

# Rugged Handheld Computer

- EA520 -



## User Manual

Version 2.2

## Revision History

Date	Change Description	Version
20211012	First Published Version	V1.0
20211014	Update Chapter 1, add Front Camera to 1.2	V1.1
20211101	Add ISBN to Chapter 3	V1.2
20211103	Update 1.3	V1.3
20220629	Update 1.3 Audio and Main Battery	V1.4
20220808	Update 1.1 & 1.3	V1.5
20230808	Update Battery Notice	V1.6
20231011	Update Battery Notice (charge to around 50%)	V1.7
20240524	Add Battery Info & Charging Limit Function Section	V1.8
20240717	Update OS Descriptions	V1.9
20240815	Update Relevant Battery Information	V2.0
20241217	Update CE Compliance	V2.1
20250604	Add Privacy Policy	V2.2

## Preface

### About This Manual

Thank you for purchasing the unitech product.

This manual explains how to install, operate and maintain our product.

No part of this publication may be reproduced or used in any form, or by any electrical or mechanical means, such as photocopying, recording, or information storage and retrieval systems, without permission in writing from the manufacturer.

The material in this manual is subject to change without notice.

## Regulatory Compliance Statements

---

### FCC Warning Statement

This device 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 with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with 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.

1. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with FCC RF exposure requirements, avoid direct contact to the transmitting antenna during transmitting.
3. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

## **FCC Label Statement**

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

## **RF Radiation Exposure Statement**

For body contact during operation, this device has been tested and meets FCC RF exposure guidelines when used with an accessory that contains no metal and that positions the handset a minimum of 1.0 cm from the body.

Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

## **European Conformity Statement**

unitech Electronics co., Ltd herewith declares that the unitech product is in compliance with the essential requirements and all other provisions of the RED 2014/53/EU directive.

The declaration of conformity is available for download at :

<https://portal.unitech.eu/public/Safetyregulatorystatement>

## CE RF Exposure Compliance

For body-worn operation, this device has been tested and meets the ICNIRP guidelines and the European Standard EN 62209-2, for use with dedicated accessories, SAR is measured with this device at a separation of 0.5 cm to the body, while transmitting at the highest certified output power level in all frequency bands of this device. Use of other accessories which contain metals may not ensure compliance with ICNIRP exposure guidelines.

In accordance with Directive 2022/2380 of the European Union, we hereby provide specific information regarding the charging capabilities and compatible devices for the CE USB-C Adapter. This notice aims to offer essential details to purchasers for informed use and compliance with the outlined safety and performance standards.

For reference to the detailed charging power specifications applicable to each device model, please find the link to consult our cloud-based table or scan the QR code provided below.

For detailed information on charging power specifications:

[Unitech Products USB-C Charging Power Specification Overview](#)



## CE Mark Warning



## RoHS Statement



This device conforms to RoHS (Restriction Of Hazardous Substances) European Union regulations that set maximum concentration limits on hazardous materials used in electrical and electronic equipment.

## Waste electrical and electronic equipment (WEEE)



unitech has set up a policy and process to meet the 2012/19/EU concerning electronic waste disposal.

For more detailed information of the electronic waste disposal of the products you have purchased from unitech directly or via unitech's resellers, you shall either contact your local supplier or visit us at :

<https://portal.unitech.eu/public/WEEE>

## Taiwan NCC Warning Statement

### 低功率射頻器材技術規範

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。應避免影響附近雷達系統之操作。高增益指向性天線只得應用於固定式點對點系統。

SAR標準值2.0W/KG，送測產品實測值為：0.225 (W/KG)

#### 注意事項：

1. 使用過度恐傷害視力。
2. 使用30分鐘請休息10分鐘；未滿2歲以下幼兒不看螢幕，2歲以上每天看螢幕不要超過1小時。
3. 減少電磁波影響，請妥適使用。

#### Note:

*Within the 5.25-5.35 GHz band, U-NII devices will be restricted to indoor operations to reduce any potential for harmful interference to co-channel MSS operations.*

## Laser Information

---

The unitech product is certified in the U.S. to conform to the requirements of DHHS/CDRH 21CFR Subchapter J and to the requirements of IEC 60825-1. Class II and Class 2 products are not considered to be hazardous. The unitech product contains internally a Visible Laser Diode (VLD) whose emissions do not exceed the maximum limits as set forth in the above regulations. The scanner is designed so that there is no human access to harmful laser light during normal operation, user maintenance or prescribed service operations.

The laser safety warning label required by the DHHS/IEC for the unitech product's optional laser scanner module is located on the memory compartment cover, on the back of the unit.

\* Laser information only applies to the products with laser components.

**CAUTION!** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light. Use of optical instruments with the scanner, including binoculars, microscopes, and magnifying glasses, with will increase eye damage. This does not include eyeglasses worn by the user.

## LED Information

---

The unitech product contains LED indicator(s) or LED ring whose luminance is not harmful to human eyes during normal operation, user maintenance or prescribed service operations.

\*LED information only applies to the products with LED components.



# Battery Notice

---

## Performance and Replacement

- For optimal performance, it is recommended to replace rechargeable batteries annually or after 500 charging cycles.
- It's normal for the battery to swell or expand slightly after a year or 500 cycles. This doesn't cause damage but indicates the battery should be replaced and disposed of properly according to local regulations.
- If battery performance drops by more than 20%, it has reached its end of life and should be replaced and disposed of properly.

## Battery Life and Conservation

- Battery life depends on the battery type and device usage.
- Avoid fully discharging the battery as this puts stress on it. Several partial charges are better than one full discharge.
- Do NOT expose the battery or device to high temperatures for extended periods, such as in a parked car on a hot day or under direct sunlight. High temperatures can damage the battery. Keep the device within acceptable operating temperatures (refer to the specifications).
- For long-term storage, charge the battery to at least 50% every six months. Leaving the battery uncharged for extended periods will reduce its lifespan.
- If the battery cannot be charged after a long idle period and starts to heat up, do not attempt to charge it. It may be damaged.

## Important Cautions

- **Use original batteries only from Unitech.** Using third-party batteries can damage the device and void the warranty.
- **Risk of explosion if the battery is replaced incorrectly.** Dispose of used batteries according to instructions.
- RISK OF EXPLOSION IF BATTERY IS REPLACED INCORRECTLY.  
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
- 電池若未正確更換，可能會爆炸。請用原廠建議之同款或同等級的電池來更換，請依原廠指示處理廢電池。

- 请依制造商说明书处理用过之电池，如果更换不正确之电池行事会有爆炸的风险，请依制造商说明书处理用过之电池。

## Charging

- Consider temperature when charging. Charging is most efficient at room temperature or slightly cooler.
- Charge batteries within the specified range of 0°C to 40°C (32°F to 104°F). Charging outside this range can damage the battery and shorten its lifespan.
- **Do not charge batteries below 0°C.** This is dangerous and can make the batteries unstable. Use a battery temperature detecting device to ensure safe charging temperatures.

## Maintenance and Safety

- Keep all connectors free of contaminants like dust, grease, mud, and water to ensure proper device operation. Neglecting this can cause communication issues, short circuits, or overheating.
- **To clean the battery connectors:**
  - Remove the main battery from the mobile computer.
  - Dip the cotton part of a cotton-tipped applicator in isopropyl alcohol.
  - Gently rub the cotton part of the applicator back and forth across the connectors on both the battery and the device to remove any grease or dirt. Ensure no cotton residue is left on the connectors.
  - Repeat this process at least three times.
  - Use a dry cotton-tipped applicator and repeat steps 3 and 4.
  - Inspect the area for any remaining grease or dirt and repeat the cleaning if needed.
- **To clean the cradle connectors:**
  - Disconnect the DC power cable from the cradle.
  - Dip the cotton part of a cotton-tipped applicator in isopropyl alcohol.
  - Rub the cotton part of the applicator along the pins of the connector, moving it back and forth gently from one side to the other. Do not leave any cotton residue on the connector
  - Rub all sides of the connector with the applicator
  - Remove any lint left by the applicator

- If there is grease or dirt on other areas of the cradle, use a lint-free cloth and alcohol to clean them
- Allow the alcohol to air dry for at least 10 to 30 minutes (depending on the ambient temperature and humidity) before powering on the cradle

**CAUTION!** *If you clean the battery or cradle connectors with bleach-based chemicals, follow the instructions above to remove any bleach residue from the connectors.*

- If a connector is damaged, have it repaired before using the device to avoid short circuits.
- While charged batteries can be left unused for several months, their capacity may decrease due to internal resistance buildup. They may need recharging before use.
- Store batteries at temperatures between -20°C to 60°C. Higher temperatures can cause faster depletion. Room temperature storage is recommended.
- The above storage information applies only to removable batteries. For devices with non-removable batteries, refer to the product specifications.

## Battery Safety Guidelines

- Charge the device in a clean area, away from debris, flammable materials, or chemicals. Take extra care when charging in non-commercial environments.
- Improper battery use can lead to fire, explosion, or other hazards.
- Do not disassemble, open, crush, bend, deform, puncture, or shred the battery.
- Dropping the device can cause the battery to overheat.
- Do not short-circuit the battery or allow metal or conductive objects to touch the battery terminals.
- Do not modify the battery, insert foreign objects, expose it to water or other liquids, or expose it to fire, explosion, or other hazards.
- Do not leave or store the device in hot areas, like parked cars or near heat sources. Do not put the battery in a microwave or dryer.
- Supervise battery usage by children.
- If swallowed, seek medical advice immediately.
- In case of leakage, avoid contact with skin and eyes. If contact occurs, flush the affected area with water for 15 minutes and seek medical advice.

- If you suspect damage to the equipment or battery, contact your service provider for inspection.

## Product Operation and Storage Notice

The unitech product has applicable operation and storage temperature conditions. Please follow the limitation of suggested temperature conditions to avoid failure, damage or malfunction.

*\*For applicable temperature conditions, please refer to the specification of each product.*

## Adapter Notice

---

1. Please do not leave the power adapter in the socket when it is not connected to your unitech product for charging.
2. Please remove the power adapter when the battery is fully recharged.
3. The bundled power adapter that comes with your unitech product is not meant to be used outdoors. An adapter exposed to water or rain, or a very humid environment can cause damage to both the adapter and the product.
4. Please only use the bundled power adapter or same specification of adapter to charge your unitech product. Using the wrong power adapter can damage your unitech product.

*\* The message above only applies to the product connected to the adapter.  
For the products without using the adapters, please refer to the specification of each product.*

# Hearing Damage Warning

---

To prevent possible hearing damage, do not listen at high volume levels for long periods.



Figure 1 – Warning label (IEC 60417-6044)

# Worldwide Support

unitech's professional support team is available to quickly answer questions or assist with technical-related issues. Should an equipment problem occur, please contact the nearest unitech regional service representative.

For complete contact information please visit the Web sites listed below:

<b>Taipei, Taiwan – Headquarters</b> <b>Tel:</b> +886-2-89121122 <b>E-mail:</b> info@hq.ute.com <b>Address:</b> 5F, No. 136, Lane 235, Baoqiao Road, Xindian District, New Taipei City 231, Taiwan (R.O.C.) <b>Website:</b> <a href="http://www.ute.com">http://www.ute.com</a>	<b>Europe</b> <b>Tel:</b> +31-13-4609292 <b>E-mail:</b> info@eu.ute.com <b>Address:</b> Kapitein Hatterasstraat 19, 5015 BB, Tilburg, the Netherlands <b>Website:</b> <a href="http://eu.ute.com">http://eu.ute.com</a>
<b>China</b> <b>Tel:</b> +86-59-2310-9966 <b>E-mail:</b> info@cn.ute.com <b>Address:</b> Room401C, 4F, RIHUA International Mansion, Xinfeng 3rd Road, Huoju Hi-tech District, Xiamen, Fujan , China <b>Website:</b> <a href="http://cn.ute.com">http://cn.ute.com</a>	<b>Japan</b> <b>Tel:</b> +81-3-35232766 <b>E-mail:</b> info@jp.ute.com <b>Address:</b> Kayabacho Nagaoka Building 8F.,1-5-19 Shinkawa, Chuo-Ku, Tokyo, 104-0033, Japan <b>Website:</b> <a href="http://jp.ute.com">http://jp.ute.com</a>
<b>Asia &amp; Pacific / Middle East</b> <b>Tel:</b> +886-2-27911556 <b>E-mail:</b> info@apac.ute.com info@india.ute.com info@mideast.ute.com <b>Address:</b> 4F., No. 236, ShinHu 2nd Rd., NeiHu Chiu, 114, Taipei,Taiwan <b>Website:</b> <a href="http://apac.ute.com">http://apac.ute.com</a> / <a href="http://mideast.ute.com">http://mideast.ute.com</a>	<b>Latin America</b> <b>Tel:</b> +52-55-5171-0528 <b>E-mail:</b> info@latin.ute.com <b>Address:</b> 17171 Park Row, Suite 210 Houston, TX 77084USA (Rep.) <b>Website:</b> <a href="http://latin.ute.com">http://latin.ute.com</a>
<b>North America</b> <b>Tel:</b> +1-714-8916400 <b>E-mail:</b> info@us.ute.com / info@can.ute.com <b>Address:</b> 6182 Katella Ave, Cypress, CA 90630, USA <b>Website:</b> <a href="http://us.ute.com">http://us.ute.com</a>	<b>Please scan QR Code to visit us :</b> 

# Warranty Policy

---

The following items covered under the unitech Limited Warranty are free from defects during normal use:

The warranty period is varied from each country. Please consult with your supplier or unitech local office for actual length of warranty period to your purchased product.

Warranty becomes void if equipment is modified, improperly installed or used, damaged by accident or neglect, or if any parts are improperly installed or replaced by the user.

# Privacy Policy

---

This policy is developed in accordance with EN 18031 and the GDPR and applies to all Unitech products and services, including but not limited to rugged mobile devices, barcode scanners, mobile applications, and backend platform systems. Unitech respects your privacy and is committed to processing personal data in accordance with the principles of lawfulness, fairness, transparency, and data minimization.

## Data Controller

Company Name: Unitech Electronics Co., LTD

Address: 8F, No. 122, Ln. 235, Baoqiao Rd., Xindian Dist., New Taipei City 231, Taiwan

Email: [info@hq.ute.com](mailto:info@hq.ute.com)

Website: <https://www.ute.com>

## A. Lawful Basis of Processing

We collect and process your personal data only when there is a lawful basis to do so. These bases include:

1. To fulfill contractual obligations (e.g., account registration, device activation, after-sales support)
2. To comply with legal obligations (e.g., tax compliance, security incident reporting)
3. Based on your explicit consent (e.g., enabling location or integrating with third-party platforms)
4. To pursue legitimate interests of Unitech or third parties (e.g., abuse detection, service security)



## **B. Categories of Personal Data Collected**

We may collect your information through:

1. Information you voluntarily provide (e.g., repair requests, registration, technical support)
2. Data automatically generated during your use of our products or services
3. Information lawfully obtained from authorized third parties

Types of data include:

- Device Information: such as serial number, IMEI, MAC address, OS, and model name
- Application and Log Data: including installed application lists, usage records, error logs, and crash reports
- Operational Data: such as scanned barcode content, photos, GPS information, Wi-Fi or mobile IP address, and usage timestamps
- Account Data: including system login username and email address (as configured by authorization)
- Biometric Data: such as facial or fingerprint recognition (stored locally on the device and not uploaded)
- Location Information: GPS, Wi-Fi, or cell tower data collected when location services are enabled
- Configuration Parameters: system and application settings stored locally or on cloud service servers
- Mobile Network Information: such as ICCID, IMSI, carrier name, mobile network type, SIM slot usage, and phone number (if available). This data is primarily used for mobile communication features, device identification, and diagnostic analysis

## **C. Use of Personal Data**

When you use our products or services, we may process your personal data for the following purposes:

1. Providing core product functions, such as login, barcode scanning, data synchronization, and location services
2. Assisting with account registration, preference settings, and device activation
3. Delivering system notifications and update alerts (e.g., firmware upgrades)
4. Analyzing error data for device diagnostics and maintenance support
5. Integrating third-party enterprise management platforms (e.g., MDM or cloud systems), based on your consent
6. Enabling security authentication and device identification
7. Enhancing the overall user experience and optimizing our products and services, including statistical analysis and usage trend research

Unitech does not use your personal data for targeted advertising or profiling, nor do we sell your data to any third parties.

## **D. Delegated Processing, Sharing, Transfers, and Disclosures of Personal Data**

We may process or share your personal data under the following circumstances:

1. **Delegated Processing:** We may engage trusted third-party service providers to assist with device operations, remote support, or related services. In such cases, we will enter into data protection agreements with those vendors and require that they process personal data in accordance with this policy.
2. **Data Sharing:** We do not share your personal data with third parties without your prior consent, unless required by law or when the service you use integrates with third-party platforms (e.g., MobaLink, device management systems).
3. **Data Transfers:** In the event of a corporate merger, acquisition, or bankruptcy that results in data transfer, we will notify you and ensure that the recipient continues to comply with this privacy policy.
4. **Public Disclosure:** Your data may be disclosed only when required by

applicable law or with your explicit authorization, such as during regulatory investigations or legal proceedings.

## **E. Protection of Children's Personal Data**

This product and its associated services are not intended for children under the age of 13, and we do not knowingly collect personal data from children. If we become aware that personal data from a child has been inadvertently collected, we will take prompt steps to delete the data and cease any further processing. Parents or legal guardians may contact us to request deletion.

## **F. Security Measures for Personal Data Protection**

We are committed to ensuring the security of your personal data and have implemented a range of measures, including but not limited to, the following:

1. Use of encrypted communication and secure storage technologies
2. Implementation of user authentication and access control mechanisms
3. Logging of data access and monitoring of abnormal behavior
4. Restriction of access to personal data to authorized personnel only, all of whom are bound by confidentiality obligations
5. Regular vulnerability scanning, patching, and risk assessments

In the event of a data breach, we will take appropriate action and notify the relevant authorities in accordance with applicable laws and regulations.

## **G. Data Accuracy and Integrity**

We collect and process personal data solely for specified and legitimate purposes. Measures such as data validation, user authorization, and system controls are implemented to ensure the accuracy, integrity, and timeliness of the information.

## **H. Cross-Border Transfer of Personal Data**

Some of our servers or services may be located outside your jurisdiction. Where cross-border transfer of personal data is necessary, we will comply with applicable local laws and implement appropriate safeguards, such as Standard Contractual Clauses (SCCs), encryption measures, or security assessments, to ensure the confidentiality and integrity of your information.

## **I. Data Retention**

We retain your personal data only for as long as necessary to fulfill the purposes for which it was collected. Once the retention period has expired, we will delete, anonymize, or de-identify the data in accordance with its nature and applicable legal requirements, ensuring that it can no longer be identified or reconstructed.

Certain types of data—such as transaction records, customer support logs, and error reports—may be retained for longer periods to comply with legal obligations, auditing requirements, information security policies, dispute resolution needs, or service improvement purposes. We regularly review the necessity of such retention in accordance with data minimization and security principles.

## **J. Personal Data Rights**

You have the following rights regarding your personal data:

- To request access to the personal data we hold about you
- To request rectification, supplementation, or erasure of inaccurate or outdated data
- To withdraw your consent to data processing (where applicable)
- To request data portability or the deletion of your account

To exercise any of the above rights, please contact us at [info@hq.ute.com](mailto:info@hq.ute.com). In accordance with the GDPR, we will respond to your request within 30 days of receipt. If your request is particularly complex or numerous, we may extend this period by up to an additional two months and will inform you of the reason for the extension within the first month.

## **K. Privacy Policy Updates**

This Privacy Policy may be updated from time to time to reflect changes in our

business practices or legal obligations. If any material changes are made to the purposes or scope of personal data usage, we will notify you in accordance with applicable legal requirements. The latest version will be incorporated into the product user manual.

## **L. Disclaimer**

While we implement reasonable and appropriate security measures to protect your personal data, you acknowledge that no system can eliminate all risks inherent in operating over open networks. Unitech shall not be held liable for any unauthorized access, use, disclosure, or destruction of personal data caused by third parties beyond our control. You are responsible for safeguarding your account credentials, and Unitech will not be held liable for any data breach or damages resulting from user negligence.

## **M. Contact Us**

If you have any questions, suggestions, or requests regarding this Privacy Policy or the protection of your personal data, please contact us using the information below:

Email: [info@hq.ute.com](mailto:info@hq.ute.com)

Website: <https://www.ute.com/en/contact>

### **Note:**

*Please read this Privacy Policy carefully before using this product. You may choose whether to enable certain features (such as location services or network synchronization). By enabling such features, you consent to the collection and processing of your personal data as necessary for the operation of those features.*

## Table of Contents

<b>Preface.....</b>	<b>i</b>
Regulatory Compliance Statements .....	i
Laser Information .....	vi
LED Information .....	vi
Battery Notice.....	vii
Adapter Notice.....	x
Hearing Damage Warning .....	xi
Worldwide Support .....	xii
Warranty Policy .....	xiii
Privacy Policy .....	xiv
<b>Chapter 1 - Overview.....</b>	<b>1</b>
1.1 Package .....	1
1.2 Product Detail.....	2
1.3 Specifications .....	4
1.4 Getting Started .....	7
<b>Chapter 2 – Installation &amp;                      Operation .....</b>	<b>17</b>
2.1 Barcode Setting.....	17
2.2 HF Setting .....	21
2.3 WWAN Setting.....	23
2.4 WLAN Setting.....	26
2.5 PAN Setting .....	30
2.6 GPS Setting.....	32
2.7 PC Setting .....	33
2.8 Camera Setting .....	35
2.9 Performing a Hardware Reset.....	38
2.10 Performing Factory data reset .....	39
2.11 KeyRemap.....	41
2.12 Split Screen .....	44
2.13 Network Time Protocol (NTP) Server .....	46

**Chapter 3 – Introduction to Applications..... 48**

3.1 USS (unitech scan service) ..... 48

3.2 Files..... 54

3.3 Software Update..... 55

3.4 StageGO..... 56

# Chapter 1 - Overview

## 1.1 Package

---

Please make sure the following contents are in the EA520 gift box.  
If something is missing or damaged, please contact your unitech representative.

### The Package Contents

- EA520 Terminal
- Battery
- Quick Start Guide
- Regulatory Compliance Statements

### Optional Accessories

- USB 2.0 Type-C Cable
- 5V/2A Adaptor
- PE+ Adaptor
- 1-slot Charging Cradle
- 1-slot USB Cradle
- 4-Slot Battery Charger
- Gun Grip
- Glass Screen Protector
- Boot Case
- Hand Strap
- Wearable Kit w/ bracket, strap, pad
- Vehicle Cradle



## 1.2 Product Detail

### EA520 Product View



1. Barcode Scanner Window
2. Receiver
3. Volume Key
4. Scanner Trigger Key
5. Programmable Key

6. Sim Card Slot
7. Scanner Trigger Key
8. Power Key
9. LED Indicator

### Bottom View



### Rear View

- |                            |  |
|----------------------------|--|
| <b>10.</b> POGO Pin        | <b>15.</b> Hand Strap Holes                |
| <b>11.</b> USB Type C Port | <b>16.</b> POGO Pin connector for Gun Grip |
| <b>12.</b> Rear Camera     | <b>17.</b> NFC                             |
| <b>13.</b> Flash LED Light | <b>18.</b> Battery Cover Latch             |
| <b>14.</b> Speaker         | <b>19.</b> Front Camera                    |

## 1.3 Specifications

System Features	
<b>CPU</b>	Octa-core 2GHz Processor
<b>Memory</b>	4 GB RAM 64 GB Flash
<b>OS</b>	Android 11 Upgradeable to Android 13
<b>GMS certified</b>	GMS certified
<b>Languages support</b>	Multiple languages
<b>Others</b>	Input Chinese/ English Supports handwriting and soft keyboard
Display	
<b>Screen Size</b>	5.0" TFT-LCD HD (720 x 1280) color screen
<b>Touchpanel</b>	Gorilla Glass 3. Ultra sensitive capacitive touch screen, compatible with gloves and supports wet resistance
Keypad	
Side SCAN button x 2 (Left / Right), User-defined function button (programmable key), volume up/down buttons, on/off button	
Camera	
8MP front camera 13M rear camera with LED flash and auto-focus function	
Indicator Type	
LED, Speaker, Vibrator	
Symbologies	
Support all major 1D and 2D barcodes	
RFID	
<b>HF</b>	Support HF/NFC, Frequency 13.56Mhz, ISO14443 A/B, ISO15693, Felica(ISO/IEC18092), Mifare compliance

Power Source	
Main Battery	3.85V 4250mAh Li-ion battery Removable
Regulatory Approvals	
CE, FCC, NCC, CCC, SRRC, VCCI, TELEC, RoHS, BQB, N-Mark, BSMI for battery	
Communication	
Bluetooth®	Bluetooth® 5 supported
WLAN	802.11 a/b/g/n/ac/d/e/h/i/j/k/r/v, 2.4G+5GHz, support fast roaming, VoWiFi, hotspot Compliant with WFA, WPA/WPA2
WWAN (5G Ver. Only)	Global: 4G LTE FDD: B1/B2/B3/B5/B7/B8/B20/B28A/B28B TDD: B38/B39/B40/B41 3G WCDMA: B1/B5/B8 2G GSM: 850,900,1800,1900MHz Americas : 4G LTE FDD-B1/B2/B4/B5/B7/B12/B13/B14/B17/B28A/B28B TDD-B38/B40/B41 3G WCDMA: B1/2/4/5/8 2G GSM: 850,900,1800,1900MHz
GPS	AGPS, GPS, GLONASS, Beidou, Galileo support
Sensors	Light Proximity, Accelerometer, e-Compass, Gyroscope sensor
Fingerprint	Optional
I/O Interfaces	
USB	USB 2.0 (Type-C)
OTG	Yes, over USB Type-C
POGO PIN	Charging via cradle
SIM Slot (5G Ver. Only)	Dual SIM , support LTE + LTE
Expansion slot	MicroSD, up to 128 GB
Audio	One speaker (1.5 W / 90±3dB @ 10cm), One receiver, Dual noise-cancelling microphones
Enclosure	
Dimensions	151.1mm x 76.8mm x 13.7mm
Weight	246 g (with battery)

Environmental	
Operating temperature	-20°C to 60°C
Storage temperature	- 40°C to 70°C (without battery)
Charging temperature	0°C to 45°C
Relative Humidity	95% (non-condensing)
Drop Specification	1.5m , 1.8m with boot case
Sealing	IP67
Vibration/ Tumble test	0.5m tumbles for 300 cycles and 600 drops
Software	
SOTI, AirWatch, 42Gears, and MoboLink	
Accessories	
■ USB 2.0 type C cable	■ Gun grip
■ 5V/2A Adaptor	■ Glass Screen Protector
■ PE+ Adaptor	■ Protective Case
■ Single Slot Charging Cradle	■ Hand Strap
■ Single Slot USB Cradle	■ Wearable Kit w/ bracket, strap, pad
■ 4-Slot Battery Charger	■ Vehicle Cradle

**Note:**

The device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.

	AT	BE	BG	HR	CY	CZ	DK
	EE	FI	FR	DE	EL	HU	IE
	IT	LV	LT	LU	MT	NL	PL
	PT	RO	SK	SI	ES	SE	UK
	IS	LI	NO	CH	TR		

## 1.4 Getting Started

### Replacing the Battery

This section describes how to replace the battery.

**CAUTION!** The battery is designed to be removed by hand. Do not use tools to remove the battery.

**NOTE:** Do not put labels, asset tags, engravings, stickers, or other objects in the battery slot, as this might compromise the performance of the device or accessories. Performance levels, such as sealing [Ingress Protection (IP)], impact performance (drop and tumble), functionality, or temperature resistance could be affected.

**NOTE:** If the hand strap is attached, remove the hand strap clip first.

### 1.4.1 Remove Battery Cover to install Battery

Remove the battery cover in the direction as shown in the picture below:

1. Turn the latch to the left to unlock the battery cover.



1. Lift the battery cover up to 45 degrees (45°) angle by pulling the bottom-left corner up then gently take the cover off.



2. Align the battery with the bottom slot in the battery compartment.



3. Press down the battery and secure in place.



### 1.4.2 Install the Battery Cover

Insert the battery cover in the direction as shown in the picture below:

1. There are three hooks on the battery cover. Align the hooks with the recesses on the battery compartment.




2. Insert the battery cover up to 45 degrees (45°) angle, from top to bottom.



3. Align the battery cover with the recesses of the battery compartment and press the battery cover down to secure in place. Make sure there is no gap between the device and the battery cover.



4. Lock the battery cover by turning the latch to the right . Make sure the battery cover is securely closed, or you may not be able to turn on the terminal.



### 1.4.3 Remove the battery

Pull the plastic sheet and remove the battery from the top.





## 1.4.4 Charging the Battery

Before using the terminal for the first time, you need to charge it for about 24 hours. For the regular use, you can charge the terminal for 4 hours to recharge the battery to full capacity.

To charge the terminal, please use the USB charging cable or the cradle.

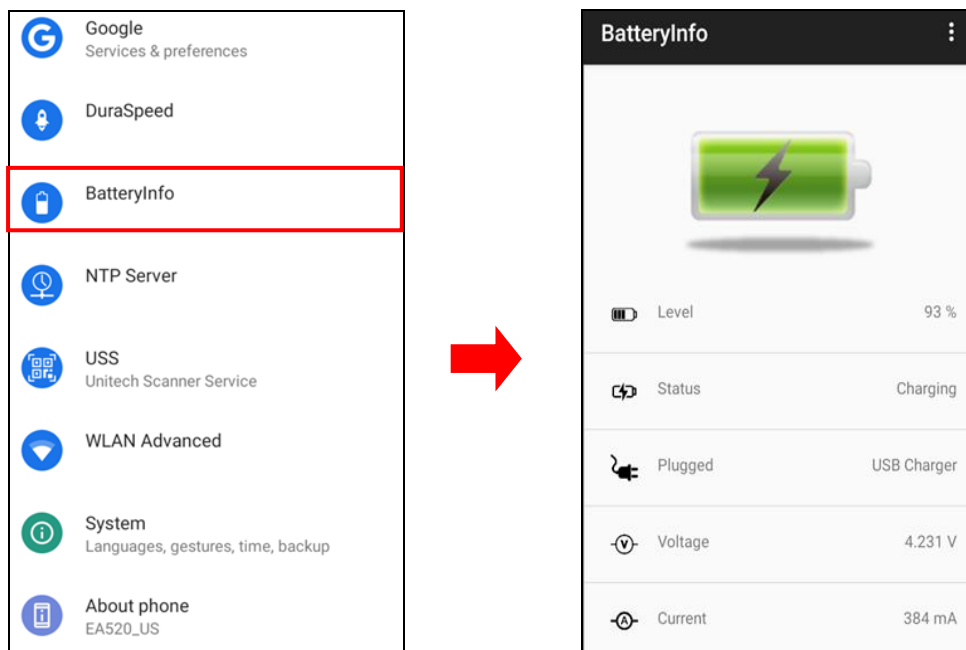
Connect the type C USB cable to the USB port on EA520 and the other end of the USB cable connect to AC power adapter into the electrical outlet on the USB plug.

The charging LED indicator on EA520 is turning red when it is in charging state.



## 1.4.5 Battery Info

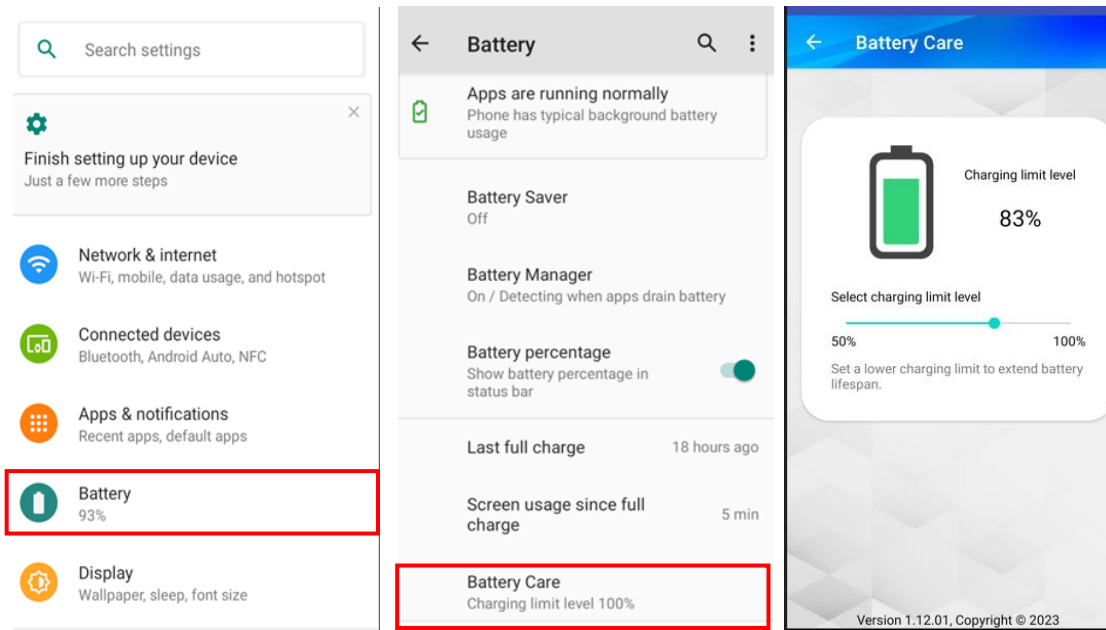
Please go to **Settings** → **BatteryInfo** for more detailed battery information.



### 1.4.5.1 Charging Limit Function

To protect the battery, Battery Care enables you to set the maximum power level.

Set a lower charging limit to extend the lifespan of your battery. You can access this feature in **Settings** → **Battery** → **Battery Care**, as shown below to configure the charging limit.



### Here's how it works:

1. By default, the charging limit is set to 100%.
2. Avoid full charge cycles (0-100%) and overnight charging.
3. Limiting your PDA's maximum charge to 20-80% is better for the battery's health than topping up to completely full every time.
4. Opting for the 80% Limit will ensure your PDA charges up to approximately 80% and then ceases charging.
5. When frequent charging is necessary, enabling the 50% Limit permits charging up to 50%, effectively extending your battery's lifecycle.
6. Additionally, if you plan to hold your PDA in long-term storage, it's best not to leave it at 100% charge. Instead, recommends that you store batteries at 50% state of charge if you're planning to store them long-term.

## 1.4.6 Turning on the terminal for the first time

It is recommended to fully charge EA520 before first use. You can now start up your device to set up the languages, WLAN setting, and date and time.

### Power Button

Turn ON your device by pressing the power button on the side of the terminal.



## 1.4.7 Checking the LED status

### Checking the Battery Status

LED	Description
Red Light	<ul style="list-style-type: none"><li>● Battery Charging</li><li>● Twinkling to indicate battery low status (less than 15%)</li></ul>
Green Light	<ul style="list-style-type: none"><li>● Battery Fully charged</li><li>● Barcode scan good read</li></ul>
Blue Light	<ul style="list-style-type: none"><li>● Message</li></ul>
<b>If scanner app is running, LED is controlled by the scanner app. No LED (Red and Green) display when battery is out. (even with AC IN)</b>	

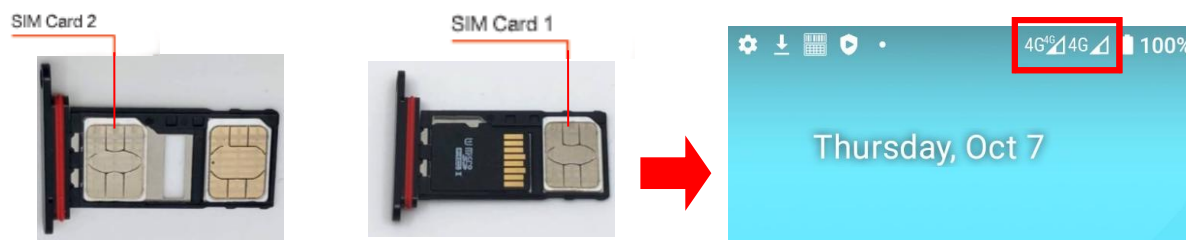
**WARNING!** *There is a risk of fire and burns if the battery is handled improperly. DO NOT disassemble, crush, puncture, short external contacts, or dispose the battery pack in fire or water. DO NOT attempt to open or service the battery. Dispose of used batteries according to local recycling guidelines in your area.*

## 1.4.8 Installing SIM/ SD Card (5G Ver. Only)

1. Loosen the screw (in counterclockwise direction) with a screwdriver to remove the card holder.



2. Place the SIM Card following the picture below.



**(A)** Put in two SIM Cards **or (B)** Put in one SIM Card and an SD Card.

If you insert two SIM Cards, you can choose either SIM 1 or SIM 2 to be your data preference.

**Data preference**

☒ Chunghwa Telecom

☐ Chunghwa Telecom

CANCEL

**Note :**

1 、 Please use standard SIM card.

2 、 Do not push too hard when SIM card 、 TF card 、 SD card are inserted into the slot.

# Chapter 2 – Installation & Operation

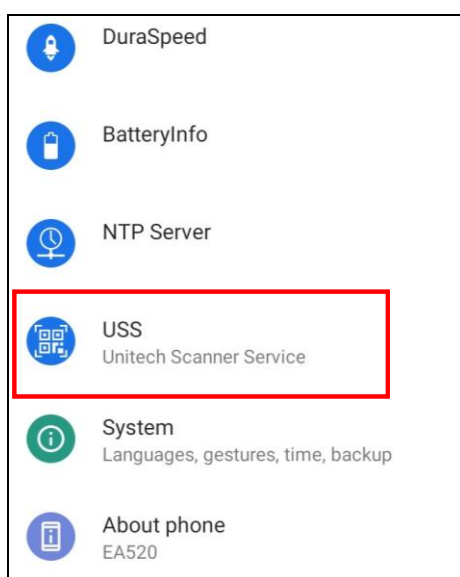
## 2.1 Barcode Setting

1. On the main screen, scroll up the screen to reach the APPS, and

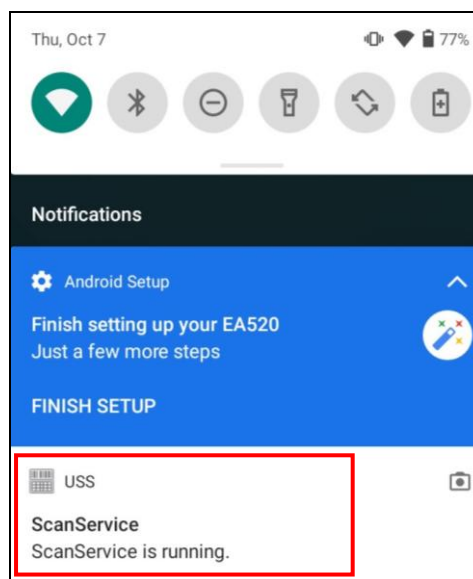


tap **Settings** and then tap **USS** (unitech scan service).

Or from the notification bar to tap USS (unitech scan service).




or

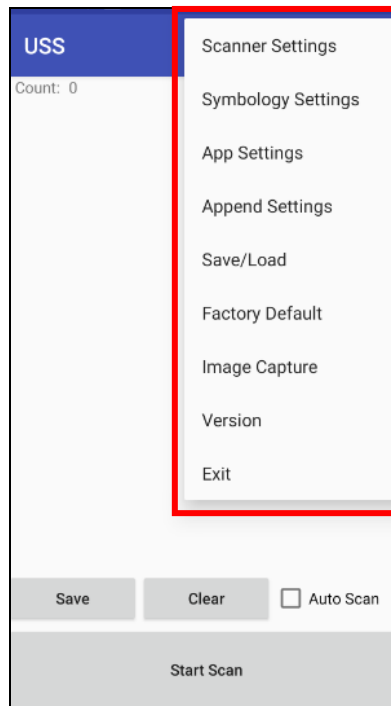


2. You now enter the unitech scan service application.



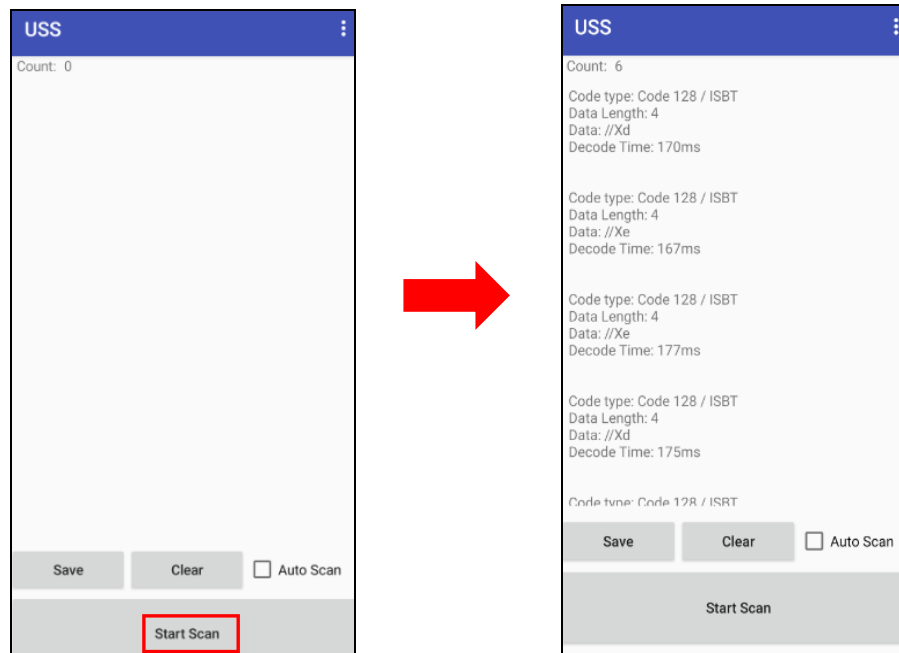
## 2.1.1 Settings

1. After you enter the unitech scan service application, please tap  on the screen to see all the settings of **USS**.



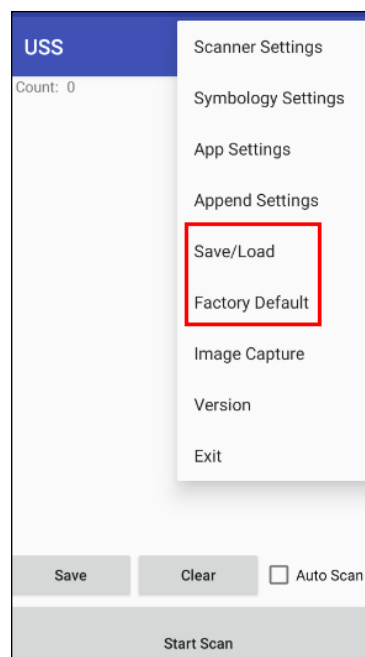
## 2.1.2 Barcode Scan

1. Please tap **Start Scan** to get ready for barcodes scan service.

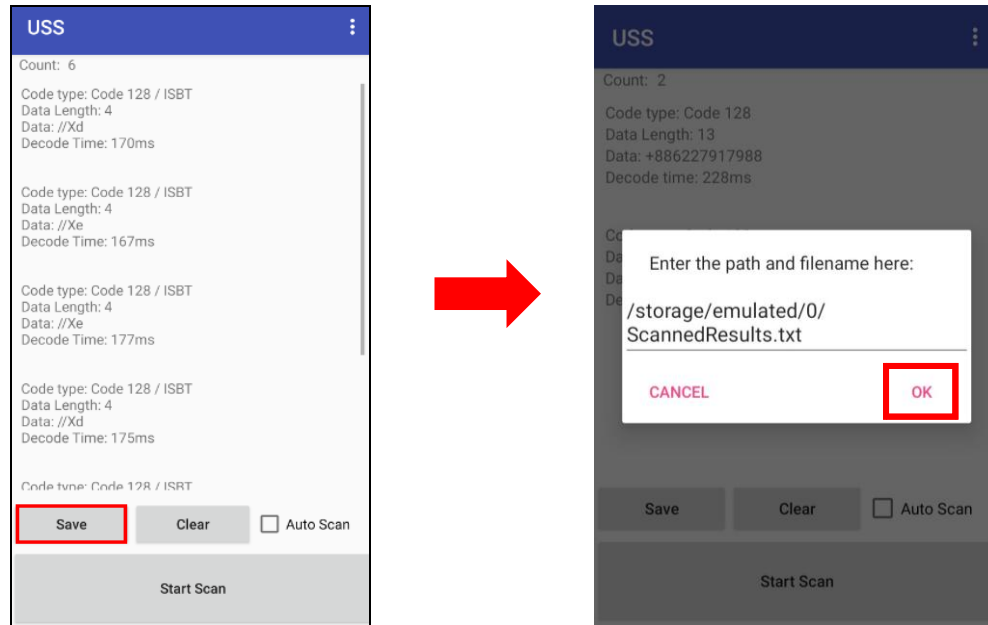


2. For **Save / Load Settings**, and **Factory Default**,

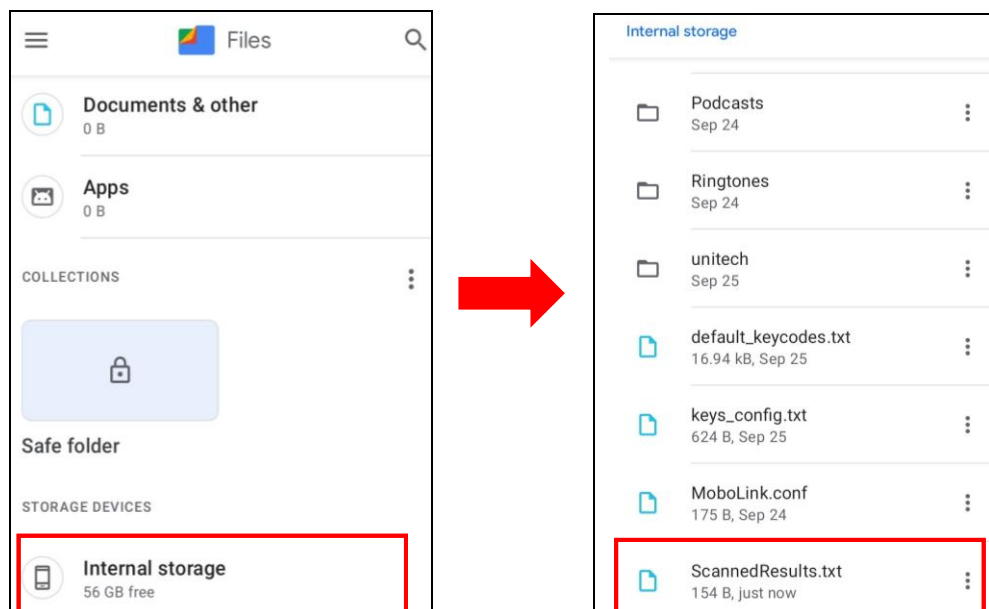
Please tap  and to select **Save / Load Settings**, and **Factory Default**.



- To save settings, you can also tap **Save** on the screen and input path then tap **OK**.



The saved data is stored in Files. (Please see [3.2 Files](#))



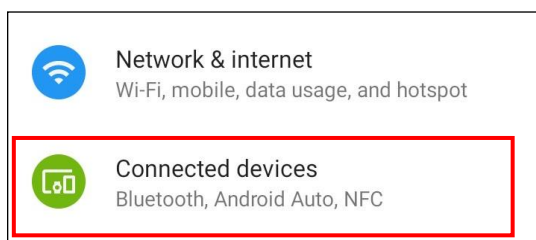
*Note:* For more information, please refer to [3.1 USS \(unitech scan service\)](#)

## 2.2 HF Setting

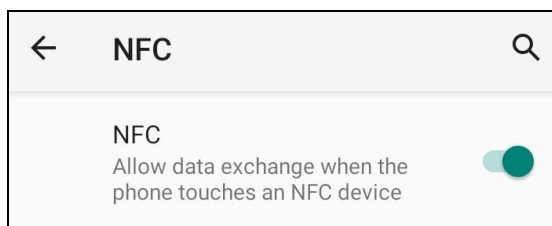
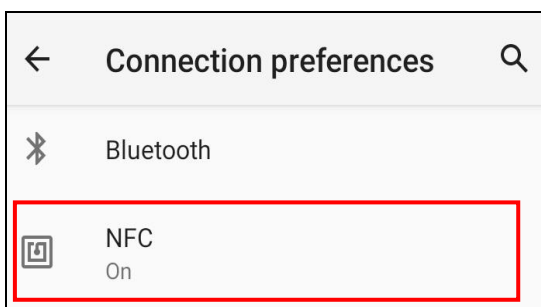
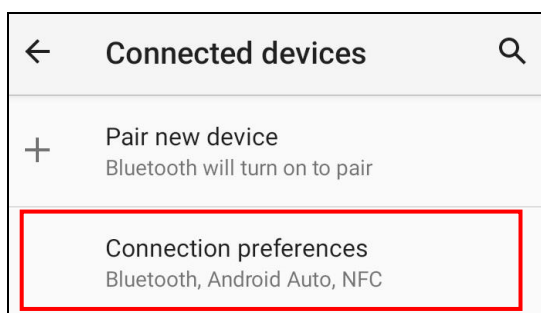
1. On the main screen, scroll the screen from down to top to reach the APPS,



and tap **Settings** and then tap **Connected devices**.



2. Tap **Connection Preferences** to enable **NFC**



3. Make sure that both devices are unlocked and have NFC turned on. Also make sure that the NFC antenna area of EA520 and the other phone's NFC area are close to one another. Slightly moving the phones until a connection is made. Tap the screen.

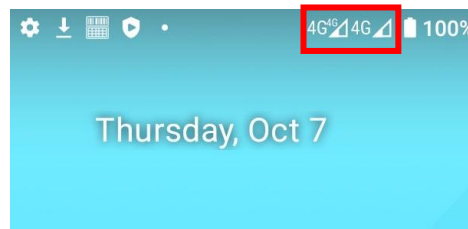


## 2.3 WWAN Setting (5G Ver. Only)

1. Turn off the terminal to insert the SIM card.

**Note :** • For the instruction, please refer to [1.4.7 Installing SIM/ SD Card](#).

2. Turn on the terminal, 4G signal will show at the top of the screen.

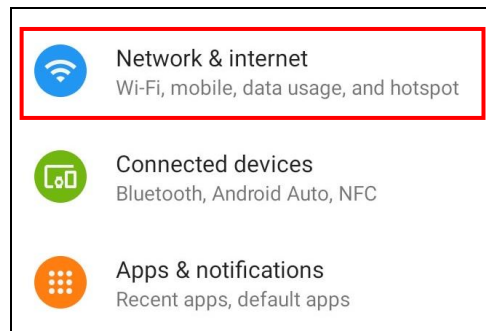


### 2.3.1 Mobile Network Settings

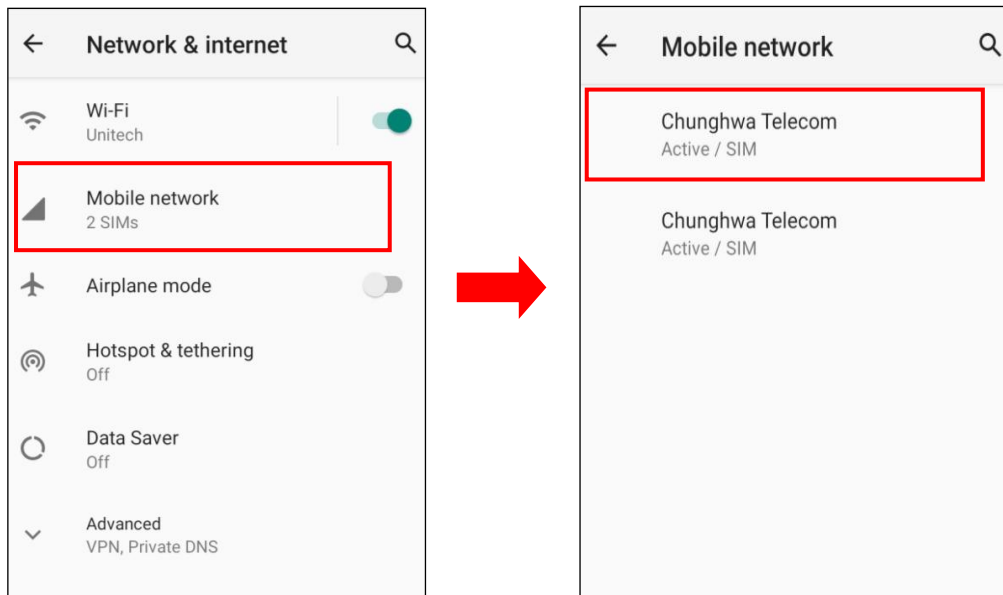
1. On the main screen, scroll the screen from down to top to reach the APPS,



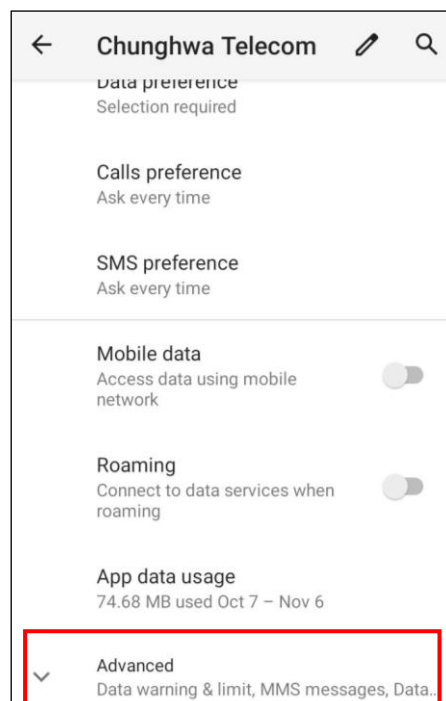
and tap **Settings** and then tap **Network & internet**.



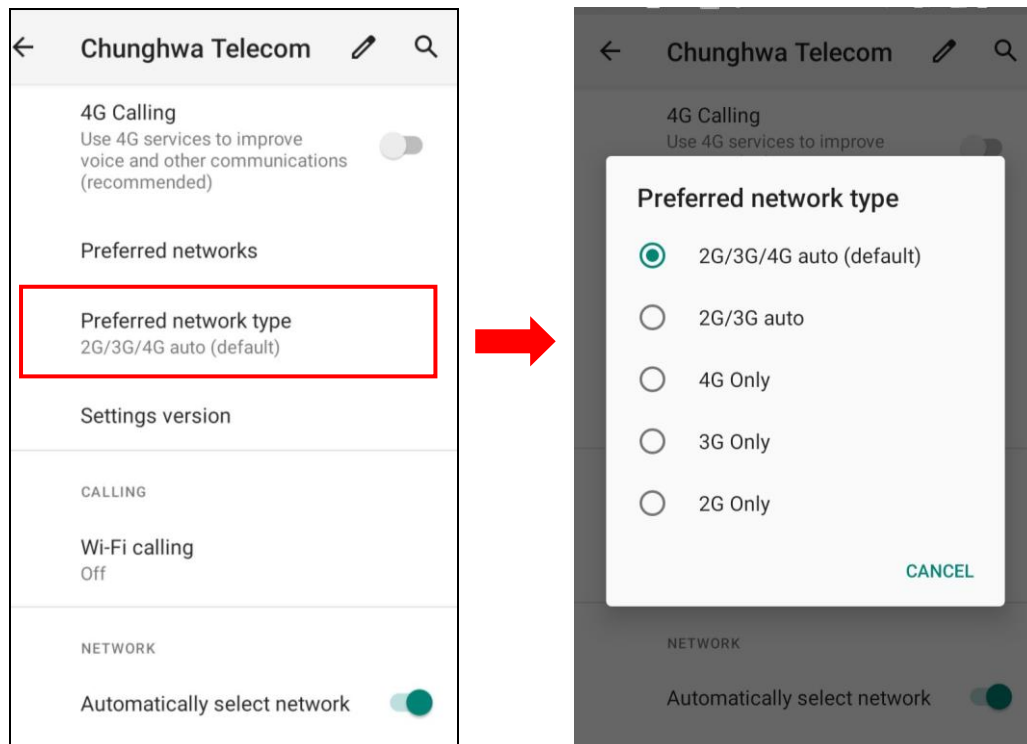
2. Tap **Mobile network** for more network settings.



3. Scroll down and tap on advanced.



4. To choose different network type, please tap **Preferred network type**.



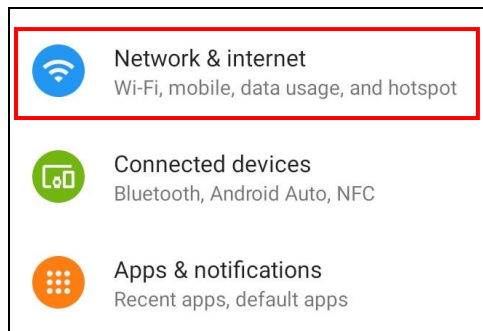


## 2.4 WLAN Setting

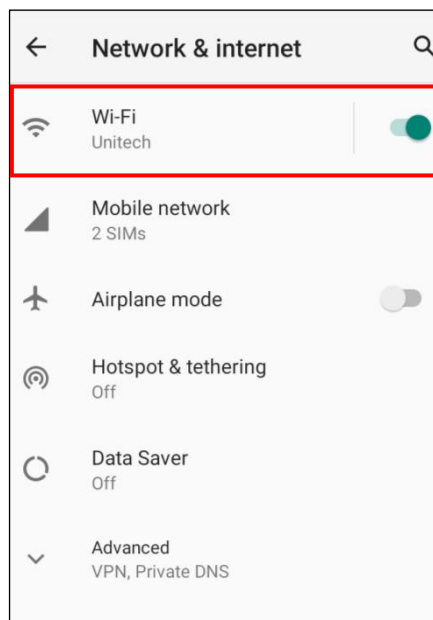
1. On the main screen, scroll the screen from down to top to reach the APPS,



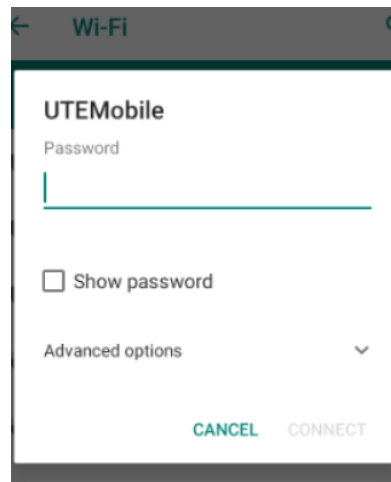
and tap **Settings** and then tap **Network & internet**.



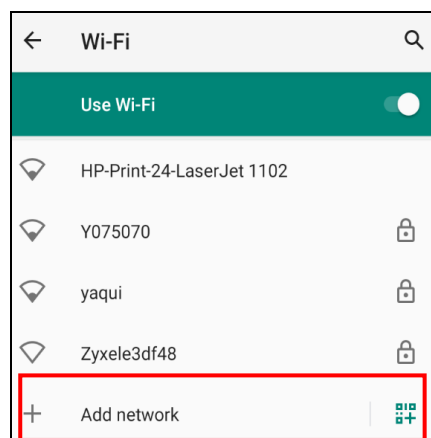
2. To see available networks, turn WLAN **ON**. And tap to choose the available networks.



3. Choose the available networks, and enter the Password and tap **Connect**.



4. If the wireless network that you want is not listed, tap **+ Add network** to manually add it.



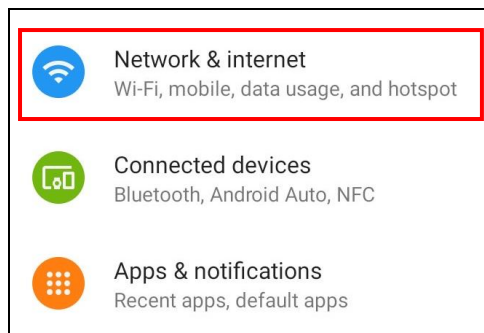
5. When enabled, the icon  is displayed on the status bar.

## 2.4.1 Share Wi-Fi

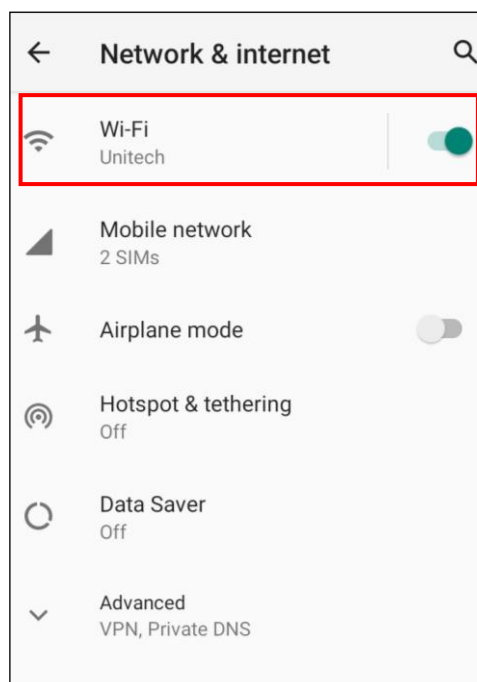
1. On the main screen, scroll the screen from down to top to reach the APPS,



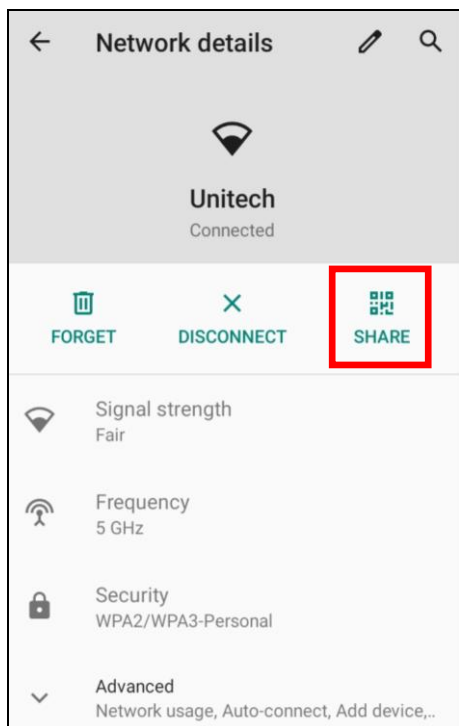
and tap **Settings** and then tap **Network & internet**.



2. To see available networks, turn WLAN **ON**. And tap to choose the available networks.



When Wi-Fi is connected, tap **“Share”** icon to show QR code.

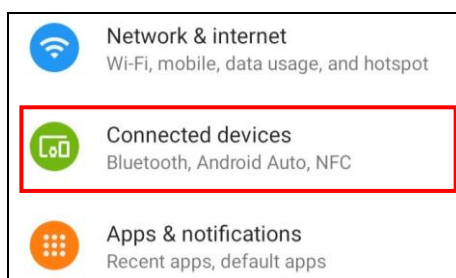


## 2.5 PAN Setting

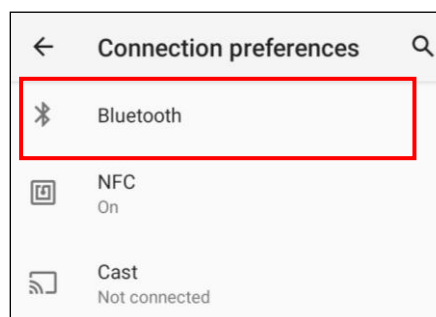
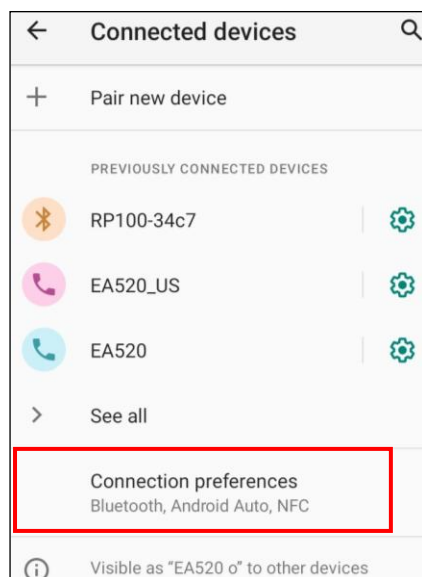
1. On the main screen, scroll the screen from down to top to reach the APPS,



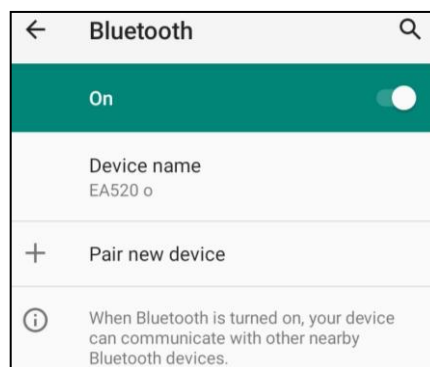
and tap **Settings** and then tap **Connected devices**.



2. Tap **Connection Preferences** to enable **Bluetooth®**.



3. Tap **ON / OFF** to enable / disable Bluetooth®.  
To pair the available device, turn Bluetooth® **ON** to choose the available device.



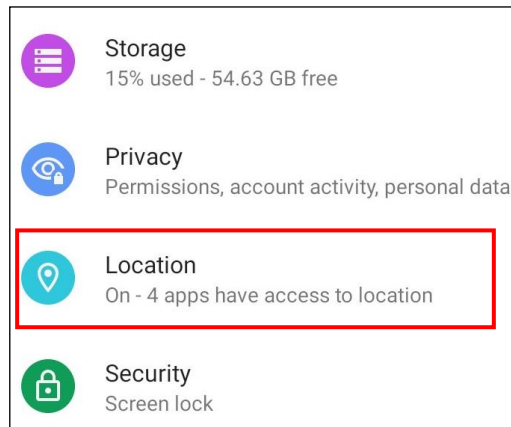
*Note:* You can only use Bluetooth® to transfer files between two EA520, and can not use USB or NFC to transfer files.

## 2.6 GPS Setting

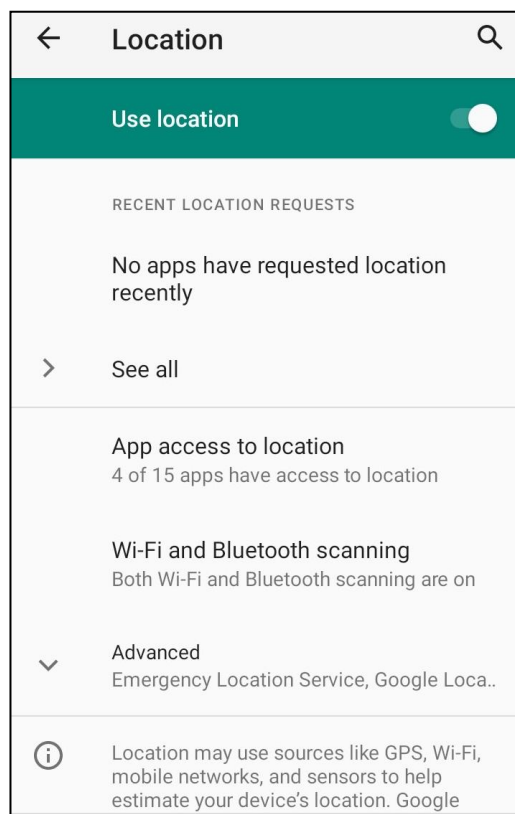
1. On the main screen, scroll the screen from down to top to reach the APPS,



and tap **Settings** and then tap **Location**.

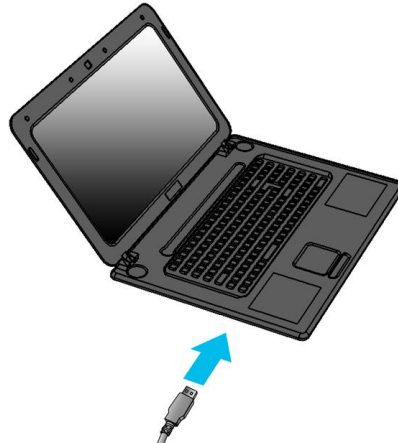


2. Tap **ON/OFF** for the permission to use your location information.

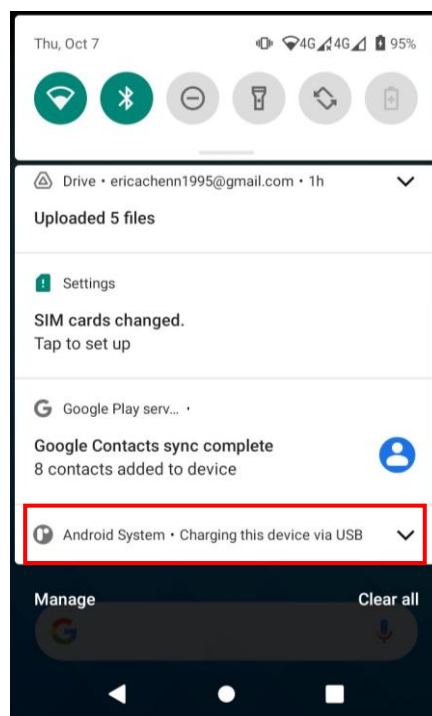


## 2.7 PC Setting

1. Connect EA520 to your computer with the USB type C cable. Your computer will recognize it is USB charging.

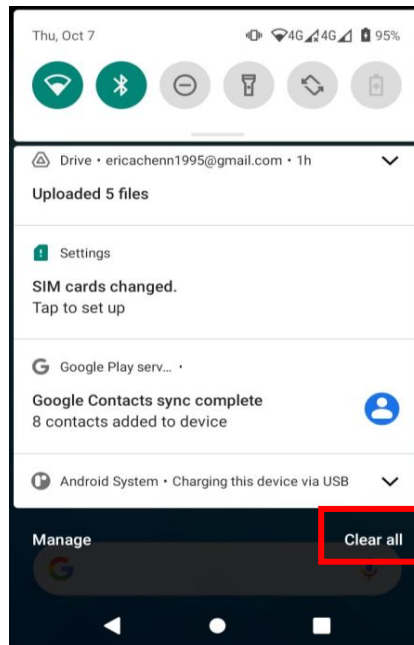


2. Slide down from top, the system will show as follow picture, then you can tap on **Android System Charging this device via USB**.

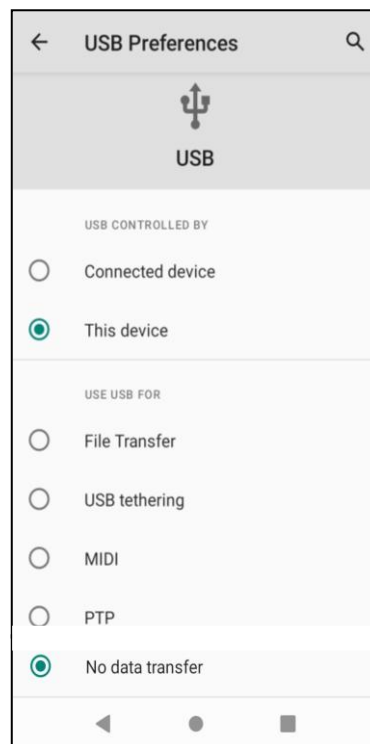





*Note:* If you cannot find the Android System Charging this device via USB notification in step 2, click on CLEAR ALL and try again.

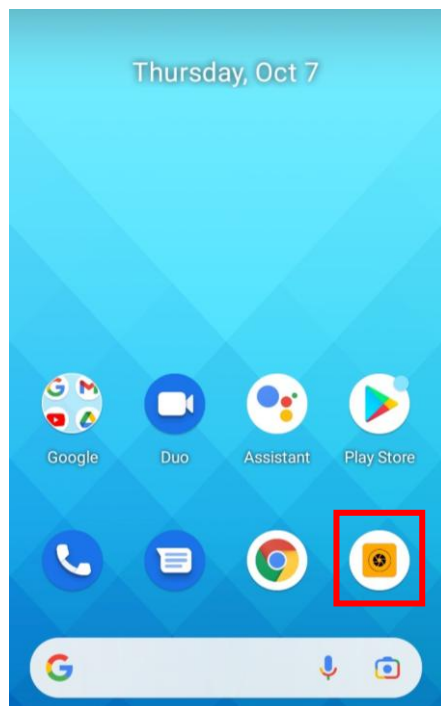


3. Then you can select File Transfer.

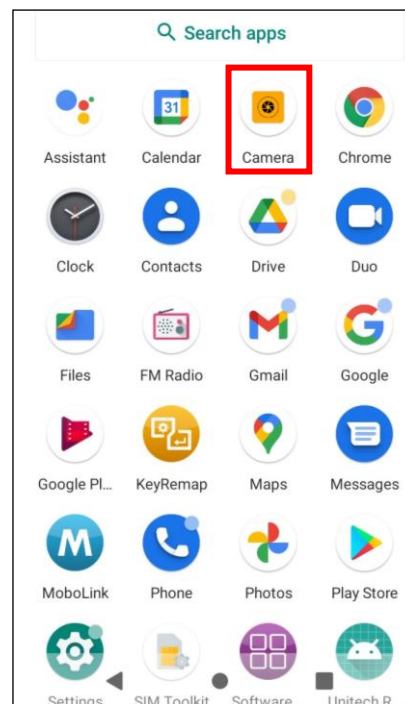


## 2.8 Camera Setting


1. Tap  **Camera** on the main screen, or scroll the screen from down to top to reach the APPS, and tap **Camera**.

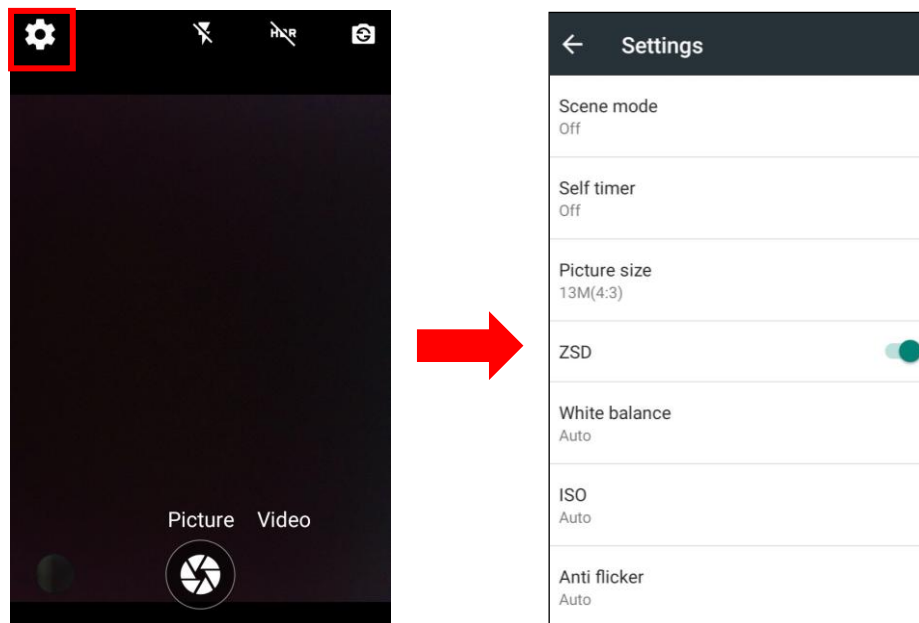


OR




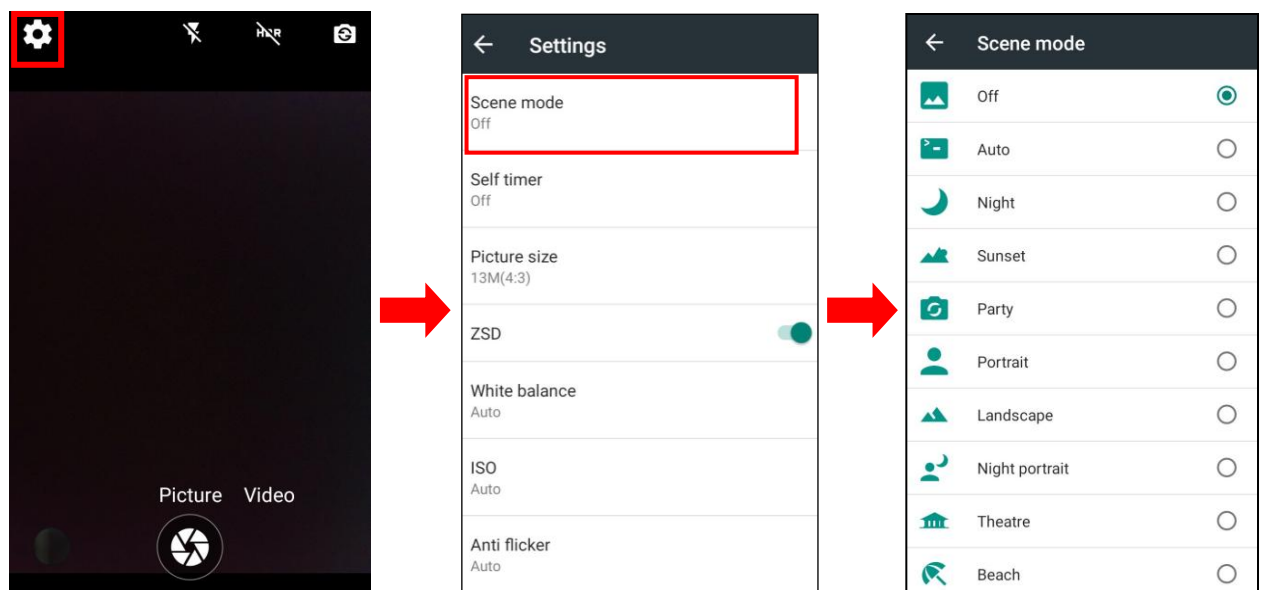
## 2.8.1 Settings

Please tap  to enter the settings section.



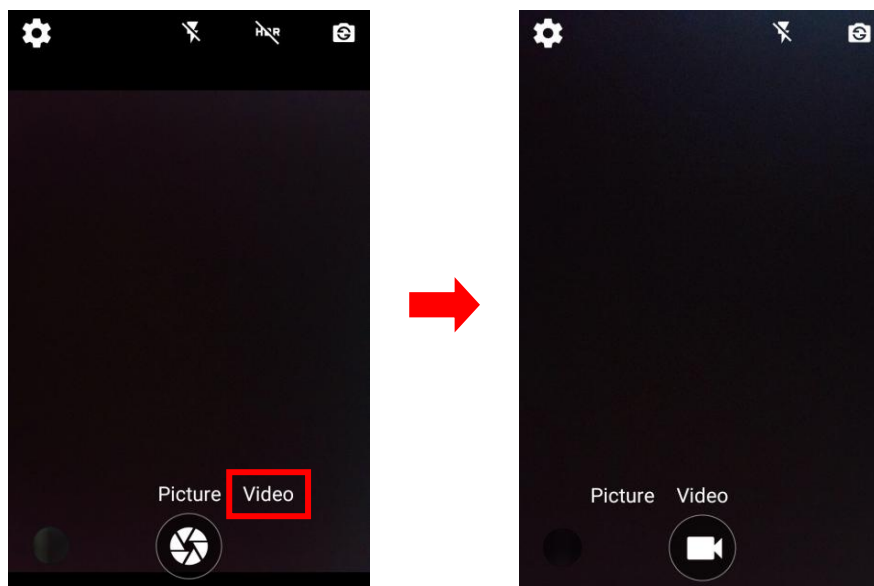
## 2.8.2 Scene Mode Setting

Please tap  and select Scene mode to access mode settings.

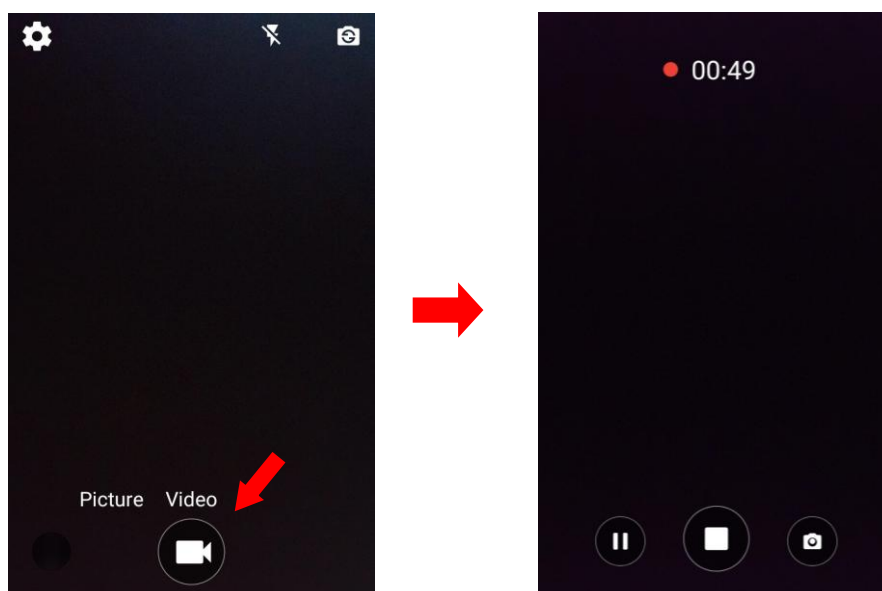


## 2.8.3 Record Videos

1. Tap on Video to switch to the Video mode.



2. Tap on the  to start recording.



## 2.9 Performing a Hardware Reset

---

You may have to perform a reset if the device freezes (i.e., the terminal no longer responds to the buttons or tapping on the screen). Long press and hold the **Power button** around 10 seconds to restart the device.

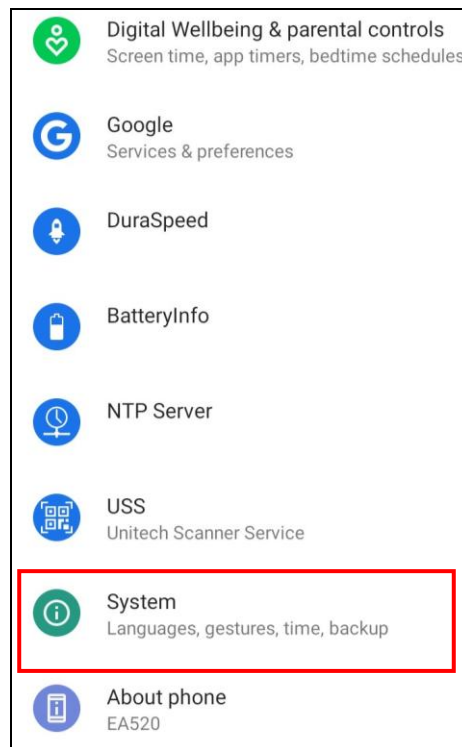


## 2.10 Performing Factory data reset

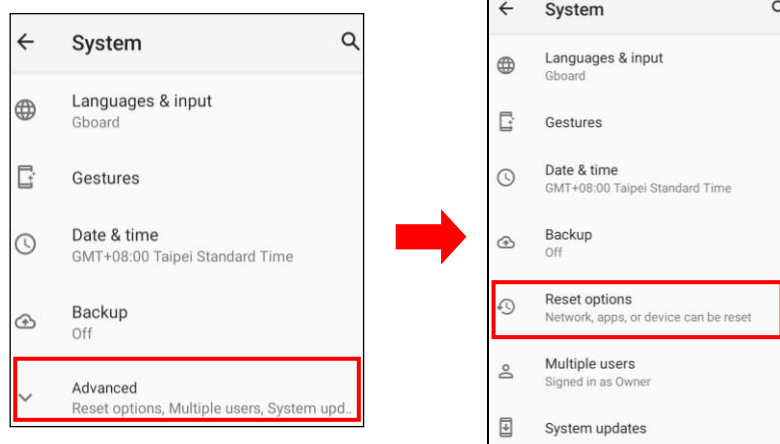
1. On the main screen, scroll the screen from down to top to reach the APPS,



and tap **Settings** and then tap **System**.

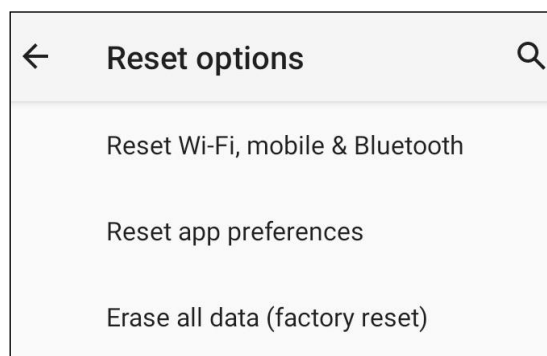


2. Tap **Advanced** for more options, and then tap **Reset options**.



3. You can reset the system on **Reset options**.

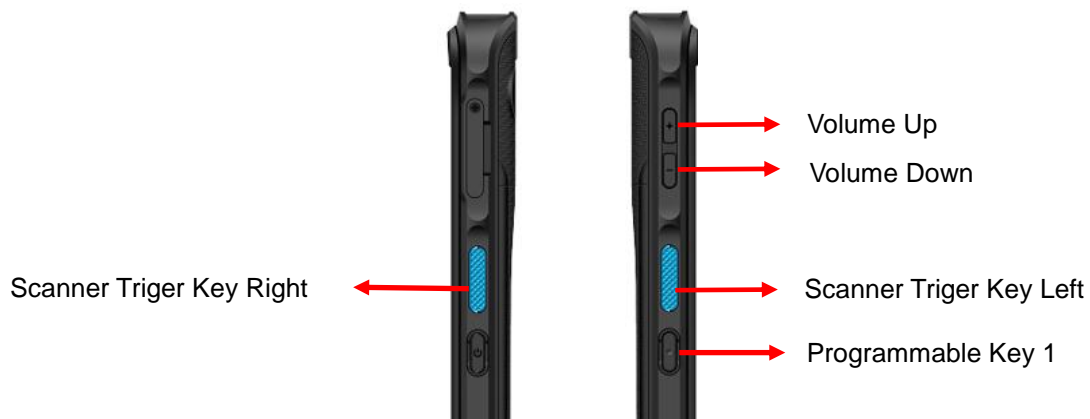
When you select **Erase all data (factory reset)**, it will erase all folders.



## 2.11 KeyRemap

The EA520's keys can be programmed for users to be able to perform different functions or applications.

Four options to use key remap functions: Volume\_Up, Volume\_Down, Programmable Key 1, Scanner Trigger Key Left and Scanner Trigger Key Right.

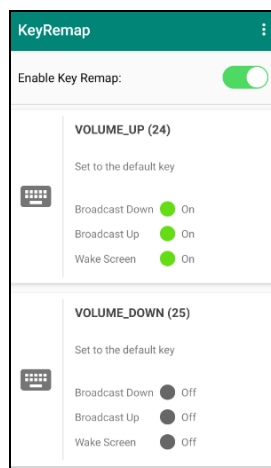


### 2.11.1 Remap a key

On the main screen, scroll the screen from down to top to reach the APPS, and



tap KeyRemap. Select the keys to remap and enable key.



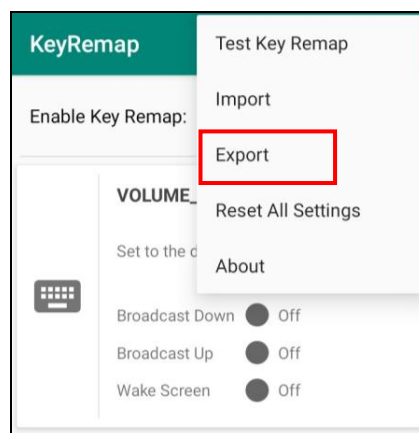
After remapping the key, remember to enable the key remap.



## 2.11.2 Export / Import a remap Key Configuration file

### ■ Export file

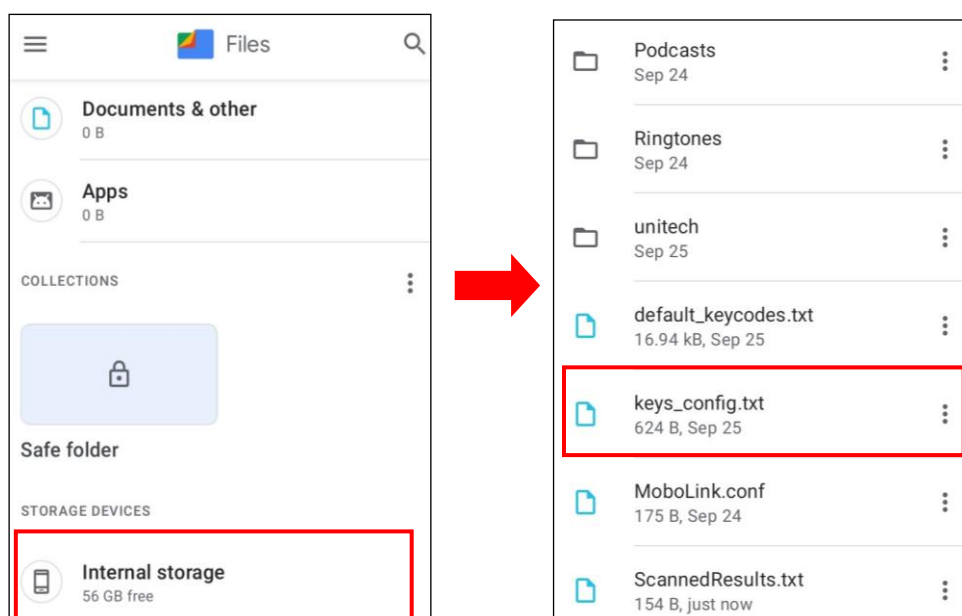
1. Tap 
2. Select **Export**



The remap Key configuration can be exported to a text file or imported into EA520.

**Note:** The configuration file (keys\_config. is saved in Files.

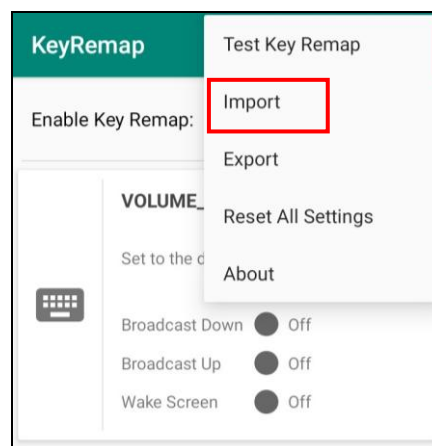
(For Files setting, please refer to [3.2 Files](#).)



## ■ Import file

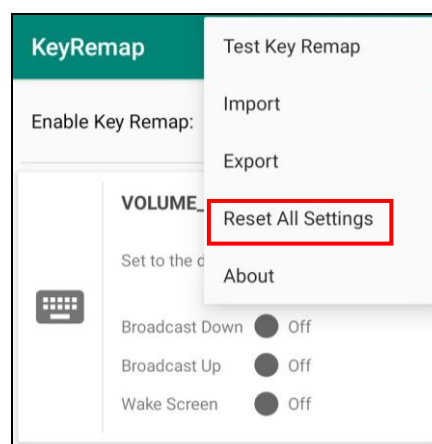
Before importing the file, please make sure the configuration file (keys\_config.txt) is in the Files.

1. Tap 
2. Select **Import**



## ■ Reset all settings

1. Tap 
2. Select **Reset all settings**



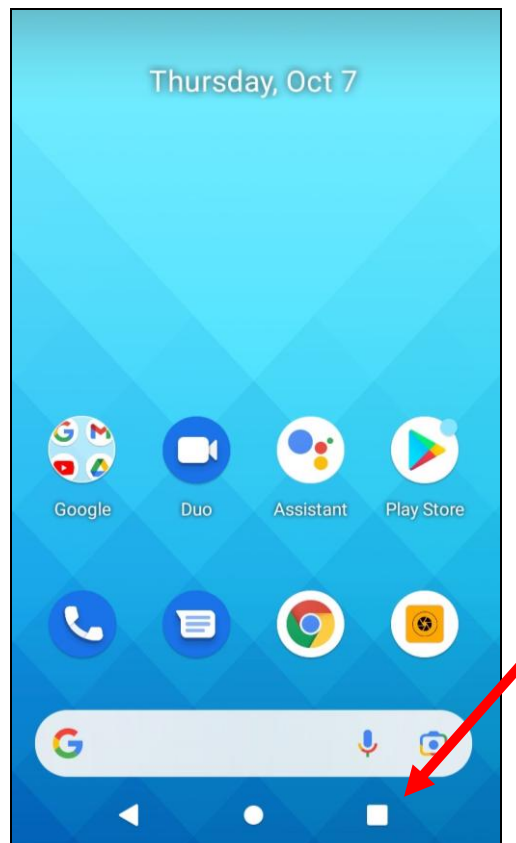
## 2.12 Split Screen

---

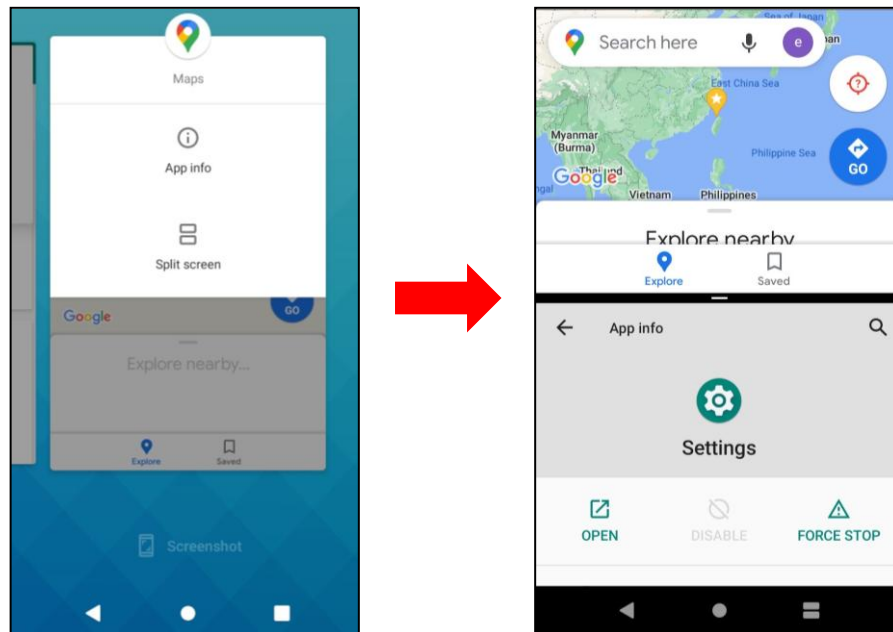
Split screen function allows you to have two apps work side by side on the same screen. Please follow the steps to enable split screen multitasking.

*Note: Some apps may not work with split-screen.*

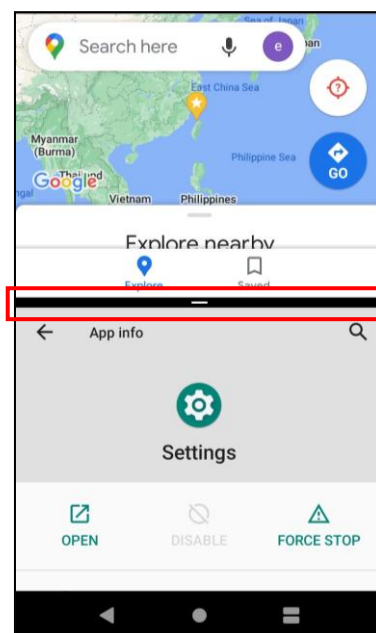
1. Tap **Background APP button** until you see those background apps on the screen.



2. Tap and hold the icon which appears above the APP thumbnail and then select "Split screen." First APP "Split screen" will be on top of the screen. For another APP to show on the bottom half of the screen, simply tap on the APP thumbnail.



3. To cancel split screen, simply drag up or down the black bar in the middle of the two APPs to expand the app that you would like to keep in full screen.



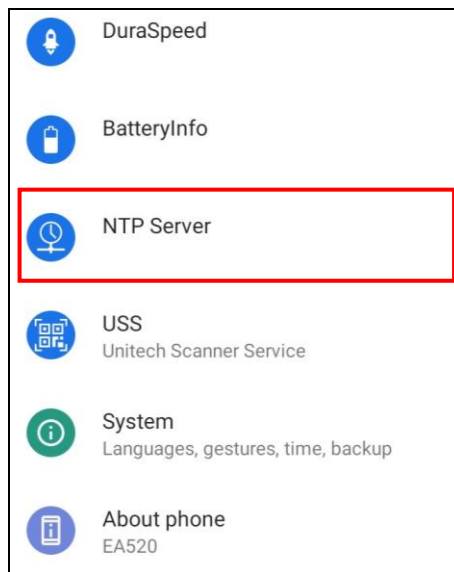
## 2.13 Network Time Protocol (NTP) Server

The Network Time Protocol is used to synchronize the clocks over the Internet. Allow the users to set the clock by using NTP Server.

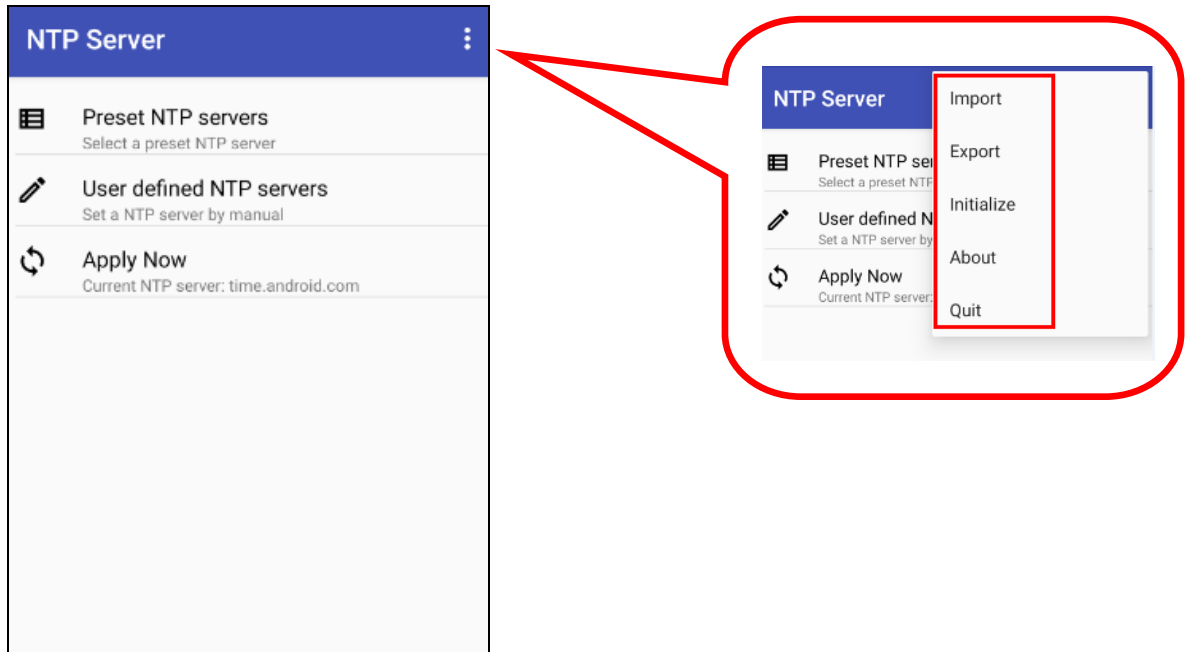
1. On the main screen, scroll the screen from down to top to reach the APPS,



and tap **Settings** and then tap **NTP (Network Time Protocol) Server**.



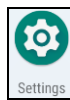
2. On NTP Server, please choose the system preferences to set up network time.



## Chapter 3 – Introduction to Applications

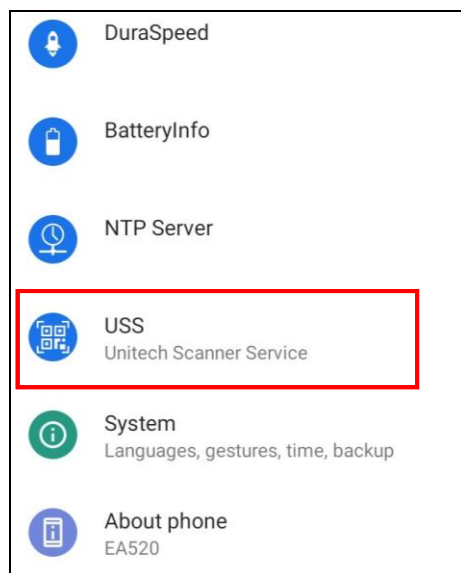
### 3.1 USS (unitech scan service)

1. On the main screen, scroll the screen from down to top to reach the APPS,

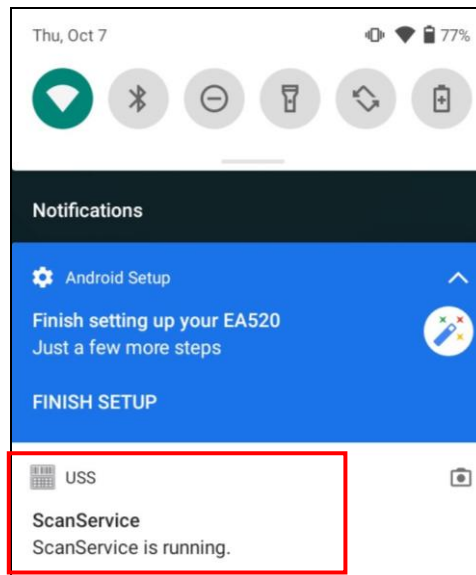


and tap **Settings** and then tap **USS** ( unitech scan service ).

Or from the notification bar to tap USS ( unitech scan service ).



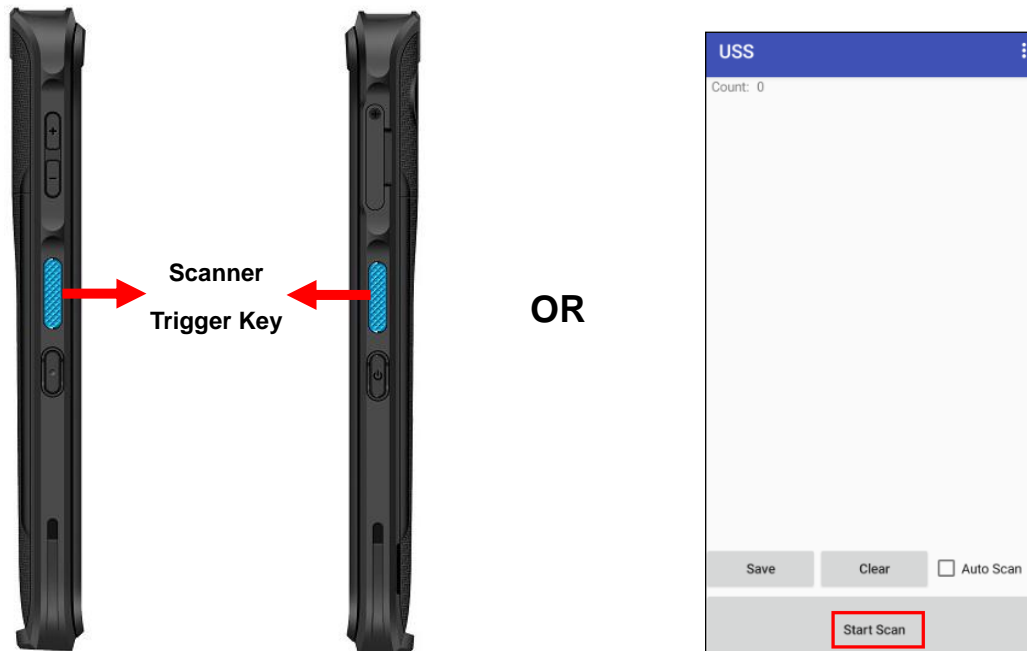
or



2. You now enter the unitech scan service application.

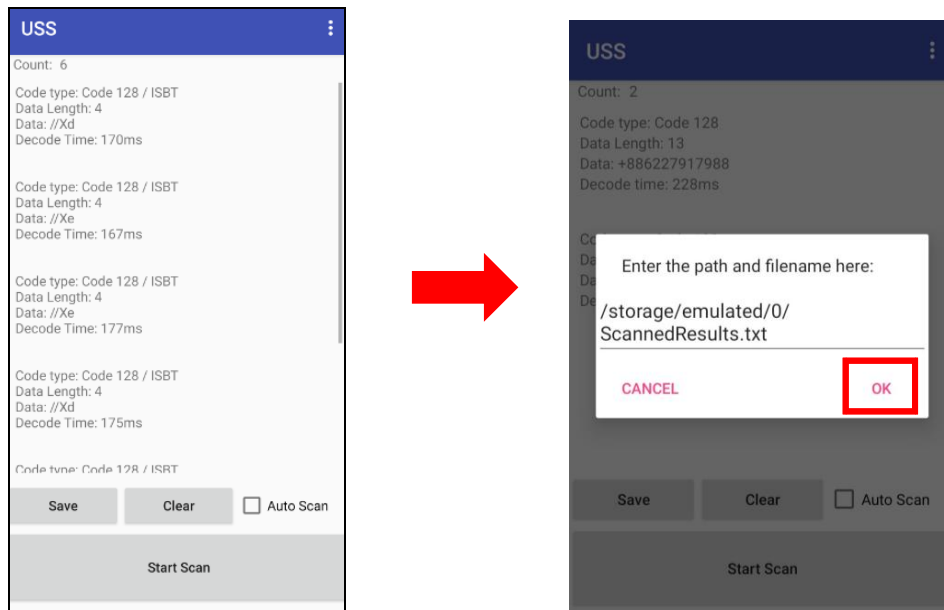
### 3.1.1 How to scan

1. Aim the Barcode Scan Engine to the barcode and press one of two scan trigger keys or tap **Start Scan button**.




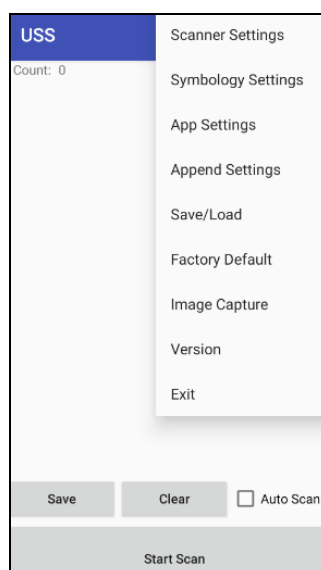


2. After scanning the barcodes, the barcode information is shown as below.
3. To save the scanned data, tap **Save** and enter the path and filename, then tap **OK**.




#### 4. More Options

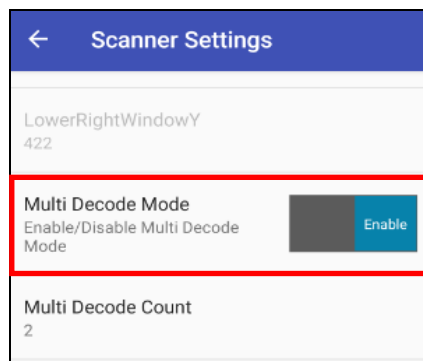
For more options and settings, please tap .



### 3.1.2 Multi Decode Scan Mode

Multi decode scan function allows users to scan multiple barcodes at once.

1. Tap  , Choose **Scanner Settings**
2. Enable **Multi Decode Mode**, and input the barcode decode count (up to 10 counts) and start multi decode scan.

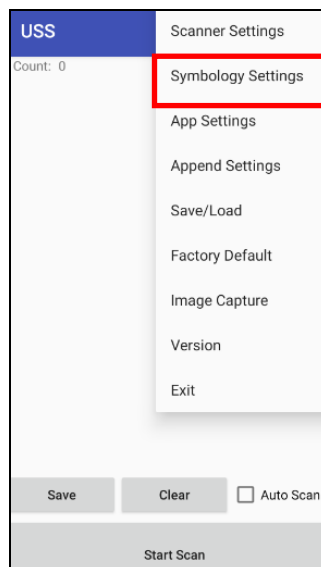


### 3.1.3 Bookland ISBN

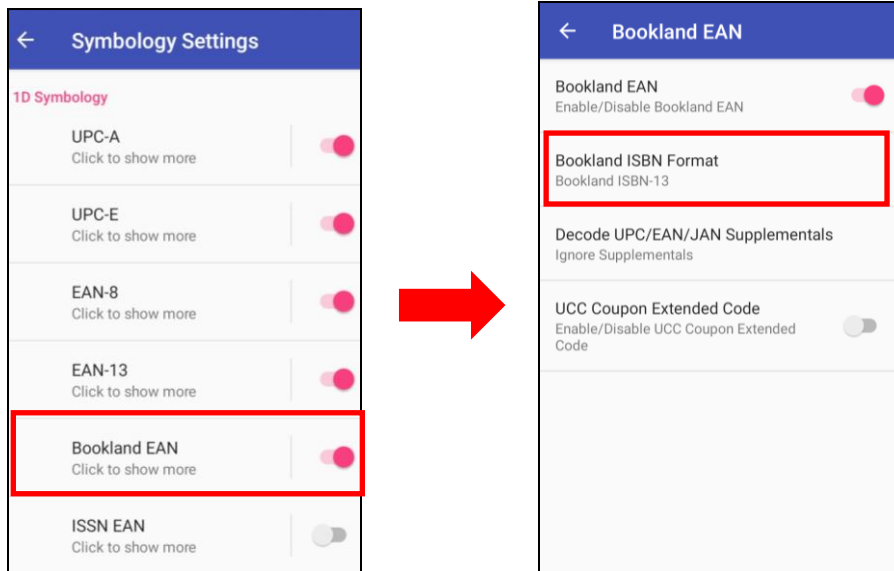
The Bookland ISBN format supports two types of barcodes, including Bookland ISBN-10 and Bookland ISBN-13.

The default of EA520 is Bookland ISBN-10. If you are unable to scan the barcode, please switch to Bookland ISBN-13 following the instructions below.

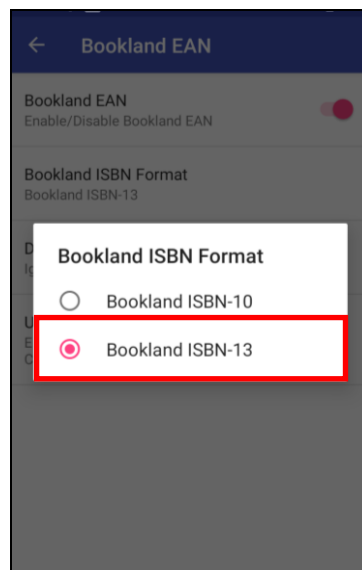
1. Please tap  and tap on Symbology Settings.



2. Tap on Bookland EAN, then tap on Bookland ISBN Format.




3, Select Bookland ISBN-13.

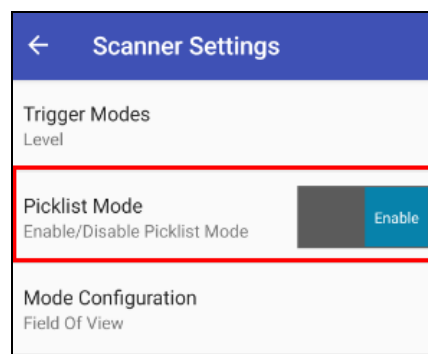


### 3.1.4 Picklist Mode

Picklist mode enables EA520 to decode only barcodes that are aligned under the laser crosshair or LED aiming dot.

For picklist mode demonstration, please click on our Youtube channel for more information : [https://www.youtube.com/watch?v=QjT2E6hxD\\_k](https://www.youtube.com/watch?v=QjT2E6hxD_k)

1. Tap  , Choose **Scanner Settings**
2. Enable **Picklist Mode**, and allows users to easily select and scan a single or specific barcode from a field of barcodes.



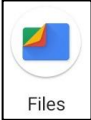
### 3.1.5 More information about USS

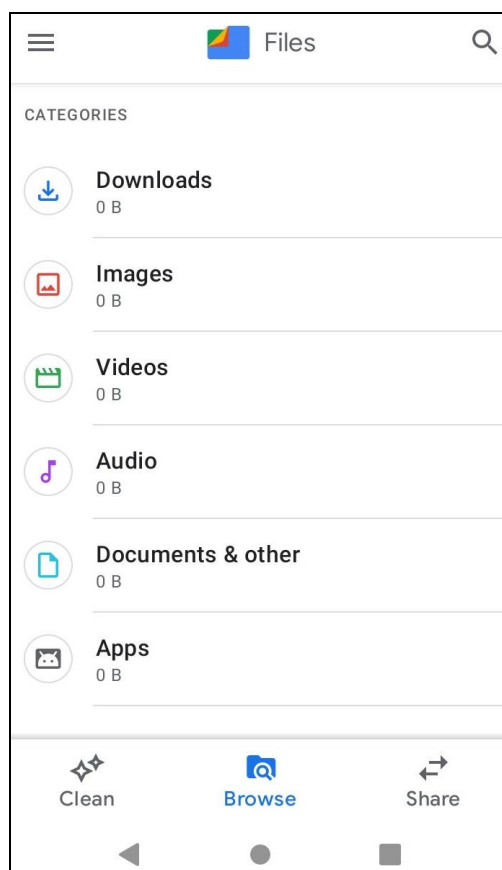
For more information about USS, please download the document from the below link:

[http://w3.tw.ute.com/pub/cs/manual/uss/USS-RA-1-MANUAL\\_en20210326.pdf](http://w3.tw.ute.com/pub/cs/manual/uss/USS-RA-1-MANUAL_en20210326.pdf)

## 3.2 Files

1. On the main screen, scroll the screen from down to top to reach the APPS, and

tap  **Files.**



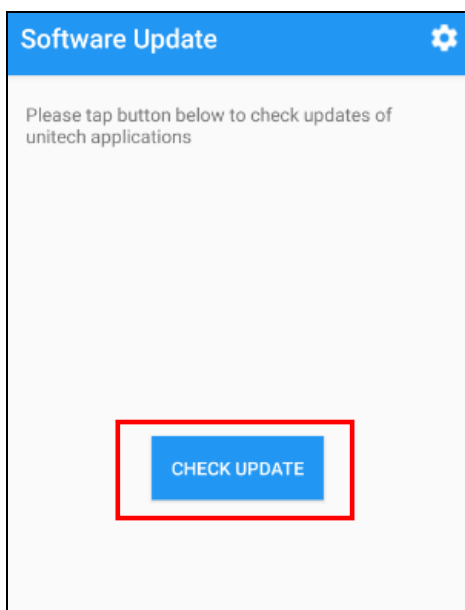
## 3.3 Software Update


1. On the main screen, scroll the screen from down to top to reach the APPS,

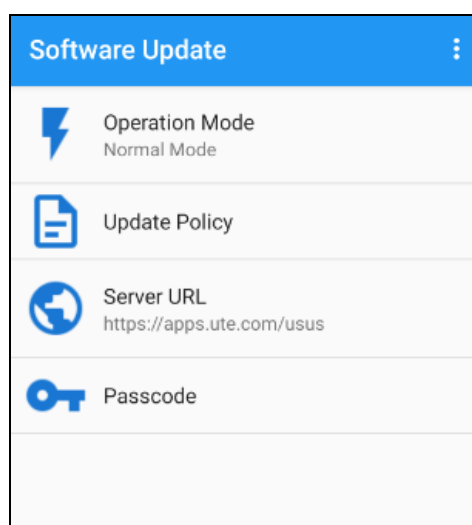


and tap **Software Update** and then tap **App Update Center**.

2. To update or check the latest version of each application, please tap **CHECK UPDATE**.



3. Tap  for more settings on Software Update.



Import / Export/ Reset

## 3.4 StageGO

StageGO is a barcode-based device staging solution from unitech. StageGO helps IT admins to swiftly set up a device by just a few barcode scans.

### Features

- Swift and effortless device staging for Unitech Android Mobile Devices.
- Device staging becomes more accessible, time-efficient, and secure.
- Complete device control at your fingertips.
- Data Compression.
- Security and Privacy.
- No installation required.

Using StageGO to configure a device is in 3 simple steps:

### Step1: Create Script –



Create  
Script

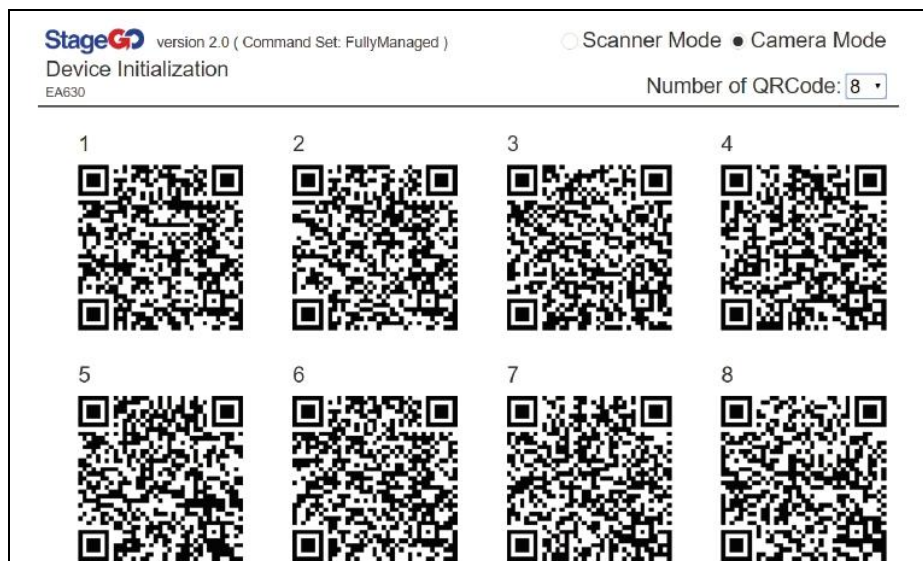
It all begins with IT staff creating a StageGO Script on the easy-to-use and secure web-based Script Editor. A StageGO script can contain one or more staging commands such as change system settings, connect to WiFi, download files, install apps, or set restrictions, etc.





**Print  
QRCode**

This is when the script is ready to be transformed into QR Codes and get printed out for distribution to the fields. The QR Codes are always encrypted so that sensitive information such as username and passwords will stay hidden. You can also choose to save your script as an encrypted file and share it with a colleague.





### Step 3. Scan QRCode:



Scan  
QRCode

The device user scans all the QRcodes into the StageGO app, or alternatively load script from file. The script will then automatically start to execute. Users will be informed of the progress of the execution, and should any execution errors occur, the execution report can be shared to IT admins for investigation.

