eMMC

Expansion - SD Card, M.2 2280 SSD NVMe



Industry 4.0

Product Inspection
Shorting
Predictive Maintenance
Workforce Safety
Energy Management
Productive Measurement

Retail Industry

Head Count
HeatMap
Demographic Analysis
Suspicious Behaviour Identification
Face Recognition

rapidise.co

Healthcare

Heart Rate
Blood Oxygen (SPO2)
Physiotherapy
Fall Detection
Worker Stress Monitoring

Traffic

Automatic Number Plate Recognition
Vehicle In Out Monitoring
No Helmet
No Parking

ADAS/DMS

Collision Detection: Vehicle | Pedestrian
Traffic Sign Detection
Drowsiness
Occupancy
Distraction
Seat Belt

Security & Surveillance

Intrusion Detection
Gun and Gunshot Detection
PPE Kit Detection
Activity Tracking
Fire and Smoke

Tejas

High Power
Multimedia
Application Products

Qualcomm Processors
and Dedicated DSP
with LTE & WiFi.



Astra

Smart Industry
4.0 Solutions

Ready to use
Industrial TI /
NXP SOM and
HMIs



STEM

Telemetry &
Tracking Modules

GPS, GSM/NB IoT
based Location and
Environment
Trackers, Indoor RTLS
with BLE, UWB, WiFi,
LORA, ZigBee, Z Wave
Modules



STEM



N Tag Beacon



E Label



Data Logger

Telep

Ready to Use AI
Algorithms

Hardware
agnostic ready to
use Machine
Learning
Algorithms for
different AI
Applications.



Tejas™ Camera is a cutting-edge AI-enabled Camera Solution for your **Computer vision enabled Camera** product. It gets its processing power from **Qualcomm 625** having 16GB eMMC and 2GB LPDDR3 memory and state of art firmware capabilities with **Android 9.0**. Being focused on Camera-based IoT & AI Applications, Tejas Camera Solution carries wireless technology (**LTE, WiFi, BLE**) provisions as well as inbuilt **GPS, Microphone, and Speaker**.

Specifications:

- SOC: Quectel SC600T (Qualcomm 625)
- Night Vision IR LED with IR Cut Filter
- Board Dimension : 60mm x 60mm x 5mm
- Resolution: 5MP
- Camera Sensor: Sony iMX335 (STARVIS Technology)
- RAM: 2GB LPDDR3 Memory
- Non-volatile memory: 16GB eMMC
- Power Supply: 5V, 3A
- Charging Type: USB TYPE C
- Backup Battery: 3000mah
- Temperature Range: -25°F to 167°F



Tejas Care device has been designed to provide complete base for the need of multiple edge AI applications. This is running on a High-end SOM based on Tejas 625 SoM with Android 9.0 featuring 10" Touch display, 8MP Camera, Mic and Speakers.

It is having seamless connectivity with 4G, GPS, WiFi & Bluetooth for complete remote control and user interface.





**IoT Product
Engineering**



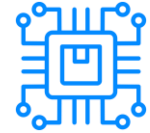
**Artificial Intelligence
& Machine Learning**



**Digital
Transformation**



**Electronics
Manufacturing**



**PCBA & Full
Product Assembly**



USA

1607 South Main Street Unit
Milpitas, CA 95035, USA
Email: business@rapidise.co
Phone: +1 (408) 439-1710



India

4th Floor, Palladium Business Hub,
Ahmedabad, GJ 380005, India
Email: business@rapidise.co
Phone: +91 79492 60170



Japan

Level 27, Tokyo Sankei Building
1-7-2 Otemachi Chiyoda-ku, Tokyo
Email: business.jp@rapidise.co
Phone: 03 3242 6217