M₃ SM15 Series

Rugged Mobile Computer with Full Touch Screen

Accessories Specification

Revision

Release date of version 1.0: Nov. 2019

- Initial distribution

Release date of version 1.1: Dec. 2019

- Update of Ring Scanner Spec

Release date of version 1.2: Dec. 2019

- Update of Wearable Sled

Release date of version 1.3: Feb. 2020

- Rename Trigger Handle to Trigger Handle

Release date of version 1.4: May 2020

- Update of Ring Scanner Spec

Release date of version 1.5: July 2020

- Add accessory list

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1. 2 Slot Charging Cradle

- Application Devices: SM10 LTE, SM15X/SM15N/SM15W

1.1 Specification

Model	2 Slot Charging Cradle
I/O	N/A
Input	5V / 5A
Dimension	110 x 150 x 80 mm
Weight	322.5g
Compatibility	SM10 LTE, SM15X, SM15N, SM15W

1.2 Use Case

1.2.1 Fast Charging

Charging in about 3 Hours (Using Standard Battery, 20 minutes deviation)
Charging in about 4 Hours (Using Extended Battery, 20 minutes deviation)

1.2.2 Easy to use

i. Connect SM15 to the Charging Cradle → **ii.** Charging.

2. 2 Slot Charging & USB Cradle

- Application Devices: SM10 LTE, SM15X/SM15N/SM15W

2.1 Specification

Model	2 Slot Charging & USB Cradle
I/O	Micro USB Client : 1 Slot
Input	5V 5A
Dimension	113 x 150 x 150 mm
Weight	430g
Compatibility	SM10 LTE, SM15X, SM15N, SM15W

2.2 Use Case

2.2.1 Fast Charging

Charging in about 3 Hours (Using Standard Battery, 20 minutes deviation)
Charging in about 4 Hours (Using Extended Battery, 20 minutes deviation)

2.2.2 USB Sync

You can use Charging & USB Cradle in various business.

2.2.3 Easy to use

ii. Connect SM15 to the Charging & USB Cradle → **ii.** Charging or Data Connection.

3. 2 Slot Ethernet Cradle

- Application Devices: SM10 LTE, SM15X/SM15N/SM15W

3.1 Specification

Model	2 Slot Ethernet Cradle
I/O	Micro USB Client : 1 Slot Ethernet : 1 Slot
Input	5V 5A
Dimension	113 x 150 x 150 mm
Weight	430g
Compatibility	SM10 LTE, SM15X, SM15N, SM15W

3.2 Use Case

3.2.1 Fast Charging

Charging in about 3 Hours (Using Standard Battery, 20 minutes deviation)
Charging in about 4 Hours (Using Extended Battery, 20 minutes deviation)

3.2.2 Ethernet Connection and USB Sync

You can use Ethernet Cradle in various business.

USB Sync	Ethernet Connection
Data connection	You can use Local Area Network Via SM15 series with Ethernet Cradle

3.2.3 Easy to use

    iii.   Connect SM15 to the Ethernet Cradle → **ii.** Charging or Data Connection.

*Simple Switch in Cradle

<Plug 5V/5A >   < Select Switch Client/Host >   < Client for USB Sync >   < Host for Ethernet >

4. 2 Slot HDMI Cradle

- Application Devices: SM10 LTE, SM15X/SM15N/SM15W

4.1 Specification

Model	2 Slot HDMI Cradle
I/O	HDMI Ver1.3 : 1 Slot Micro USB Client : 1 Slot A-type USB Host : 2 Slot Ethernet : 1 Slot
Input	5V / 5A
Dimension	113 x 150 x 170 mm
Weight	460g
Compatibility	SM10 LTE, SM15X, SM15N, SM15W

4.2 Use Case

4.2.1 HDMI Screen Mirroring Function

Plug to the HDMI Display (Screen) → Mount the device to the cradle → Plug HDMI cable to the HDMI Cradle

4.2.2 Fast Charging

Charging in about 3 Hours (Using Standard Battery, 20 minutes deviation)
Charging in about 4 Hours (Using Extended Battery, 20 minutes deviation)

4.2.3 Ethernet Connection and USB Sync

You can use Ethernet Cradle in various business.

USB Sync	Ethernet Connection
Data connection	You can use Local Area Network Via SM15 series with Ethernet Cradle

*Simple Switch in Cradle

< Plug 5V/5A > <Select Switch Client/Host > < Client for USB Sync > < Host for Ethernet> < Host for USB & HDMI >

5. 8 Slot Charging Cradle

• Application Devices: SM10 LTE, SM15X/SM15N/SM15W

5.1 Specification

Model	8 Slot Charging Cradle
I/O	N/A
Input	12V 10A
Dimension	450 x 150 x 70 mm
Weight	727g
Compatibility	SM10 LTE, SM15X, SM15N, SM15W

5.2 Use Case

5.2.1 Fast Charging

Charging in about 3 Hours (Using Standard Battery, 20 minutes deviation)
Charging in about 4 Hours (Using Extended Battery, 20 minutes deviation)

5.2.2 Can use with Rugged boots

i. Slide the Switch → **ii.** Remove the cup

6. 8 Slot Ethernet Cradle

- Application Devices: SM10 LTE, SM15X/SM15N/SM15W

6.1 Specification

Model	8 Slot Ethernet Cradle
I/O	Ethernet : 2 Slot
Input	12V 10A
Dimension	450 x 150 x 160 mm
Weight	1,280g
Compatibility	SM10 LTE, SM15X, SM15N, SM15W

6.2 Use Case

6.2.1 Fast Charging

Charging in about 3 Hours (Using Standard Battery, 20 minutes deviation)
Charging in about 4 Hours (Using Extended Battery, 20 minutes deviation)

6.2.2 Ethernet Connection 4 Devices

You can use Ethernet Cradle in various business.

USB Sync	Ethernet Connection
Data connection	You can use Local Area Network Via SM15 series with 8 slot Ethernet Cradle

6.2.3 Easy to use

i. Connect SM15 to the 8 slot Ethernet Cradle → **ii.** Charging or Data Connection.

DC 12V 10A   Ethernet
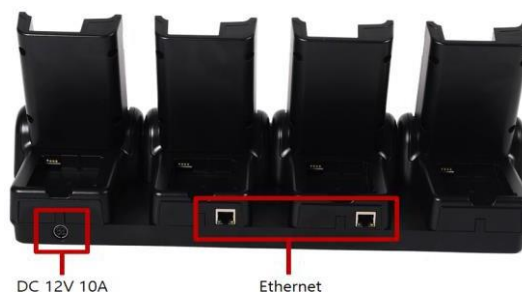
7. Trigger Handle

- Application Devices: SM10 LTE, SM15X/SM15N/SM15W

7.1 Specification

Model	Trigger Handle
Dimensions	120 x 150 x 80 mm
Weight	141.6 g
Compatibility	SM10 LTE, SM15X, SM15N, SM15W
I/O	Connect with Pogo pin directly without wireless connection

7.2 Use Case

7.2.1 Formal environment

The trigger handle has essential functions properly in industrial environments.
The design is ergonomically made by measurement in mechanical team.

7.2.2 Easy to use

i. Connect SM15 to the Trigger Handle → ii. Reading barcodes

*You must have a rubber boots to attach the Trigger Handle.

8. Long-Range Trigger Handle

- Application Devices: SM15X/SM15N/SM15W

8.1 Specification

Model	Long-Range Trigger Handle
Dimensions	170 mm X 170 mm X 85 mm
Weight	230 g
Compatibility	SM15X, SM15N, SM15W
Reading Barcode	**1D symbologies :** UPC-A, EAN13, EAN8, Code39, Code128, GS1-128, Code11, MSI, Codabar, Interleaved, GS1, ISBT128 **2D symbologies :** Data Matrix, Micro PDF 417, PDF 417, QR
Reading Range	Up to 15M (Tag and Environment dependent)

8.2 Use Case

8.2.1 Formal environment

- You can use this in warehouse or stock dummies for Reading Barcode.
- Long-range scanner is equipped with EX25 scan engine.
- To charge the Trigger Handle, SM15 Device charging cradle and power supply is needed.

8.2.2 Easy to use

- i. Connect SM15 to the Trigger Handle → ii. Reading barcodes
  (Contact with I/O Pin directly without wireless connection)

*For normal use, a waiting time of 15 seconds is required after connecting the product.

9. UHF GUN

- Application Devices : SM15X/SM15N/SM15W

9.1 Specification

Model	UHF GUN
Dimensions	193×83×177 mm
Weight	800g
Compatibility	SM15X, SM15N, SM15W
I/O	Micro USB-A 2.0
Frequency	866 ~ 868MHz / 917 ~ 921MHz
Protocol	EPC C1 GEN2 / ISO18000 – 6C
R / W Range	Reading : 0 m - 5 m (depends on tag and environment) writing : 0 m - 2.5 m
RF Power	Anti Collision, RF Power Control (Max. 1W)

9.2 Use Case

9.2.1 Formal environment

- External antenna overcomes limits of internal antenna by maximizing its efficiency and reading distance - can reach as far as 5 meters.
- Using RFID, searching tag and automatic sync with application
- Independent battery on gun reader makes it suitable for long hour work shifts. Also, removable battery structure can expand working hours even more.

9.2.2 Easy to use

i. Connect SM15 to the UHF GUN → ii. Reading barcodes

*For normal use, a waiting time of 15 seconds is required after connecting the product.

9.2.3 Easy to charge

The battery can be easily charged using a GUN battery charger.

10. Charging Snap on

• Application Devices : SM15X/SM15N/SM15W

10.1 Specification

Model	Charging Snap on
I/O	N/A
Input	5V 3 ~ 5A USB
Dimension	89 X 68 X 29.7mm
Weight	70g
Compatibility	SM15X, SM15N, SM15W

10.2 Use Case

10.2.1 Formal environment

You can use this in small space for charging with USB.

10.2.2 Vehicle environment

When people are driving in the car, they need to charge SM15. We can offer Car mount kit or another.

When you need different kind of Car Kit, this snap on will help you.

This can be alternative car kit

*Caution! Must use: It need 5V 3~5A adaptor or USB cigar jack with stabilizer function

(Use **Cigarette Lighter adapter** together.**)**

10.2.3 Easy to use

i. Connect SM15 to the Charging Snap on → ii. Connect to USB → iii. Charging

M3 MOBILE

11. Vehicle Cradle

- Application Devices : SM10 LTE, SM15X, SM15N, SM15W

11.1 Specification

Model	Vehicle Cradle
Input	5V / 3A
Dimension	120 x 210 x 50mm
Weight	142.1g
Compatibility	SM10 LTE, SM15X, SM15N, SM15W

11.2 Use Case

11.2.1 Vehicle environment

- Top holder tightly grip the terminal considering size of the terminal.

- 3 Type Ram mount: Longest ram mount can be used in big truck.

11.2.2 Easy to use

Vehicle Cradle and Cigar Jack (one body)   Vehicle Ram Mount (suction / screw type)

- Push the terminal to back direction using the top holder flexibly

- Integral type: Cigar adaptor and cradle

12. UHF Snap on

- Application Devices : SM15X/SM15N/SM15W

12.1 Specification

Model	UHF Snap on
I/O	Micro USB 2.0
Dimension	124 x 84 x 36mm (TBD)
Weight	68.7g (TBD)
Compatibility	SM15X, SM15N, SM15W
Frequency	865 ~ 868MHz/917 ~ 921MHz
Protocol	EPC C1 GEN2/ISO18000 – 6C
R/W Range	Up to 2.5M(Tag and Environment defendant)
RF Power	1 Watt

12.2 Use Case

12.2.1 Formal environment

You can use this in small space for Reading Tag.

12.2.2 No extra Battery required

12.2.3 Easy to use

i. Connect SM15 to the UHF Snap on → ii. Reading RFID Tags

*For normal use, a waiting time of 15 seconds is required after connecting the product.

13. USB C-type Snap on

- Application Devices : SM15X/SM15N/SM15W

13.1 Specification

Model	USB C-type Snap on
I/O	10 pin IO, USB C 2.0 CONNECTOR
Dimension	84.7 x 62.7 x 29.6 mm
Weight	40g
Compatibility	SM15X/SM15N/SM15W
Protocol	USB 2.0 [CLIENT / HOST]
Input	USB C 5V

13.2 Use Case

13.2.1 Formal environment

- Slim design enhances frequency of using

- Function as portable station of charging and development

13.2.2 Easy to use

- Rear cover is flatten

- USB-C(USB2.0) Charging & Data-communication

14. USB Charging Snap on

- Application Devices : SM15X/SM15N/SM15W

14.1 Specification

Model	USB Charging Snap on
I/O	Micro USB-A 2.0
Dimension	81.5 x 84.5 x 38.5 mm
Weight	68.7 g
Compatibility	SM15X/SM15N/SM15W
Input	5V / 5A

14.2 Use Case

14.2.1 Formal environment

- Users can choose connection type they have.

- Especially in vehicle, USB connection could be dangerous. Charging snap on has stable charge structure thus minimizes these dangers.

14.2.2 Easy to use

- USB data only / D.C type Charging

- Use charging & USB Sync easily, and stably in narrow space

15. Wearable Sled (Wearable sled belt/Wearable wrist mount)

- Application Devices : SM15X/SM15N/SM15W

Wearable sled belt

Wearable wrist mount

15.1 Specification

Model	Wearable Sled
I/O	Micro USB Client : 2 Slot 10PIN IO POGO, USB C TYPE
Compatibility	SM15X, SM15N, SM15W
Dimension (Sled only)	120 x 83 x 60 mm
Weight (Sled only)	90.2 g

15.2 Use Case

15.2.1 Formal environment

Connect with wired Ring Trigger / USB Connect for Headset and wired Ring Scanner or Wearable Sled alone

15.2.2 Easy to use

i. Connect the SM15 to the Wearable Sled → ii. Connect the ring trigger to the Wearable Sled → iii. Scanning

i. Connect the SM15 to the Wearable Sled → ii. Connect the BT Ring Scanner to the SM15 → iii. Scanning

15.2.3 USB and Selectable Switch Function

The left, top and right side of the wearable sled have the following functions.

1. The left side of the wearable sled

When you use the USB host function or wired type Ring Scanner, use the USB port on the left side of the wearable sled.

2. The top of the wearable sled

When you use the wearable headset or Ring Trigger, use the USB port on the top of the wearable sled.

3. The right side of the wearable sled

There is a switch on the right side of the wearable sled that allows you to change the USB setting to charging or host. (C: Charging, H: Host)

i. If you want to charge the device in combination with the sled, please set the switch to "C".

ii. If you want to use Ring Trigger or Headset or USB host, please set the switch to "H".

16. Ring Trigger

- Application Devices : SM15X/SM15N/SM15W

Stable USB locker   QD Connector   Protective Rubber and Flexible Velcro
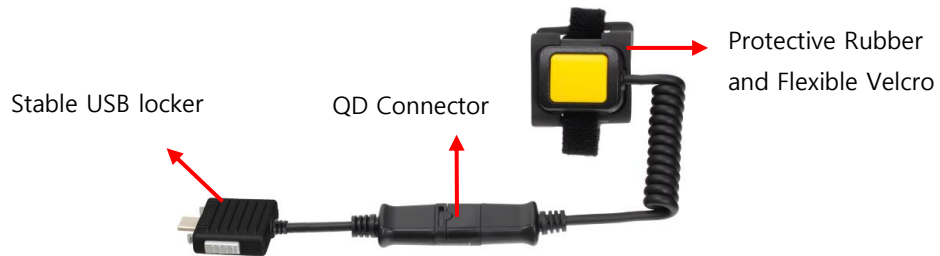
16.1 Specification

Model	Wearable Ring Trigger
I/O	USB C-Type, QD Connector
Dimension	Length of line: 75mm with curl
Compatibility	SM15X, SM15N, SM15W

16.2 Use Case

16.2.1 Formal environment

Connect wired Ring Trigger to the Wearable Sled

16.2.2 Easy to use

i. Connect the SM15 to the Wearable Sled → ii. Connect the ring trigger to the Wearable Sled → iii. Scanning

* Simple USB Connect

Micro USB
(ring button connect)

17. BT Type Ring Scanner

- Application Devices : SM10LTE, SM15X/SM15N/SM15W, UL20X/UL20F/UL20W,
  SL10-N/SL10-W, SL10K-N/SL10K-W

17.1 Specification

Model	BT Type Ring Scanner
I/O	Bluetooth Class 2 V4.1 EDR SPP with 20M distance
Input	Power: DC5V Typical: 550mA DC5V
Battery	550mAh Li-ion, Rechargeable
Dimension	Length:55.0mm, Width: 39.2mm, Height:51.2mm
Weight	65g
Support Barcodes	UPC-A, UPC-E, UPC-E1, EAN-8/JAN 8, EAN-13/JAN 13, Bookland EAN, Transmit UPC-A Check Digit, Transmit UPC-E Check Digit, Transmit UPC-E1 Check Digit, Convert UPC-E to A, Convert UPC-E1 to A, EAN-8/JAN-8 Extend, UCC Coupon Extended Code, ISSN EAN, Code 128, GS1-128 (formerly UCC/EAN-128), ISBT 128, ISBT Concatenation, Check ISBT Table, Code 39, Trioptic Code 39, Convert Code 39 to Code 32 (Italian Pharmacy Code), Code 32 Prefix, Code 39 Check Digit Verification, Transmit Code 39 Check Digit, Code 39 Full ASCII Conversion, Buffer Code 39, Code 93, Code 11, Code 11 Check Digit Verification, Transmit Code 11 Check Digit(s), Interleaved 2 of 5 (ITF), I 2 of 5 Check Digit Verification, Transmit I 2 of 5 Check Digit, Convert I 2 of 5 to EAN 13, Discrete 2 of 5, Codabar, CLSI Editing, NOTIS Barcode Type Editing, MSI, Transmit MSI Check Digit, Chinese 2 of 5, Matrix 2 of 5, Matrix 2 of 5 Check Digit, Transmit Matrix 2 of 5 Check Digit, Korean 3 of 5, US Postnet, US Planet, Transmit US Postal Check Digit, UK Postal, Transmit UK Postal Check Digit, Japan Postal, Australia Post, Netherlands KIX Code, USPS 4CB/One Code/Intelligent Mail, UPU FICS Postal, GS1 DataBar (GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional), GS1 DataBar Limited, GS1 DataBar Expanded (GS1 DataBar Expanded, GS1 DataBar Expanded Stacked), Convert GS1 DataBar to UPC/EAN, Composite CC-C, Composite CC-A/B, Composite TLC-39, GS1-128 Emulation Mode for UCC/EAN Composite Codes, PDF417, MicroPDF417, Code 128 Emulation, Data Matrix, Maxicode, QR Code, MicroQR, Aztec, Han Xin, Transmit Macro PDF Control Header
Compatibility	SM10 LTE, SM15X, SM15N, SM15W, UL20, SL10, SL10K

Model	BT Type Ring Scanner
CPU	32bit ARM CPU
Data storage	100KB for offline mode: 6000 15 bytes barcodes(Other flash is optional).
Communication	Class 3 Bluetooth HID, SPP with 20M distance, RS232 cable(optional)
Certificate	CE, Rohs, FCC, EN60950, IEC60825, IP64, EMC, 1.5m drop test (500 times). Utility Model Patent No.: ZL201420211350.8
Temperature	Operating: -20°C to 60°C (-4°F to 140°F); Storage: -40°C to 70°C (-40°F to 158°F)
Humidity	5% to 90% (non-condensing)

- Battery Power!

  Internal Battery: Rechargeable 550mAh Li-ion Battery, Standby 7 days, working time after full charge with good decode as below:

Continuous trigger scanning interval	Decoding number	Working time
1S	10325	2.9H
5S	6006	8.3H
10S	3871	10.7H

- Charge time: About 2 hours

17.2 Use Case

17.2.1 Connect Bluetooth Ring Scanner to the SM15

Easy to Scan barcode data with the SM15

17.2.2 Easy to use

i. Connect the BT Scanner to the SM15 → ii. Scanning

18. Wired Type Ring Scanner

- Application Devices : SM15X/SM15N/SM15W

18.1 Specification

Model	Wired Type Ring Scanner
Dimensions	Length:55.0mm, Width: 39.2mm, Height:51.2mm
Weight	65g
Electrical	Power: DC5V Typical: 300mA DC5V (No Battery in wired type ring scanner)
CPU	32bit ARM CPU
Data storage	100KB for offline mode: 6000 15 bytes barcodes (Other flash is optional).
Working mode	OTG cable
Scan mode	Level, Presentation Mode, Host, Auto Aim, Auto Aim with Illumination
Ambient illumination	0 ~ 107,639 lux
Scanner performance	Sensor Type: 1280 (horizontal) × 800 (vertical) pixels Light: 610nm LED Scanner performance 660nm red LED Scanner Angle: ±60°,±60°,±360°(skew, pitch, Roll) Field of view: Horizontal: 42°, Vertical: 28° Contrast: ≥20%
Barcode Type	UPC-A, UPC-E, UPC-E1, EAN-8/JAN 8, EAN-13/JAN 13, Bookland EAN, Transmit UPC-A Check Digit, Transmit UPC-E Check Digit, Transmit UPC-E1 Check Digit, Convert UPC-E to A,Convert UPC-E1 to A, EAN-8/JAN-8 Extend, UCC Coupon Extended Code, ISSN EAN, Code 128, GS1-128 (formerly UCC/EAN-128), ISBT 128, ISBT Concatenation, Check ISBT Table, Code 39, Trioptic Code 39, Convert Code 39 to Code 32 (Italian Pharmacy Code), Code 32 Prefix, Code 39 Check Digit Verification, Transmit Code 39 Check Digit, Code 39 Full ASCII Conversion, Buffer Code 39, Code 93, Code 11, Code 11 Check Digit Verification, Transmit Code 11 Check Digit(s), Interleaved 2 of 5 (ITF), I 2 of 5 Check Digit Verification, Transmit I 2 of 5 Check Digit, Convert I 2 of 5 to EAN 13, Discrete 2 of 5, Codabar, CLSI Editing, NOTIS Barcode Type Editing, MSI, Transmit MSI Check Digit, Chinese 2 of 5, Matrix 2 of 5, Matrix 2 of 5 Check Digit, Transmit Matrix 2 of 5 Check Digit, Korean 3 of 5, US Postnet, US Planet, Transmit US Postal Check Digit, UK Postal, Transmit UK Postal Check Digit, Japan Postal, Australia Post, Netherlands KIX Code, USPS 4CB/One Code/Intelligent Mail, UPU FICS Postal, GS1 DataBar (GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional), GS1 DataBar Limited, GS1 DataBar Expanded (GS1 DataBar Expanded, GS1 DataBar Expanded Stacked), Convert GS1 DataBar to UPC/EAN, Composite CC-C, Composite CC-A/B, Composite TLC-39, GS1-128 Emulation Mode for UCC/EAN Composite Codes, PDF417, MicroPDF417, Code 128 Emulation, Data Matrix, Maxicode, QR Code, MicroQR, Aztec, Han Xin, Transmit Macro PDF Control Header
Decoding depth &	Code 39; 84mm -224mm (4mil);
Temperature	Operating: -30°C to 60°C (-22°F to 140°F); Storage: -40°C to 70°C (-40°F to 158°F)
Humidity	5% to 90% (non-condensing)

Working mode	OTG cable
Compatibility	SM15X, SM15N, SM15W

18.2 Use Case

18.2.1 Easy to use

Connect the wired type Ring Scanner to the wearable sled

QD Connector   Wearable Sled

Type-C

Device

Ring Scanner

19. Ring Scanner Charging Cradle

- Application Devices : SM10LTE, SM15X/SM15N/SM15W, UL20X/UL20F/UL20W, SL10-N/SL10-W, SL10K-N/SL10K-W

19.1 Specification

Model	Ring Scanner Charging Cradle
Power	DC:5V/500mA
Charge	350mA/h
Connector	5.3A, 5V DC
Adapter Working mode	HID keyboard , Virtual Serial Port

19.2 Use Case

19.2.1 Connect Bluetooth Ring Scanner to the Charging Cradle

Easy to charge wearable ring scanner

19.2.2 Easy to use

i. Connect the Ring Scanner to the Charging Cradle→ ii. Charging

20. Wearable Headset

- Application Devices : SM15X/SM15N/SM15W

General purpose Headset   Rugged type Headset

20.1 Specification

Model	General purpose Headset	Rugged type Headset
Input	20mW	100mW
Compatibility	SM15X/SM15N/SM15W	SM15X/SM15N/SM15W
Weight	49	88
Dimension	141 x 183 x 67 mm	164 x 182 x 57 mm
Speaker sensitivity	99 dB ±3dB	112 dB ± 3 dB/1 mW
Speaker frequency range	150-4500 Hz	300-5000 Hz
Microphone sensitivity	-30 dB V/Pa ±2dB, Pin=1Pa, 0dB=1V/Pa	-54 dB @ 1 kHz
Microphone frequency range	100-10000 Hz	50-10000 Hz
Microphone type	Noise cancelling Uni-Directional	Low distortion, Noise-cancelling electret
Connection	QD	QD

20.2 Use Case

20.2.1 Easy to use

Connect the wearable sled and headset to make convenient use.

21. Contacts

www.m3mobile.net / www.m3mobile.co.kr

Headquarter	**Factory/Service Center**	**EU Headquarter**
Seoul Korea	Bucheon Korea	Frankfurt Germany
+82-2574-0037	+82-32-623-0037	+49-6190-8021829
sales@m3mobile.co.kr	cs@m3mobile.co.kr	sales_all@m3mobile.co.kr