# KC N901 Smart Helmet

## Created with decades of ingenuity
## First choice for epidemic prevention

Advanced Metamaterials
High-precision Temperature Screening
Maneuvering Non-interference Screening
Hi-tech Ultimate Experience



**KC** KUANG-CHI

# Five Powerful
## Functions

# Smart Helmet for Unaware and Contactless Temperature Measurement

## Rapid Screening for both indoor and outdoor

# Efficient Helmet for Temperature Recording

Record personal info with their daily body temperature automatically

# Powerful Helmet for Vehicle Screening

Rapid screening for vehicles and passengers

# Powerful Helmet for Verification

Rapid face recognition and identity verification



98.6%

310XXXXXXXXXXXXX83XX

# Smart Helmet with Thermal Imaging
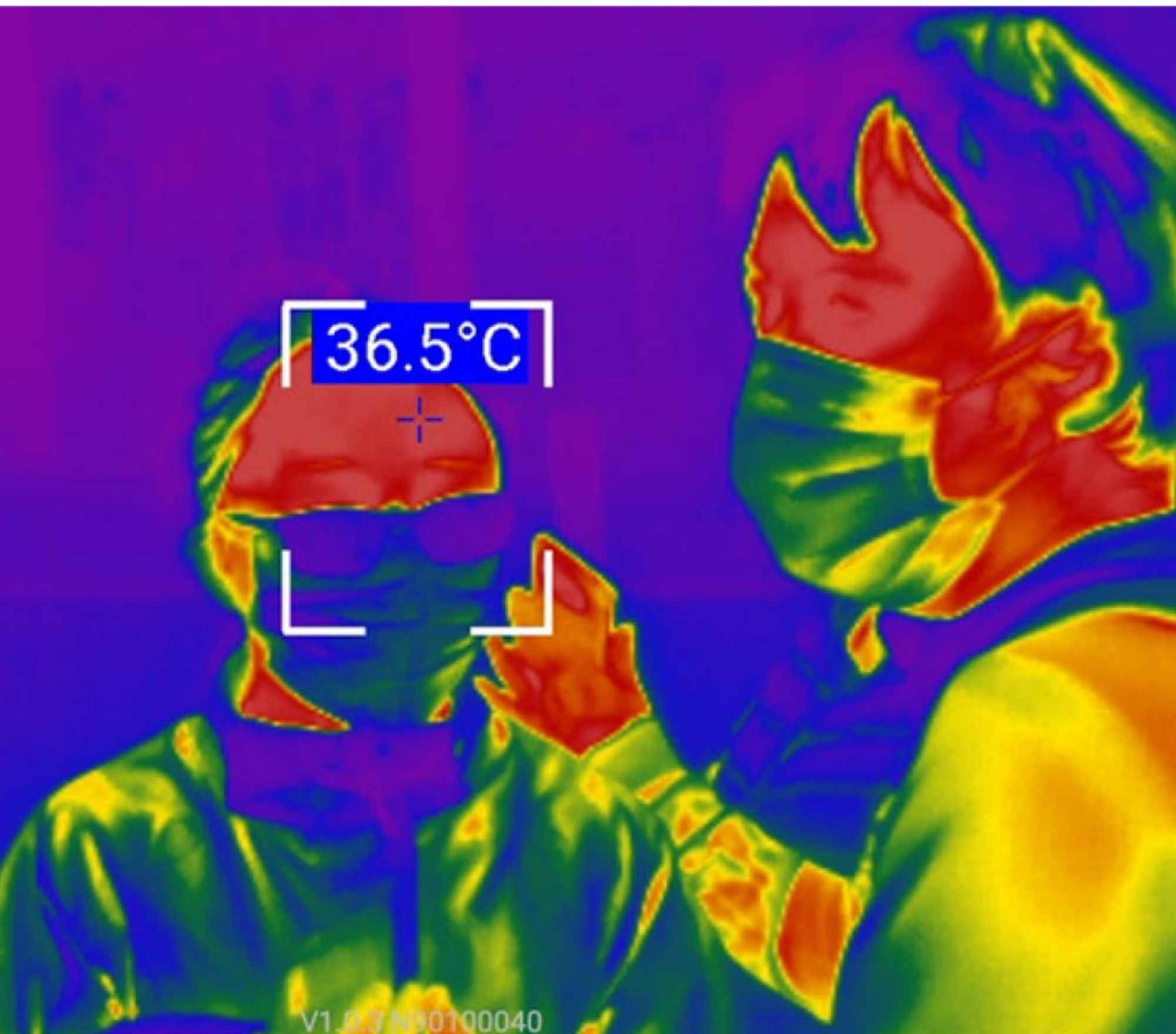
Make the invisible visible

# Nine Modes

# Single-person temperature measurement mode

The temperature of the single target in the center of the screen will be measured. The maximum temperature of different parts of the body is displayed on the AR module. The temperature above the normal range will trigger a audible and visual alarm.

# Large-crowd temperature measurement mode

The temperature of the forehead, collar, arm, and other body parts exposed in the screen will be measured. The system will display the temperature if any part in the screen falls into the preset temperature range. The alarm will trigger when any part of the temperature goes above the threshold value.
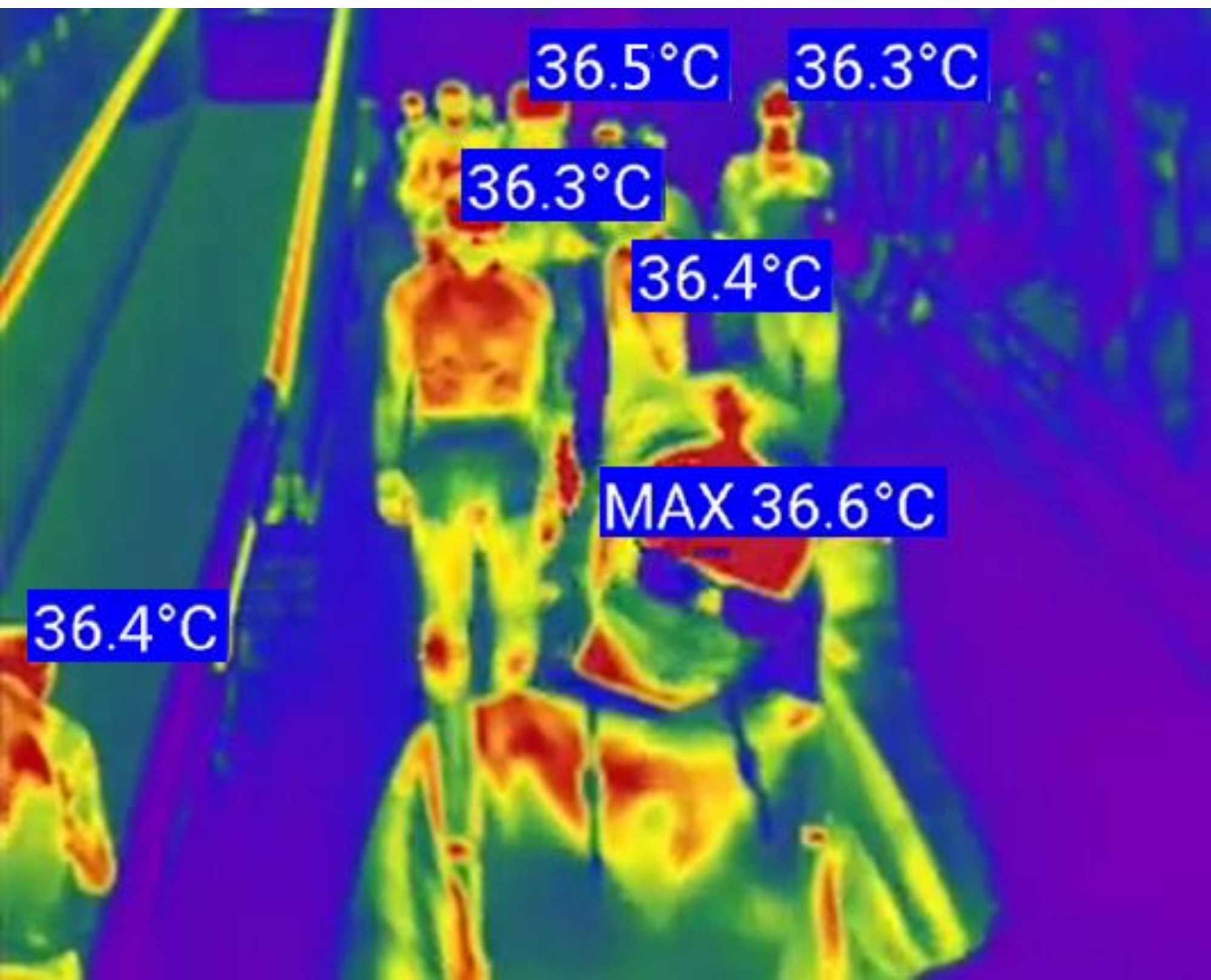
# QR code mode

Scan the QR code to automatically record personal temperature info into the database in real time, allowing paperless data logging.



Result     Name: Mike     ID: 14519

# QR code & temperature measurement mode

Scan the QR code to acquire the personal information first, and take a temperature measurement of the person within 3s. The personnel information and the corresponding temperature will be automatically recorded into database. This will implement paperless registration of the personnel information and the corresponding temperature.



Mike      36.2℃

# License plate recognition mode [1]

Recognize the vehicle license plate , identify and alert unregistered vehicles or suspect vehicles recorded in database.

# License plate recognition & temperature measurement mode [1]

Besides plate identification mentioned before, the helmet can measure the temperature of the single target in the center of the screen. The maximum temperature of different parts of the body is displayed on the AR module, and the temperature above the normal range will trigger a audible and visual alarm.
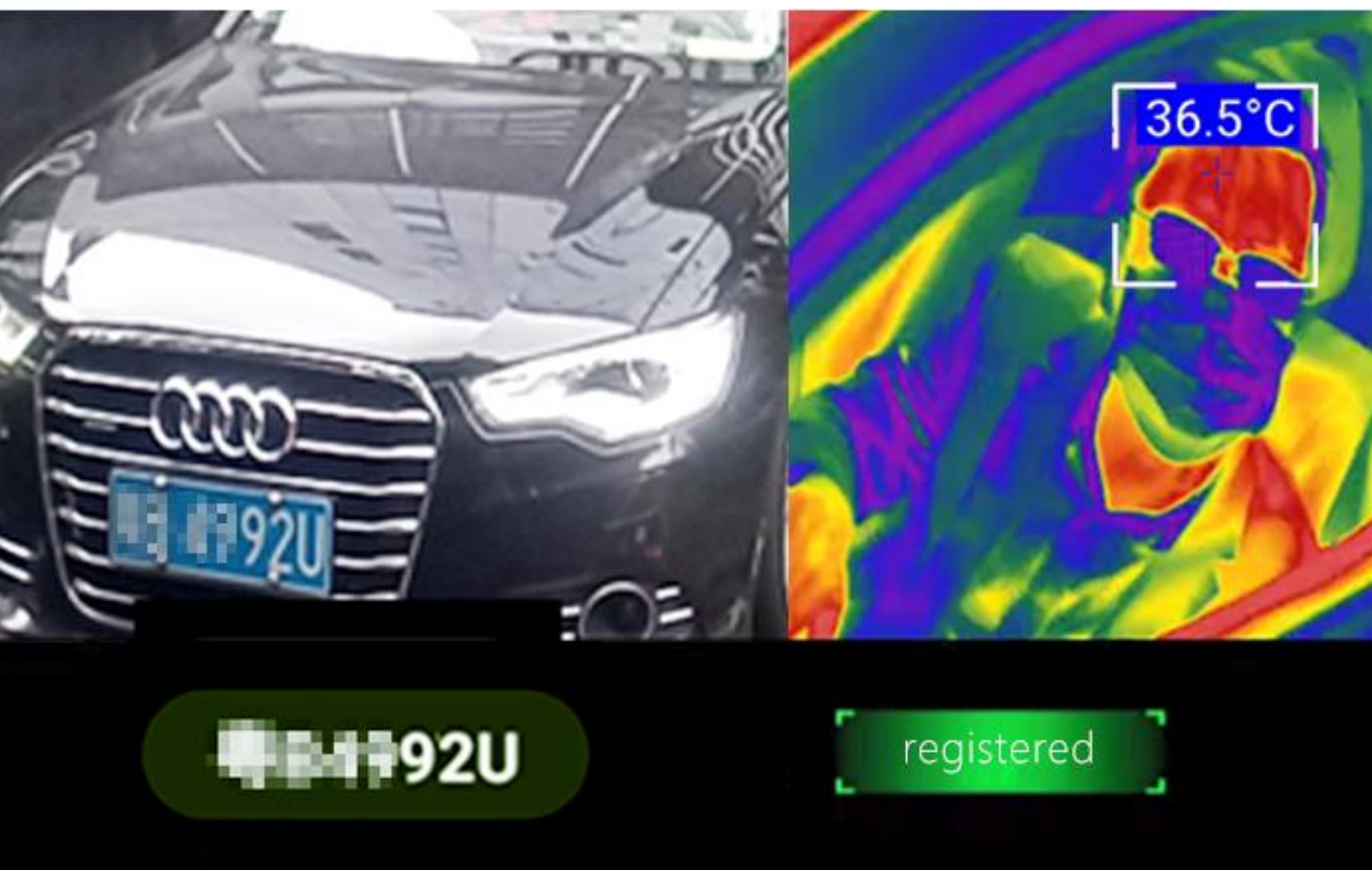


[1]License plate recognition is temporarily only available in mainland China, and could be customized for other countries when needed.

# Thermographic diagnostic Imaging mode

Thermal imaging detection on specific parts of the human body to assist finding the location and size of the lesion areas that cause fever.
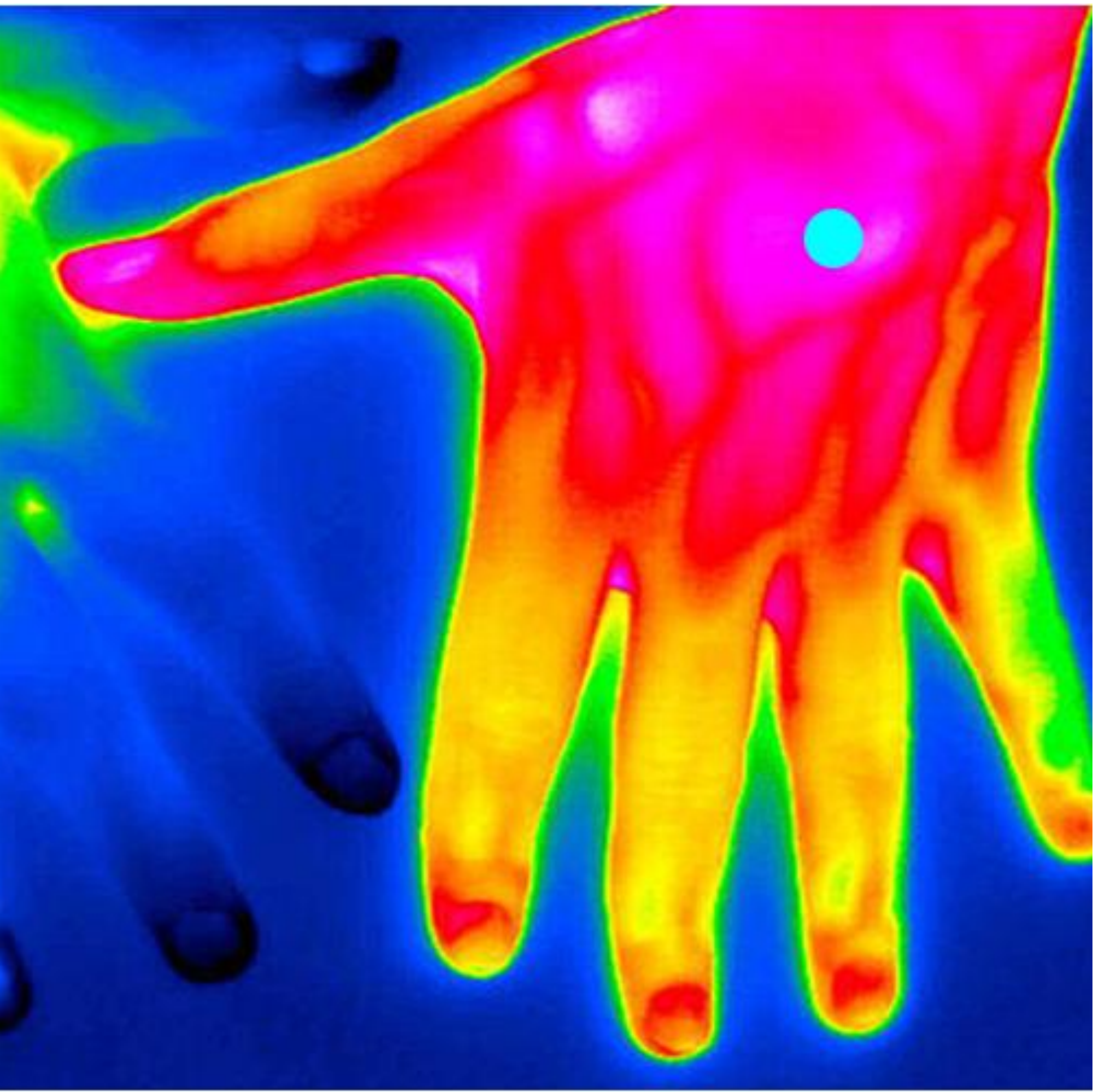
# Night-vision /Facility inspection mode

Thermal imaging scanning of industrial facilities or establishments of night places, HVAC equipment, pipelines and electronic equipment, to assist finding target with abnormal temperature or searching for unauthorized personal.
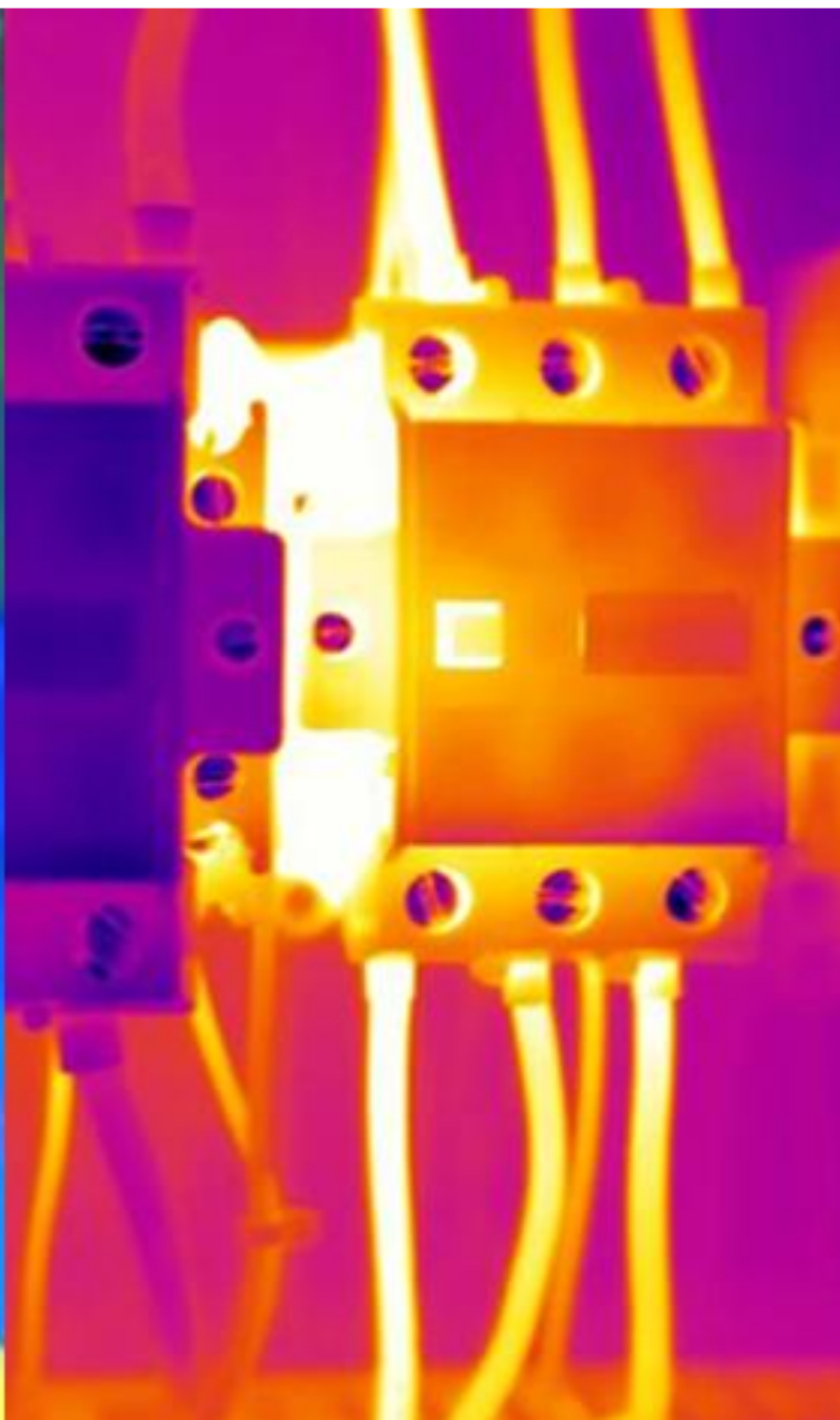
# Face recognition mode

The face of target in the screen is recognized and the personal information will be displayed on the AR display. This mode is applicable for enterprises and institutions to manage their black and white lists of employees and visitors.

# Application
## Scenario

# Hospital

Early detection of the fever patients with the quick unaware and contactless temperature measurement and paperless registration to avoid the viral cross-transmission between medical personnel and potential fever patients.

# Office Buildings

Quick unaware and contactless temperature measurement and paperless registration to distinguish potential patients from others employees in a very short of time.

# Checkpoints

With the build-in unaware and contactless thermometer, police checkpoints for screening patients can be speed up dramatically.

# Central Business District

Quick unaware and contactless temperature measurement and paperless registration to distinguish potential patients from others customers in a very short of time.

# Product Features

# Helmet Body

Advance stab-proof metamaterial materials with energy-absorbing design and ultimate weight reduction

**115**g (0.25 lb)
helmet shell weight

**3**kg (6.6lb)
steel cone

**1**m (39.3inch)
free falling

**1080**g **(2.38** lb)
total weight

Impact without damage

# Helmet Goggles

Same manufacturing process as helmet goggles for pilots

Advanced photochromic material with multiple protection

All-time capability with lighting conditions self-adaption

Air-borne Droplets

High-Speed Impact

Scratch

Fingerprint

Water Mist

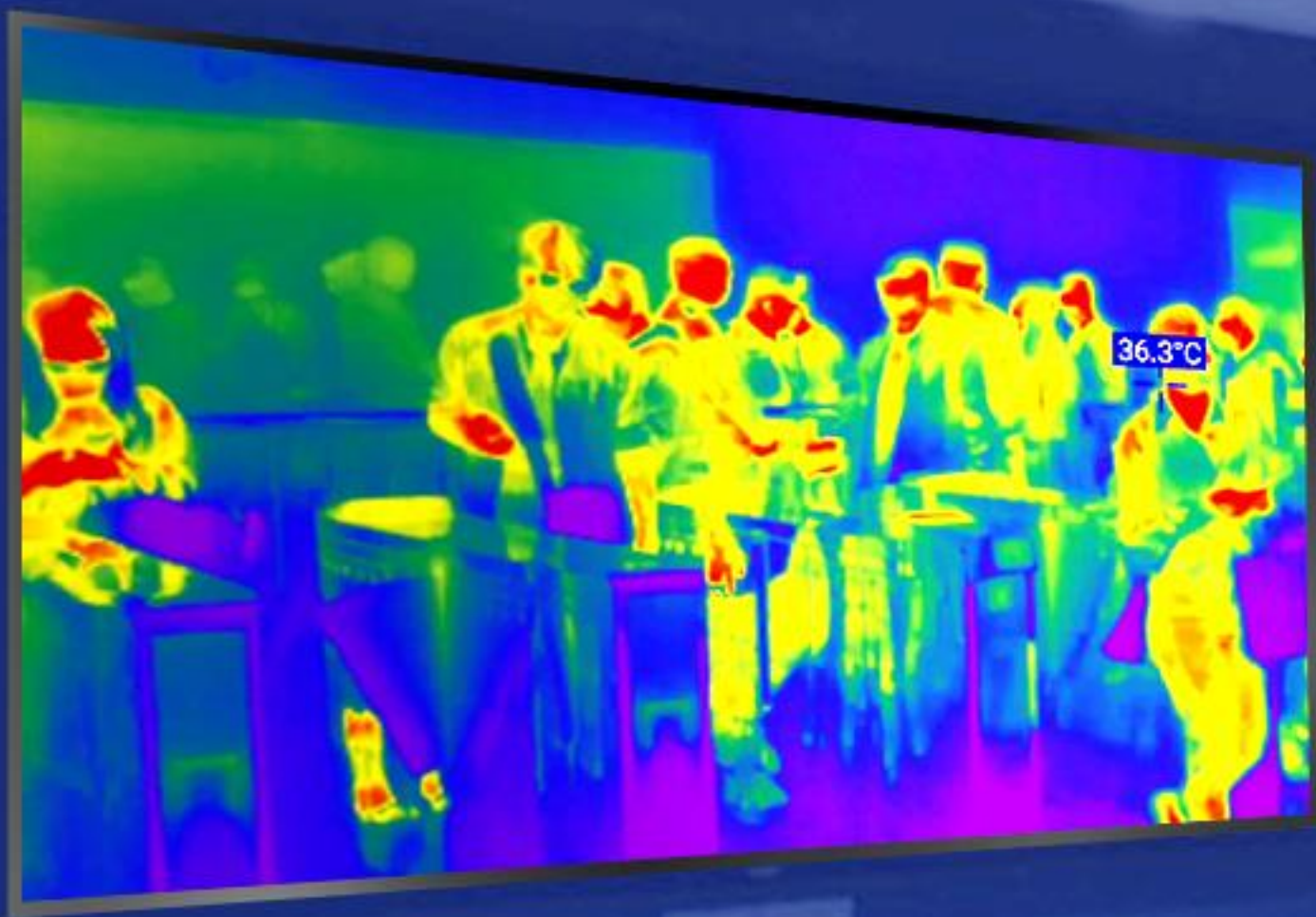prevent high-speed impact of 6mm (0.236 inch) steel ball at 200 m/s(656.2 ft/s) without rupture or penetration

200m/s

# AR Display

High standard array optical waveguide AR technology, 24/7 new visual experience

as watching **74-inch** TV from 118.1 inch (3m) away

36.3°C

Field of view: **35°**

No Dark Corner, Blind Spot or Sense of Oppression

Resolution: 1280 × 720

Rated Brightness: 300 nits

# Communication

Advance metamaterial technology with strong signal, low power consumption and ultra-low radiation

conformal antenna **8-in-1**

Specific Absorption Rate

SAR < **0.05**W/kg(**0.023** W/lb)

only **1/20** of mobile phone radiation

# Design of Gravity Center Balancing

Refer to the balance **design of aircraft** gravity center

Avoid the formation of cantilever structure in working state, so as to **protect the neck** to the greatest extent and **improve wearing comfort**

the range of the gravity center

c.g.diagram < **5**mm (**0.197** inch )

# Infrared Thermal Imaging

**High-accuracy quick unaware and  contactless** temperature measurement

## Efficiency

**200** people/min

## Range

**-20**°C (**-4**°F )     to     **120**°C (**248**°F)

## Accuracy

±**120** °F

## Resolution

**384×288**

# AI Capabilities

Support **offline face recognition and license plate recognition**

Support **QR code identification** for paperless registration

# Battery Capacity

no less than

## 5000 mAh

## Standby time

## 24 h

## 8 h

Temperature [2]
measurement
mode

[2]In most cases, we can turn off the AR screen with one key to reduce power consumption when there is no target for temperature measurement, and the measured endurance can reach 8 hours. In the continuous temperature measurement mode, the endurance is about 5 hours.

# Ergonomics

**Modified Lycra fabric**

High ability to mold to the head

Super stretch and shape retention for extra flexibility

All-day comfort and lasting fit

**Military nylon laces** with high strength

High-grade soft and durable **lamb suede**

**Safety magnetic suction buckle** can be opened quickly and effortlessly with just **one hand**

# Basic Parameters

## Basic information

| | |
|---|---|
| Processor | ARM Cortex A53 octa-core 2.5GHz |
| Operating system | Android 8.1 |
| RAM | DDR 4GB |
| Memory | eMMC 64GB |
| Weight | 1080±10g (2.38±0.022lb) |

## AR display module

| | |
|---|---|
| Display | Array type optical waveguide display |
| Resolution | 1280x720 |
| Field of view | 35° |
| Virtual screen size | Equivalent to watching 74-inch TV from 3m away |
| Rated brightness | 300 nits |

## Infrared thermal imaging module

| | |
|---|---|
| Resolution | 384x288 |
| Response band | 8μm~14μm |
| Image frequency-frame | 25Hz |
| Temperature measurement range | -20°C~120°C (-4°F~248°F) |
| Temperature measurement accuracy | +0.3°C within the specified range(2m by default) |

## Visible light camera module

| | |
|---|---|
| Maximum pixels | 13 megapixels |
| Maximum aperture | F2.0 |
| Field of view | 78° |
| Video resolution | 1080P@30fps |

## Data communication module

| | |
|---|---|
| Wi-Fi | IEEE 802.11 b/g/n , 2.4GHz |
| Bluetooth | BT 4.2, backward compatible with 3.0, 2.1, supporting BLE |

## Battery module

| | |
|---|---|
| Capacity | ≥5000mAh |
| Voltage | DC3.7~4.2V |
| Charging voltage | DC5.0V ±5% |
| Quick charge | Supporting 2A fast charging |

## Protective performance

| | |
|---|---|
| Absorbing collision energy | RF electromagnetic field radiated susceptibility |
| Penetration resistance | Complying with the requirements of penetration resistance test in GA 296-2001 |
| Specific Absorption Rate | SAR < 0.05 W/kg (0.023 W/lb) |
| ESD anti-interference | Complying with the requirements of ESD anti-interference in GB/T 17626.2-2006 |
| RF electromagnetic field radiated susceptibility | Complying with the requirements of ESD anti-interference in GB/T 17626.2-2006 |

# wearable