SensePass

SensePass Face Recognition Integrated Mahcine

Product Manual

CATALOGUE

SensePass Face Recognition Integrated Machine

1.Introduction

1.1 Description

SensePass is a convenient and secure industrial-grade facial recognition access control device. SenseTime's latest deep learning facial recognition algorithm, allows authentication, access control and attendance to be processed efficiently. It is widely used in office buildings, parks, schools, enterprises, government offices, exhibition halls and other places. SensePass helps our customers achieve their access control and security objectives. The system supports binocular infrared liveness detection. It is a next generation intelligent face identification device.

1.2 Highlights

- Accurate & fast identification: facial recognition takes 300ms or less. The recognition accuracy is higher than 99%. And face can be recognized within 2 meters.
- Large capacity: 20,000 human faces can be enrolled in one device.
- Excellent detection functions: real-time detection and tracking of face, accurate detection of face at varying angles, semi-occlusion, blur and so on.
- Dark light recognition: minimum of 0.5 Lux required for recognition.
- User friendly design, accurate recognition in low light environment.
- Binocular infrared liveness detection: Effectively defend against spoofing attacks such as 3D printed portraits, electronic screens, videos, pictures, masks, hoods, etc.
- Standardized interface: Wiegand protocol & RESTful API interface, supports third party system docking.
- Multiple authentication modes: face recognition, QR code, access card, face recognition + access card.
- Alarm or report: tamper alarm, door force alarm,doorsensor timeout. Password cracking, non-living spoofing attack and alarms will be reported to SenseLink system.
- Multifunction: employee & visitor management, device management, attendance review, batch upload, group management, access strategy management, record search, data download, remote upgrade and so on.

2.Hardware

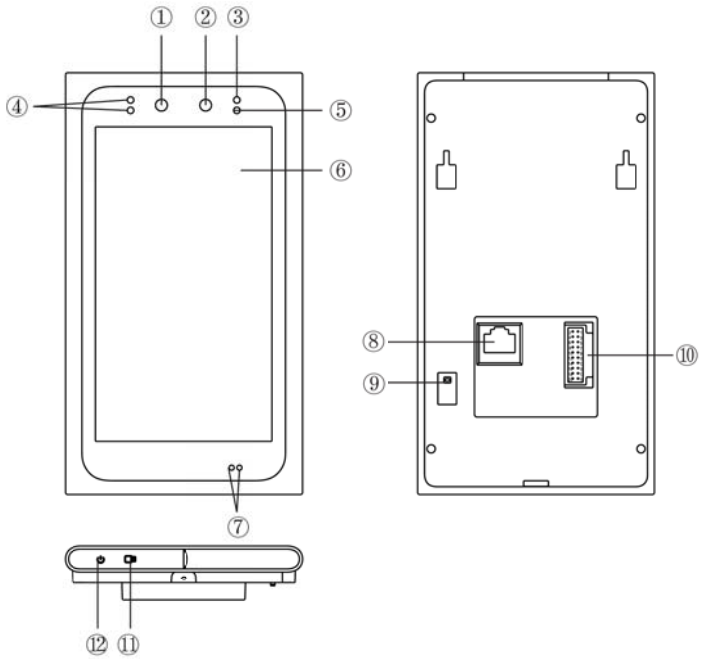
2.1 Form Factor

2.2 Specifications

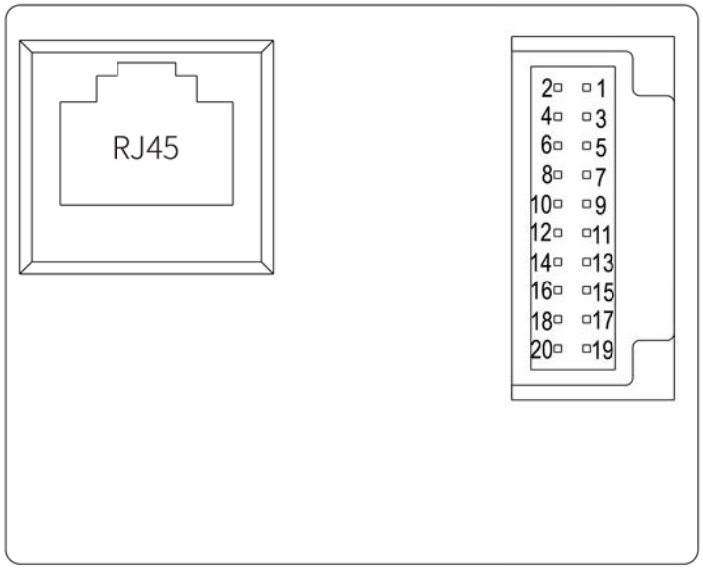
SensePass Face Recognition Integrated Machine		
Character	Functions	Face recognition, attendance, liveness detection
	Intended Environment	Indoor
	Dimension	162.22mm*91.30mm*15mm

Character	Weight	315g
	Sheathing Material	Aluminum alloy
	Color	Silver
Camera	RGB Camera	2m pixel 1080p
	IR Camera	2m pixel 1080p
	IR Supplement Light	
OS	Android 7.1	
HCI	Display Screen	5.5 inches 1280*720
	Touch Screen	Capacitive single touch screen
	Object Sensing Module	IR
	Buzzer	Response frequency: 2.7KHz
	Power Switch	Concealed pinhole button
Communication	Ethernet	10/100/1000Mbps
	WIFI	IEEE802.11 b/g/n (2.4G)
	USB	USB2.0 HOST
I/O Interface	Relay	COM/NO/NC
	RJ45	10/100/1000Mbps
	RS485	
	Wiegand	I/O 26、32、34
	GPIO	The three expansion interfaces can connect with door contact, door open button, smoke alarm, doorbell.
	Power	DC12V/2A
Power	Adapter	DC12V/2A
	POE	PSE Class4
Environmental Requirement	Temperature	-20℃~60℃
	Humidity	20%~93% Non-Condensing
	Static protection rating	IEC61000-4-2, level3
Installation	junction box (86x 86 mm),vertical stand, rack mounting (for speed gate)	Metal bracket, concealed wiring, interface embedded in the wall, tamper alarm

2.3 Functions



P/N	Functions Description
1	IR Camera
2	RGB Camera
3	Photosensitive Sensor
4	IR Supplement Light (left)
5	IR Supplement Light (right)
6	Touch Screen
7	Object Sensing Module
8	RJ45 Ethernet Interface
9	Tamper Alarm
10	Hardware Wiring Slot
11	USB2.0 Interface (flash disk, card reader)
12	Power Key



Remarks: Detailed description of the hardware wiring slots

Type	Interface	Description
Power1	POE+(RJ45)	POE (IEEE 802.3at) power supply
Power2	1(12V+) Red 2(12V+) Red 3(GND) Black 4(GND) Black	12V DC Input
Relay	5(NC)White 7(COM)Yellow 9(NO)Blue	Generally, the power+ terminal of the door lock is connected to the COM port, and the relay power-terminal is connected to the NO port or the NC port according to the type of the door lock. Note: relay contact maximum load is 2A.
RS485	11(RS485B) Yellow 13(RS485A) Blue 15(GND) Black	Support RS485 extension
Exit Button	6(IN+) Yellow 12(GND) Black	Door exit signal input
Door Contact	8(IN+) White 12(GND) Black	The status of the door signal input
Doorbell	10(Doorbell) Green 12(GND) Black	Doorbell control signal Output 5mA

Output	12 (GND) Black 14 (5V+) Purple	Support for external devices. DC 5V MAX 500mA
Wiegand OUT	17(DATA0) Gray 19(DATA1) Brown 20(GND) Black	26bit/32bit/34bit
Wiegand IN	16(DATA0) Green 18(DATA1) White 20(GND) Black	26bit/32bit/34bit

3.Installation

You can install SensePass Face Recognition Integrated Machine via three methods: wall mounted, bracket mounted (for speed gate), and stand mounted.

Wall mounted installation rendering:

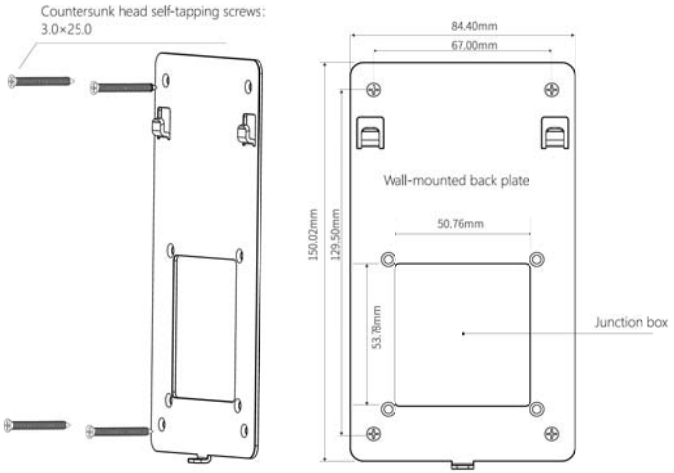
Wall mounted installation rendering

Bracket mounted (for speed gate) installation rendering

Stand mounted installation rendering

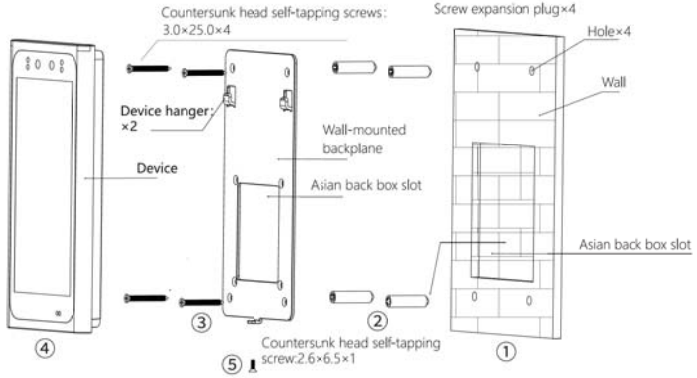
3.1 Wall-Mounted Installation Description

The equipment package contains a wall mount, as shown below.
Wall-mounted back plate size



Wall-mounted back plate supports the standard junction box for easy installation.

First, install wall-mounted back plate on the wall, gantry bracket or vertical stand bracket.
Exploded Component View
Installation explosion diagram:

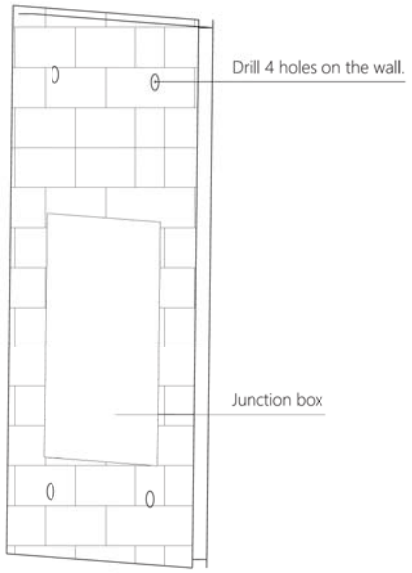


Installation order: ① → ② → ③ → ④ → ⑤

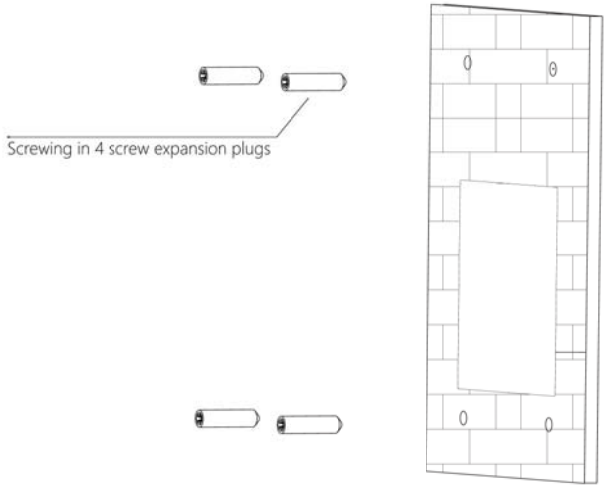
Remark:①drill holes in the wall; ②plug in screw expansion plugs; ③install wall-mounted back plate ④hang SensePass020 on the hanger; ⑤lock machine with anti-theft screw.

Installation steps

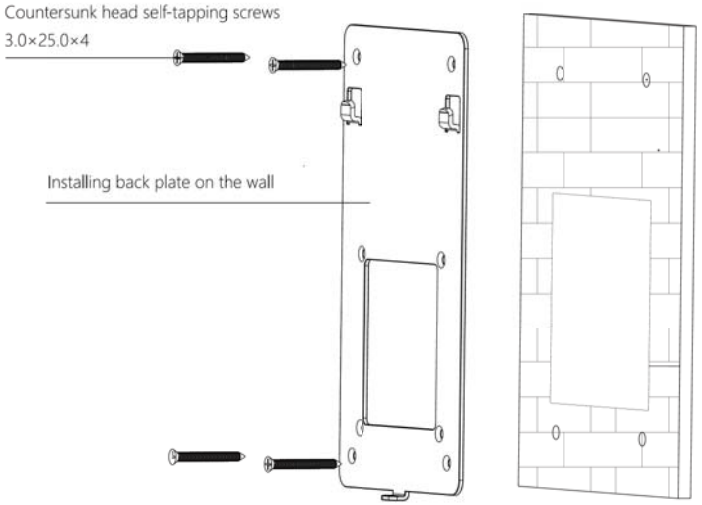
Step 1: Drill holes on the wall.



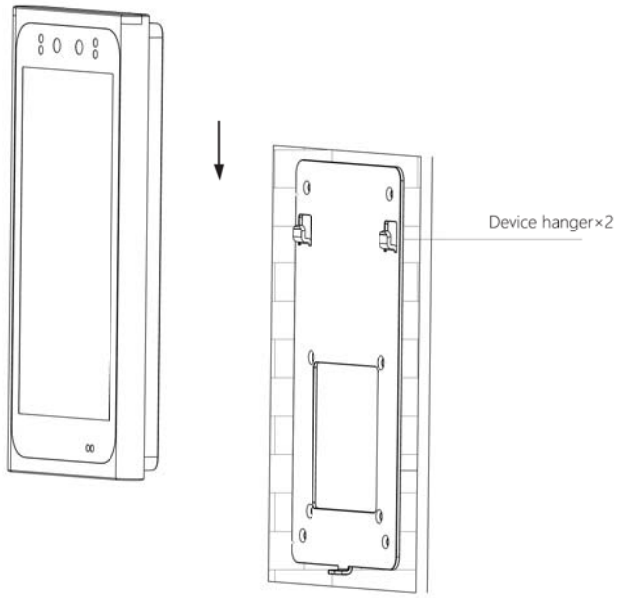
Step 2: Screwing in the screw expansion plugs



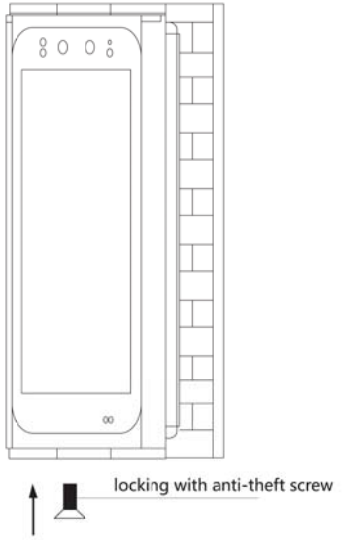
Step 3: Installing back plate on the wall



Step 4: Hanging SensePass on the back plate



Step 5: Locking with anti-theft screw.



Remark:

Please refer to the relevant instructions for gantry and vertical stand installation.

4.Software Introduction

4.1 Account Application

Please ensure you have a SenseLink Cloud platform enterprise account before proceeding. If you do not have an account, please contact business@sensetime.com for support.
The default initial login password is 'admin1234' for the enterprise account, please change your password during your first login.
Please refer to our website for more details.
https://link.bi.sensetime.com/docs/

4.2 Login and Registration

■ 4.2.1 Login

1) Switch on the SensePass. Ensure there is internet connectivity. Input SenseLink Enterprise account and password if this is your first login. There will be an error prompt if login fails.

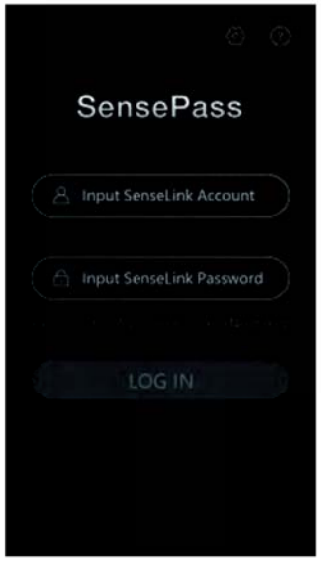


Figure 1-1 Login

2) The default server selection is SenseLink Public Cloud. In this case, you can log in directly to the SenseLink account. If you need to use private cloud server, you will need to click the setting button in the upper right corner to configure the private cloud server address and log in again.

3) Server IP address change: To change the server IP address, you need to exit the APP to enter the login page, click the configuration button in the upper right corner of the login page to change.

■ 4.2.2 Device Registration

After the first login, you need to register the device. Enter the device name (maximum 50 characters, required) and installation location (maximum 50 characters, required).

Figure 1-2 Device Registration

4.3 Face recognition

■ 4.3.1 Mode

Upon initial login, you need to select the recognition mode (Door mode/Gate mode) as shown below. Door mode has a circular mask on the screen, which is suitable for scenarios which require higher matching accuracy and more stringent security requirements. There is no circular mask in the gate mode, this mode is suitable for scenarios with higher human traffic flow.

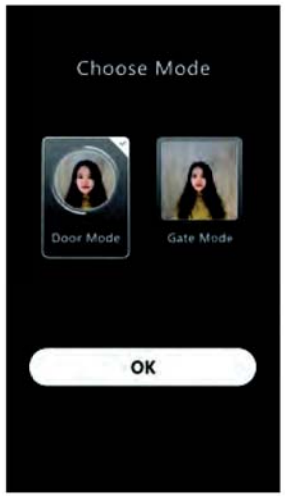


Figure 2-1 Choose Mode

Figure 2-2 Door Mode & Gate Mode

■ 4.3.2 Face Recognition

The main functions of SensePass are face recognition and identity verification. When a person approaches the SensePass, face detection will be performed automatically and swiftly to ensure accurate recognition.

- Successful face recognition: Ensure the face is unobstructed and facing the camera directly. When a match is found, a prompt message: 'recognition is successful' (the message can be customized) will be shown. Profile picture, name, current time and other information (department, position, job number, ID number or custom information which was configured in the SenseLink system) can also be displayed. If the device is connected to a door access controller, the door will open, and the person will be allowed to enter.

Figure 2-3 Successful Recognition

Figure 2-4 Out of Access Period

- If the person attempts to access the area outside of permitted hours, then a prompt message "Out of Access Period" will be displayed, the door remains closed (if connected to a door access controller). The unauthorized person will not be granted access.
- If the SenseLink system does not have the relevant information of the detected person, the prompt "visitor, please contact the administrator" will be shown on the screen, the door will not open (if connected to a door access controller). If the doorbell is configured in the settings, the home page will display the doorbell button and visitor can tap the button to trigger the doorbell.
- If photos, videos, 3D models, masks and other nonhuman objects are detected by the SensePass, the message "non-living attacks" will be displayed, the door will not open (if connected to a door access controller).

■ 4.3.2 Face Recognition

When the device detects that the ambient lighting is lower than the threshold and when the infrared proximity sensor senses a person approaching, the recognition display screen will automatically turn on the supplemental background light. The person's face will be illuminated, and face recognition can be performed. When no one is nearby, the device will revert to the normal recognition display screen. The intelligent supplemental lighting enables recognition even in low light environments and switching on the supplemental lighting only when needed can extend the working life of the screen.

Figure 2-5 Supplemental Lighting

4.4 Standby

The device will automatically enter standby mode when no one is nearby after a certain time interval. The camera and other functions will enter hibernation mode, which reduces power consumption and extends the working life of the device. When someone is approaching or taps on the screen, the device will wake up and run normally.

Figure 2-6 Standby

4.5 Abnormality Reporting

SensePass uploads the alarm events to the SenseLink management system by monitoring the hardware status of the device. The alarm types include:

- Tamper alarm: when the tamper button of the device is triggered, the tamper alarm message will be displayed on the screen of the device and the abnormality will be reported to the SenseLink management system.
- Forced door entry: when the device detects that the door is not opened via any of the normal opening methods such as face recognition, QR code scanning, access card scanning or pressing of the exit button, the buzzer will ring. And the device will display a tamper alarm warning message. The abnormality will be reported to the SenseLink management system.
- Fire alarm: When a fire is detected, the device screen will display a fire alarm prompt message, and the abnormality will be reported to the SenseLink management system.
- Door magnetic lock timeout: when the door is opened longer than the preset time, the abnormality will be reported to the SenseLink management system.

- Spoofing attack: when a spoofing attack such as a photo, video, paper, or mask is used, it will display a prompt message: 'Non-living' and report the abnormality to the SenseLink management system.
  Password attack: The wrong password is entered multiple times, the device will limit the password input retries within a certain period, and the abnormality will be reported to the SenseLink management system.

4.6 Setting

■ 4.6.1 Settings Page

Long tap the screen for 2 seconds, then input the password to enter the settings. The settings include device information, access settings, and system settings.

■ 4.6.2 Device Information

Device information includes name, location, number, IP address, serial number, company information and software version. The device name and location can be changed in the SenseLink management system, and the rest of the information is read only.

■ 4.6.3 Access Setting

4.6.3.1 Access Group

The device will synchronize the access group with SenseLink management system account and download group information to device. Click "Access Group" to view the staff and visitor access group. For the access group personnel enrollment please refer to the SenseLink user manual.
Access group personnel query: user can search group members by fuzzy search and exact lookup.

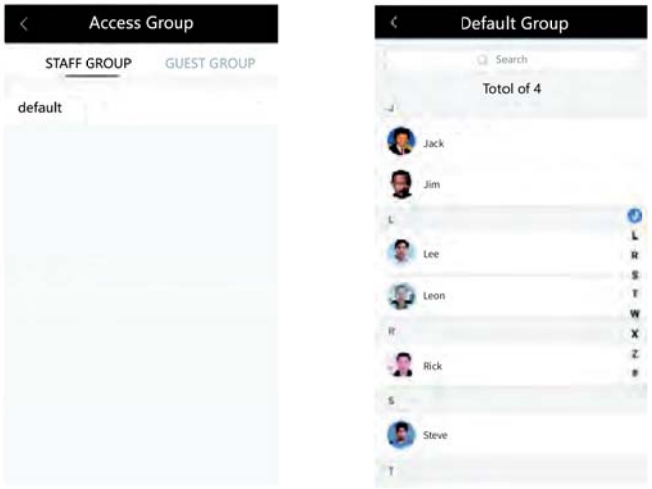


Figure 3-1 Access Group

4.6.3.2 Access Records

The device can store 20,000 records locally. The earliest records of are cleared when the limit is exceeded to accommodate the newest records. Fuzzy and exact search is supported, and the records can be queried by date.

Figure 3-2 Access Record

4.6.4 System Setting

4.6.4.1 Function Setting

- Recognition mode: gate mode / door mode can be toggled at any time.
- The gate mode has the full screen recognition screen.
- The access mode has the circular mask on the recognition screen. Verification mode: face recognition, QR code, access card, face recognition + access card.

4.6.4.2 Face Setting

- Liveness detection: on/off, default is on;
- Liveness threshold setting: a value between 0.00—1.00, default value is 0.98;
- Face matching threshold setting: the default is 0.83.
- Range: 0.00-1.00;
  Face recognition distance setting: default is 1m, other values are 0.5m, 1m, 1.5m.

4.6.4.3 Access Control Setting

- Buzzer alarm: on/off, default is on, machine will trigger alarm when abnormality is detected. No buzzer alarm when off.
- Door opening method: local relay, network relay, Wiegand 26, 32, 34;
- Door opening time: the default time is 6s, range: 1-30s;
- GPIO: three-way GPIO expansion interfaces which can connect to door lock, door open button, fire alarm and doorbell.

4.6.4.4 System setting

- Language Setting: Supports Chinese and English
- Automatic restart: turned on by default, able to configure restart time.
- Standby setting: turned on by default, able to configure the idle time threshold to switch to standby mode.
- Restore to default configuration: reset all settings to default.

Restricted Substance Table

Restricted Substance Table in "Regulated Substances in Electronic Information"

10

Partial name	Regulated Substances in Electronic Information Restricted Substance Table					
	Lead (PB)	Mercury (Hg)	Cadmium (Cd)	Hexavalent chromium (CrVI)	Polybrominated biphenyls (PBB)	polybrominated diphenyl ethers (PBDE)
Metal Parts	O	O	O	O	O	O
Plastic Parts	O	O	O	O	O	O
Circuit Board	O	O	O	O	O	O
Glass	O	O	O	O	O	O

Introduction:

Note 1: "Exceeding 0.1 wt %" and "exceeding 0.01 wt %" indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

Note 2: "○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

Note 3: The "—" indicates that the restricted substance corresponds to the exemption.

Qualification Card

PASS

Warranty Card

Dear user,

Thank you for choosing this product. To enjoy after-sales service, please read the instructions of this warranty card carefully after purchase and keep it for future reference.

1.With this card, you can enjoy free warranty during the warranty period.

2.The warranty validity period is 1 year from the date of purchase.

3.You will be on our priority list to receive information about new products and promotions.

4.The following scenarios are not covered by the warranty:

- Valid warranty card and invoice or receipt cannot be presented.
- Improper operating environment or other conditions, such as inappropriate power supply, temperature, humidity, lightning strikes, etc.which result in product failure.
- Product failure due to accidents, negligence, disasters, improper operation or misuse, and cyber-attacks.
- Failure or damage caused by installation, repair, modification or disassembly by maintenance personnel who are not authorized by the SenseTime.
- Warranty expiration.

5.If you have any complaints with the technical service provided by the dealer, you can feedback to the manufacturer's customer support service center.

6.The warranty card is valid only after being stamped by the warranty unit.

User			
Address			
Tel		Fax	
Zip Code		E-mail	
Model		S/N	
		Date of Purchase	

If you have other needs, please write here

Franchiser: Tel:

FCC statements:

Federal Communication Commission (FCC) Radiation Exposure Statement
When using the product, maintain a distance of 20cm from the body to ensure compliance with RF exposure requirements.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.