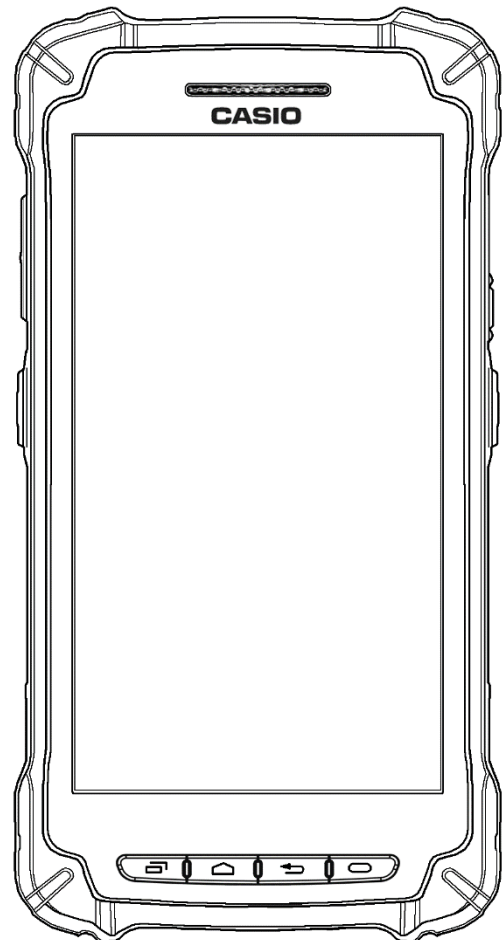




IT-G400 Series

Android 6.0 Hardware Manual

This document describes hardware specifications of the IT-G400.



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1. Overview

1.1 Model composition

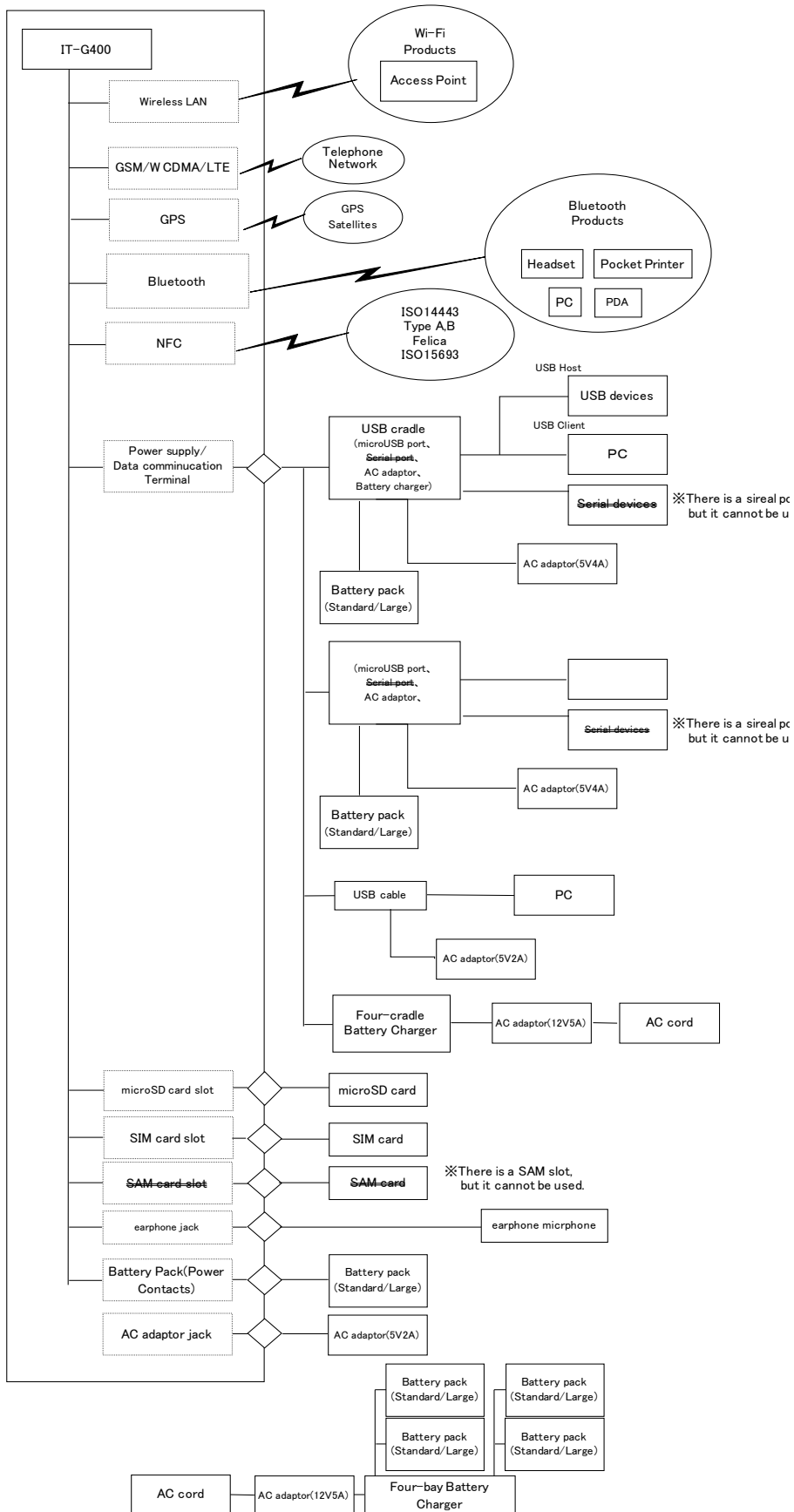
1.1.1 List of models

| model | Imager | Camera | WAN GPS | WLAN Bluetooth | NFC | Battery Size | Remark |
|---------------|--------|--------|------------|-------------------|-----|-----------------|--------|
| IT-G400-C21M | ○ | ○ | × | ○ | ○ | Standard | |
| IT-G400-C21L | ○ | ○ | × | ○ | ○ | Large | |
| IT-G400-WC21M | ○ | ○ | ○ | ○ | ○ | Standard | |
| IT-G400-WC21L | ○ | ○ | ○ | ○ | ○ | Large | |

1.1.2 List of options

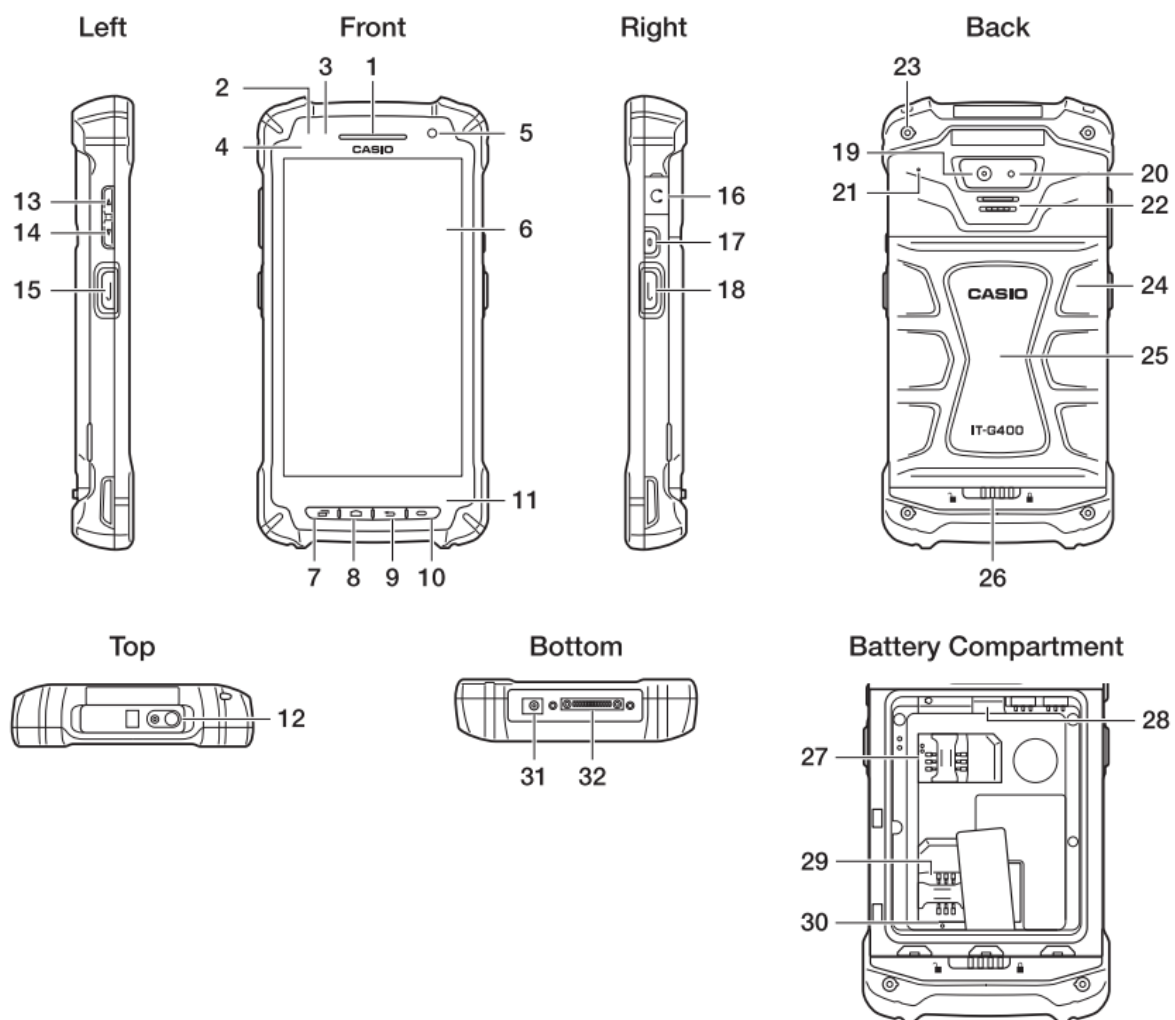
| Product name | Model number |
|---|--------------|
| Standard battery | HA-R20BAT |
| Large battery | HA-R21LBAT |
| USB Cradle | HA-R60IO |
| LAN Cradle | HA-R62IO |
| Four-bay Battery Charger | HA-R34CHG |
| Four-cradle Battery Charger | HA-R38CHG |
| Battery Cover (for Standard battery) | HA-R22BC |
| Battery Cover (for Large battery) | HA-R24LBC |
| AC adaptor (5V/2A) | AD-S10050B |
| AC adaptor (5V/2A) For Austrilia (AS) Plug | AC-PLUG-AU2A |
| AC adaptor (5V/4A) For Austrilia (AS) Plug | AC-PLUG-AU4A |
| AC adaptor (12V/5A) For Japanese (JP) Plug, AC Code | AC-CORD3 |
| AC adaptor (12V/5A) For Europe (CB) Plug, AC Code | AC-CORD3-EU |
| AC adaptor (12V/5A) For United Kingdom (UK) Plug, AC Code | AC-CORD3-UK |
| AC adaptor (12V/5A) For Austrilia (AS) Plug, AC Code | AC-CORD3-AU |
| Screen protector | HA-R95PS10 |
| USB cable | HA-R81USBC |

1.2 Interfaces



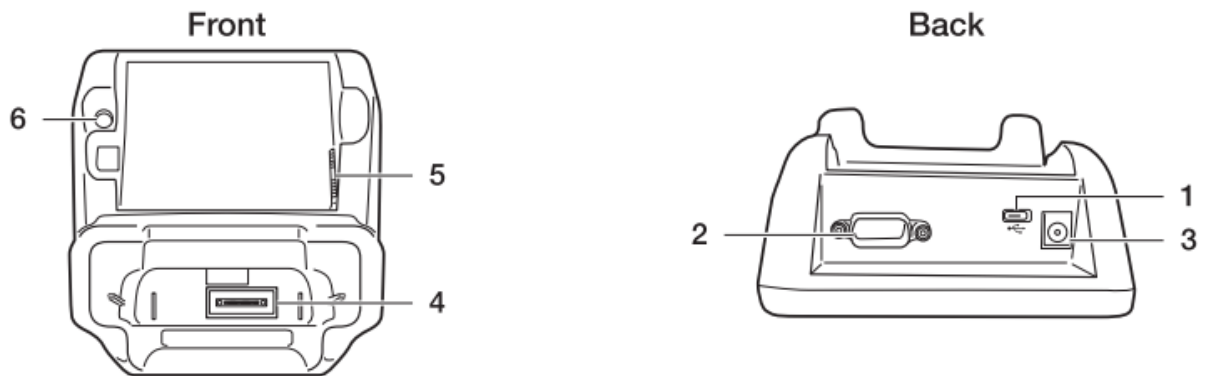
1.3 Appearance

1.3.1 IT-G400



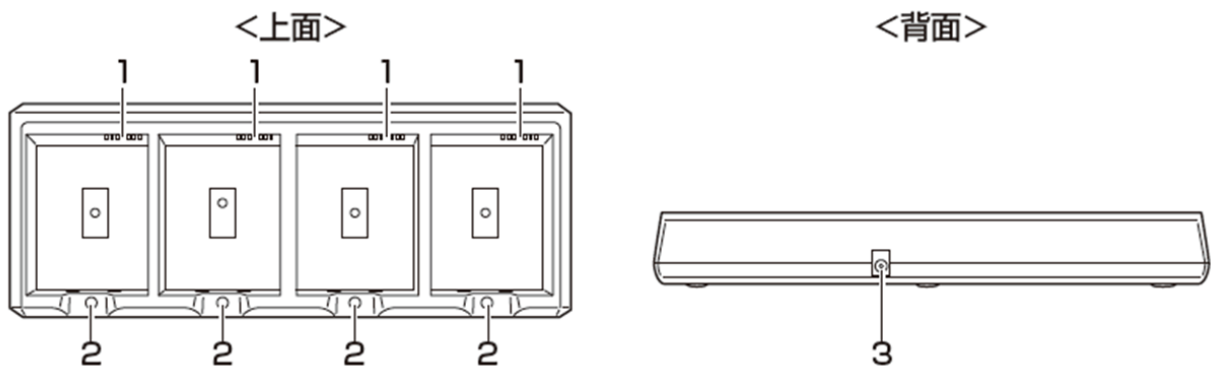
| No. | Name | Description |
|-----|--|--|
| 1 | Receiver | Receiver for voice call |
| 2 | Charging Status LED | Show charging status |
| 3 | Notification LED | Show notifications |
| 4 | Illuminance/Proximity Sensor | Measure brightness and proximity of object |
| 5 | Front Camera | Take picture and movie |
| 6 | Screen (Touch Panel) | Display words and operation instructions Input data in IT-G400 by finger or Stylus (Pen) |
| 7 | Recent Apps Key | Switch applications |
| 8 | Home Key | Go home screen |
| 9 | Back Key | Back to previous screen Close dialog box, option menu and notification panel |
| 10 | Function Key | Launch program button app Able to set an optional function |
| 11 | Microphone | Microphone |
| 12 | Barcode Reader | Laser or LED light of 2D imager radiates to read barcode |
| 13 | Volume Up Key | Volume up |
| 14 | Volume Down Key | Volume down |
| 15 | L Trigger Key | Scan barcode Able to set an optional function |
| 16 | Headset Jack | Connect the headset |
| 17 | Power Key | Power down/power on IT-G400 |
| 18 | R Trigger Key | Scan barcode Able to set an optional function |
| 19 | Camera | Take picture and movie |
| 20 | LED Light | Torch around and camera flash |
| 21 | Microphone | Microphone |
| 22 | Speaker | Output sound like alarm |
| 23 | Strap Holes | Attach strap |
| 24 | Battery Cover | Cover battery pack |
| 25 | NFC Reader | Reading NFC card |
| 26 | Battery Cover Lock Switch | Open battery cover by sliding |
| 27 | Standard SIM Card Slot | Insert SIM card after removing battery pack |
| 28 | microSD Card Slot | Insert microSD card after removing battery pack |
| 29 | SAM Card Slot | There is a SAM slot, but it can not be used |
| 30 | Reset Switch | Cold reset |
| 31 | AC Adapter Jack | Connect the dedicated AC adaptor |
| 32 | Power Supply/Data Communication Terminal | Used for data communication and power supply from USB Cradle or Four-cradle Battery Charger. |

1.3.2 USB Cradle



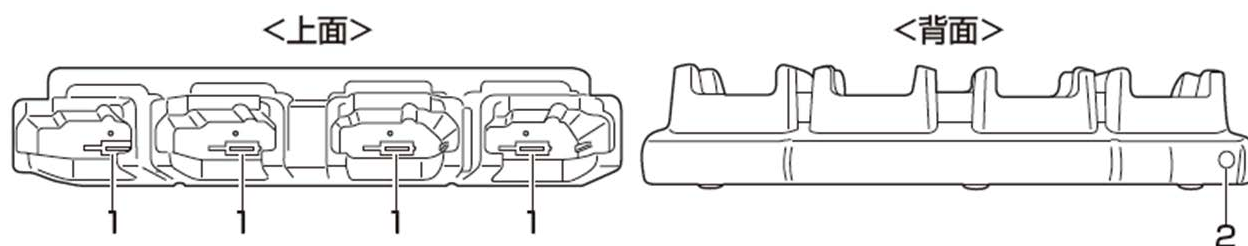
| No. | Name | Description |
|-----|---|---|
| 1 | USB Client Port | Transfer data to PC using USB cable |
| 2 | Serial Port | There is a serial port, but it can not be used |
| 3 | AC Adapter Jack | Connect AC adaptor |
| 4 | Power Supply/Data Communication Terminals | Data communication and power supply to IT-G400 |
| 5 | Battery Pack Power Contacts | Power supply to battery pack |
| 6 | Charging Status LED | Indicates the battery charging state Red: Charging Green: Charged Blink: Charge safe time out or temperature failure |

1.3.3 Four-bay Battery Charger



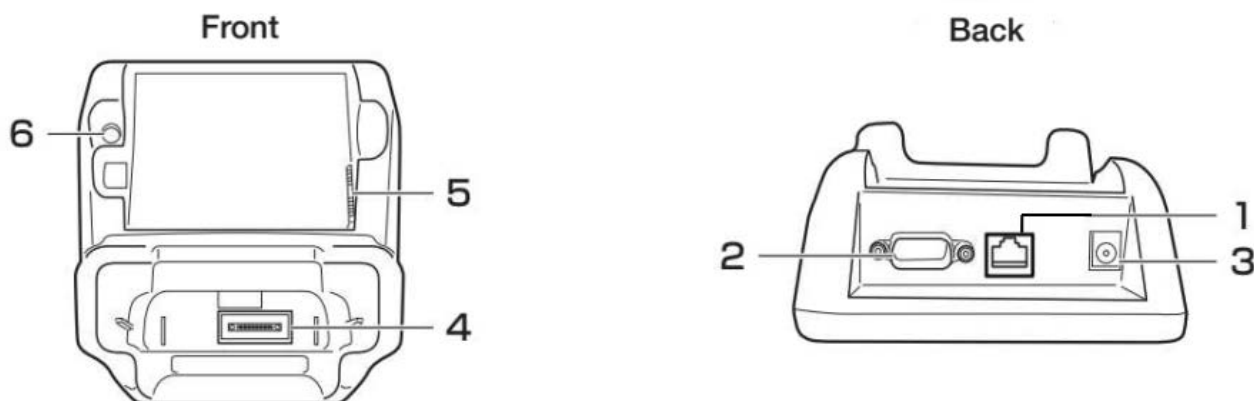
| No. | Name | Description |
|-----|-----------------------------|---|
| 1 | Battery Pack Power Contacts | Power supply to battery pack |
| 2 | Charging Status LED | Indicates the battery charging state Red: Charging Green: Charged Blink: Charge safe time out or temperature failure |
| 3 | AC Adapter Jack | Connect AC adaptor |

1.3.4 Four-cradle Battery Charger



| No. | Name | Description |
|-----|-------------------|-------------------------|
| 1 | Terminal Contacts | Power supply to IT-G400 |
| 2 | AC Adapter Jack | Connect AC adaptor |

1.3.5 LAN Cradle



| No. | Name | Description |
|-----|---|---|
| 1 | LAN Port | Transfer data by Ethernet |
| 2 | Serial Port | There is a serial port, but it can not be used |
| 3 | AC Adapter Jack | Connect AC adaptor |
| 4 | Power Supply/Data Communication Terminals | Data communication and power supply to IT-G400 |
| 5 | Battery Pack Power Contacts | Power supply to battery pack |
| 6 | Charging Status LED | Indicates the battery charging state Red: Charging Green: Charged Blink: Charge safe time out or temperature failure |

1.4 Hardware specification

1.4.1 IT-G400

| Item | | Specification | Memo |
|-------------|--|---|---|
| CPU | | ARM Cortex-A53 microprocessor (Quad core 1.2 GHz) | |
| OS | | Android 6.0.1 | |
| Memory | RAM | 2GB | |
| | ROM | 16GB | |
| 2D imager | Sensor | CMOS, 832 x 640, monochrome | |
| | Aimer | laser ($\lambda = 650\text{nm}$), < 1 mW, Class 2 Laser | |
| | Scan Angle | 0 ° | |
| | Minimum Resolution | 1D: 0.127mm 2D Stacked: 0.168mm 2D Matrix: 0.191mm | |
| | PCS | ≥ 0.45 | |
| | Depth of Field | 1D: 50mm ~ 400mm 2D Stacked: 50mm ~ 230mm 2D Matrix: 70mm ~ 300mm | |
| | Field of View | Max 43mm (Depth of Field 50mm) Max 277mm (Depth of Field 400mm) | |
| | Focal Distance | 5.0 inches | |
| | Ambient Light | Sunlight, $\leq 50,000\text{Lux}$ | |
| | Readable Symbolologies (1D) | UPC-A, UPC-E, EAN8(JAN8), EAN13(JAN13), Codabar(NW7), Code39, Interleaved2of5(ITF), MSI, ISBT, Code93, Code128(GS1-128(EAN128)), GS1 DataBarOmnidirectional(RSS-14), GS1 DataBarLimited (RSS Limited), GS1 DataBar Expanded (RSS Expanded), GS1 DataBar Truncated (RSS-14 Truncated), Code 32 | |
| | Readable Symbolologies (2D Stacked) | PDF417, Micro PDF, Composite, Codablock F, GS1 DataBar Stacked Omnidirectional (RSS-14 Stacked Omnidirectional), GS1 DataBar Expanded Stacked (RSS Expanded Stacked), GS1 DataBar Stacked (RSS-14 Stacked) | |
| | Readable Symbolologies (2D Matrix) | Aztec, DataMatrix, Maxicode, QR Code, Micro QR, Han Xin Code | |
| Vibrator | | notification of scanner | |
| Display | Display device | TFT | |
| | Display size | 5.0 inches | |
| | Number of dots | 720 (horizontal) x 1280 (vertical) HD | |
| | Gradation | 1677M Colors | |
| | View angle | 75° (up and down, left and right) | |
| Touch Panel | | Capacitive Touch Panel, Multi-touch (10 points) | Stylus (Pen) cannot be used with external power supply to prevent input error |

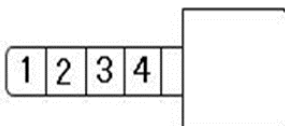
| Item | | Specification | Memo |
|-----------------------|------------------------|--|--|
| Indicator | LED | Indicator 1: Status of Charging Battery Pack, 2 Colors(Red and Green) Indicator 2: Notification, 2 Colors(Red and Blue) | |
| input | Key | Front 4 hard keys (Recent App, Home, Back, Function), | |
| | Control Key | Volume Up Key, Volume Down Key, Power Key, Reset Switch | |
| | Trigger key | Left, Right | |
| WLAN 802.11a/b/g/n | Standard | IEEE 802.11a/b/g/n, IEEE 802.11d | |
| | Radio type | Spread Spectrum | |
| | Frequency Range | 2412 MHz - 2472 MHz (1~13ch) 5180 MHz - 5320 MHz (36~64ch) 5500 MHz - 5700 MHz (100~140ch) 5745 MHz - 5825 MHz (149~165ch) (802.11d: Allowed frequency range can be used according to countries or regions.) | |
| | Baud rate | 802.11a/g: 54Mbps (maximum) 802.11b: 11Mbps (maximum) 802.11n HT20 (2.4&5GHz): 72Mbps (maximum) | |
| | Communication Distance | 802.11b/g/n: Indoor 50m, Outdoor 150 m (n: 2.4GHz) 802.11a/n: Indoor 30m, Outdoor 150 m (n: 5GHz) | It can change due to surrounding environment |
| Bluetooth Class2 | Standard | Bluetooth® Specification Ver.4.1+EDR/LE | |
| | Radio type | Spread Spectrum FH-SS: Frequency Hopping Spread Spectrum | |
| | Frequency Range | 2402 MHz - 2480 MHz | |
| | Communication Distance | about 5m | It can change due to surrounding environment |
| | Supported profile | Classic: A2DP, AVRCP, GAVDP, HFP, HID, HSP, OPP, PAN, PBAP, SPP BLE: HOGP, SCPP | |
| GSM | Standard | 3GPP | |
| | Communication | Audio, Data Packet | |
| | Protocol | GSM/GPRS/EDGE | |
| | Frequency range Band | EGSM900 (880-915 MHz/925-960 MHz) DCS1800 (1710-1785 MHz/1805-1880 MHz) | |
| W-CDMA | Standard | 3GPP W-CDMA Rel 99, HSDPA, HSUPA | |
| | Communication | Audio, Data Packet | |
| | Baud rate | Downlink: 42Mbps (maximum) Uplink: 11Mbps (maximum) | |
| | Protocol | UMTS/HSDPA/HSUPA | |
| | Frequency range Band | BAND 1 (1920-1980MHz/2110-2170MHz) BAND 2 (1850-1910MHz/1930-1990MHz) BAND 5 (824-849MHz/869-894MHz) BAND 6 (830 - 840MHz/875 - 885MHz) BAND 8 (880-915MHz/925-960MHz) BAND 19 (830-845MHz/875-890MHz) | |

| Item | | Specification | | Memo | |
|----------|-----------------------------|---|---|--|---|
| LTE | Standard | 3GPP LTE FDD&TDD | | | |
| | Communication | Data Packet | | | |
| | Baud rate | Downlink: 150Mbps (maximum) Uplink: 50Mbps (maximum) | | | |
| | Frequency range Band | FDD 1 (1920-1980MHz/2110-2170MHz) FDD 2 (1850-1910MHz/1930-1990MHz) FDD 3 (1710-1785MHz/1805-1880MHz) FDD 4 (1710-1755MHz/2110-2155MHz) FDD 5 (824-849MHz/869-894MHz) FDD 7 (2500-2570MHz/2620-2690MHz) FDD 8 (880-915MHz/925-960MHz) FDD 17 (704-716MHz/734-746MHz) FDD 20 (832-862MHz/791-821MHz) TDD 40 (2300-2400MHz/2300-2400MHz) TDD 41 (2496-2690MHz/2496-2690MHz) | | | |
| GPS | Satellite Navigation System | GPS, GLONASS, BeiDou | | | |
| | WAN and GNSS modes | Simultaneous-GNSS (WAN+GNSS at the same time) Standalone-GNSS (without WAN) A-GPS | | | |
| | Protocol | NMEA | | | |
| | Sensitivity | Acquisition sensitivity: -145dBm Tracking sensitivity: -158dBm | | | |
| SIM | Standard | ISO7816 IC Card standard Mini SIM Card (25mm x 15mm x 0.76) | | | |
| | Specification | 3V, 1.8V SIM card supported | | | |
| micro SD | Compatible with SDHC | | | | |
| NFC | Carrier Creqency | 13.56MHz | | | |
| | Depth of Field | ISO14443 Type A/B, Felica: 0mm (Contact) | | It can change by the design of Card or Tag | |
| | | ISO15693: 0mm (Contact) ~50mm(Maximum) | | | |
| | Protocol | Card type | | Card (Operation Checked) | |
| | | ISO14443 Type A | ○ | MIFARE 1K/MIFARE 4K MIFARE Eplus MIFARE Ultralight MIFARE Ultralight C MIFARE EV1 NTAG203 | Since some cards and tags which does not meet ISO standard exist, we do not guarantee operation with all cards. Pre-test should be done before operation start. |
| | | ISO14443 Type B | ○ | | |
| | | Felica (JIS X 6319) | ○ | FeliCa Standard | |
| | | ISO15693 | ○ | I•CODE SLI I•CODE SLI-S I•CODESLI-L | |
| | | ISO18092 P2P | × | | |
| | | ISO18092 Card Mode | × | | |

| Item | | | Specification | Memo |
|------------------------------|---------------------------------|--------------------------|---|--|
| USB | Connector type | | Direct Sync 16pin IO Connect | Use USB cable or USB cradle |
| | HOST | Baud rate | USB 2.0 high-speed (480Mb/s) | |
| | | Power to external device | voltage: 5.0V±0.25V current : up to 500mA | |
| | Client | Baud rate | USB 2.0 high-speed (480Mb/s) | |
| Rear Camera | Number of pixels | | 8M pixels | 3264(H)x2448(V) |
| | F number (Aperture) | | 2.4 | |
| | Image capture range | | 10cm ~ ∞ | |
| | Auto Focus | | It has Auto Focus function. | |
| | Flash | | LED Flash | |
| Front Camera | Number of pixels | | 2M pixels | 1200(V)x1600(H) |
| | F number (Aperture) | | 2.8 | |
| | Image capture range | | 34cm ~ ∞ | |
| Speaker | | | Scanning notice, Warning sound | |
| Receiver | | | For voice call at phone network and VoIP | |
| Earphone and microphone Jack | | | ϕ3.5 * 1 Pin layout | |
| Microphone | | | Voice sound input | |
| Sensors | | | Proximity sensor / Light Ambient sensor / Acceleration sensor / Gyroscope-sensor | |
| RTC | Maximum monthly rate | | 2min10sec (Use main battery) 8min38sec (Use sub batery only) | |
| Charge | Main Battery pack charge period | | Standard Battery: Around 4 hours Large Battery: Around 8 hours ※The above specification is only for the temperature of 10~40°C. ※For the temperature of 0~10°C and 40~50°C, in order to protect battery cell, charge control changes. Therefore, in these temperature environment, battery indicator might not become 100% after the charge ends and charge status LED turns green. In addition, the charge will stop when the temperature of ≤ 0°C and ≥ 50°C. | Charge status LED: 〈External power supplied〉 Red: Charging Green: Charged Red Blink: Temperature failure remaining battery low Red and Green Blink: Battery pack failure or removal warning 〈No external power supplied〉 Red : Battery level low (11~20%) Red Blink : Battery level very low (≤10%) |
| | Sub Battery pack charge period | | Around 3 hours ※The above specification is only for the temperature of 10~40°C and it is from mian battery attached to sub battery fully charged. The charge will stop when the temperature of ≤ 0°C and ≥ 40°C. | |

*1

| No. | Description |
|-----|-------------------|
| 1 | Audio out (Left) |
| 2 | Audio out (Right) |
| 3 | GND |
| 4 | Microphone |



| Item | | Specification | Memo |
|-------|------------------|--|--|
| Power | Main Battery | Lithium-ion battery pack (Standard/large) | |
| | Sub battery | Lithium battery (rechargeable) | Integrated |
| | Operating period | <p><u>Standard mode 1(JEITA G mode: WLAN model)</u> Standard Battery: 12 hours Large Battery: 24 hours Condition: According to JEITA G mode LCD backlight brightness minimum, WLAN ON (with stable RF connection), Buzzer minimum, Vibrator OFF, RF OFF (except for WLAN), Power saving setting after laser scanning(1sec)</p> <p><u>Standard mode 2(JEITA G mode: WAN model)</u> Standard Battery: 12 hours Large Battery: 24 hours Condition: According to JEITA G mode LCD backlight brightness minimum, WAN ON (with stable WAN connection), Buzzer minimum, Vibrator OFF, RF OFF (except for WAN), Power saving setting after laser scanning(1sec)</p> <p><u>Standard mode 3(outdoor)</u> Standard Battery: 15 hours Large Battery: 30 hours Condition: Barcode scan at every 1 min, 1 KB data send and receive by WAN at every 1 min, LCD backlight brightness minimum, Auto backlight off time minimum, WAN ON (with stable LTE connection), RF OFF (except for WLAN), Power saving setting after laser scanning(1sec)</p> <p><u>WAN voice call mode</u> Standard Battery: 15 hours Large Battery: 30 hours Condition: Continuous WAN voice call, LCD backlight brightness minimum, Auto backlight off time minimum, WAN ON (with stable WAN connection), RF OFF (except for WLAN)</p> <p><u>Idle mode (WANWaiting)</u> Standard Battery: 500 hours Large Battery: 1000 hours Condition: WWAN associated with network, LCD backlight OFF, WAN ON (with stable WAN connection), RF OFF (except for WLAN)</p> | <p>At room temperature New battery pack</p> <p>At room temperature New battery pack WAN model</p> |

| Item | | Specification | Memo |
|-------|--------------------------------------|--|--|
| Power | Back Up Period (Sub Battery only) | RAM: 4 min RTC: 72 hours | At room temperature Sub battery fully charged ※If the battery is replaced without power off correctly, there is a possibility that RTC resets. ※In order to back up RAM, battery must be replaced after IT-G400 gets HOTSWAP mode correctly (*). (*) Tap HOTSWAP menu and wait until the Red LED off, then replace battery pack |
| | Back Up Period (Use main battery) | Standard Battery: RAM 64 hours Large Battery: RAM 107 hours | The backup period starts when "Main battery low warning" appears. |

1.4.2 USB Cradle

| Item | | Specification | Memo |
|----------------------------------|---------------------------------|---|--|
| Interface connected with IT-G400 | Connector | Dedicated Contacts | Data communications and power supply to IT-G400. |
| | Speed | High speed (480Mbps) | |
| USB Port | Connector | micro USB type B | |
| | Speed (Client) | High speed (480Mbps) | |
| | Speed (Host) | High speed (480Mbps) | |
| Serial Port | | There is a serial port, but it can not be used. | |
| Battery Charger | Connector | Battery Contacts | Charge battery pack |
| | Main Battery pack charge period | Standard Battery: Around 4 hours Large Battery: Around 8 hours | |
| AC adaptor | Input Voltage | DC5V \pm 5% | |
| | AC adaptor | 5V/4A | |

1.4.3 Four-bay Battery Charger

| Item | | Specification | Memo |
|---------------------------------------|---------------------------------|---|--|
| Interface connected with battery pack | Connector | Dedicated Contacts | Charge battery pack |
| AC adaptor | Input Voltage | DC12V \pm 5% | |
| | AC adaptor | 12V/5A | |
| Battery Charger | Main Battery pack charge period | Standard Battery: Around 4 hours Large Battery: Around 8 hours | Able to charge 2~4 battery packs simultaneously. |

1.4.4 Four-cradle Battery Charger

| Item | | Specification | Memo |
|----------------------------------|---------------------------------|---|--|
| Interface connected with IT-G400 | Connector | Dedicated Contacts | Supply power to IT-G400. |
| AC adaptor | Input Voltage | DC12V \pm 5% | |
| | AC adaptor | 12V/5A | |
| charger | Main Battery pack charge period | Standard Battery: Around 4 hours Large Battery: Around 8 hours | Able to supply 2~4 IT-G400 simultaneously. |

1.4.5 LAN Cradle

| Item | | Specification | Memo |
|----------------------------------|---------------------------------|---|--|
| Interface connected with IT-G400 | Connector | Dedicated Contacts | Data communications and power supply to IT-G400. |
| LAN Port | Connector | RJ-45 | |
| | Speed | 100BASE-TX(100Mbps) 10BASE-T(10Mbps) | |
| Serial Port | | There is a serial port, but it can not be used. | |
| Battery Charger | Connector | Battery Contacts | Charge battery pack |
| | Main Battery pack charge period | Standard Battery: Around 4 hours Large Battery: Around 8 hours | |
| AC adaptor | Input Voltage | DC5V \pm 5% | |
| | AC adaptor | 5V/4A | |

1.5 Environmental Sprcification

1.5.1 IT-G400

| Item | | Specification | Memo |
|---------------------|---------------|---------------|---|
| Temperature | Operation | -20°C~50°C | <ul style="list-style-type: none"> •Camera Flash is unavailable in -20°C~-11°C. •Battery pack charge operation: 0~50°C For the temperature of 0~10°C and 40~50°C, in order to protect battery cell, charge control changes. Therefore in these temperature environment, battery indicator might not become 100% after the charge ends and charge status LED turns green. In addition, the charge will stop when the temperature of $\leq 0^{\circ}\text{C}$ and $\geq 50^{\circ}\text{C}$. |
| | Non-operation | -20°C~60°C | |
| Humidity | Operation | 10%~90%RH | non-condensing |
| | Non-operation | 5%~90%RH | |
| Dust and waterproof | | IP67 Standard | |

1.5.2 USB Cradle

| Item | | Specification | Memo |
|---------------------|------------------|----------------|--|
| Temperature | Operation | 0°C~40°C | |
| | Non-operation | -20°C~60°C | |
| | Charge operation | 0°C~40°C | For the temperature of 0~10°C and over 40°C, in order to protect battery cell, charge control changes. In 0~10°C, the battery pack charge period gets longer. In over 40°C, the battery indicator might not become 100% after charge ends and LED turns green. |
| Humidity | Operation | 10%~90%RH | non-condensing |
| | Non-operation | 5%~90%RH | |
| Dust and waterproof | | Not applicable | |

1.5.3 Four-bay Battery Charger

| Item | | Specification | Memo |
|---------------------|------------------|----------------|--|
| Temperature | Operation | 0°C~40°C | |
| | Non-operation | -20°C~60°C | |
| | Charge operation | 0°C~40°C | For the temperature of 0~10°C and over 40°C, in order to protect battery cell, charge control changes. In 0~10°C, battery pack charge period gets longer. In over 40°C, battery indicator might not become 100% after charge ends and LED turns green. |
| Humidity | Operation | 10%~90%RH | non-condensing |
| | Non-operation | 5%~90%RH | |
| Dust and waterproof | | Not applicable | |

1.5.4 Four-cradle Battery Charger

| Item | | Specification | Memo |
|---------------------|------------------|----------------|--|
| Temperature | Operation | 0°C~+40°C | |
| | Non-operation | -20°C~+60°C | |
| | Charge operation | 0°C~+40°C | For the temperature of 0~10°C and 40~50°C, in order to protect battery cell, charge control changes. Therefore in these temperature environment, battery indicator might not become 100% after the charge ends and charge status LED turns green. In addition, the charge will stop when the temperature of $\leq 0^{\circ}\text{C}$ and $\geq 50^{\circ}\text{C}$. |
| Humidity | Operation | 10%~90%RH | non-condensing |
| | Non-operation | 5%~90%RH | |
| Dust and waterproof | | Not applicable | |

1.5.5 LAN Cradle

| Item | | Specification | Memo |
|---------------------|------------------|----------------|--|
| Temperature | Operation | 0°C~40°C | |
| | Non-operation | -20°C~60°C | |
| | Charge operation | 0°C~40°C | For the temperature of 0~10°C and over 40°C, in order to protect battery cell, charge control changes. In 0~10°C, the battery pack charge period gets longer. In over 40°C, the battery indicator might not become 100% after charge ends and LED turns green. |
| Humidity | Operation | 10%~90%RH | non-condensing |
| | Non-operation | 5%~90%RH | |
| Dust and waterproof | | Not applicable | |

2. Precautions

For information on general safety precautions, refer to the IT-G400 User's Guide

2.1 Handling and Operating Precautions

- Be sure not to continue to use IT-G400 with main battery low status. Operation data might be deleted or changed. Please replace battery immediately when it gets main battery low warning.
- Observe environmental specification range. It might cause failure if IT-G400 is used out of environmental specification range.
- Be sure to use IT-G400 in below environment. It could cause failure.
 - Environment prone to static electricity
 - Environment of extremely high and low temperature
 - Environment of high humidity
 - Environment prone to extreme temperature change
 - Environment of dusty
- About stylus (pen), be sure to use dedicated stylus (pen) of IT-G400. If another stylus (pen) is used, it might cause failure.
- Lithium-ion Battery Pack
 - Each lithium-ion battery pack has its life. Life span depends on how battery pack is charged or stored. It might cause deterioration of battery pack and shorten life span if it is handled improperly. If battery pack performance does not show any recovery after charging, it is sign of ending the life. Replace with new battery pack.
 - Battery pack should be fully charged before first time use or after a long period since last time use. When charging battery pack, continue to charge until charge status LED turns green (fully charged).
 - If battery pack is often charged repeatedly, life span becomes shorter. To avoid charging repeatedly, it is recommended to start to charge when it gets battery level low.

- Be sure to charge the battery pack in environmental specification range. Charging in out of environmental specification range can cause deterioration.
 - When used at low temperatures, battery level reduces quickly, so operation time gets shorter. Moreover, life span of battery pack gets shorter. After operation in low temperature, return battery pack to room temperature about 1 hour, then start to charge it if it needs.
 - Do not store battery pack with full charge state if it needs to be stored for long period. It needs to be 30 to 50% for a long period storage in moderate temperature. It can reduce deterioration.
 - The battery pack gradually deteriorates as time goes by. Especially, storage (or operation) of battery pack with fully charged at high temperatures tends to accelerate battery pack deterioration.
- IT-G400 uses the high sensitive communication modules inside, for the better data communication, avoid using the equipment to generate radio wave (mobile phone, etc) near IT-G400. Please keep it away (more than 30 cm in case of the mobile phone).
 - When installing SIM card and microSD card, check direction of card and insert card correctly. It can cause failure if card is inserted using force or reversely. Battery pack can not be installed properly if SIM card is not properly inserted.
 - Use AC adaptor while using USB cable or USB cradle. Battery pack might not be charged and battery level might get lower if IT-G400 is used with high load situation.
 - It is required to start carrier service to use the LTE/W-CDMA/GSM functions. Available LTE/W-CDMA/GSM functions might be dependent on each carrier.
 - GPS function
 - It might take a long time to fix location when IT-G400 is used for the first time or after a long period from last time use. In such case, start GPS in place with no obstacles nearby and wait for 15 minutes or longer.
 - GPS uses signals emitted by the satellites operated by the United States. Accuracy of fixed location might be affected by the condition of satellites.
 - GPS module might not be able to receive signals in building and tunnel.
 - If it needs to be installed in car, check and install IT-G400 at best location it can receive enough signals.
 - WLAN function
 - It is illegal to use IEEE802.11a/n 5.2GHz/5.3GHz (W52/W53) outside of building in Japan.
 - To ensure compliance with local regulations, be sure to follow the regulation of the country in which the access point is installed.
 - LCD Display
 - There might be some defective dots. LCD display characteristic allows that some defective dots exist, so it is not failure.
 - When screen is pushed hard, pushed mark might occur on LCD display. It is not failure. Power off and power on IT-G400, then pushed mark should disappear.

- When same contents display for long time, afterglow might occur after switching different contents. It is not failure. Wait for some time, then afterglow should disappear.
- Be careful about chemical like thinner, gasoline, coal oil, flux, cleaner, glue, paint, chemicals or cosmetic. These chemicals can cause discoloration and damage to resin case and cover.
- When IT-G400 is dirty, wipe it clean with a soft, dry cloth. Do not rub on screen hardly to avoid scratch on it.
- Keep power supply and data communication terminals clean. It might cause connection data transfer and charge defect by getting dirty, as well as firing by getting wet. For cleaning, use dry cotton swab after plug off AC adaptor.
- IT-G400 has waterproof specification, but make sure to observe below items.
 - Wipe with dry towel if it gets showered and very wet.
 - Be careful to use IT-G400 in rain like other electrical products.
 - Close battery cover, headset jack cover properly. Check there is no dust or sand on covers as well as no crack and scratch on O-ring.
 - Do not push key and screen hardly in rain.
 - We will not take any responsibility for accident and failure related to water stained.
- IT-G400 might become warm after continuous use.

2.2 Storage

- For long term storage, please remove the battery pack.
- Avoid storing in high temperature location (ex, in the car).

2.3 Safety precautions

- Make sure to observe user's Guide.

3. Maintenance

- No parts require regular exchange and inspection.

4. Setup and Installation

- Observe precautions. Perform appropriate setup and operation