



MASP02-GUIDE01-V0-6

MASP02 Operational Guide

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Document History

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0.6	Section 8.2 added UL4200 statement for coin cell Section 9.4 clarified B41 is US only Added Appendix F MFI statement added	S. Marlow

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1 Introduction

This document provides general information about the operation of the MASP02 payment terminal and gives detailed instructions to be used as the basis for device filtering and fault diagnostics. The intention is to convey all necessary information about the operation of the terminal in one document. This document does not cover any operations which are controlled by third-party applications (either those running on smart devices that may be connected physically or wireless to the MASP02 for the purpose of controlling key device or payment function).

It is envisaged that the information in this document will then be used by Miura partners, in conjunction with other information they have about the system as a whole, to produce other documents/webpages for end-users and teams within the partner's organisation.

Appendix C contains regulatory information about the device.

It is recommended that this information is added to all end-user documentation.

It is mandatory that the Declaration of Conformity (or a link to it) should be included in the end-user documentation, along with a statement that the equipment meets the essential requirements of the applicable Directive(s) and Regulations. For example:

“This product is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. The declaration of conformity may be consulted at www.miurasystems.com”

In addition, the name, registered trade name, or registered trademark, and the postal address of the reseller or distributor should also be included in the user documentation, there may be other information required on the end user documentation and partners are responsible for ensuring they have all the necessary information in line with local compliance requirements. If they find anything that is not included in this document but is required under regional legislation, then please contact Miura so this information can be added.

Package contents:

- MASP02 Android POS terminal
- Rechargeable Lithium-ion polymer battery
- 1.5 m USB-A to USB-C power cable
- AC Adapter (optional)

2 MASP02 Features

1. Magnetic card reader (optional):
ISO7810-7813, 3 tracks swipe card
with the stripe downward and facing
you. Supports JIS2

12. Top Camera (optional): To read
barcodes/QR codes

11. LED (optional)

10. Lanyard attachment point



2. Contactless/NFC/FeliCa reader:
Present contactless card or mobile
device here

3. Speaker

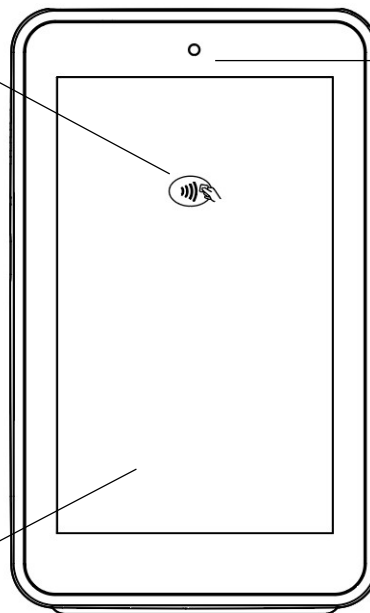
4. Indicator: Charging
Status indicators

5. USB-C socket: For
charging and USB data

9. Front Camera:
To read barcodes/QR codes

8. Power button:

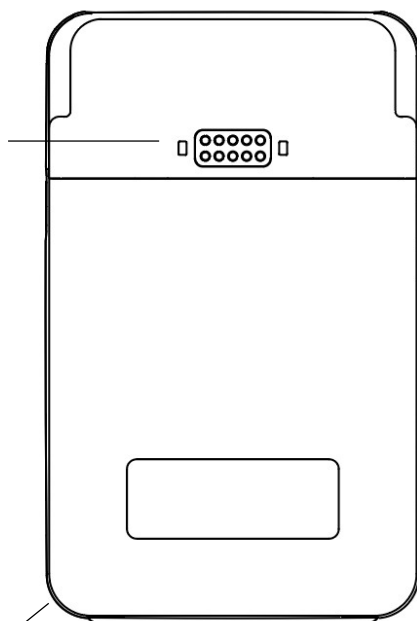
- When device is off: press and hold the button to power on
- When device is on: press and hold the button to present the power down/standby menu
- When device is on: press the power button briefly to toggle the display on/off



6. Touch screen

7. IC/Chip card slot: ISO7816
Insert card chip first, with the chip
facing upwards

13. Charging contacts:
For use with MASP02
Charge cradle base



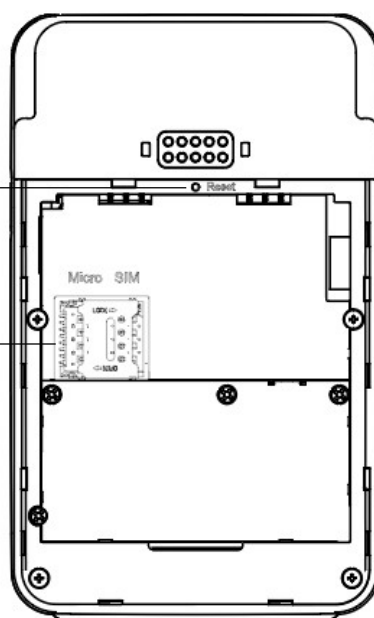
14. Battery compartment: Lift
point to remove battery cover
to access battery, SIM

15. Revive (Reset) button

16. Physical SIM insert (not provided):
Card inserted as shown below with
contacts towards the MASP02



3FF - Micro SIM
15 mm x 12 mm x 0,76 mm



3 Operating the MASP02 Payment Terminal

3.1 Introduction

This section covers the basic operation and use of the terminal. This covers power ON and OFF, charging, basic connectivity, transaction PIN entry, terminal maintenance and error states. The logos displayed in this document are configurable. This document assumes that the Miura (MPI) application is loaded, and the default logos are still in use.

3.2 Basic Operations

Navigation Buttons	Located at the bottom part of the screen, except lock screen    Back Home Overview
All Apps Access	Swipe up on the home screen to open apps screen
Enter Settings	Method 1: • Swipe up on the home screen and select Settings app Method 2: • Swipe down on the home screen, swipe down again and select 
Setting Default App	Go to Settings, select 'Default apps' in 'Apps and notifications' and select 'Home app' to set
Check the ROM version	Go to Settings, select 'About phone' and check the Build number
Check the Model and Hardware	Go to Settings, select 'Model' in 'About phone' and below will be shown: • Model • Firmware number • Serial number • Hardware version

NOTE: The above features maybe not be present depending on the software and configuration loaded.

3.3 Power and charging

3.3.1 Turning the terminal ON

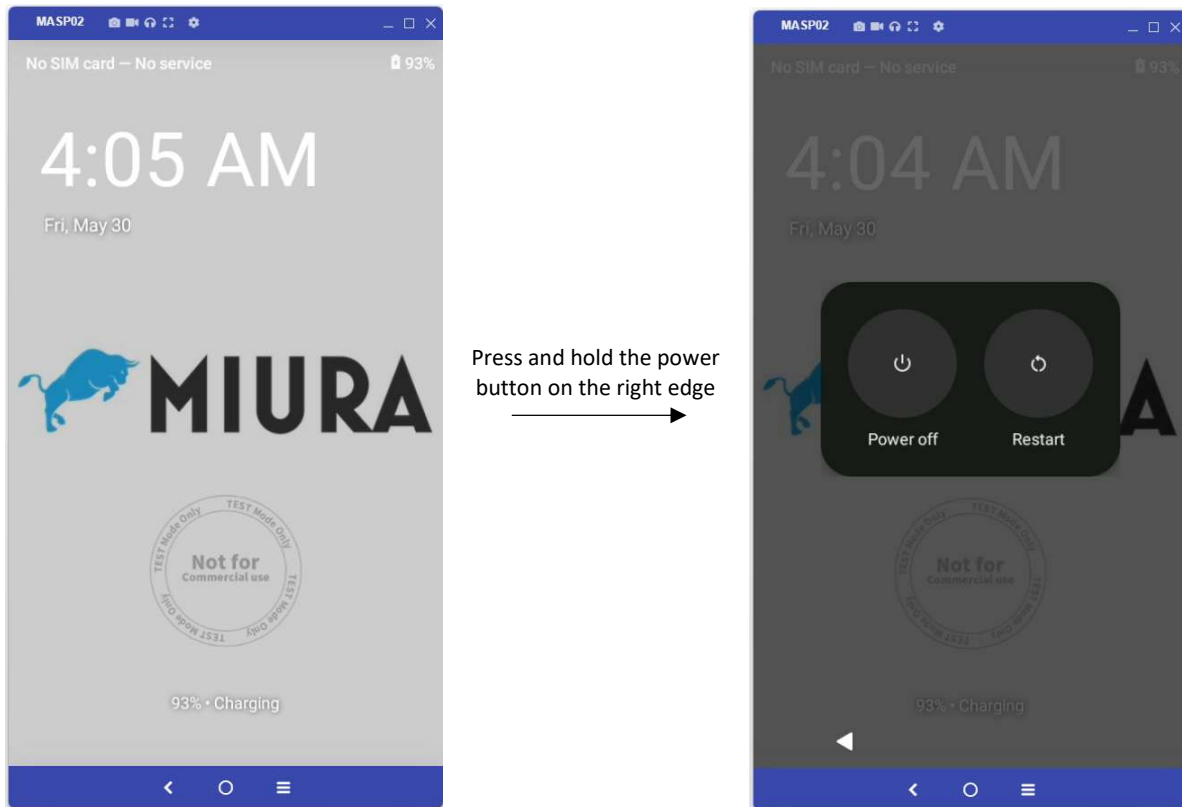
To power up, press and hold the power button on the right edge of the terminal, wait for the terminal to turn ON. The power-up sequence starts with the boot logo display. Once the terminal is ready to use,

swipe up on the screen to enter home screen. For TEST terminal, there is a watermark displayed at the bottom part of the screen.



3.3.2 Turning the terminal OFF

To switch OFF, press and hold the power button on the right edge of the terminal when the screen is ON, select “Power Off” when the display shows “Power Off” and “Restart” option in the top part of the screen. If the screen is OFF, press the power button on the right edge of the terminal to wake up the terminal first.



3.3.3 Sleep

The terminal can be put into sleep mode. In this mode the terminal's power consumption is low (Screen is switched off), but when it is woken it will be ready to use immediately. The terminal will enter sleep mode if the power button is pressed, or after a period of inactivity.

The terminal will wake on any of the following activities:

- Power button press
- USB charge cable inserted

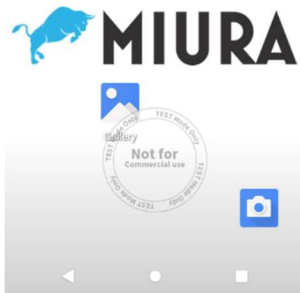
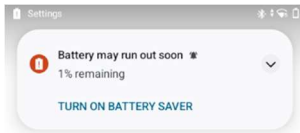
3.3.4 Charging the Battery

The terminal has a removable rechargeable battery. The battery should be charged for at least 3 hours before using the terminal for the first time or if the terminal has not been used for a long time.

The battery is charged by plugging the terminal into an external USB adapter, which must be compliant with the applicable international and regional Regulatory standards, with a DC output of 5V 2A and using the supplied USB cable. When the unit is charging and running normally the charging icon will be displayed in the top right-hand corner of the screen and the battery percentage indicate the battery level.

3.3.5 Low Battery

If the battery power goes below the configured Low Battery Threshold, the low battery warning screen will be displayed. If the battery power goes below a critical level the terminal will sleep until the charge has increased above this level.



3.3.6 Battery usage guidelines

- Keep the battery well-charged and do not let it discharge completely.
- Charge at normal room temperature
- Keep the terminal away from heat sources (such as heaters or direct sun-light)
- Fully charge the terminal battery every 12 months (even when not in use) to prolong the lifetime of the battery and be sure to switch the unit off when not in use for extended periods refer to section 3.3.2 .
- The main battery should not be removed from the terminal unless it is necessary to replace this battery. Removing the main battery for extended periods will cause depletion of the internal back-up battery.

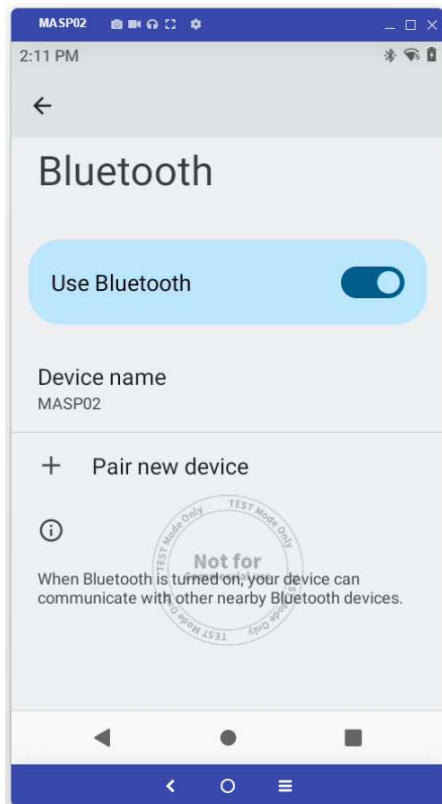
3.3.7 Implementation note: In-vehicle use

The electro-magnetic environment of a vehicle is characterised by the presence of high energy transients generated by the operation of the on-board electrical devices. To ensure reliable performance of the terminal, only Miura authorised power adaptors (12V to 5V USB), which are designed to sustain these specific treats, must be used.

3.4 Connectivity

3.4.1 Bluetooth

To setup Bluetooth, go to Settings and select Bluetooth in 'Connected devices > Connection Preferences'



Toggle to switch ON/OFF

Select to change Device name

Select to pair new device, available devices will be scanned and shown on the screen. Select a device from the list and follow the on-screen instruction to complete the pairing

Note: Previously connected devices can be managed in 'Connected devices' screen

3.4.2 Wi-Fi

To setup Wi-Fi, go to Settings and select Internet in 'Network and Internet'



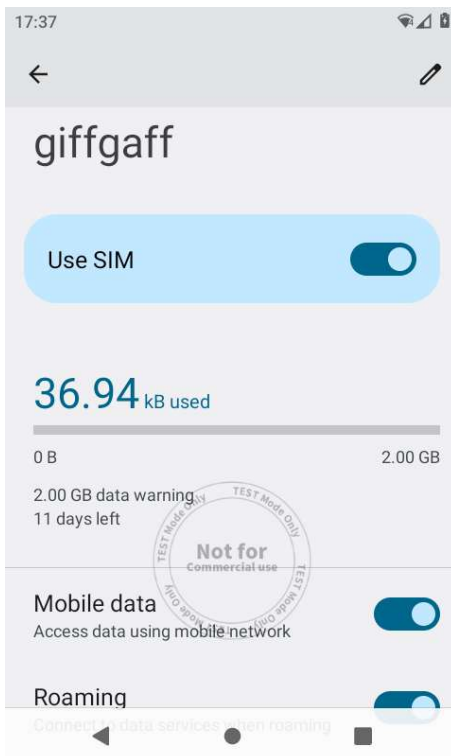
Toggle to switch ON/OFF

Connected Wi-Fi network, select to manage

List of available Wi-Fi networks, select one from the list and follow the on-screen instruction to connect

3.4.3 Mobile Network

To setup Mobile network, go to Settings and select Mobile network in 'Network and Internet'



Toggle to switch ON/OFF

Toggle to enable/disable Mobile data

For eSIM, go to Settings and select eSIM in 'Network and Internet'. In the eSIM screen, select '+' and follow the on-screen instruction to add eSIM subscription or click the subscribed eSIM from a list to manage.

NOTE: The above settings menus may not be accessible depending on the application loaded. The application may implement its own version of these for the end user.

3.5 Transaction Mode

3.5.1 PIN Entry

If the terminal is expecting PIN entry from the user, the instructions will be displayed. Once PIN entry is complete, the user should press  on screen to continue. During PIN entry the user can press  on screen to delete the previous digit or  on screen to delete all the digits and re-start PIN entry. Pressing  on screen when no digits are entered will cancel the PIN entry.

3.5.2 PIN OK

If the PIN is correct, the terminal will display "PIN OK".

3.5.3 PIN Incorrect

If the PIN is incorrect, the terminal will display "INCORRECT PIN" for 2 seconds and request for PIN entry again.

3.5.4 Last Try

If the user is attempting last try for PIN entry, the terminal will indicate "ENTER PIN: (Last Try)".

Note: The PIN Entry instruction are language dependent and will change depending on the language configured. The Language can be configured from the application on the smart device.

3.6 Terminal Maintenance

3.6.1 Security Check

The terminal automatically performs a full security check every 24 hrs. The terminal can be configured by the application to trigger this security test when the terminal is idle. During this time the Bluetooth will be switched off. The files that failed the security check will be removed from the terminal.

3.7 Error states

3.7.1 System Tampered

If the terminal identifies a tamper, the terminal will immediately close the Payment Application aborting any transaction in progress. The tamper state is indicated on the display. A tampered terminal should be returned for investigation.

3.8 Device Reset

To reset the device, go to Settings, select 'Reset options' in System and then click one of the below reset options:

3.8.1 Reset Wi-Fi, Mobile & Bluetooth

This will reset all network settings, including:

- Wi-Fi
- Mobile data
- Bluetooth

3.8.2 Device Reset

This will erase all data from internal storage, including:

- System and app data and settings
- Downloaded apps since first power on.
- Remove any user log in information
- Other user data

NOTE: The above system menus may be accessed differently depending on the software in use.

3.9 Reset (formally known as Revive on Miura products) button

Located under the battery cover as indicated by legend 15 in section 2. Depressing this button with blunt pin will bring up a user menu. The user can decide to boot up as normal or perform a device reset by following the onscreen instructions.

4 Functional Test

The Miura Operating System contains a built-in functional test which fully test the hardware.

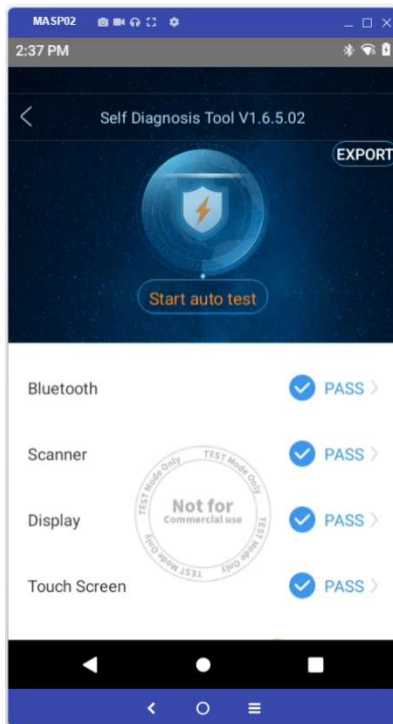
To perform the tests, the following are required (and can be obtained from Miura):

- A Miura test card with Mag-swipe, Dual Interface Smartcard (Contact and Contactless/NC) and Felica card (optional).

And the following shall be prepared by the partners:

- One Wi-Fi routers/access points with a visible access point name
- One Bluetooth enabled device in pairing mode
- Free format two-dimensional barcode
- SIM card or ESIM

To enter functional test, go to Settings and select Hardware Test in 'About device', click 'Start auto test' to run all the tests. Operator can optionally re-run each test individually by selecting it if it appeared in the test list.



The following are general points for functional tests:

- For each test, the instructions will be shown using the screen
- For a pass, the next test will be loaded
- On exiting a test, the dialogue box appears with the message "Mark the test PASS?". On selecting 'YES', the test is marked "PASS" and on selecting 'NO', the test is marked "FAIL"
- Whenever permission is requested during the test, please accept by clicking 'Always' or 'Allow while using App' to continue
- A log file will be created with the test results. It is in the folder "/Downloads", named after the device serial number. This can be accessed by an application running on the Flex device.

NOTE: If tests are skipped or performed incorrectly (e.g. if a card was swiped badly), the terminal will appear to have failed when it is not faulty. It is therefore important to make sure all tests are performed correctly. The sections below describe the procedure for functional tests.

4.1 WLAN

For this test, the operator should have the following:

- A Wi-Fi router/access point with a visible access point name.

This test is automated and does not require any other input from the operator. Once completed successfully, the test will be marked "PASS", otherwise "FAIL" or corresponding error will be marked.

4.2 Bluetooth

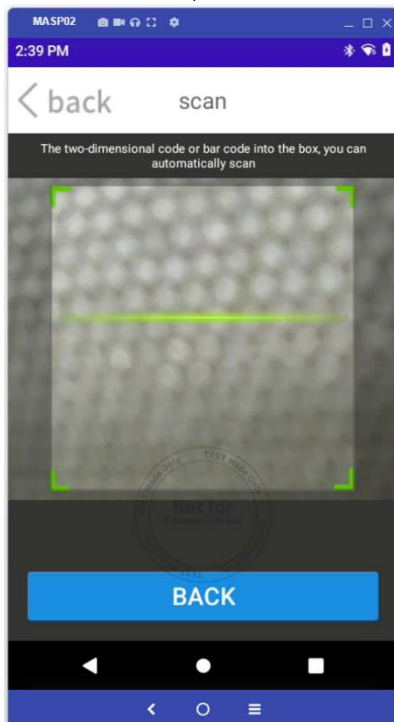
For this test, the operator should have the following:

- One BT enabled devices in paring mode

This test is automated and does not require any other input from the operator. Once completed successfully, the test will be marked "PASS", otherwise "FAIL" or corresponding error will be marked.

4.3 Scanner

Operator should scan any two-dimensional codes or bar codes into the camera box in the scan camera screen as below,



Once a code is detected, it will automatically read it and display the code value for verification. Select 'OK' on the screen which will lead you to a dialogue box asking to confirm 'Mark this test as PASS' will appear. On selecting 'YES', the test will be marked with "PASS", otherwise "FAIL" will be marked.

4.4 Display

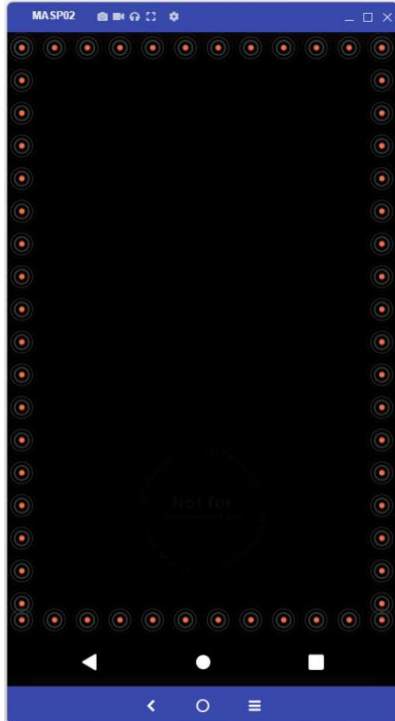
Operator should tap on the screen displayed with "Press to switch colours" to change the colour of screen. On the first tap, blank white display appears. On second tap, display turns green. On the third tap, display turns blue, and it turns black on the final tap.

On completion of colour change, operator should move the slider to adjust screen brightness and observe whether the brightness change is normal. Tap "Finish" on completion, a dialogue box asking to

confirm “Mark this test as PASS” will appear. On selecting ‘YES’, the test will be marked with “PASS”, otherwise “FAIL” will be marked.

4.5 Touch Screen

A black screen with red highlighted dots across the border will appear as below,



Operator should touch and move along the dots to test the touch sensitivity of the display. The dots will disappear when you move over it. On completion, a dialogue box asking to confirm “Mark this test as PASS” will appear. On selecting ‘YES’, the test will be marked with “PASS”, otherwise “FAIL” will be marked.

4.6 4G

Preconditions: SIM card is inserted or ESIM is enabled, and data connection is on.

The terminal will connect to Internet automatically and run a ping test. Operator will be notified with the result marked “PASS” or “FAIL”.

4.7 Audio

Volume control bar along with an audio to be played will appear on the display. Operator should play the sound by clicking on the ‘Play’ button and move the knob on the volume control bar to increase/decrease the volume. Tap “Finish” on completion, a dialogue box asking to confirm “Mark this test as PASS” will appear. On selecting ‘YES’, the test will be marked with “PASS”, otherwise “FAIL” will be marked.

4.8 Buzzer

When the test starts, operator will hear the buzzer sound and a dialogue box asking to confirm “Mark this test as PASS” will appear. On selecting ‘YES’, the test will be marked with “PASS”, otherwise “FAIL” will be marked.

4.9 Magnetic Reader

The operator should swipe the test card provided. On successful read, select 'OK', it will mark the test with "PASS".

4.10 IC Reader

The terminal will request the operator to insert the test card provided into the chip card slot. On a successful read, a dialogue box with "IC read card and APDU sent successfully" message appears, select 'OK', it will mark the test with "PASS".

4.11 PICC

The terminal will request the operator to tap the test card provided near the contactless logo. On a successful read, a dialogue box with "PICC read card and APDU sent successfully" message appears, select 'OK', it will mark the test with "PASS".

4.12 Felica

The terminal will request the operator to tap the test card provided near the Felica logo. On a successful read, a dialogue box with "Data Transmission succeeded" message appears, select 'OK', it will mark the test with "PASS".

NOTE: This test is optional and region specific, it can be skipped if not supported.

4.13 Button

The terminal will request the operator to press the Power and Reset buttons. Once the buttons have been successful pressed, a dialogue box with "Please confirm Mark this test as PASS" message appears, select 'Yes', it will mark the test with "PASS".

4.14 USB Charger

After a powered USB C connector is attached the terminal, a dialogue box with "Please confirm plug the USB C cable, and is it charging" message appears, select 'Yes', it will mark the test with "PASS".

4.15 GPS

This test is automatic. The device will attempt to get a location from its GPS antenna. If successful it will display a longitude and latitude reading and the user can mark the test as a pass.

4.16 Functionality Test Completion

Once all the tests have been executed, a log file will be created with the test results. It is in the folder "/Downloads", named after the device serial number. The log can be retrieved and attached to any reports as needed. The terminal can then be powered off.

5 End-user Troubleshooting

It is not possible for Miura to define end-user troubleshooting, as there are many components in the end-user experience which are not defined or controlled by Miura. It is envisaged that the partner will define the troubleshooting process, in part using information from this document.

This section gives some suggestions about what should be included as part of this process. Note that problems reported as the terminal not responding may in fact be caused by an issue with the smart device or the application running on it.

Does the device power on?

- If the terminal does not power on, it should be charged for at least 3 hours (refer to [Charging the battery](#)). The battery charging icon displayed on screen can be used as an indication that the terminal is charging correctly
- If the terminal still will not power on, the power source and USB cable being used should be verified.

Does the terminal perform as expected?

- If the terminal displays [System Tampered](#) it should be returned for investigation
- If the terminal does not perform as expected, and the issue is believed to be with the terminal as opposed to the smart device, then the user should [Reboot](#) the terminal
- If the terminal is still not functioning as expected, and everything possible has been done to rule out the smart device and application, a [Device Reset](#) should be performed

6 Filtering Process

This section is aimed at determining if a given terminal is functioning correctly and is acceptable for use in the field. It is not envisaged that this process will be carried out by the end-user, but will form the basis of testing performed by Miura and the partner at various stages in the terminal's life cycle including: Miura OBA (Out of Box Audit), Partner QA Testing, Partner returns filtering and Miura returns filtering. Each of these stages will no doubt include other additional tests and processes as defined by the organisation performing the stage (and documented separately) but the filtering process defined in this section should be common to all.

Equipment required is as detailed in [Functional Test](#) plus the following:

- Adequate light source
- Magnifying glass
- Inspection gloves (to avoid leaving fingerprints on new units)
- 2A USB mains adaptor and USB cable (enough to charge all units before-filtering)

Step1: Perform a visual inspection on the terminal to check for imperfections, damage, rattles (there is an expected rattle from the mag head) etc

- If this pass, go to step 2
- If this fails, the damage should be photographed and recorded

Step 2: Charge the terminal and Power it on.

- Charge each terminal for at least 1 hour using a 2A USB mains adaptor and USB cable
- Take the terminal off charge and switch it on (if it is not on already)
- If the terminal powers on, go to step 3
- If the terminal will not power on, it is faulty

Step 3: Check the terminal starts up.

- If the terminal starts up normally (see [Operating the MASP02 Payment Terminal](#)), go to step 4
- If the terminal displays [system tampered](#), the terminal is faulty
- If the terminal is in any other state, record the error state and attempt to recover the terminal by performing a [factory reset](#)
- If the terminal now starts normally, go to step 4
- If not, the terminal is faulty

Step 4: Run the Functional Test.

- Run the [functional test](#)
- Retain all the log files created during these processes
- If the terminal passes all functional tests, the terminal is deemed no fault found
- If the terminal fails any of the tests, it is faulty. All retrieved log files should be retained as they will be needed in any diagnostics which may be carried out

NOTE: The terminal will also report a failure after a Functional Test if the tests are carried out incorrectly, or if any test is skipped, in which case the test needs to be repeated in full. If a particular test fails, the operator can choose to continue with the remaining tests.

7 Appendix A: Operating conditions

Input:

- USBC: 5Vdc 2A
- Docking connector: 5Vdc 2A

Output:

- USBC: 5Vdc

Environmental conditions

- Storage temperature -30°C to 70°C
- Operating temperature -10°C to 55°C
- Charging temperature 0°C to 40°C
- Humidity 0% to 95% non-condensing

Battery charging:

The unit will arrive with approximately 80% charge.

Charge the terminal battery (installed in the unit) after receiving and then recharge **every 12 months (even when not in use)**.

It is critical the unit is switched off and not left in standby when the terminal is put into storage refer to Section 3.3.2 .

Self-protection features:

The device features self-protection features to minimise the risk of damage or abnormal function:

- High temperature:
- Low temperature:
- Low battery:

8 Appendix B: Battery safety

8.1 Main battery

This product uses a Lithium-Ion battery that is **replaceable**.

Battery Information:

Model: PL2700-1

Nominal voltage: 3.85V

Nominal capacity: 2700mAh

Limited charge voltage: 4.4V

Manufacture: Beijing Wiseasy Technology Co.,Ltd.

CAUTION

Do not replace the battery with a non-approved and/or alternative type: **risk of explosion.**

Do not replace the battery with an incorrect type that can defeat a safeguard.

Do not dispose of the battery into fire or a hot oven: **risk of explosion.**

Do not mechanically crush or cut into the battery: **risk of explosion.**

Do not leave the battery in extremely high temperature surrounding environment: **risk of explosion or the leakage of flammable liquid or gas.**

Do not battery subject the battery to extremely low air pressure: **risk of explosion or the leakage of flammable liquid or gas.**

Do not remove or attempt to remove the non-user-replaceable battery.

8.2 Non replaceable coin cell (UL 4200A statement)

This product contains a sealed, non-replaceable CR2032 lithium coin cell battery - nominal voltage: 3Vdc.

CAUTION

Do not open the enclosure. Opening may expose a lithium coin cell and create a safety risk.

Do not open, crush, puncture, disassemble, or attempt to service the device in any way. The battery is not user-replaceable.

Do not attempt to remove the battery prior to disposal.

Dispose of the device in accordance with local electronic-waste regulations.

 WARNING	
• INGESTION HAZARD: This product contains a button cell or coin battery. • DEATH or serious injury can occur if ingested. • A swallowed button cell or coin battery can cause Internal Chemical Burns in as little as 2 hours. • KEEP new and used batteries OUT OF REACH of CHILDREN • Seek immediate medical attention if a battery is suspected to be swallowed or inserted inside any part of the body.	

9 Appendix C: Regulatory information

9.1 E-Label and product information

Detailed regulatory information can be found in an E-Label loaded on the device.

E-Label location	Setting -> Certifications
Software Version	Settings -> About device -> Build number

9.2 MIC – Japan

Telecoms/radio- For Japan this product has been certified to operate using the following bands/frequencies:

WCDMA: B1,B6,B8,B9,B19

FD-LTE: B1,B3,B8,B18,B19,B26,B28

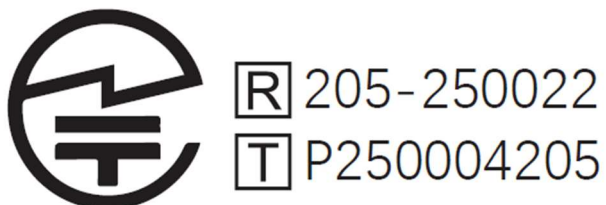
TD-LTE 41

Wi-Fi: 2.4G Band (2412-2472MHz) / 5GHz Band (5150-5250MHz and is restricted to indoor use only)

Bluetooth: 2402-2480MHz

NFC: 13.56MHz

GNSS: 1575.42MHz



総務省指定

第AC-25093号

9.3 CE - European Union (including UK)

Hereby, Miura Systems Ltd declares that MAPS02 is in compliance with the essential requirements and other relevant provisions of the EU Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:
www.miurasystems.com/certifications.

This device is restricted to indoor use only when operating in the 5.15 to 5.35GHz frequency range.

		IT	NL	SK	LV	LT
		DK	IE	BG	RO	MT
		ES	PT	FR	DE	EE
FI	AT	SE	PL	BE	LU	HR
HU	CZ	CY	SI	GB	GR	

EU authorised representative contact information

This information is not for support or quality issues but strictly related to CE compliance matters.

Company Name:	IKBit d.o.o.
Address:	Malogorička ulica 42, 10 000 Zagreb, Croatia
Contact Name(s):	Ivan Kvesic
E-mail:	ikbitdoo@gmail.com

This equipment complies with Directive 2014/53/EU radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The portable device is designed to meet the requirements for exposure to radio waves established by European Union market (France).

Telecoms/radio - For the EU this product has been certified to operate using the following bands/frequencies:

GSM: B2,B3,B5,B8

WCDMA: B1,B2,B3,B4,B5,B8

LTE: B1, B3, B7,B8,B20,B28

Wi-Fi: 2.4G Band (2412-2472MHz) / 5GHz Band (5150-5250MHz, 5725-5850MHz)

Bluetooth: 2402-2480MHz

NFC: 13.56MHz

GNSS: 1575.42MHz

Maximum EIRP for EU

Radio type	Frequency	EIRP
Bluetooth BLE	2402-2480 MHz	8.09 dBm

Bluetooth BT	2402-2480 MHz	7.90 dBm
2.4G Wi-Fi	2412-2472 MHz(802.11b)	17.94 dBm
	2412-2472 MHz(802.11g)	16.49 dBm
	2412-2472 MHz(802.11n-HT20)	15.53 dBm
	2422-2462 MHz(802.11n-HT40)	15.00 dBm
5G Wi-Fi	Band1: 5150-5250 MHz(802.11a)	15.45 dBm
	Band1: 5150-5250 MHz(802.11n-HT20)	14.28 dBm
	Band1: 5150-5250 MHz(802.11ac-VHT20)	13.11 dBm
	Band1: 5150-5250 MHz(802.11n-HT40)	13.90 dBm
	Band1: 5150-5250 MHz(802.11ac-VHT40)	13.28 dBm
	Band1: 5150-5250 MHz(802.11ac-VHT80)	13.28 dBm
	Band4: 5725-5850 MHz(802.11a)	12.28 dBm
	Band4: 5725-5850 MHz(802.11n-HT20)	11.56 dBm
	Band4: 5725-5850 MHz(802.11ac-VHT20)	10.77 dBm
	Band4: 5725-5850 MHz(802.11n-HT40)	10.97 dBm
	Band4: 5725-5850 MHz(802.11ac-VHT40)	10.00 dBm
	Band4: 5725-5850 MHz(802.11ac-VHT80)	10.32 dBm
NFC	13.56 MHz	20.11 dBuA/m
E-GSM 900	880-915 MHz(TX), 925-960 MHz(RX)	32.60 dBm
GSM 1800	1710-1785 MHz(TX), 1805-1880 MHz(RX)	30.93 dBm
WCDMA	Band I : 1920-1980 MHz (TX), 2110-2170MHz (RX)	24.56 dBm
	Band III : 1710-1785MHz(TX), 1805-1880MHz(RX)	24.39 dBm
	Band VIII : 880-915 MHz(TX), 925-960 MHz(RX)	22.99 dBm
LTE	Band 1: 1920-1980 MHz(TX), 2110-2170 MHz(RX)	22.90 dBm
	Band 3: 1710-1785 MHz(TX), 1805-1880 MHz(RX)	23.18 dBm
	Band 7: 2500-2570 MHz(TX), 2620-2690 MHz(RX)	22.23 dBm
	Band 8: 880-915 MHz(TX), 925-960 MHz(RX)	23.64 dBm
	Band 20: 832-862 MHz(TX), 791-821 MHz(RX)	23.85 dBm
	Band 28: 703-748 MHz(TX), 758-803 MHz(RX)	23.14 dBm

9.4 FCC Statement – United States of America

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note : This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Telecoms/radio- For North America this product has been certified to operate using the following bands/frequencies:

GSM: B2, B5

WCDMA: B2, B4, B5

LTE: B2, B4, B5, B7, B12, B13, B17, B25, B26, B41(US), B66

Wi-Fi: 2.4G Band (2412-2462MHz) / 5GHz Band (5150-5250MHz, 5725-5850MHz)

Bluetooth: 2402-2480MHz

NFC: 13.56MHz

This device has been tested and meets the FCC SAR limit demand.
The highest SAR VALUE is 1.592 W/kg when properly worn on body.

SAR statement

This equipment complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The portable device is designed to meet the requirements for exposure to radio waves established by the ISED. These requirements set a SAR limit of 1.6 W/kg averaged over one gram of tissue. The highest SAR value is 1.592 W/kg when properly worn on the body.

9.5 ISED compliance statement - Canada

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference
- (2) This device must accept any interference, including interference that may cause undesired operation of the device

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) L'appareil ne doit pas produire de brouillage
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement

Cet équipement est conforme aux limites d'exposition aux rayonnements FCC/ISED établies pour un environnement non contrôlé. L'utilisateur final doit suivre les instructions spécifiques pour satisfaire

les normes. Cet émetteur ne doit pas être co-implanté ou fonctionner en conjonction avec toute autre antenne ou transmetteur.

Le dispositif portatif est conçu pour répondre aux exigences d'exposition aux ondes radio établie par le développement énergétique DURABLE. Ces exigences un SAR limite de 1,6 W/kg en moyenne pour un gramme de tissu. La valeur SAR la plus élevée signalée en vertu de cette norme lors de la certification de produit à utiliser lorsqu'il est correctement porté sur le corps.

la VALEUR SAR la plus élevée est de 1.592W/kg lorsqu'elle est correctement portée sur le corps.

10 Appendix D: Precautions for use

Pacemakers

Pacemaker manufacturers recommend that a minimum of 15cm (6 inches) be maintained between a handheld wireless device and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with independent research and recommendations by Wireless Technology Research.

Guidelines for people with pacemakers

- You should ALWAYS keep the device more than 15cm (6 inches) from your pacemaker
- You should not carry the device in a breast pocket

Other medical devices

Please consult your physician or the manufacturer of the medical device, to determine if the operation of your wireless product may interfere with the medical device.

Additional precautions

Do not use in areas of strong electromagnetic interference such as near:

- microwave ovens, magnets, shoplifting prevention devices, high-voltage lines, automatic doors, communication antennas etc.

Do not install:

- where wide variations of temperature and/or humidity can occur or near fires, heat equipment, air conditioners, places where condensation may occur, etc
- in areas exposed to strong direct sunlight
- in areas with high concentrations of dust or other fine particles
- in locations where the terminal may be accidentally dropped or damaged by falling objects
- where the USB plug cannot be easily removed if an abnormality occurs
- in locations where high levels of static electricity are likely to occur
- where water or other liquids may be spilled onto or into the terminal

11 Appendix E: Recycling information

EU WEEE directive



The wheeled bin symbol on the product or its packaging indicates that this product shall not be treated as household waste. In line with EU Directive 2012/19/EU for Waste Electrical and Electronic Equipment (WEEE), this electrical product must not be disposed of as unsorted municipal waste.

Please dispose of this product by returning it to the point of sale or to your local municipal collection point for recycling. By doing this you will help conserve the environment.

Non-EU countries

Items labelled with this symbol are not to be thrown into ordinary bins. Follow the local framework and ensure correct collection and dispose of the component/product.

EU RoHS directive

This product complies the essential requirements and other relevant provisions of the EU Directive 2011/65/EU and amendment 2015/863/EU. The EU Declaration of Conformity can be found here: www.miurasystems.com/certifications.

12 Appendix F: Apple MFI declaration



“Made for iPhone/ iPad” means that an electronic accessory has been designed to connect specifically to iPhone and iPad and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note the use of the iPhone and iPad may affect wireless performance.

iPad and iPhone are trademarks of Apple Inc, registered in the US and other counties. Made for: iPhone 12 mini, iPhone 11 Pro Max, iPad Pro 9.7-inch, iPad mini 4, iPad (7th generation).

13 Appendix G: License information

- **IME** - This product may include a software license from OMRON SOFTWARE Co., Ltd. iWnn
IME © OMRON SOFTWARE Co., Ltd. 2008-2022 all rights reserved (regional and commercial specific)