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WatchBP Analyzer

User Manual

Compatible models:

WatchBP Office series: BP3SK1-3B, TWIN200 ABI (with pulse wave presentation), WatchBP Office Vascular (TWIN200 VSR)
WatchBP O3 series: BP3SZ1-1, BP3MZ1-1, BP3MZ1-1A

microlife

Content

1 Install the program

Download the WatchBP Analyzer software from the Microlife website: http://www.microlife.com/support/software-professional-products. Double click on downloaded installation program, the installation wizard dialog box will appear as shown in Fig. 1

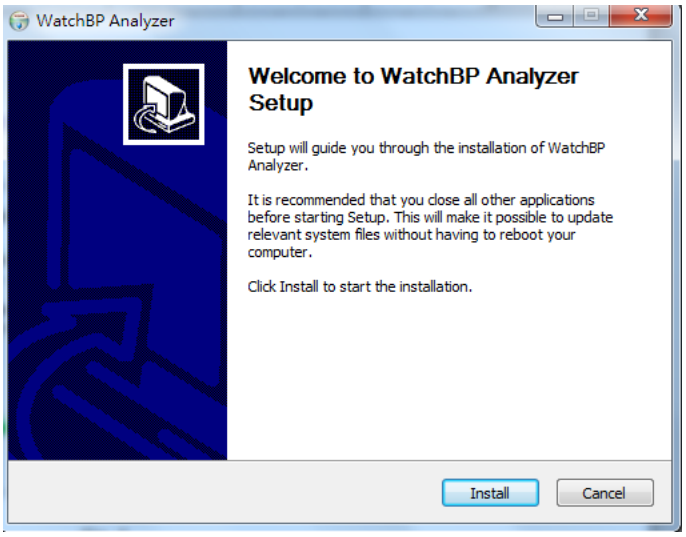


Fig. 1 The installation wizard dialog box.

Click **"Install"** to start the installation of the WatchBP Analyzer. After successful installation, the dialog box will appear. (Fig 2)

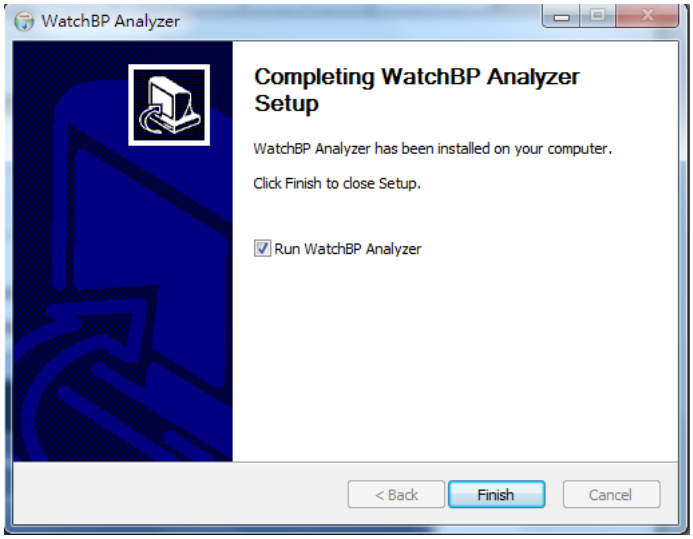


Fig. 2

Click "Finish" to complete the installation.

2 User Interface

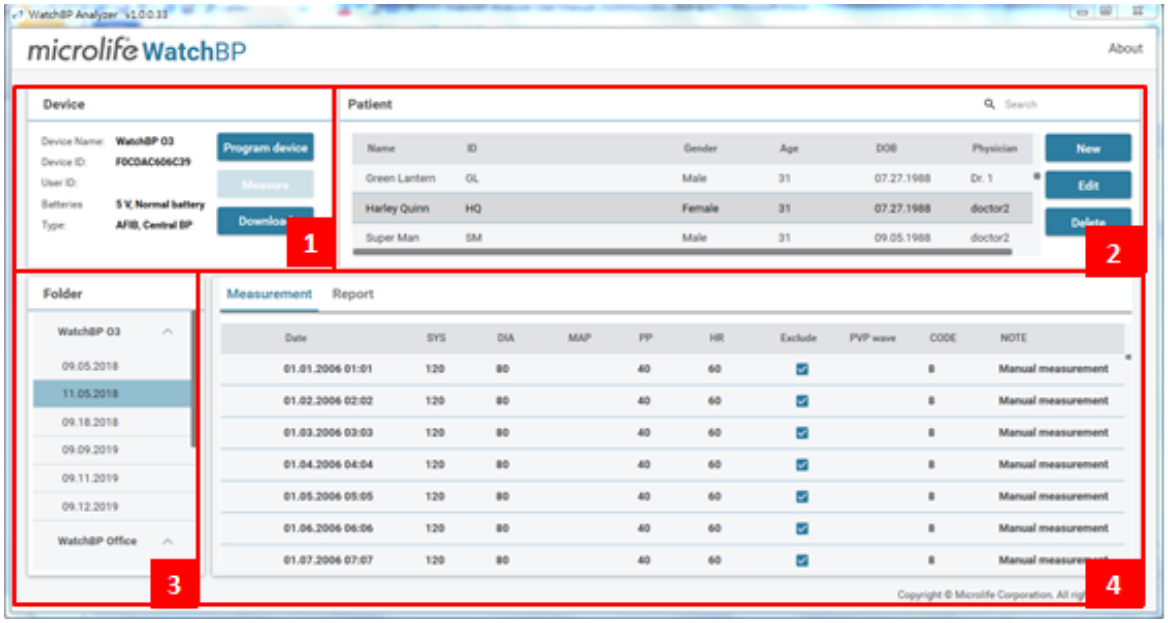


Fig. 3

(1)Device Information

Device information will show up when a WatchBP device is connected.

Device name : The name of the WatchBP model

Device ID : A unique device ID of the unit

Batteries : The area displays the voltage and status of batteries of the WatchBP O3. If the voltage is low and thus may not last for 24-hour session, the **"Renew battery"** message will be highlighted

Type : shows the version of the device

Options : shows the extra options of the device. AFIB – device with AF detector; Central BP – device with the possibility of taking central blood pressure measurement

[Functions]

Program device **:** For WatchBP O3 and Office, program the settings to the device. The button is enabled when a compatible WatchBP device is connected. Click the button to program the device

*For WatchBP Vascular, this button cannot be pressed.

Measure **:** Start or Stop measurement (WatchBP Office only)

Set the measurement parameters, and then start a measurement

Download **:** Download BP data from the device memory to the software

(2) Patient information area

You can manage the patient information in the Patient information area. First select a patient from the patient list before starting to program the device, initiate a measurement or download measurement data from device to PC.

[Functions]

New : Create a new patient account

Edit : Edit the patient account

Delete : Delete patient data in the patient list

Search : Key in and search the name, ID or the date of birthday of the patients in the software database

(3) Measurement Folder area

The displayed Measurement Folder is for the selected patient. The new folders created according to the dates of the recorded measurement data in the device.
Measurements on the same dates will be merged into the same folders.

[data type]

WatchBP O3	: Measurements of WatchBP O3 series
WatchBP Office	: Measurements of WatchBP Office series
WatchBP Office ABI	: Measurements of WatchBP Office ABI (W/ waveform presentation)
WatchBP Office Vascular	: Measurements of WatchBP Office Vascular (W/ waveform presentation)
7 day	: Measurements of HOME mode of WatchBP O3 Ambulatory (BP3MZ1-1)

(4) Measurement Tab and Report Tab

Measurement Tab contains measurements of a selected Measurement Folder.

[Caption]

Date : the date and time of the measurement

SYS : systolic blood pressure

DIA : diastolic blood pressure

MAP : mean arterial pressure

PP : pulse pressure

cSYS : central systolic blood pressure

cDIA : central diastolic blood pressure

cPP : central pulse pressure

ABI : Ankle brachial index

PWV : pulse wave velocity

Index of cycle: the number of measurements in a set

Limb : the specific limb of the measurement (only for simultaneous double cuffs measurements)

Posture : patient's position

HR : heart rate (beats per minute)

AFIB : atrial fibrillation

Exclude : option to exclude measurements from either PDF or Excel report

PVP wave: brachial pulse waveform of the measurement

CODE : events or errors

NOTE : brief description of the CODE, refer "Code, Note and potential cause and remedy" for detail

[Functions]

Setting Office Blood Pressure Threshold: Choose the threshold of systolic and diastolic from the drop-down menus. The values over the chosen threshold will be shown in red.

Report option **:** Click to hide AFIB result

Customization **:** You can type the name of centre/hospital, and upload an image file as your customized logo, the information you provide above will be displayed in the PDF report, folder, and XLSX report. You can choose the storage path here.

Generate PDF Report **:** Click to generate a PDF report for the selected Measurement Folder

Open Folder **:** Open the folder that contains the reports of the selected patient

Generate XLSX report **:** Click to generate an Excel report of the selected Measurement Folder.

3 Patient management

You can manage the patients' information through the patient information area (Fig 4).

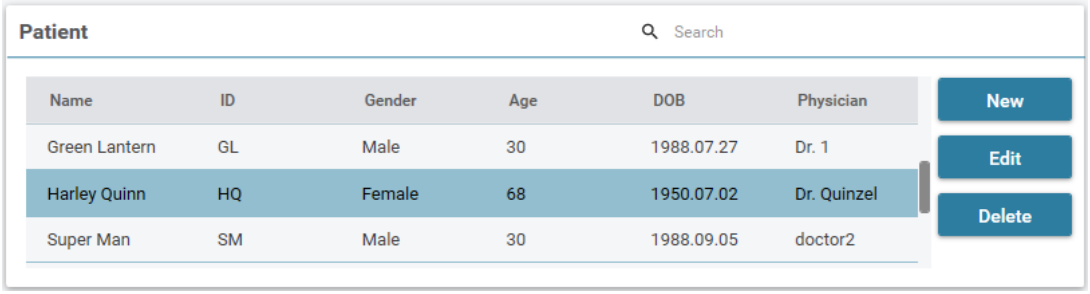


Fig. 4

(1) Add a new patient

1. Click **New** button, a dialog box appears (Fig 5).
2. Enter patient ID, Name, Sex and Date of Birth; Enter Physician ID, Email (optional) and Phone number (optional) then click **Okay** button to add a new patient account.

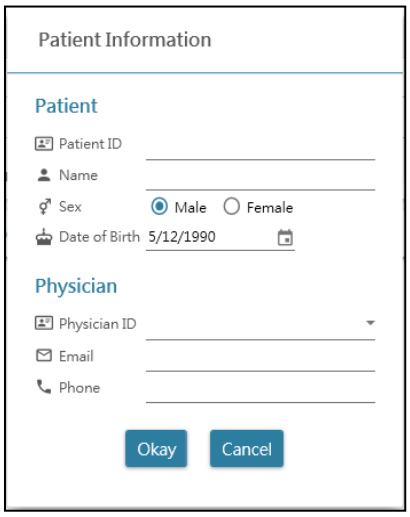


Fig. 5

(2) Edit a patient

Select a patient and click **Edit** button, the patient information dialog box with the record appears. Edit the information and click **Okay** button to save the changes.

(3) Delete a patient

If you would like to remove a patient from the list, select the patient's account and click **Delete** button. A confirmation screen pops up, and choose "**yes**" to delete the selected patient account from the list.

4 Connecting the WatchBP device with the WatchBP analyzer

(1) Connecting the device with WatchBP software cable:

Follow the instruction manual of the device to connect the device to the PC.

(2) Connecting the device using Bluetooth connection:

Prepare the device:

Model	Pairing – device	Ready to pair	Connected
WatchBP Office (BP3SK1-3B)	Press and hold the MODE button for 7 seconds	Bluetooth indicator flashes	Shows Bluetooth indicator on device. Displays device information on the Analyzer
WatchBP Office Vascular (TWIN200 VSR)	Press and hold the MODE button for 7 seconds	Bluetooth indicator flashes	Shows Bluetooth indicator on device. Displays device information on the Analyzer
WatchBP O3 (BP3SZ1-1)	Press and hold the Start/Stop button for 7 seconds	Bluetooth indicator flashes	Shows Bluetooth indicator on device. Displays device information on the Analyzer

**Bluetooth connection of the WatchBP Analyzer supports Microsoft Windows 10.*

Connecting the WatchBP device from the WatchBP Analyzer using Bluetooth:

Click **Bluetooth** at the upper right on the WatchBP Analyzer to view the Bluetooth device. Select the WatchBP device and click the **Connect** button to connect it with Analyzer. (Fig. 6)

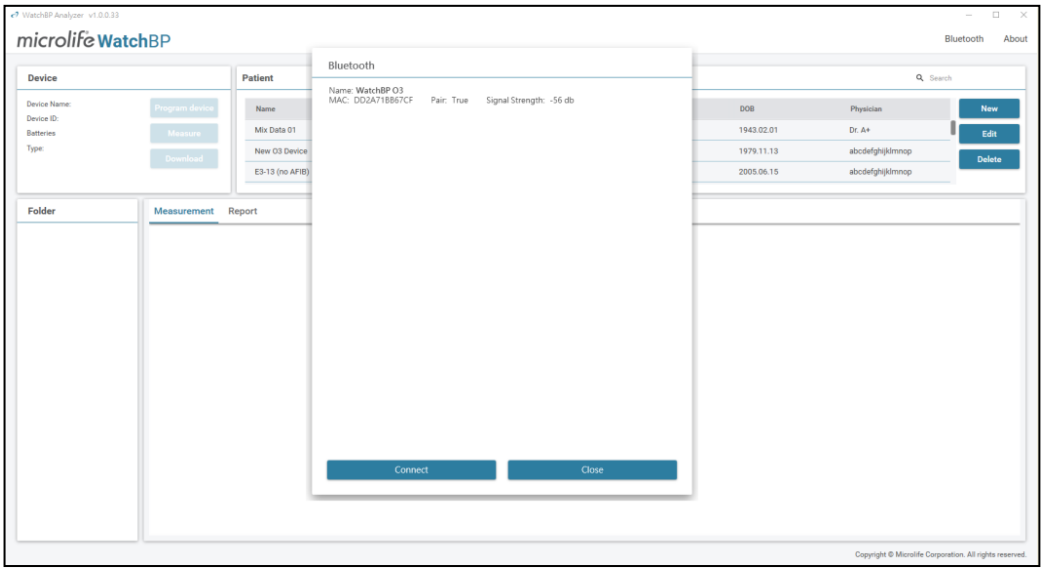


Fig. 6

Device information will be shown up when the connection is successful.

*If the Bluetooth connection keeps failing, please reset the Bluetooth bonding by pressing and holding the Start/Stop button of the device for 7 seconds and start the connection again. Refer to user manual of the device for clearing bonding.

5 How to program device

** **Program device** will automatically clear all measurement data from the device. Make sure the measurement data on the device are downloaded to the PC before **program** the device!*

(1) Program ABPM

Click **Program device** button while WatchBP O3 is connected, shows **'Program ABPM'** dialogue window.

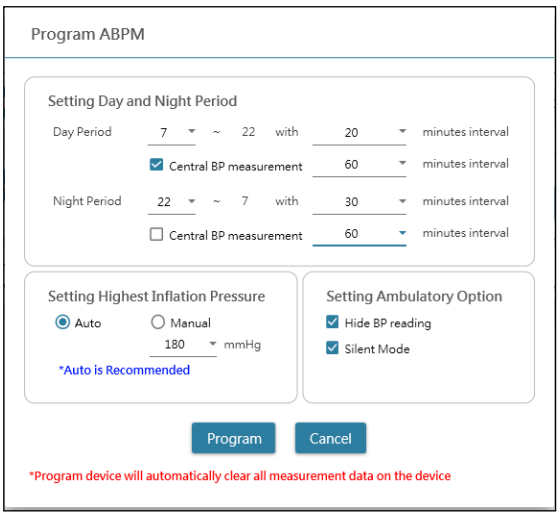


Fig. 7a

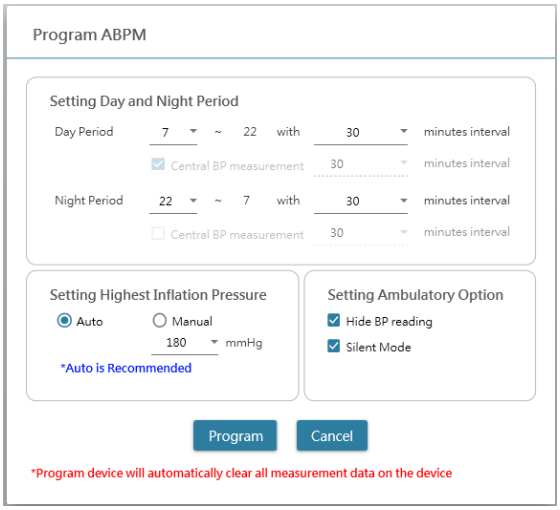
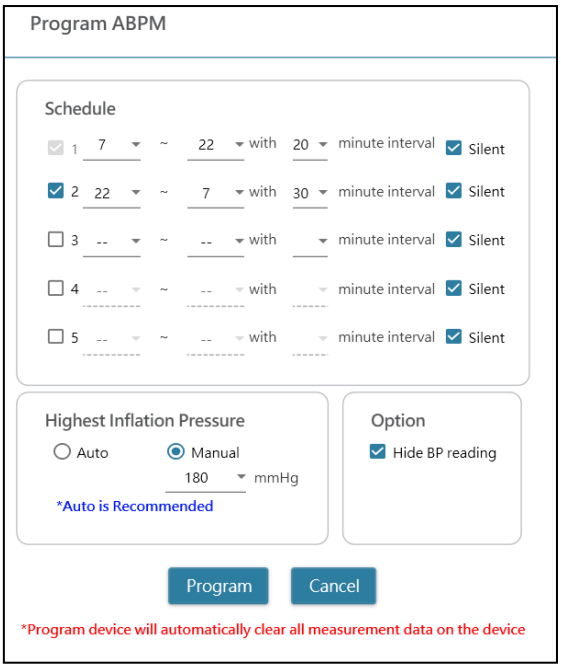


Fig. 7b



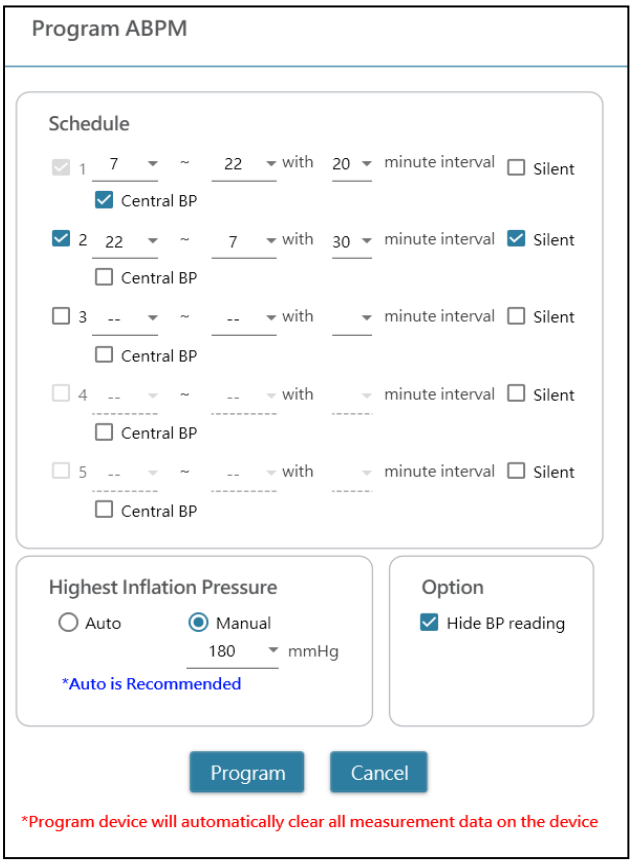


Fig. 7c Fig. 7d

<Setting measurement periods>

Click the number of periods you want to have.
Set the start and stop hours to the period by the drop-down menu.
Select the interval between each measurement.
Click the Central BP if you want to measure the central blood pressure.

<Setting Highest Inflation Pressure>

The "Highest Inflation Pressure" can be programmed to the device. The 'Auto' option is recommended because then the device will automatically inflate the cuff to the optimal cuff pressure. With the 'Manual' option you can select 180, 200, 220 or 240mmHg. The suggested Inflation Pressure is 30 to 40 mmHg above the expected systolic value of the patient. If the selected Highest Inflation Pressure selected is too low to measure a patient's blood pressure it may result in re-pumping or erroneous blood pressure measurement values.

<Setting Ambulatory Option>

Select the 'Hide BP reading' to hide the readings of the measurement results during monitoring. This is the recommended option (default).
Select 'Silent mode' to disable the warning beep before starting the measurement. The patient will still get a warning 1 minute before the measurement by means of a short inflation of the cuff. The patient should keep the arm still during blood pressure measurement.

(2) Program Office (for programming the WatchBP Office device)

Fig. 8 presents the dialog window that is shown after clicking **Program device** button while the WatchBP Office (model No. BP3SK1-3B) is connected to the PC.

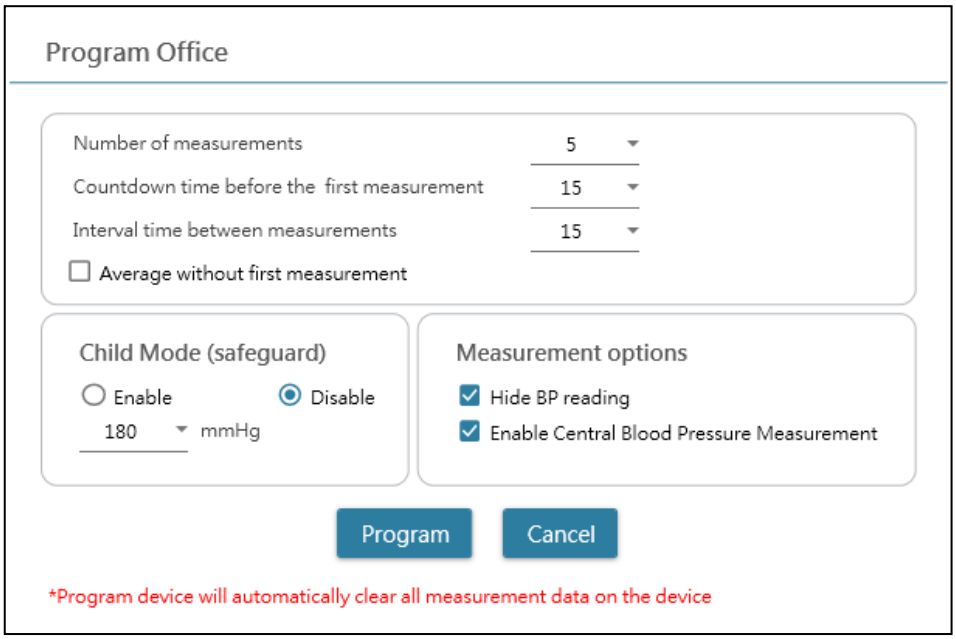


Fig. 8

The **number of measurements** can be set from 1 to 6 measurements. Both the **Count-down time before first measurement** and **Interval time between measurements** can be set at 15, 30, 60, 120, 180, 240 and 300 seconds. **Average without first measurement** can be selected if **Number of measurements is** 3 measurements or more. When selected, the first measurement will be discarded from the average blood pressure value.

<Child Mode (safeguard)>

On default this mode is on **Disable –** the device automatically inflates the cuff to an optimal cuff pressure for blood pressure measurement. While **Enable** is selected and confirmed by **Program**, the device automatically inflates the cuff to an optimal cuff pressure not higher than the pressure selected for **Child Mode**, however, the device may re- inflate the cuff to a pressure higher than the selected pressure if needed.

<Measurement options>

Hide BP readings and **Enable central BP measurement** can be programmed to the device. Please refer to the instruction manual of the device for detail of the features.

(3) Program Office ABI

Fig. 9 presents the dialog window that is shown after clicking **Measure** button while the WatchBP Office ABI (model No. TWIN200 ABI) is connected to the PC.

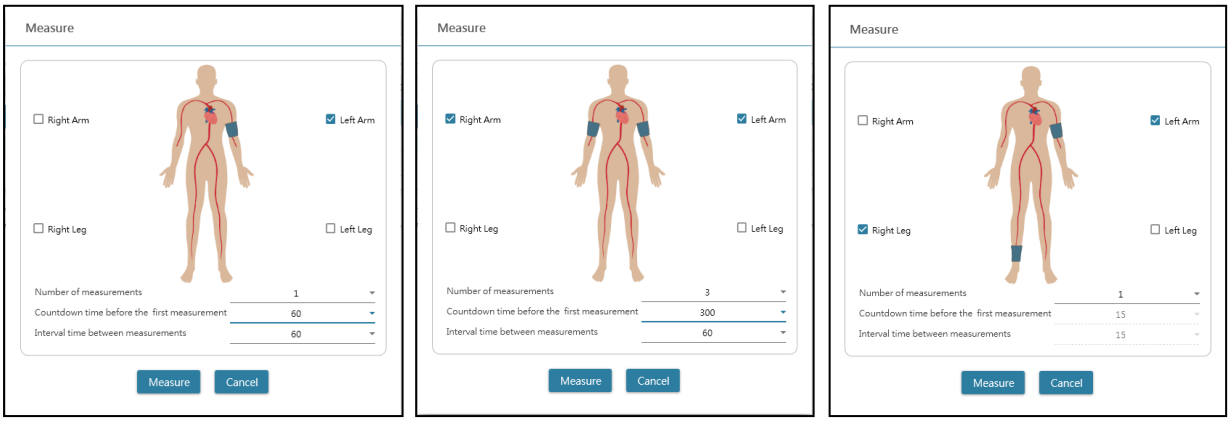


Fig. 9 Example of the selection of an arm (left), both arms (middle) and Ankle-brachial Index measurement (right).

Choose the intended limb(s) for the measurement at the top area.

Note: only allow the selection of an arm, both arms, or an arm with a leg (ABI measurement).

The **Number of measurements** can be set from 1 to 6 measurements when you want to measure the blood pressure of an arm or both arms. Both the **Count-down time before first measurement** and **Interval time between measurements** can be set at 15, 30, 60, 120, 180, 240 and 300 seconds.

Click **Measure** to start the measurement.

(4) Program Office Vascular

Fig. 10 presents the dialog window that is shown after clicking **Measure** button while the WatchBP Office Vascular (model No. TWIN200 VSR) is connected to the PC.

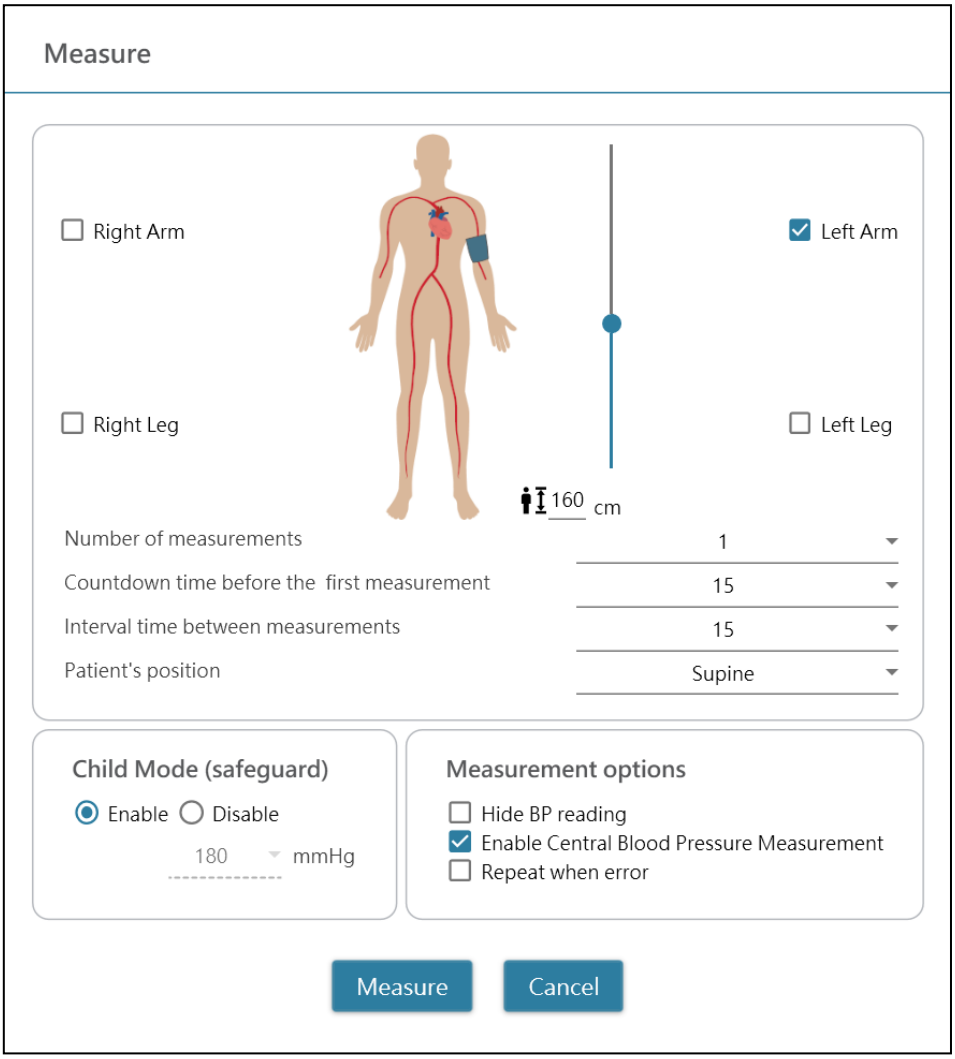


Fig. 10

Choose the intended limb(s) for the measurement at the top area.

The **Number of measurements** can be set from 1 to 6 measurements when you want to measure the blood pressure of an arm or both arms. Both the **Count-down time before first measurement** and **Interval time between measurements** can be set at 15, 30, 60, 120, 180, 240 and 300 seconds.

The **patient's height** can be set by typing or by adjusting the bar of height.

*The **patient's height** is crucial for baPWV. Please set the height correctly when taking the baPWV measurement.

<Child Mode (safeguard)>

On default this mode is on **Enable –** the device automatically inflates the cuff to an optimal cuff pressure for blood pressure measurement. While **Disable** is selected, the device inflates the cuff to an optimal cuff pressure not higher than the selected

pressure in the **Child Mode**, however, the device may re-inflate the cuff to a pressure higher than the selected pressure if needed.

<Measurement options>

Hide BP readings and **Enable Central BP Measurement** can be programmed to the device. Please refer to the instruction manual of the device for detail of the features.

Click **Measure** to start the measurement.

6 How to perform a measurement controlled by WatchBP Analyzer

Connect the **WatchBP Office** blood pressure monitor to the WatchBP Analyzer using Microlife software cable or Bluetooth. **Program Device** first if you want to use a measurement program that differs from the one that was selected before. Click **Measure** button and then click **Yes** to confirm and to start taking measurements. The status of the measurement procedure is shown in the device information area (Fig. 11), measurement data are automatically downloaded after each measurement.

For **WatchBP Office Vascular**, Select parameters in **Measure** and click **Measure** at the bottom of the **Measure** screen. The status of the measurement procedure is shown in the device information area (Fig. 11), measurement data are automatically downloaded after each measurement.

Fig. 11

During the measurement process **Measure** button is switched to **Stop** button; Click **Stop** button if you would like to stop the measurement. (Fig. 12)

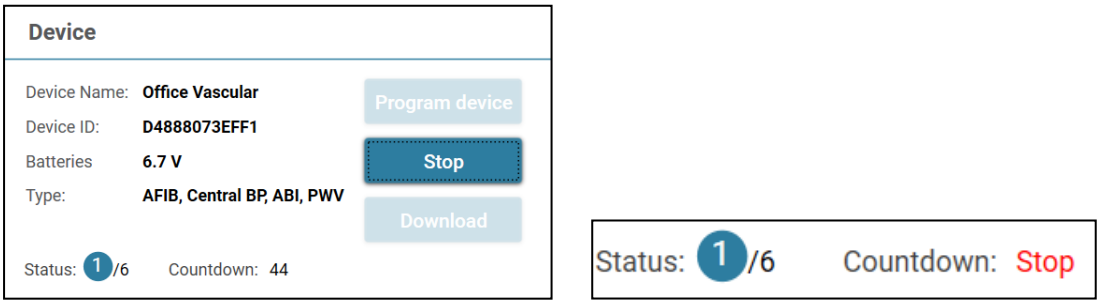


Fig. 12

7 How to download measurement data from WatchBP devices

Connect a WatchBP device to Analyzer using the WatchBP software cable or through a Bluetooth connection.* Select a patient by clicking anywhere of that patient bar and click the Download button to transfer the BP data from the device to the **Folder** of that patient in WatchBP Analyzer.

**Bluetooth connection of the WatchBP Analyzer supports Windows 10 operating system.*

If the ID of the patient selected on the software differs from the patient ID that has been programmed to the device, a message pops up so that the correct ID can be selected to assign the data. (Fig. 13, WatchBP O3 only). Select the patient and click **Continue** button.

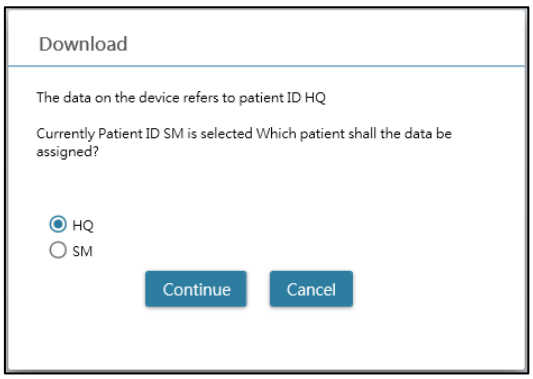


Fig. 13

(HQ and SM are the patient ID examples)

If the device was programmed to also perform central blood pressure measurement, another dialogue shows up. Check the tick box before **transfer waveform data** and click **Continue** button to download the waveform. (Fig 14)

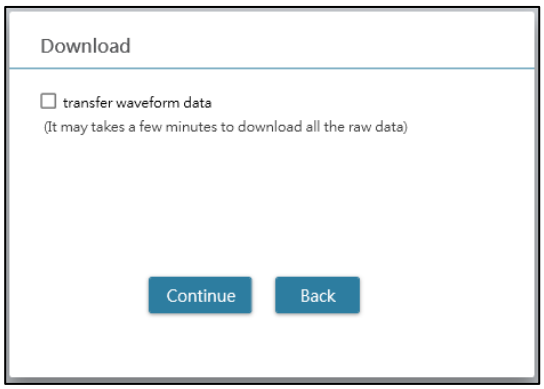


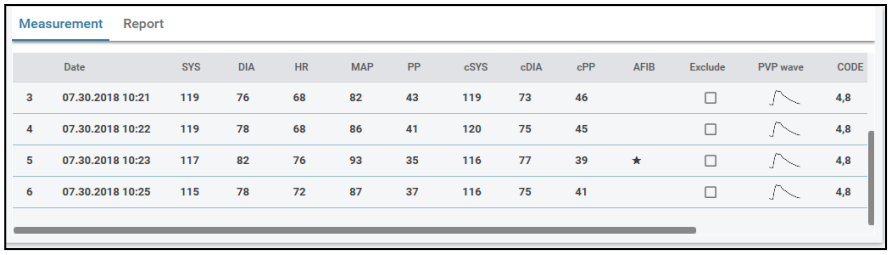
Fig. 14

Click the **Continue** button to start the download process. A new Measurement Folder with the date and time of the moment of downloading will be added to the assigned patient.

8 View the measurement data

Select a Folder named by the date of the measurement of the patient. Click **Measurement** Tab to view the measured records of the Folder. Fig. 15a is an example of a WatchBP O3 measurement list. Fig. 15b is an example of WatchBP Office measurement list. Fig. 15c is an example of measurements simultaneously taken by the WatchBP Office series with both cuffs. Fig. 15d is an example of measurements simultaneously taken by the WatchBP Office Vascular

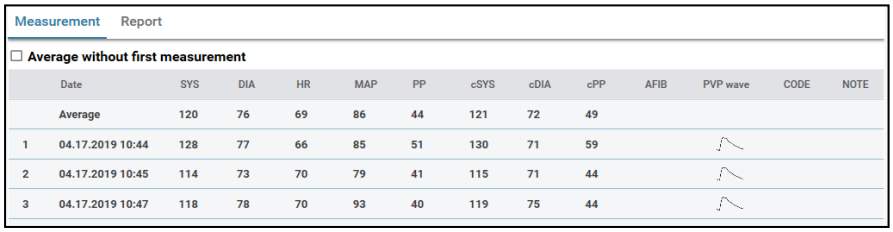
The Limb indicates the specific limb of the measurement.



Measurement | Report

	Date	SYS	DIA	HR	MAP	PP	cSYS	cDIA	cPP	AFIB	Exclude	PVP wave	CODE
3	07.30.2018 10:21	119	76	68	82	43	119	73	46		☐		4,8
4	07.30.2018 10:22	119	78	68	86	41	120	75	45		☐		4,8
5	07.30.2018 10:23	117	82	76	93	35	116	77	39	★	☐		4,8
6	07.30.2018 10:25	115	78	72	87	37	116	75	41		☐		4,8

Fig. 15a, an example of WatchBP O3 measurement list

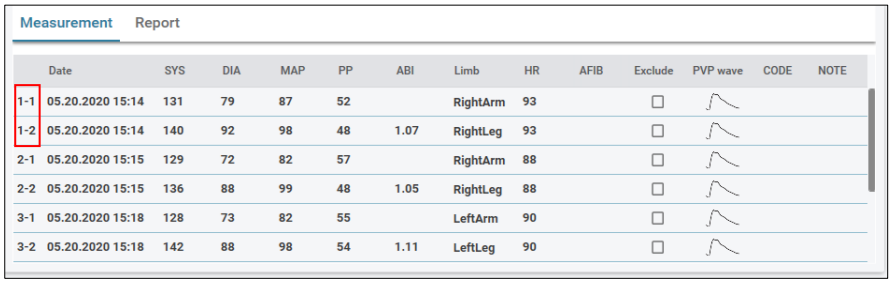


Measurement | Report

☐ **Average without first measurement**

	Date	SYS	DIA	HR	MAP	PP	cSYS	cDIA	cPP	AFIB	PVP wave	CODE	NOTE
	Average	120	76	69	86	44	121	72	49				
1	04.17.2019 10:44	128	77	66	85	51	130	71	59				
2	04.17.2019 10:45	114	73	70	79	41	115	71	44				
3	04.17.2019 10:47	118	78	70	93	40	119	75	44				

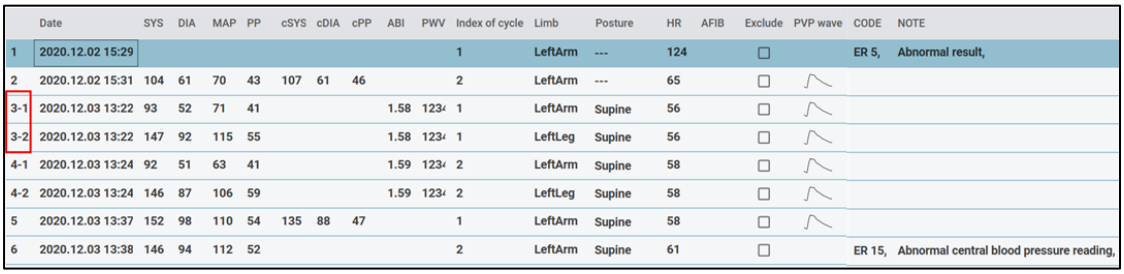
Fig. 15b, an example of WatchBP Office measurement list



Measurement | Report

	Date	SYS	DIA	MAP	PP	ABI	Limb	HR	AFIB	Exclude	PVP wave	CODE	NOTE
1-1	05.20.2020 15:14	131	79	87	52		RightArm	93		☐			
1-2	05.20.2020 15:14	140	92	98	48	1.07	RightLeg	93		☐			
2-1	05.20.2020 15:15	129	72	82	57		RightArm	88		☐			
2-2	05.20.2020 15:15	136	88	99	48	1.05	RightLeg	88		☐			
3-1	05.20.2020 15:18	128	73	82	55		LeftArm	90		☐			
3-2	05.20.2020 15:18	142	88	98	54	1.11	LeftLeg	90		☐			

Fig. 15c, an example of the measurement list for simultaneous double arm measurement or ABI assessment



	Date	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	ABI	PWV	Index of cycle	Limb	Posture	HR	AFIB	Exclude	PVP wave	CODE	NOTE
1	2020.12.02 15:29										1	LeftArm	---	124		☐		ER 5,	Abnormal result,
2	2020.12.02 15:31	104	61	70	43	107	61	46			2	LeftArm	---	65		☐			
3-1	2020.12.03 13:22	93	52	71	41				1.58	123	1	LeftArm	Supine	56		☐			
3-2	2020.12.03 13:22	147	92	115	55				1.58	123	1	LeftLeg	Supine	56		☐			
4-1	2020.12.03 13:24	92	51	63	41				1.59	123	2	LeftArm	Supine	58		☐			
4-2	2020.12.03 13:24	146	87	106	59				1.59	123	2	LeftLeg	Supine	58		☐			
5	2020.12.03 13:37	152	98	110	54	135	88	47			1	LeftArm	Supine	58		☐			
6	2020.12.03 13:38	146	94	112	52						2	LeftArm	Supine	61		☐		ER 15,	Abnormal central blood pressure reading,

Fig. 15d, an example of the WatchBP Office Vascular measurement list

*The first number indicates the order of recording. The dash and number after the

first number indicate that the blood pressure of different limbs was measured at the same time. (The examples are framed by red blocks)

Exclude:

If you select the tick box under **Exclude** the corresponding measurement value will exclude data from the analysis and the report. (Fig. 15a)

Average without first measurement:

You may check the box to average the data excluding first measurement (Fig. 15b)

Pulse Volume Plethysmographic (PVP) wave:

When double clicking on the data showing a small wave icon, the PVP wave of the corresponding measurement will be displayed (only for the central BP option). (Fig. 16a and 16b)

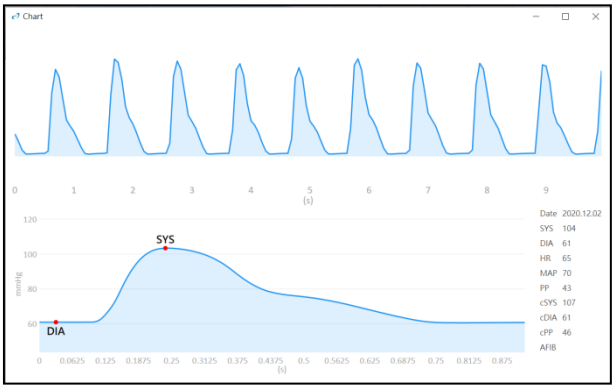


Fig. 16a PVP wave for an arm or both arms

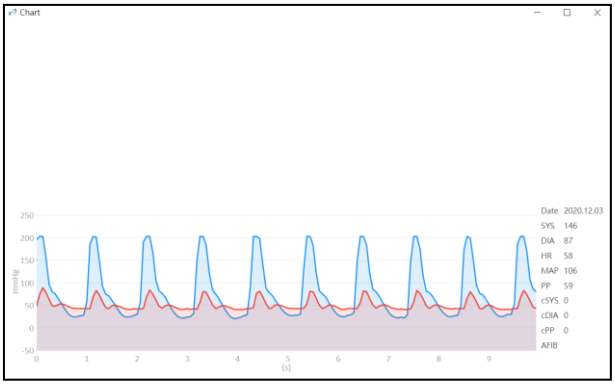


Fig. 16b PVP wave for an arm with a leg

Code and Note:

Displays the codes of errors or events and brief description of the codes. Refer “Code, note and potential cause and remedy” for detail

9 How to generate PDF report and Excel report

Select a Measurement Folder of the patient. Click **Report** Tab to view the settings and generate report of the Measurement Folder

(1) Settings of 24-h ABPM report (for WatchBP O3 models)

When a WatchBP O3 Measurement Folder is selected, the **Report Tab** shows the report settings for WatchBP O3 24-hour ABPM measurement (Fig 17).

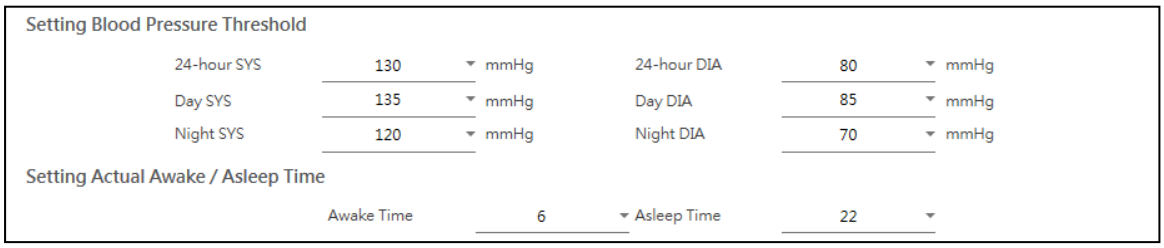


Fig. 17

(Sys indicates systolic blood pressure, Dia, diastolic blood pressure)

Setting Blood Pressure Threshold:

You may use the default threshold values (as recommended by the guidelines) or select another threshold value for 24h-hour, day and night time blood pressures.

Setting Actual Awake/ Asleep Time:

You can modify the awake and asleep time according to patient's actual lifestyle. The awake time can be selected from 00:00 to 23:00, asleep time can be selected from 00:00 to 23:00, too.

Report option:

Hide error and event messages to keep the report free of error messages (not recommended because the disadvantage is that you cannot see the cause of erroneous measurements from the report). **Hide AFIB result** can be used for e.g. children, young adults and pregnant women as is not recommended for these patient groups (Fig. 18).

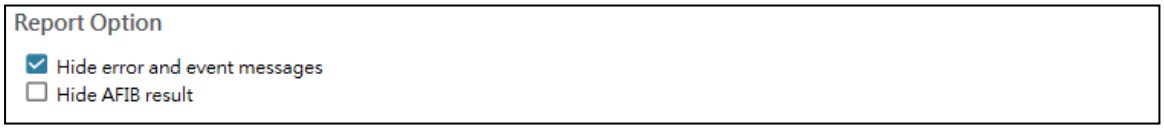


Fig. 18

(2) Settings of WatchBP Office/Office Vascular report

When a WatchBP Office/Office Vascular Measurement Folder is selected, the **Report Tab** shows the report settings for WatchBP Office/Office Vascular.

Setting Office Blood Pressure Threshold:

Use the default threshold for defining hypertension or select another blood pressure threshold (Fig. 19).

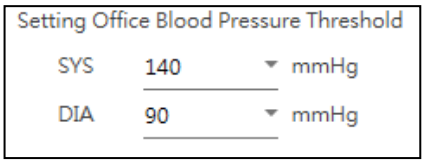


Fig. 19

Report option

Hide error and event messages to keep the report free of error messages (This is not recommended because the disadvantage is that you cannot see the cause of erroneous measurements in the report). **Hide AFIB result** can be used for e.g. children, young adults and pregnant women as is not recommended for these patient groups. Check **Average without first measurement** to exclude the first measurement for averaging the blood pressure value. (Fig 20a, b).

Fig. 20a Options for WatchBP Office

Fig. 20b Options for WatchBP Office Vascular

Customization and report generation

Enter the **physician, centre/hospital** and place a **Customized logo** to show on the PDF report, and choose the storage path (Fig 21).

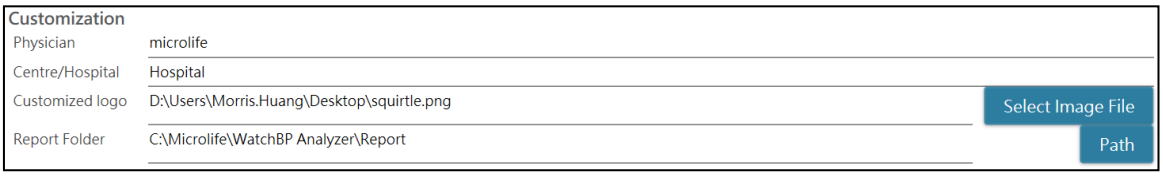


Fig. 21

Generate PDF Report:

(1) For WatchBP O3 models: Click the **Generate PDF Report** button, an **Auto comment** dialog appears with the comments automatically generated. (Fig. 22) Comments can be modified or added manually.

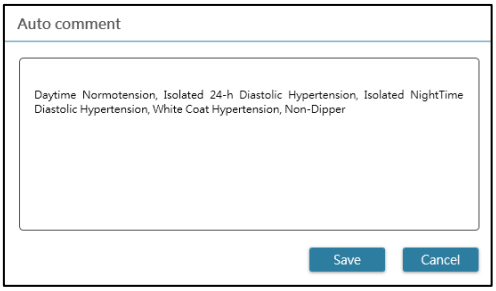
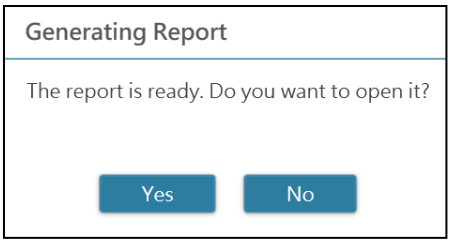


Fig. 22

Click **Save** button to generate the report. A dialog appears after the report is generated successfully. Click **Yes** button to open the report.

(2) For WatchBP Office models/Office Vascular: Click the **Generate PDF Report** button, then choose the **Yes** button to open the report. (Fig. 23)



Open Folder:

Click **Open Folder** button to open the folder that contains the reports of the patient selected. By default, the reports are stored in the folder:

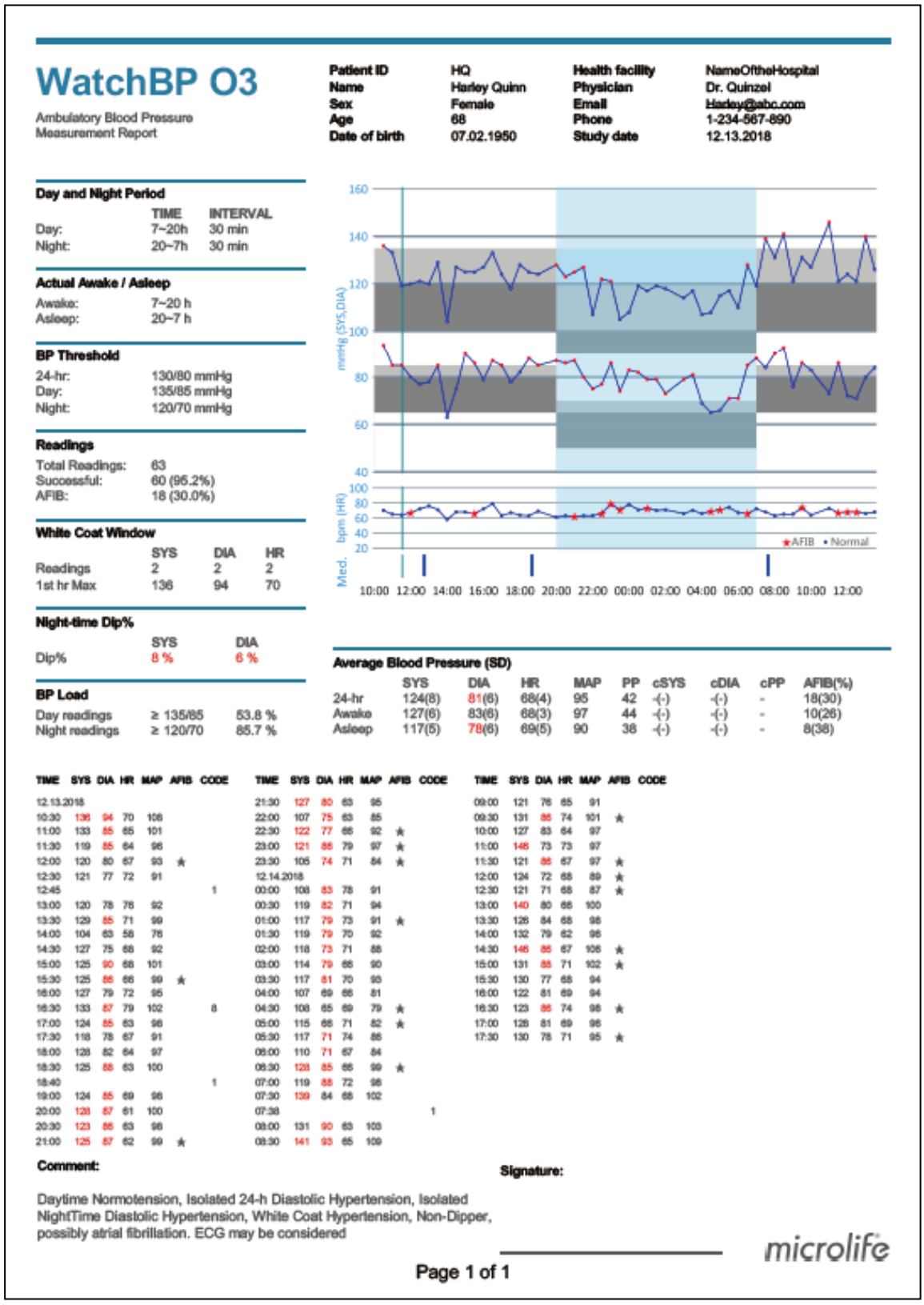
C:\Microlife\WatchBP Analyzer\Report\Patient ID

The file name of the report is built with the patient ID, device name, date and time the report is created for example: PatientID_WatchBPO3_2018_11_05_10_54.pdf.

Generate XLSX report:

Click the **Generate XLSX report** button to generate an Excel report of the selected Measurement Folder.

Example of the WatchBP O3, 24-hour ABPM report (Fig. 24).



WatchBP O3

Ambulatory Blood Pressure Measurement Report

Patient ID	HQ	**Health facility**	NameOftheHospital
Name	Harley Quinn	**Physician**	Dr. Quinzel
Sex	Female	**Email**	Harley@abc.com
Age	68	**Phone**	1-234-567-890
Date of birth	07.02.1950	**Study date**	12.13.2018

Day and Night Period

	TIME	INTERVAL
Day:	7~20h	30 min
Night:	20~7h	30 min

Actual Awake / Asleep

Awake:	7~20 h
Asleep:	20~7 h

BP Threshold

24-hr:	130/80 mmHg
Day:	135/85 mmHg
Night:	120/70 mmHg

Readings

Total Readings:	63
Successful:	60 (95.2%)
AFIB:	18 (30.0%)

White Coat Window

	SYS	DIA	HR
Readings	2	2	2
1st hr Max	136	94	70

Night-time Dip%

	SYS	DIA
Dip%	8 %	6 %

BP Load

Day readings	≥ 135/85	53.8 %
Night readings	≥ 120/70	85.7 %

Average Blood Pressure (SD)

	SYS	DIA	HR	MAP	PP	cSYS	cDIA	cPP	AFIB(%)
24-hr	124(8)	81(6)	68(4)	95	42	-(-)	-(-)	-	18(30)
Awake	127(6)	83(6)	68(3)	97	44	-(-)	-(-)	-	10(26)
Asleep	117(5)	78(6)	69(5)	90	38	-(-)	-(-)	-	8(38)

TIME	SYS	DIA	HR	MAP	AFIB	CODE
12.13.2018						
10:30	136	94	70	108		
11:00	133	85	65	101		
11:30	119	85	64	96		
12:00	120	80	67	93	★	
12:30	121	77	72	91		
12:45						1
13:00	120	78	76	92		
13:30	129	85	71	99		
14:00	104	63	58	76		
14:30	127	75	68	92		
15:00	125	90	68	101		
15:30	125	85	66	99	★	
16:00	127	79	72	95		
16:30	133	87	79	102		8
17:00	124	85	63	96		
17:30	118	78	67	91		
18:00	128	82	64	97		
18:30	125	88	63	100		
18:40						1
19:00	124	85	69	98		
20:00	128	87	61	100		
20:30	123	86	63	96		
21:00	125	87	62	99	★	

TIME	SYS	DIA	HR	MAP	AFIB	CODE
21:30	127	80	63	95		
22:00	107	75	63	85		
22:30	122	77	66	92	★	
23:00	121	86	79	97	★	
23:30	105	74	71	84	★	
12.14.2018						
00:00	108	83	78	91		
00:30	119	82	71	94		
01:00	117	79	73	91	★	
01:30	119	79	70	92		
02:00	118	73	71	88		
03:00	114	79	66	90		
03:30	117	81	70	93		
04:00	107	69	66	81		
04:30	108	65	69	79	★	
05:00	115	66	71	82	★	
05:30	117	71	74	86		
06:00	110	71	67	84		
06:30	128	85	66	99	★	
07:00	119	88	72	98		
07:30	139	84	68	102		
07:38						1
08:00	131	90	63	103		
08:30	141	93	65	109		

TIME	SYS	DIA	HR	MAP	AFIB	CODE
09:00	121	76	65	91		
09:30	131	86	74	101	★	
10:00	127	83	64	97		
11:00	148	73	73	97		
11:30	121	86	67	97	★	
12:00	124	72	68	89	★	
12:30	121	71	68	87	★	
13:00	140	80	66	100		
13:30	126	84	68	98		
14:00	132	79	62	96		
14:30	148	86	67	106	★	
15:00	131	88	71	102	★	
15:30	130	77	68	94		
16:00	122	81	69	94		
16:30	123	86	74	98	★	
17:00	128	81	69	96		
17:30	130	78	71	95	★	

Comment:

Daytime Normotension, Isolated 24-h Diastolic Hypertension, Isolated NightTime Diastolic Hypertension, White Coat Hypertension, Non-Dipper, possibly atrial fibrillation. ECG may be considered

Signature:

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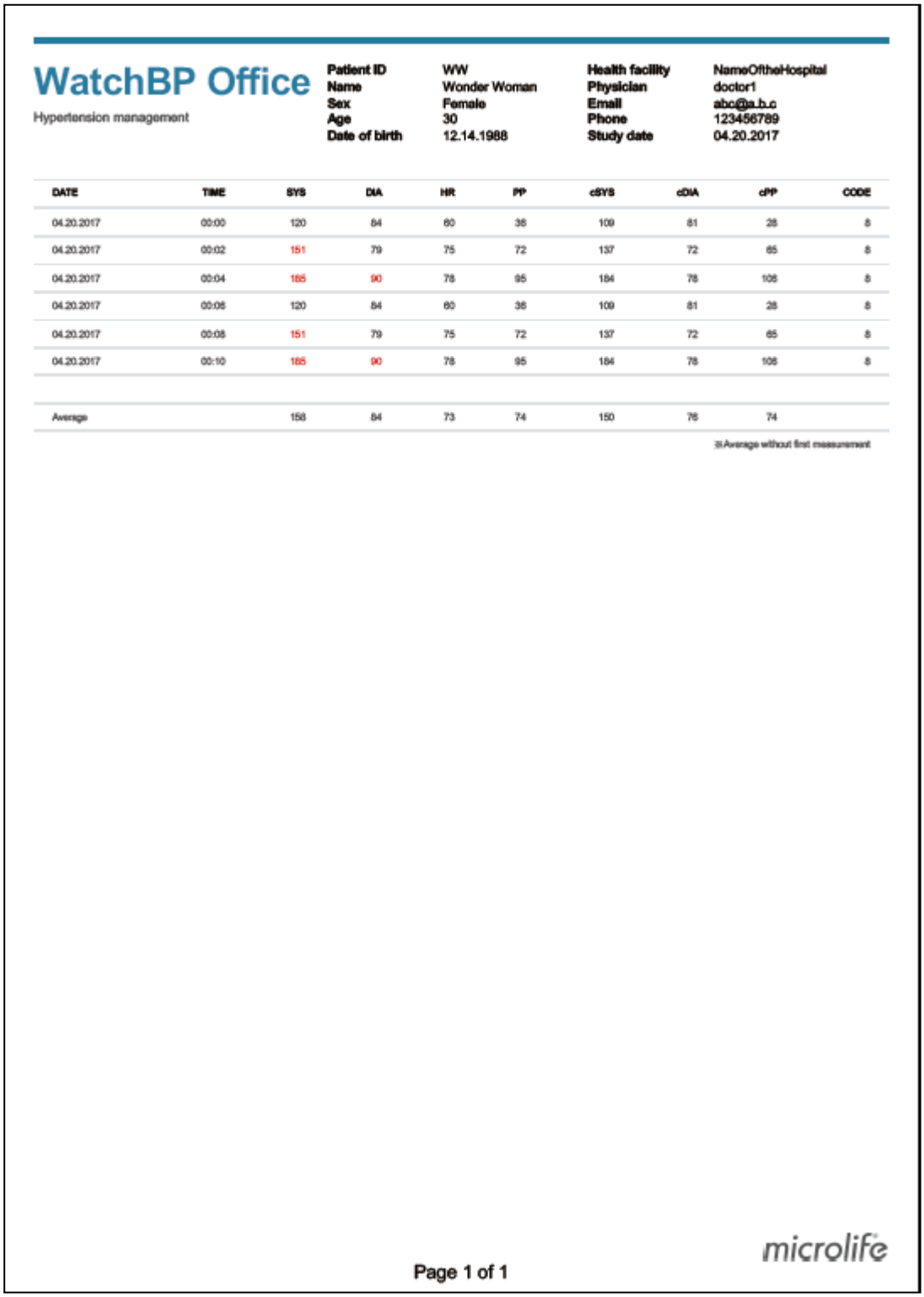
Fig. 24

Example of the WatchBP Office report (Fig. 25a, b)



WatchBP Office

Hypertension management

Patient ID	WW	**Health facility**	NameOftheHospital
Name	Wonder Woman	**Physician**	doctor1
Sex	Female	**Email**	abc@a.b.c
Age	30	**Phone**	123456789
Date of birth	12.14.1988	**Study date**	04.20.2017

DATE	TIME	SYS	DIA	HR	PP	cSYS	cDIA	cPP	CODE
04.20.2017	00:00	120	84	60	36	109	81	28	8
04.20.2017	00:02	151	79	75	72	137	72	65	8
04.20.2017	00:04	165	90	78	95	164	78	106	8
04.20.2017	00:06	120	84	60	36	109	81	28	8
04.20.2017	00:08	151	79	75	72	137	72	65	8
04.20.2017	00:10	165	90	78	95	164	78	106	8
Average		158	84	73	74	150	76	74	

※Average without first measurement

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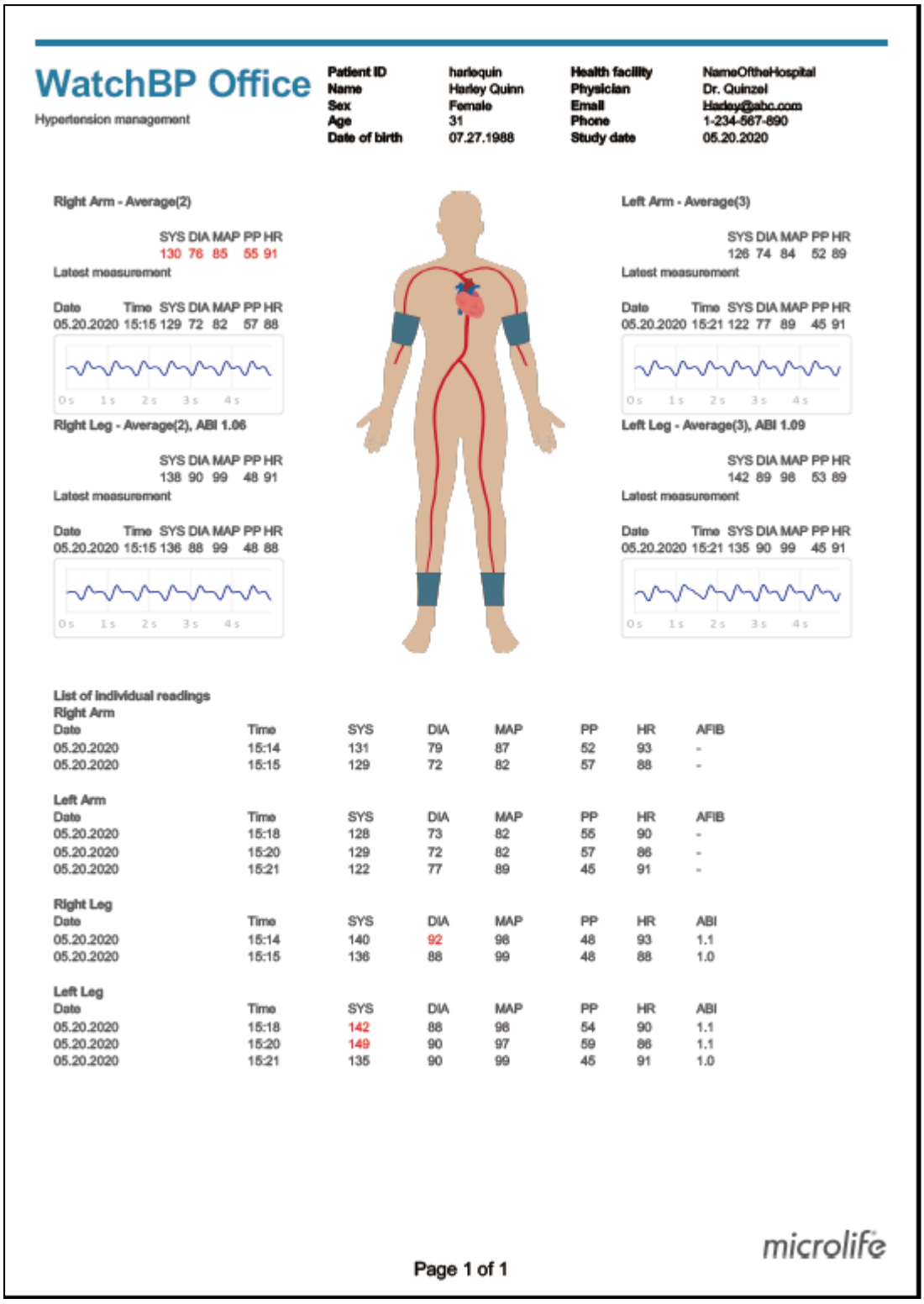
Fig. 25a

Example of the WatchBP Office report (Fig. 25b)



WatchBP Office

Hypertension management

Patient ID	harlequin	**Health facility**	NameOftheHospital
Name	Harley Quinn	**Physician**	Dr. Quinzel
Sex	Female	**Email**	Hadey@abc.com
Age	31	**Phone**	1-234-567-890
Date of birth	07.27.1988	**Study date**	05.20.2020

Right Arm - Average(2)

SYS	DIA	MAP	PP	HR
130	76	85	55	91

Latest measurement

Date	Time	SYS	DIA	MAP	PP	HR
05.20.2020	15:15	129	72	82	57	88

0s 1s 2s 3s 4s

Right Leg - Average(2), ABI 1.06

SYS	DIA	MAP	PP	HR
138	90	99	48	91

Latest measurement

Date	Time	SYS	DIA	MAP	PP	HR
05.20.2020	15:15	136	88	99	48	88

0s 1s 2s 3s 4s

Left Arm - Average(3)

SYS	DIA	MAP	PP	HR
126	74	84	52	89

Latest measurement

Date	Time	SYS	DIA	MAP	PP	HR
05.20.2020	15:21	122	77	89	45	91

0s 1s 2s 3s 4s

Left Leg - Average(3), ABI 1.09

SYS	DIA	MAP	PP	HR
142	89	98	53	89

Latest measurement

Date	Time	SYS	DIA	MAP	PP	HR
05.20.2020	15:21	135	90	99	45	91

0s 1s 2s 3s 4s

List of individual readings

Right Arm

Date	Time	SYS	DIA	MAP	PP	HR	AFIB
05.20.2020	15:14	131	79	87	52	93	-
05.20.2020	15:15	129	72	82	57	88	-

Left Arm

Date	Time	SYS	DIA	MAP	PP	HR	AFIB
05.20.2020	15:18	128	73	82	55	90	-
05.20.2020	15:20	129	72	82	57	88	-
05.20.2020	15:21	122	77	89	45	91	-

Right Leg

Date	Time	SYS	DIA	MAP	PP	HR	ABI
05.20.2020	15:14	140	92	98	48	93	1.1
05.20.2020	15:15	136	88	99	48	88	1.0

Left Leg

Date	Time	SYS	DIA	MAP	PP	HR	ABI
05.20.2020	15:18	142	88	98	54	90	1.1
05.20.2020	15:20	149	90	97	59	88	1.1
05.20.2020	15:21	135	90	99	45	91	1.0

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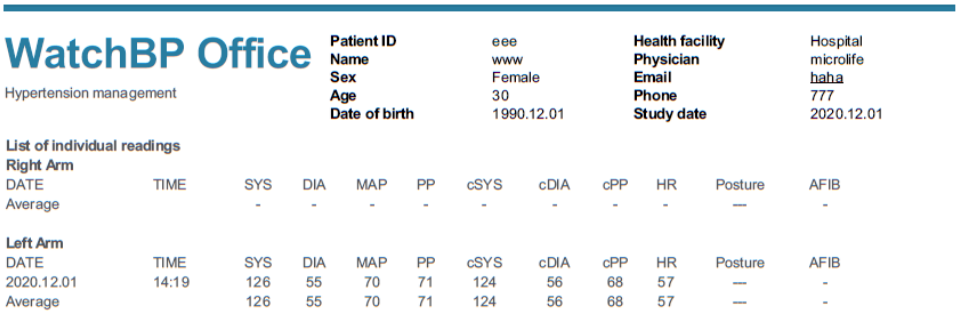
Fig. 25b

Example of the WatchBP Office Vascular report (Fig. 26a)



WatchBP Office

Hypertension management

Patient ID	eee	**Health facility**	Hospital
Name	www	**Physician**	microlife
Sex	Female	**Email**	haha
Age	30	**Phone**	777
Date of birth	1990.12.01	**Study date**	2020.12.01

List of individual readings

Right Arm

DATE	TIME	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR	Posture	AFIB
Average		-	-	-	-	-	-	-	-	—	-

Left Arm

DATE	TIME	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR	Posture	AFIB
2020.12.01	14:19	126	55	70	71	124	56	68	57	—	-
Average		126	55	70	71	124	56	68	57	—	-

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Example of the WatchBP Office Vascular report (Fig. 26b)

WatchBP Office

Hypertension management

Patient ID	eee	**Health facility**	Hospital
Name	www	**Physician**	microlife
Sex	Female	**Email**	haha
Age	30	**Phone**	777
Date of birth	1990.12.01	**Study date**	2020.12.02

Right Arm - Average(0)

SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR
-	-	-	-	-	-	-	-

Latest measurement

DATE	Time	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR
		-	-	-	-	-	-	-	-

Not Tested

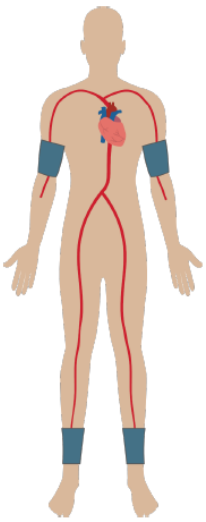
Right Leg - Average(0), ABI -, PWV -

SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR
-	-	-	-	-	-	-	-

Latest measurement

DATE	Time	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR
		-	-	-	-	-	-	-	-

Not Tested

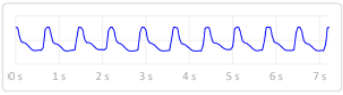


Left Arm - Average(8)

SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR
114	66	85	48	121	75	47	66

Latest measurement

DATE	Time	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR
2020.12.03	13:46	122	57	119	65	-	-	-	59

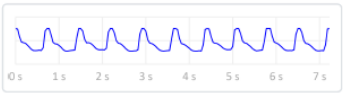


Left Leg - Average(5), ABI 1.32, PWV 1196.00

SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR
150	92	109	58	-	-	-	58

Latest measurement

DATE	Time	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR
2020.12.03	13:46	148	94	105	54	-	-	-	59



List of individual readings

Right Arm

DATE	TIME	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR	Posture	AFIB

Left Arm

DATE	TIME	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR	Posture	AFIB
2020.12.02	15:29	-	-	-	-	-	-	-	124	---	-
2020.12.02	15:31	104	61	70	43	107	61	46	65	---	-
2020.12.03	13:22	93	52	71	41	-	-	-	56	Supine	-
2020.12.03	13:24	92	51	63	41	-	-	-	58	Supine	-
2020.12.03	13:37	152	98	110	54	135	88	47	58	Supine	-
2020.12.03	13:38	146	94	112	52	-	-	-	61	Supine	-
2020.12.03	13:43	96	62	70	34	-	-	-	60	Supine	-
2020.12.03	13:45	103	51	63	52	-	-	-	57	Supine	-
2020.12.03	13:46	122	57	119	65	-	-	-	59	Supine	-

Right Leg

DATE	TIME	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR	Posture	ABI

Left Leg

DATE	TIME	SYS	DIA	MAP	PP	cSYS	cDIA	cPP	HR	Posture	ABI
2020.12.03	13:22	147	92	115	55	-	-	-	56	Supine	1.58
2020.12.03	13:24	146	87	106	59	-	-	-	58	Supine	1.59
2020.12.03	13:43	153	92	115	61	-	-	-	60	Supine	1.59
2020.12.03	13:45	154	93	105	61	-	-	-	57	Supine	1.50
2020.12.03	13:46	148	94	105	54	-	-	-	59	Supine	1.21

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10 How to view measurement history and delete a Measurement Folder

(1) View measurement history

Select a patient in the patient list. The Measurement Folder of the patient appears in the **Measurement Folder area**

Click Measurement Folder, then the measurements of the selected Folder are displayed on the **Measurement Tab**

(2) Delete a Measurement Folder

Right click the mouse on a Folder, appears the Delete option (Fig. 27). Click **Delete** to remove the Folder from the database.

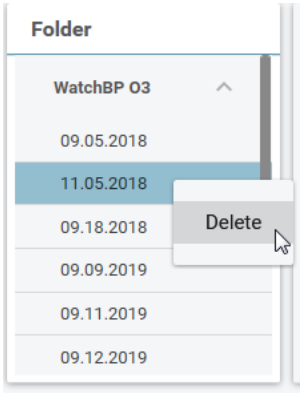

Fig. 27

11 How to activate the device

Click **About** button on the upper right on the WatchBP Analyzer to view the detail of the device. (Fig. 28)

Fig. 28

AFIB or Central BP feature

The Atrial Fibrillation Detector (AFIB) and Central Blood Pressure measurement of the WatchBP O3 (model BP3SZ1-1) and WatchBP Office (model BP3SK1-3B) can be activated through the WatchBP Analyzer. (Fig. 29) There are three different versions of the device:

- **Standard**: standard ABPM
- **AFIB**: standard ABPM with Microlife Atrial Fibrillation Detector
- **AFIB & Central BP**: standard ABPM with Microlife Atrial Fibrillation Detector and Central Blood Pressure measurement

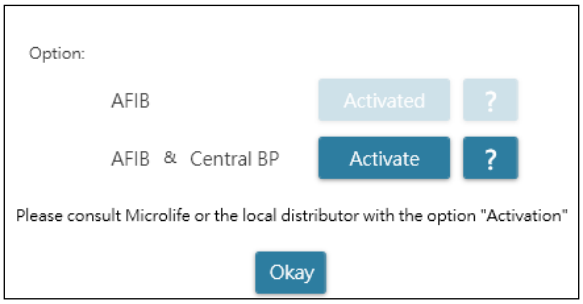

Fig. 29

ABI or PWV & Central BP feature

The ankle-brachial index (ABI), brachial-ankle pulse wave velocity (PWV), and Central Blood Pressure measurement of the WatchBP Office Vascular (model TWIN200 VSR) can be activated through the WatchBP Analyzer. (Fig. 30) There are three different versions of the device:

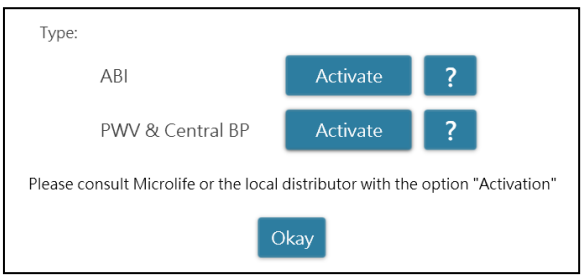

Fig. 30

Activation key is required specifically to match the device ID for the AFIB or Central BP feature activation. Please contact Microlife or the local distributor for additional information. Please click on the question mark (?) button at the right side of the **Activate** button to copy the device information. Contact Microlife or the local distributor and pass the information for the activation key. (Fig. 31)

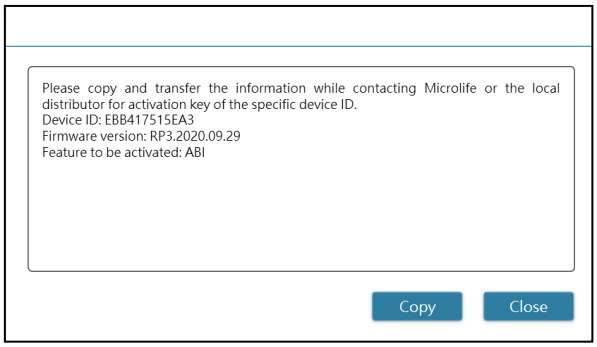

Fig. 31

Click the **Activate** button specific for **AFIB**, **AFIB & Central BP**, ABI, and PWV & Central BP. then a dialog appears. Insert the received activation key and click **Confirm** button to activate the feature on the device. (Fig. 32)

Fig. 32

12 Code, note and potential cause and remedy

The CODE is shown at measurement list on Measurement Tab, PDF and Excel report.

The NOTE (the message provided by the software) is shown on Analyzer.

CODE	NOTE	Potential cause and remedy
1	Pill record	
2	device power on	
3	device power off	
4	Low battery	
5	Empty battery	
6	Re-try measurement	
7	Measurement manually terminated	
8	Manual measurement	
Er 1	Signal too weak	The pulse signals on the cuff are too weak. Reposition the cuff and repeat the measurement.
Er 2	Error signal	During the measurement, error signals were detected by the cuff, caused by e.g. movement or muscle tension. Repeat the measurement, keeping your arm still.
Er 3	No pressure in the cuff	An adequate pressure cannot be generated in the cuff. A leak may have occurred. Replace the cuff if necessary. Repeat the measurement.
Er 5	Abnormal result	The measuring signals are inaccurate, and no result can therefore be displayed. Read through the checklist for performing reliable measurements and then repeat the measurement.
Er 11	Signal too weak during central blood pressure measurement	The pulse signals on the cuff are too weak. Re-position the cuff and repeat the measurement.
Er 12	Error signal during central blood pressure measurement	During the measurement, error signals were detected by the cuff, caused by e.g. movement or muscle tension. Repeat the measurement, keeping your arm still
Er 13	Cuff pressure errors during central blood pressure measurement	An adequate pressure cannot be generated in the cuff. A leak may have occurred. Check if the cuff is correctly connected and is not too loose. Replace the batteries if necessary. Repeat the measurement
Er 15	Abnormal central blood pressure reading	The measuring signals are inaccurate and no result can therefore be displayed. Read through the checklist for performing reliable measurements and then repeat the measurement.
Er 21	Error signal during collecting pulse wave signals	Check if the cuff is correctly connected and is not too loose. Replace the blood pressure cuff if necessary. Repeat the measurement.
Er 23	Cuff pressure errors during collecting pulse wave signals	Check if the cuff is correctly connected and is not too loose. Replace the blood pressure cuff if necessary. Repeat the measurement.

Er 25	Abnormal result of baPWV reading	Check if the cuff is correctly connected and is not too loose. Replace the blood pressure cuff if necessary. Repeat the measurement.
Er F	The device has gone into “single fault condition”	Re-position the cuff and repeat the measurement. Replace the batteries if necessary. If the error persists, contact Microlife or local distributor
Er A	Flash memory error	Possible hardware fault. Try again. If the error persists, contact Microlife or local distributor
HI	Pulse or cuff pressure too high	The pressure in the cuff is too high (over 299 mmHg) OR the pulse is too high (over 239 beats per minute). Relax for 5 minutes and repeat the measurement.
LO	Pulse too low	The pulse is too low (less than 30 beats per minute). Repeat the measurement.