制作工艺:

封面:157g铜版纸,过哑胶,彩色;

内页: 80g书写纸, 黑白

胶装

尺寸: 110\*165mm

此页不印刷



# **Checkme Pro Health Monitor**

# **User Manual**



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# 1. Introduction

## 1.1 Safety



#### Warnings and Cautionary Advice

- We recommend not to use this device if you have a pacemaker or other implanted devices. Follow the advice given by your doctor, if applicable.
- Do not use this device with a defibrillator.
- Do not use this device during MRI examination.
- Do not use the device in a combustible environment (i.e., oxygen-enriched environment).
- Do not place this device in pressure vessels or gas sterilization device.
- This device is not intended for use by people (including children) with restricted
  physical, sensory or mental skills or a lack of experience and/or a lack of
  knowledge, unless they are supervised by a person who has responsibility for
  their safety or they receive instructions from this person on how to use the
  device.
- Do not allow the electrodes of the device to come into contact with other conductive parts (including earth).
- Do not store the device in the following locations: locations in which the device is
  exposed to direct sunlight, high temperatures or levels of moisture, or heavy
  contamination; locations near to sources of water or fire; or locations that are
  subject to strong electromagnetic influences.
- Vital signs measurements, such as those taken with this device, cannot identify all diseases. Regardless of the measurement taken using this device, you should consult your doctor immediately if you experience symptoms that could indicate acute disease.
- Do not self-diagnose or self-medicate on the basis of this device without consulting your doctor. In particular, do not start taking any new medication or change the type and/or dosage of any existing medication without prior approval.
- The device has no alarms and will not sound if the measurement reading is too low or too high.
- Check the SpO<sub>2</sub> sensor application site every 6-8 hours to determine the positioning of the sensor and the circulation and skin sensitivity of the patient. Patient sensitivity varies depending on medical status or skin condition. For patients with poor peripheral blood circulation or sensitive skin, inspect the sensor site more frequently.
- Do not use the Oximeter on the same hand/arm when using a blood pressure cuff or monitor.

#### 1.2 Intended Use

The Checkme Pro health monitor is intended to be used for measuring, displaying, reviewing and storing of multiple physiological parameters including ECG, pulse oxygen saturation (SpO<sub>2</sub>), pulse rate, and temperature in home or healthcare facilities environment.

ECG is intended for use with adult.

The data and results provided by this device are for pre-check screening purpose only and cannot be directly used for diagnostic or treatment.

# 

#### 1.3 About Checkme

- 1. Touch Screen
- 2. Infrared temperature sensor
- 3. Internal SpO<sub>2</sub> sensor
- 4. LED indicator
  - Off: the monitor is turned off or working in Standby Mode;
  - Green: the monitor is turned on, and working normally; or when the battery is fully charged;
  - Blue: the battery is being charged;
  - Red: the battery is low;
- 5. Multi-functional connector

It connects with external SpO<sub>2</sub> cable, ECG cable, or charging cable.

- 6. Home, Power On/Off
  - When the monitor is off, press this button to power it on.
  - When the monitor is on, press and hold it for 2 seconds to turn it off.
  - During operation, press this button will switch to Main Screen, or Calendar Screen, or return to upper menu.

7. ECG right electrode

Use right thumb to press on it.



- 8. Speaker
- ECG left electrode
   Put it to your left palm, left abdomen or left knee.
- 10. Neck stripe hole
- ECG back electrode
   Use right forefinger or middle finger to press on it.

# 1.4 Main Screen

The Main Screen is shown as below. Slipping your finger from right to left can switch to the second page, and vice versa.



\*Minimonitor and ECG Holter are optional function.

# 1.5 Calendar Screen / Standby Mode

The device will enter Calendar Screen / Standby Mode when:

- No operation is detected for 120 seconds in other screen interface, the device will
  automatically switch to the Calendar Screen.
- Pressing the Home button in the Main Screen.



Current time
 Current date

When a reminder event happens, this area displays the event name, e.g. "Daily Check".

You are allowed to change the current time and date when the device is powered on at the first time. Or you can also go to the Setting menu to change it.

- This arrow indicates users to press the Home button to exit the Calendar Screen / Standby Mode.
- 4. Battery indicator
- If you failed to respond to the previous reminder event, then that event will be shown in this area.
- 6. This icon appears when **<Quick ECG>** is enabled.
- 7. This icon appears if you have set reminder event.

#### 1.6 Result Screen

For each measurement, a Result report will be provided after the measurement is finished. An example is shown as below.



- 1. Measured parameters and readings
- 2. A summary of this measurement
- 3. A graphic indicator about the health status

: All measured parameters are within the reference range;

( $\stackrel{()}{\odot}$ ): One or more than one measured parameter(s) is (are) out of reference range. When the  $\stackrel{()}{\odot}$  icon appears, it is suggested to test again, and consult your doctor for help.

#### 4. Buttons

- Select Q button to review previous results.
- Press i button to open the help information.

#### 1.7 Symbols

Symbol	Description	
	Manufacturer	
	Date of manufacture	
SN	Serial number	
× ×	Indicates a medical device that is not to be disposed of as unsorted municipal waste.	
<b>S</b>	Follow Instructions for Use.	
Ŕ	Type BF Applied Part	
$\otimes$	No alarm system	
MR	MRI unsafe. Presents hazards in all MR environments as device contains strongly ferromagnetic materials.	
IP22	Resistant to liquid ingress	
<b>C E</b> 0197	CE marking	
EC REP	Authorized representative in the European community	
UK CA	UKCA marking	
UK REP	Authorized Representative in the United Kingdom	
F©	This product complies with the rules and regulations of the Federal Communication Commission.	
((⊷)))	Non-ionizing radiation	

(it	Our products and packaging can be recycled, don't throw them away! Find where to drop them off on the www.quefairedemesdechets.fr site (Only applicable for French market).
	This product complies with verpackG.

# 2. Using Checkme

## 2.1 Prior to Use

#### **Charge the Battery**

To charge the battery,

- 1. Connect the smaller end of the USB charging cable to the multi-functional connector
- 2. Connect the other end of the USB charging cable to the USB charging port.
- 3. When the LED turns to green, it means the battery is fully charged.

# 🗥 Warnings and Cautionary Advice

- The device cannot be used for any measurement during charging.
- Use charging adapter provided by manufacturer, or USB charging devices which comply with the standard of IEC 60950.

#### Power On/Off

Press the Power On/Off button to power on the device. Press and hold Power On/Off button for 2 seconds to power off the device.

## 2.2 Daily Check

#### **About Daily Check**

Daily Check measurement is a function that combines the measuring of ECG (Electrocardiograph) and SpO<sub>2</sub> (blood oxygenation). It takes only 20 seconds to collect your vital signs before giving you vital signs readings and your health evaluation.

#### Using Daily Check

To start a Daily Check, follow the steps as below.

- If you have not created user, then please follow the instruction in [Settings Section] to add your user account.
- 2. Tap the <Daily Check> icon in the middle of the screen.

- 3. Choose the right user.
- 4. Hold the device according to the instruction, keep the device at the same level as your heart, and keep stable posture and stay calm. Don't exert too much pressure on the ECG electrode, which may result in EMG (electromyograph) interference. Just hold gently and ensure good contact with the ECG electrode. Do not exert pressure on the finger that put in the SpO<sub>2</sub> sensor. Just fit it inside but gently to ensure good blood perfusion.



- Put the right forefinger into the built-in SpO<sub>2</sub> sensor. Use the finger nail to squeeze the edge of the SpO<sub>2</sub> sensor cover, then move in upward to the left to raise it up as shown below.
- (2) Press the right thumb on the right electrode.
- (3) Press the right middle finger on the back electrode.
- (4) Press the left electrode to the left palm.
- Once the device detects stable waveform, it will automatically start the measurement. The countdown bar moves from left to right.



 When the bar is fully filled, the device will analysis your data, and then show the measurement result.



Daily Check provides the trending graph of heart rate and SpO.. To view the trend, tap the  $\stackrel{\textbf{Q}}{\rightarrow}$  button, then select one record, and then tap the  $\stackrel{\textbf{M}}{=}$  button.

## 2.3 ECG Recorder

#### About ECG Recorder

The ECG recorder offers four different methods to measuring ECG. Tap the  $\clubsuit$  icon to switch between two pages.



As shown above, from left to right, there are:

- Method A: Lead I, right hand to left hand
- Method B: Lead II, right hand to left abdomen
- Method C: Lead I, left wrist to right wrist
- Method D: Lead II,upper right chest to left lower abdomen

ST segment analysis is performed on selected LEAD.

Method A and B offer maximum comfort, than method C and D, but no ST segment value. No matter which method you choose to measure ECG, please keep stable posture and stay calm during the measurement.

#### Measuring without Cable

To start an ECG Recorder measurement without cable,

- 1. Choose the method A or B.
- 2. Follow the instruction according to the mode you selected.



- Press the right thumb on the right electrode;
- Press the right forefinger on the back electrode;
- For method A, press the left electrode to the left palm;
- For method B, press the left electrode to the left lower abdomen;

Do not press the device too firmly against your skin, which may result in EMG (electromyograph) interference. After you finish the above steps, hold the device stably and stay calm.

- 3. Once the device detects stable waveform, it will automatically start the measurement. The countdown bar moves from left to right.
- When the bar if fully filled, the device will analysis your data, and then show the measurement result.





#### Measuring with Cable

To start an ECG Recorder measurement with cable,

- 1. Choose the method C or D.
- 2. Follow the instructions to connect the ECG cable and place the ECG electrodes.



- Sit down or stand, stay calm;
- For method C, palms facing up, place an electrode in the middle of right wrist, place another electrode in the middle of left wrist;
- For method D, place an electrode on the upper right chest, place another electrode in the left lower abdomen;



3. The display will then show your ECG waveform.



The device will monitor your ECG continuously, however no data will be saved until you press the button.

- Press the ▶ button to start collecting your ECG data. The countdown bar moves from left to right.
- When the bar is fully filled, the device will analysis your data, and then show the measurement result.

## Quick ECG

If the <**Quick ECG**> function is enabled, then you can start an ECG measurement very quickly by picking up the device and hold it according to method A. This saves time and is much easier for use.

In the Settings menu and tap <Quick ECG> to enable or disable this function.

#### 2.4 Temperature

#### About thermometer



- The thermometer is only designed for the measuring area on the human body stated in this manual.
- The device needs to be in the room which the measurement is taken for at least 10 minutes before use.
- Physical activity, increased perspiration on the forehead, taking vasoconstictive medication and skin irritations can distort the result.
- The forehead (temples) must be free from perspiration and cosmetics.

Influences on forehead temperature include but not limited to

- A person's individual metabolism;
- Age; Forehead temperature is higher in babies and infants than in adults. Greater temperature fluctuations occur faster and more often in children. Normal forehead temperature decreases with age.
- Environmental temperature;
- Time of day; Forehead temperature is lower in the morning and increases throughout the day towards evening.
- Activities; Physical and, to the lesser extent, mental activities increases forehead temperature.

#### **Taking Temperature Measurement**

Checkme offers two different methods to measuring temperature.

#### **Measuring without Cable**

To start a temperature measurement,

- 1. In the Main Screen, select < Thermometer>.
- Choose the measured method <Infrared sensor>, and follow the instruction according to the mode you selected.
- 3. Put the thermometer sensor on your temple.



- 4. Press the Home button once, you will hear "Bi-Bi" beep, which indicates the measurement starts. Then move the thermometer around the temple for around 3 seconds until you hear a long "Bi" beep, which indicates the measurement is finished.
- 5. Take down the device, and the screen shows the measurement result.



In the Settings menu, tap the <Thermometer> area to change between Celsius degree (°C) and Fahrenheit degree (°F).

#### Measuring with Cable (Optional)

To start a temperature measurement,

- 1. In the Main Screen, select < Thermometer>.
- 2. Choose the measured method <Cable contact>.
- 3. Plug in the external temperature senor.
- 4. The display will then show the real-time temperature.

#### 2.5 Oximeter

#### About Oximeter

The Checkme Health Monitor measures the amount of oxygen in your blood, your pulse rate and pulse index. The oxygen saturation (SpO<sub>2</sub>) is measured and displayed as a percentage of full capacity.

#### Measuring without Cable

To start a Oximeter measurement without cable,

- 1. In the Main Screen, tap the **Pulse Oximeter>** icon.
- 2. Insert the forefinger into the built-in SpO<sub>2</sub> sensor as shown below.



Relax your forefinger and do exert pressure.

- When the device detects stable waveform, it will automatically start the measurement. The countdown bar moves from left to right.
- 4. When the bar is fully filled, the device will analysis your data, and then show the

measurement result.



#### **Measuring with Cable**

- 1. Connect the external SpO<sub>2</sub> sensor to the multi-functional connector.
- Put your index finger or middle finger into the external SpO<sub>2</sub> sensor. Make sure the cable is positioned along the top of the hand, and the finger nail is in the position as shown below.



- 3. Tap the **<Pulse Oximeter>** icon.
- 4. The display will then show your PLETH waveform, SpO<sub>2</sub> and pulse rate.



The device will monitor continuously, however no data will be saved until you press the button.

- Press the ▶ button to start collecting your SpO<sup>2</sup> data. The countdown bar moves from left to right.
- When the bar is fully filled, the device will analysis your data, and then show the measurement result.

#### 2.6 Sleep Monitor

Checkme offers a non-invasive method to monitor sleep status for adult users who have sleep problem, sleep related breathing disorders and obstructive sleep apnea.

#### 🗥 Warnings and Cautionary Advice

• Before using as a sleep monitor, please ensure the battery is fully charged.

To start a sleep monitor measurement,

- 1. Tie the wristband on one of your left hand.
- Insert the SpO<sub>2</sub> cable into the multi-functional connector.
- Put one of your finger into the sensor. Forefinger or middle finger is suggested. If needed, remove the colored nail polish from the finger. Make sure that the sensor is correctly placed so that the cable goes above your hand back.



 Press the Home button to enter the Main Screen. Then Tap the Sleep Monitor icon to enter the screen as below.



- Tap the ► button to start the sleep monitoring. During monitoring, a countdown timer is always displayed at the lower left part.
- You can press Home button to lock the screen, as shown below. The device will work in a very low power consumption mode.
- 7. Insert the device into the wrist band cover, and then begin to sleep.
- When you get up, or when you want to stop monitoring, you can press the Home button again to unlock the screen, and then tap icon to stop sleep monitoring.
- You can tap Q button to view the SpO<sub>2</sub> trending during your sleep, or tap "Close" button and return to the Main Screen.

Total duration 1h 43m 17s <90% STAT 1 drops,0h 3m 42s Average 96% Lowest 83% Blood Oxygen drops detected

100% 95% 90% 85% 80% 75% 70% 65% 60% 55%	~ <sup>*(9</sup> /2	SPO2)	r	<b>.</b>	/min.B	R) 250 230 210 190 170 150 130 110 90 70
50%						-50
11:49	9:56	12:09	56	12:29:	56	12:49:56

# 2.7 Blood Pressure (Optional)

Checkme can work with the AirBP unit (optional accessory) to measure blood pressure.

- 1. Turn on the blood pressure monitor AirBP.
- Turn on Checkme Pro, choose the item <Blood Pressure> on the screen.



- 3. Choose the desired user on the screen, then Checkme will start to search AirBP.
- Choose your AirBP "BP XXXX" on the screen, then Checkme will start to connect with AirBP.



- 5. Sit correctly. Place the cuff on the left upper arm. Press the <start>.
- Following the instruction on Checkme, pump to the target pressure then keep still until the results.
- 7. Deflate the cuff.

Note: Keep AirBP turning on during connection.

#### 2.8 Blood Glucose (Optional)

Checkme can work with the blood glucose meter unit (optional accessory) to blood glucose.

- 1. Use the blood glucose meter to complete a blood glucose measurement.
- 2. Turn on Checkme and select the item "Blood Glucose" on the screen.
- 3. Checkme will start to connect with your blood glucose meter.
- After your blood glucose measurement data uploads successfully to Checkme, you can view the measurement result on Checkme.



#### Note

- Refer to the blood glucose meter user manual for a blood glucose measurement.
- Please keep the Bluetooth of the blood glucose meter turning on during connection.

## 2.9 Minimonitor (Optional)

To start a Minimonitor function, follow the steps as below.

- 1. In the Checkme Main Screen, select < Minimonitor>
- Correctly connect the "Minimonitor adaptor", SpO: cable and ECG cable with the device.
- 3. Put finger into the external SpO<sub>2</sub> sensor. Place the ECG electrodes as shown below.





# 2.10 ECG Holter (optional)

#### 2.10.1 Choose Holter Lead

Choose the proper ECG lead in the setting menu.

There are 4 options: LEAD II; CC5; CM5; User defined.

#### 2.10.2 Measurement

- 1. In the Main screen, tap the ECG Holter icon.
- 2. Choose the right user, enter the guidance screen.
- 3. Plug ECG cable and place electrodes on the right positions as guided.



 The display will show ECG waveform, press the button b to start recording. (The recording will start to record 1 minutes later automatically without pressing the button)



5. Wear the Holter Belt around your waist



6. Put Checkme in the pocket of the Belt, then close the pocket. Keep recording for 24 hours or less. During this process, the device will beep if the cable or any electrode is off.

# 2.11 Pedometer

To start a Pedometer measurement,

- In the Main Screen, select < Pedometer> icon. If you have not created user, then please add your user account.
- 2. Select a user to enter the screen as below.



- 3. Tap the 🙀 button to set your target, if needed.
- 4. Tap the ▶ button to start calculating steps.
- 5. Place the device into your pocket.
- When you finished calculating steps, press the Home button to stop the pedometer.



7. Press Home button again to exit pedometer function.

#### 3. Settings

#### 3.1 Reminder

Up to 6 reminder events can be set by user. You can add, edit and delete reminder events.

Rem	inder		Reminder	X
11:12 Check Me	11:13 Wake up	S	Monday	~
F	Ē	1	CheckMe	Y
		Ø	12:30 (24H)	~

#### 3.2 Changing Sound Volume

In the Settings menu, tap the **<Volume>** area to change volume directly. "X" means the volume is turned off.

## 3.3 Enabling/Disabling Voice Guide

In the Settings menu, tap the **<Voice Guide>** to enable or disable this function.

#### 3.4 User Management

To use the Daily Check measurement, you must create your account. If the Daily Check

measurement is used by more than one user, then each user must create his/her own account.

To create a user account:

1. In the Settings menu, choose <User Management>.



- 2. Tap a "+" button to open the menu below.
- 3. Tap each button to edit corresponding information.
- 4. Tap  $\overleftarrow{\times}$  to return the < User Management > menu. To edit the information of a user:
- 1. In the Settings menu, choose <User Management>.
- 2. Choose the user that you want to edit.
- 3. Tap the information that you want to edit, and then modify.
- 4. Tap <OK> and  $\boxed{\times}$  to return the < User Management > menu.

To delete a user:

- 1. In the Settings menu, choose <User Management>.
- 2. Choose the user that you want to delete.
- 3. Tap the 🛍 button.



4. Choose <**Yes**> to confirm.

## 3.5 Setting Date & Time

- 1. In the Settings menu, choose <Date & Time>
- Tap "+" or "-" button to change the date, then tap →.
- 3. Tap "+" or "-" button to change the time.
- 4. Tap 🔶 to finish the setting.



# 3.6 Choosing Language

- 1. In the Settings menu, choose <Language>.
- 2. Choose the language from the list.

# 3.7 Changing Temperature

In the Settings menu, tap the <**Temperature**> area to change between Celsius degree (°C) and Fahrenheit degree (°F).

# 3.8 Softeare update

Tap the<Software Update>to enter the software upgrade mode.

# 3.9 Changing ECG waveform length

To change the length of ECG waveform saved for each ECG Recorder measurement:

- 1. In the Settings menu, choose<ECG Length>.
- 2. Then choose among **<30s**>, **<60s**>. And tap **<OK**> to enable the change.

# 3.10 Setting ECG Bandwidth

In the Setting menu and choose **<ECG bandwidth>** to change between **<Normal>** and **<Wide>**.

# 3.11 Changing Holter ECG Lead(optional)

To change the lead of ECG Holter for ECG Holter measurement:

- 1. In the Settings menu, tap <Holter Lead>.
- 2. choose among <LEAD II>, <CC5>,<CM5> and <User-defined>
- 3. Tap <**YES**> to enable the change.

# 3.12 Quick ECG

Tap the<Quick ECG> to enable or disable this function.

# 3.13 Configuration

Tap the<Configuration>to choose to open or close <Blood Pressure>and<Blood Glucose>

# 3.14 Erasing Data

In the Setting menu, Tap < Erase All Data>, and then < Yes>.

All measurements saved in the device will be deleted.

## 3.15 Factory Reset

In the Setting menu, Tap <Factory Reset>, then tap <Yes>.

All measurements, user information and other settings saved in the device will be deleted, and the device will be restored to the factory default settings.

## 3.16 About

Tap the<About>to check device Information

## 4. Review

# 4.1 Reviewing Daily Check

To review Daily Check records,

- 1. In the <Review> menu, select <DailyCheck>.
- Choose the right user to open the list as below, then select one record to review more information as below.





In this menu, you can:

- Select I to delete this measurement
- Select by to replay the ECG waveform as shown below.



When the ECG waveform is being replayed, you can

- Select **I** to change the waveform amplitude.
- Select II to pause it.
- Select **5** to return Daily Check list.
- Select if to view the trend of heart rate, SpO<sub>2</sub>

250 - ( /m/= UD)		-
230- (-/min Hk)		
210-		
170-		
150-		
130-		
90-		
70		
30	l l.	با بينا بينا بين
13-56	p	$\frown$
		,

■ Select **う** to return to the Daily Check list.

## 5. Maintenance

# 5.1 Care and Cleaning

Clean the device per week, carefully swabbing the device surface with a soft cloth or cotton swab with rubbing alcohol.

# 5.2 Trouble Shooting

Problem	Possible Cause	Solution	
The device does not turn on.	<ol> <li>The battery may be low.</li> <li>The device might be damaged</li> </ol>	<ol> <li>Charge the battery and try again.</li> <li>Please contact with your local distributor.</li> </ol>	
The ECG waveform amplitude is small	The lead you choose is not suitable for you.	Change another lead and try again.	
ECG waveform drifts	<ol> <li>The pressure exerted on the electrode is not stable or too much.</li> <li>Hand or body may be moving.</li> </ol>	<ol> <li>Hold the device stably and gently.</li> <li>Try to keep perfectly still and test again.</li> </ol>	
SpO <sub>2</sub> or pulse rate shows no value, or the number fluctuates	<ol> <li>Finger may not be inserted correctly.</li> <li>Finger or hand may be moving.</li> </ol>	<ol> <li>Remove finger and reinsert, as directed.</li> <li>Try to keep perfectly still and test again.</li> </ol>	
"System Error" occurred.	Software or hardware failure.	Restart the device and measure again.If the error persists, mark down the error number and contact with your local distributor.	
BP calibration failed. 1. Wrong height. 2. The difference between two calibrations is too large.		<ol> <li>Reconfirm your height.</li> <li>Try to keep perfectly still and calibrate again.</li> </ol>	
No voice during ECG and SpO <sub>2</sub> The speaker is muted. measurement.		Unmuted the speaker in the Settings menu.	
Temperature value is too low.	<ol> <li>The measurement area is covered by hair.</li> <li>The thermometer sensor is too far away from your skin.</li> <li>The thermometer sensor is dirty.</li> </ol>	<ol> <li>Remove hair from the measurement area.</li> <li>Keep the sensor contact with your skin.</li> <li>Clean the sensor with a soft cloth or cotton.</li> </ol>	

# 6. Accessories



# Marnings and Cautionary Advice

- Use accessories specified in this chapter. Using other accessories may cause damage to the device or not meet the claimed specifications.
- Depending on the configuration, May not all the accessories are included in your paċkage.

Part Number	Description	
540-00192-00	ECG cable with 2 lead wires, snap	
540-00193-00	SpO₂ finger sensor, 25 cm, FP-10	
540-00194-00	USB charging cable, micro D	
560-00198-00	ECG electrode, 10 pcs	

# 7. Specifications

Classifications				
EC Directive		MDD, 93/42/EEC		
		R&TTE, 1999/5/EC		
		ROHS 2.0, 2011/65/EU		
Degree protection against electrical shock		Type BF		
Environmental				
Item		Operating	Storage	
Temperature		5 to 45°C	-25 to 70°C	
Relative humidity (nonco	Relative humidity (noncondensing)		10% to 95%	
Barometric		700 to 1060 hPa	700 to 1060 hPa	
Degree of dust & water resistance		IP22		
Drop test		1.0 m		
Physical				
Size	88×56×13 mm			
Packing size	178*123*75 n	nm		
Weight	Less than 80 g	Less than 80 g (main unit)		
Display	2.7" touch screen, HD			
Connector	Micro D connector			
Wireless connectivity	Built-in Bluetooth dual mode, support 4.0 BLE			
Power Supply				
Battery type	Rechargeable lithium-polymer battery			
Battery run time	Only daily che	ck: > 1000 times		
	Continuous sle	eep monitoring: > 12 hours		
	Pure standby	calendar mode: > 3 months		

Charge time	Loss than 2 hours to 90%			
100	Interneted ECC electrodes			
Lead type	External ECC cable and electrodes			
Lood cot		External ECG cable and electrodes		
Leau set				
Nieasurement mode	Episode, continuous			
Sampling rate	SUU HZ			
Sampling accuracy	16 bit			
Display Gain	1.25 mm/mV, 2.5 mm/mV, 5 mm/m	V		
· · ·	10 mm/mV, 20 mm/mV			
Sweep speed	25 mm/s			
Bandwidth*	0.05 to 40 Hz			
Electrode offset	±300 mV			
potential tolerance				
HR measurement	30 to 250 bpm			
range				
Accuracy	±2 bpm or ±2%, whichever is greate	r		
ST measurement	-0.5 to +0.5 mV			
range				
	Heart rate**, QRS duration, ST segment***,QT/QTc Rhythm analysis			
Measurement	(Regular ECG Rhythm, High Heart Rate, Low Heart Rate, High QRS			
summary	Value, High ST Value***, Low ST Value***, Irregular ECG Rhythm,			
	Unable to analyze)			
SpO <sub>2</sub>				
Standards	Meet standards of ISO 80601-2-61			
Measurement accuracy v	erification: The SpO <sub>2</sub> accuracy has bee	n verified in human experiments		
by comparing with arteria	by comparing with arterial blood sample reference measured with a CO-oximeter. Pulse			
oximeter measurement a	re statistically distributed and about to	wo-thirds of the measurements		
are expected to come wit	thin the specified accuracy range comp	bared to CO-oximeter		
measurements.				
SpO <sub>2</sub> range	70% to 100%			
SpO <sub>2</sub> Accuracy (Arms)	80-100%: ±2%, 70-79%:±3%			
PR range	30 to 250 bpm			
PR accuracy	±2 bpm or ±2%, whichever is great	er		
PI range	0.5-15			
Measurement	SpO <sub>2</sub> , PR, PI, Summary (Normal Blood Oxygen, Low Blood Oxygen,			
summary	Unable to analyze)			
Thermometer				
Item	Infrared sensor Cable Contact			
Technique	Infrared body temperature	Contact temperature		

Environment temperature	16.0 to 40.0°C			
Measurement site	Temple Armpit			
Measurement time	3s	Stable value after 2 minutes		
Measurement range	34.0 to 42.2°C (94.0 to 108.0°F)	30.0 to 45°C (86.0 to 113.0°F)		
Accuracy	±0.2°C or ±0.4°F	±0.2°		
Sleep Monitor				
Monitoring time	Up to 10 hours			
Data storage	Store SpO <sub>2</sub> and pulse rate			
Massurament	Total duration, <90% STAT, Average s	aturation, Lowest saturation,		
weasurement	Summary(No abnormal detected, bl	ood oxygen drop detected,		
summary	Unable to analyze)			
Pedometer				
Range	0 to 99999 steps			
Distance	0.00 to 999.99 km			
Timer	0 to 1999 minutes			
Calories	0.00 to 9999.99 kcal			
Fat	0.00 to 199.99 g			
Reminder				
No. of reminder	6			
Reminder event	Wake up, Check me, Medicine, Self-	define		
Review				
Data review	Graphic trend, list trend			
Waveform review	Full disclosure waveform			
Daily check	100 pcs of records without audio memo			
ECG recorder	100 pcs of records without audio memo			
Oximeter	100 pcs of records			
Thermometer	100 pcs of records			
Sleep record review	5 pcs of records, 10 hours each record			

\* : External ECG cable, bandwidth mode set to wide

\*\*: Heart rate is calculated based on average of every 5 to 30 QRS complex.

\*\*\*: Only for measurement with external ECG cable, bandwidth mode set to wide

## 8. Electromagnetic Compatibility

The device meets the requirements of EN 60601-1-2. All the accessories also meet the requirements of EN 60601-1-2 when in use with this device.

# 🗥 Warnings and Cautionary Advice

 Using accessories other than those specified in this manual may result in increased electromagnetic emission or decreased electromagnetic immunity of the equipment.

- The device or its components should not be used adjacent to or stacked with other equipment.
- The device needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided below.
- Other devices may interfere with this device even though they meet the requirements of CISPR.
- When the inputted signal is below the minimum amplitude provided in technical specifications, erroneous measurements could result.
- Portable and mobile communication equipment may affect the performance of this device.
- Other devices that have RF transmitter or source may affect this device (e.g. cell phones, PDAs, and PCs with wireless function).

Guidance and Declaration - Electromagnetic Emissions

The Health Monitor is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assure that it is used in such an environment.

Emission tests	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The device uses RF energy only for its internal function.
		Therefore, its RF emissions are very low and are not likely
		to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The device is suitable for use in all establishments,
Harmonic emissions	Class A	including domestic establishments and those directly
IEC61000-3-2		connected to the public low-voltage power supply
Voltage Fluctuations / Flicker	Complies	network that supplies buildings used for domestic
Emissions IEC 61000-3-3		purposes.

#### **Guidance and Declaration - Electromagnetic Immunity**

The Health Monitor is intended for use in the electromagnetic environment specified below. The customer or the

user of the Health Monitor should assure that it is used in such an environment.

Immunity test	IEC60601 test level	Compliance level	Electromagnetic
			environment - guidance
Electrostatic discharge	± 6 kV contact	± 6 kV contact	Floors should be wood,
(ESD) IEC 61000-4-2	± 8 kV air	± 8 kV air	concrete or ceramic tile. If
			floors are covered with
			synthetic material, the
			relative humidity should be at
			least 30 %.
Electrical fast	± 2 kV for power	± 2 kV for power	Mains power quality should
transient/burst	supply lines	supply lines	be that of a typical
IEC 61000-4-4	± 1 kV for input/output	± 1 kV for input/output	commercial or hospital
	lines	lines	environment.

-					
Surge		±1 kV l	ine(s) to line(s)	± 1 kV line(s) to line(s)	
IEC 61000-4-5		± 2 kV l	ine(s) to earth	± 2 kV line(s) to earth	
Voltage dips, sho	ort	<5 % UT		<5 % UT	Mains power quality should
Interruptions and	d	(>95 % dip in UT)		(>95 % dip in UT)	be that of a typical
Voltage variation	is on	for 0.5	cycle	for 0.5 cycle	commercial or hospital
power supply in	out	40 % U	т	40 % UT	environment. If the user of
lines		(60 % c	lip in UT)	(60 % dip in UT)	our product requires
IEC 61000-4-11		for 5 cy	cles	for 5 cycles	continued operation during
		70 % U	т	70 % UT	power mains interruptions, it
		(30 % d	lip in UT)	(30 % dip in UT)	is recommended that our
		for 25 o	cycles	for 25 cycles	product be powered from an
		<5 % U	т	<5 % UT	uninterruptible power supply
		(>95 %	dip in UT)	(>95 % dip in UT)	or a battery.
		for 5 s		for 5 s	
Power frequency	/	3 A/m		3 A/m	Power frequency magnetic
(50/60 HZ) magr	netic				fields should be at levels
field IEC 61000-4	l-8				characteristic of a typical
					location in a typical
					commercial or hospital
					environment.
Note: U <sub>T</sub> is the A	C mains v	oltage pri	or to application of	the test level.	
Guidance and D	eclaration	n - Electro	magnetic Immunity	1	
The Health Moni	itor is inte	ended for	use in the specified	electromagnetic environment	nt. The customer or the user of
the Health Moni	tor shoul	d assure tl	nat it is used in such	an environment as describe	d below.
Immunity	IEC606	01 test	Compliance	Electromagnetic environn	nent - guidance
test	level		level		
Conduced RF	duced RF 3 Vrms 150 3		3 Vrms 150	Portable and mobile RF communications equipment	
IEC61000-4-6	kHz to		kHz to	should be used no closer t	o any part of the system,
12001000-4-0	80 MH	z	80 MHz	including cables, than the	recommended separation
	outside	e ISM	outside ISM	distance calculated from t	he equation appropriate for the
	bands		bands	frequency of the transmit	ter. Recommended separation
				distances: $d = 1.2 \sqrt{P}$	2
Radiated RF	3 V/m	80	3 V/m 80 MHz	Recommended separation	distances:
IEC61000-4-3	MHz to	2.5	to 2.5 GHz	80 MHz $\sim$ 800 MHz: $d$ =	$1.2\sqrt{P}$
12002000 1 5	GHz	z		800MHz-2.5GHz: $d = 2.3\sqrt{P}$	
				Where <i>P</i> is the maximum	output power rating of the
				transmitter in watts (W) a	ccording to the transmitter
				manufacturer and <i>d</i> is the	recommended separation
				distance in meters (m).	
				Field strengths from fixed	RF transmitters, as determined
				Field strengths from fixed	RF transmitters, as determined

		1		
		by an electromagnetic site surve	ey <sup>a</sup> , should be less than	
		the compliance level in each free	quency range <sup>b</sup> .	
		Interference may occur in the vi	cinity of equipment	
		marked with the following symb	ol: 🏜	
Note 1: At 80 MHz to	800 MHz, the separation distan	ce for the higher frequency range ap	plies.	
Note 2: These guideli	nes may not apply in all situatio	ns. Electromagnetic propagation is a	ffected by absorption and	
reflection from struct	ures, objects and people.			
<sup>a</sup> Field strengths from	fixed transmitters, such as base	e stations for radio (cellular/cordless)	telephones and land	
mobile radios, amate	ur radio, AM and FM radio broa	dcast and TV broadcast cannot be pr	edicted theoretically with	
accuracy. To assess th	e electromagnetic environment	due to fixed RF transmitters, an elec	tromagnetic site survey	
should be considered	. If the measured field strength	in the location in which the device is	used exceeds the	
applicable RF complia	nce level above, the device sho	uld be observed to verify normal ope	eration. If abnormal	
performance is obser	performance is observed, additional measures may be necessary, such as re-orienting or relocating the device.			
<sup>b</sup> Over frequency range 150kHz to 80MHz. For Resp field strength should be less than 1V/m.				
Recommended separation distances between portable and mobile RF communications equipment and the device				
The Health Monitor is intended for use in an electromagnetic environment in which radiated RF disturbances are				
controlled. The customer or the user of the Health Monitor can help prevent electromagnetic interference by				
maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and				
the monitor as recommended below, according to the maximum output power of the communications equipment.				
Rated max. output	Separation distance according to frequency of the transmitter (m)			
power of	150 kHz - 80 MHz	80 MHz - 800	800 MHz - 2.5 GHz	
transmitter (W)	$d = 1.2\sqrt{P}$	$_{\rm MHz}d = 1.2\sqrt{P}$	$d = 2.3\sqrt{P}$	
0.01	0.12	0.12	0.23	
0.1	0.38	0.38	0.73	
1	1.20	1.20	2.30	
10	3.80	3.80	7.30	
100	12.00	12.00	23.00	
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in				
metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the				
maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.				

Note 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and

reflection from structures, objects and people.

# 9. FCC Statement

FCC Warning:

FCC ID: 2ADXK-6600

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.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

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