



MediFarmSoft



Product Brochure



MediFarmSoft

MedifarmSoft Inc.

AI-based Medical Device Specialist

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1 Patch-type Holter ECG (CAI-300)

Patch-type 6-Lead Holter ECG capable of analyzing Atrial/Ventricular/Left-Right/Upper-Lower

Continuous ECG waveform recording for a **maximum of 14 days**, providing summary and detailed reports

Automatic interpretation of **13 types** of arrhythmia disorders (maximum of 33 types of arrhythmia disorders possible)

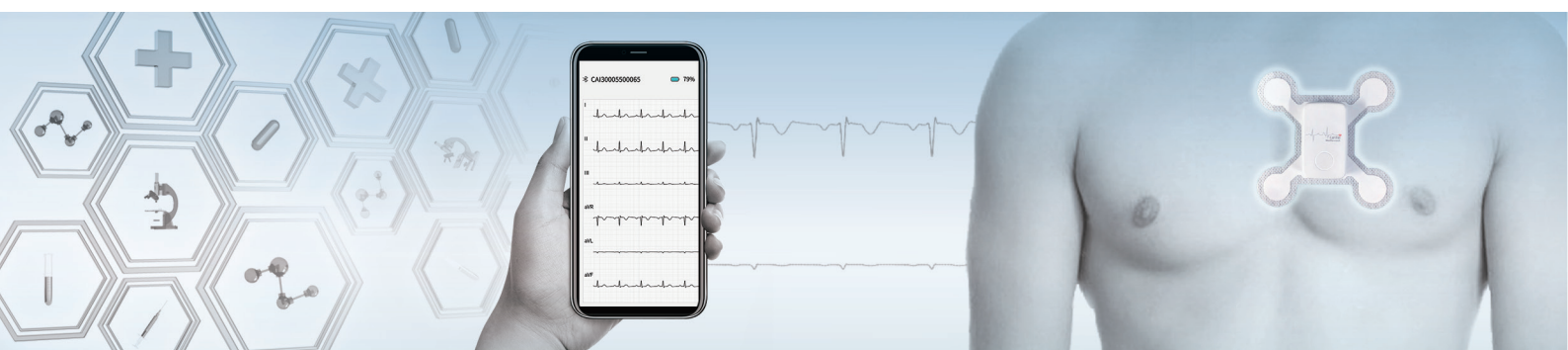
Patient-centered design that is stable even when worn for a long time and enhances patient convenience

Electrode distance of 10cm or more allows for **accurate detection of the P-wave**, which is essential for arrhythmia analysis

Because it is 6-Lead, **interpretation is possible with other leads even if one lead has noise**

48 hours of continuous monitoring for admitted and discharged patients (Additional accessory required)

6-Lead Patch type



Cardial Patch Specifications



Device body

- 1) Battery Specifications :
 - Lithium-ion rechargeable battery
 - DC 3.7V, 500mAh
- 2) Device-App Communication Performance
 - Communication Technology: BLE 5.0 or higher
 - Communication Range : Maximum 10m
- 3) Waterproof/Dustproof Rating : IP55
- 4) Weight : 20.g (Including battery)



Electrode Patch

- 1) Size: 100mmx100mm
- 2) Weight: 7.5g

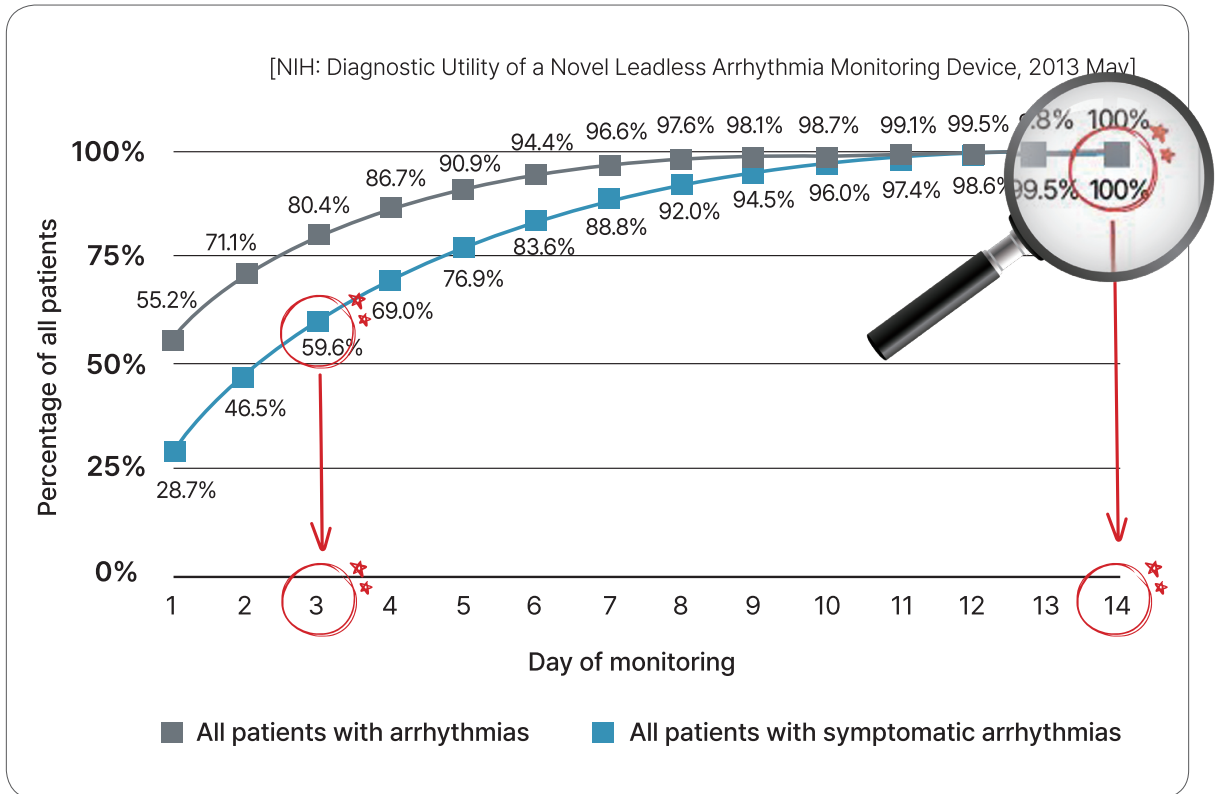


Cradle

- 1) Power Input Specifications :
 - 12Vdc 1.5A 18W
- 2) USB Interface Specifications : USB 2.0
- 3) USB Connector Specifications : Type B
- 4) Weight : 134.8g

The Importance of 14-Day Continuous Monitoring

Why do I have to test for 14 consecutive days?



AI Analysis Report

Cardial Report

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Pt. No.	Name	Birth	Gender	Dev. Info	Rpt. Date	Dept.	Physician
990011	오ㅇㅇ	1990-01-05	MALE	CA130R013	2025-12-16	심혈관	정민서 소아과 전문의
Insp. No.	Presc. Time	start date	end date	Meas. Time	Anal. Time	Hosp.	Comment Date
1a240819757	5 hour(s)	2025-10-02	2025-10-12	9Day 23:32:56	8Day 19:17:25	태스프병원 (가정병원)	2025-12-15
Summary							
Summary		Predominant Rhythm			Patient record event		
Heart Rate	AVG	74 bpm	Normal	81.3%	7Day 03:46:09	Event Button	28 times
	MIN	31 bpm	AFIB/AFL	0.3%	0Day 00:37:21		
	MAX	163 bpm	SVT	0.0%	0Day 00:00:00		
Bradycardia >=30 sec	Burden 13.5%	* Total time 12day 04:31:34		VT	0.0%	0Day 00:00:00	Day(06~14h) Pause : 29.36%
			VF	0.0%	0Day 00:00:31	Evening(14~22h) Pause : 14.22%	
		* Total time 0Day 09:51:56	Pause 18.4%	1Day 14:52:42	Night(22~06h) Pause : 11.98%		
Tachycardia <=30sec	Burden 4.67%	* Longest 0Day 09:51:56		Other	0.0%	0Day 00:00:38	
	Pause Episodes 66	* Longest 0Day 09:51:56					
SupraVentricular							
PAC	Episodes 851	Burden 0.1%	PVC Episodes 415 Burden 0.1%				
	Couplet Episodes 21	Burden 0.0%	Couplet Episodes 7 Burden 0.0%				
	Bigeminy Episodes 216	Burden 0.0%	Bigeminy Episodes 152 Burden 0.0%				
Short-Duration SVT (AT, AVNRT, AVRT) * (Less than 30 seconds)	Episodes 0	Burden 0.0%	* Longest Avg 0 bpm Min 0 bpm Max 0 bpm	NSVT * (Less than 30 seconds) Episodes 2 Burden < 0.01% Longest 00:00:01 (0 sec)			
				Sustained VT * (More than 30 seconds) Episodes 0 Burden 0.0% Longest 00:00:00 (0 sec)			
				* Longest Avg 1.75 bpm Min 163 bpm Max 192 bpm			
SVT (AT, AVNRT, AVRT) * (More than 30 seconds)	Episodes 0	Burden 0.0%	* Longest Avg 0 bpm Min 0 bpm Max 0 bpm	* Longest Avg 0 bpm Min 0 bpm Max 0 bpm			
AFIB/AFL	Episodes 51	Burden 0.29%	* Longest Avg 91 bpm Min 49 bpm Max 220 bpm	Others			
				3rd_degree_AV_block(1), Complete_AV_block(1), Fascicular_block(1)			
Analysis Summary							
[2025-10-02 ~ 2025-10-12 Summary of electrocardiogram analysis during]							
Average heart rate: 74 bpm							
Minimum heart rate: 31 bpm							
Maximum heart rate: 163 bpm							
Major arrhythmia incidence:							
AFIB & AFL: 0.3%							
SVT under 30 seconds: 0.00% SVT over 30 seconds: 0.00%							
VT under 30 seconds: < 0.01% VT over 30 seconds: 0.00%							
PAC: single 0.1% couplet 0.0% bigeminy 0.0%							
PVC: single 0.1% couplet 0.0% bigeminy 0.0%							
Pause: 66 total, longest pause is 3600 seconds							
Reading opinion							
other 97% 이상							
Date of writing : 2025-12-15 14:39:41							
Expert opinion							
전환제 테스트							
Date of writing : 2025-10-30 16:06:12							

Prints of waveform : 1025-10-30 16:06:12

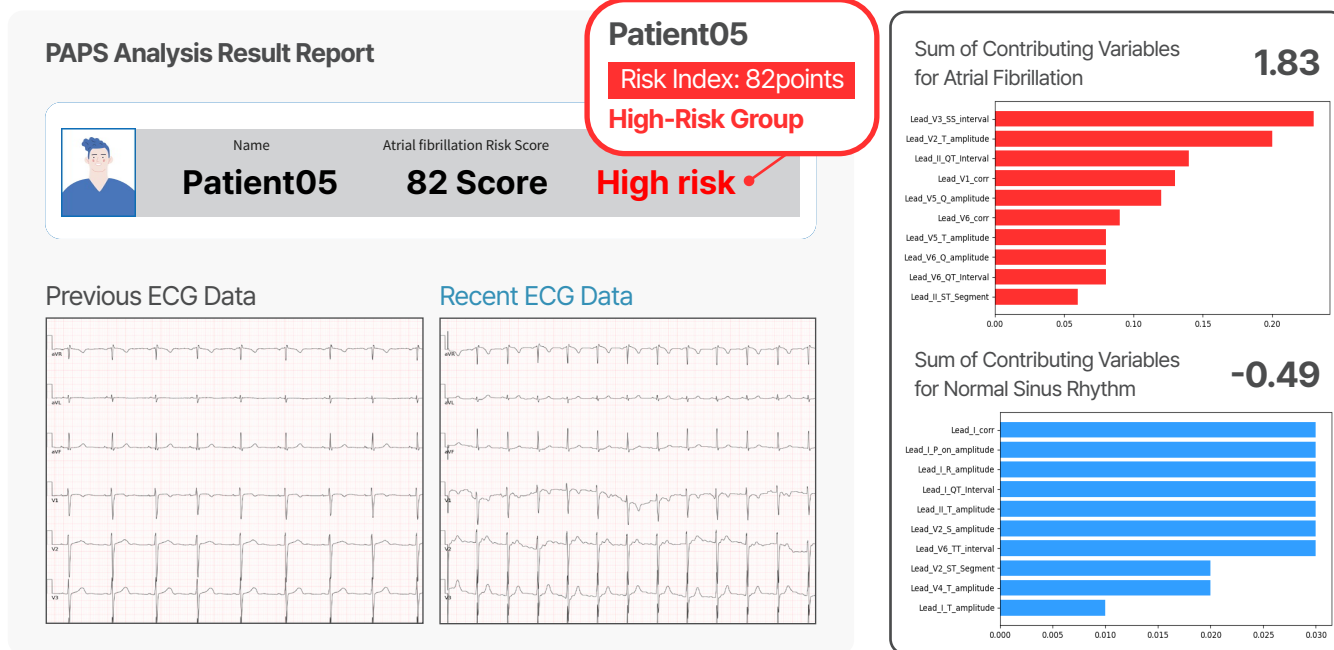
• Summary Report

Total		Physician's Note				AF	VT	Pause	Others			HRV/BNP/Event			
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11					
Day 1		Time		Rate						Pause (x sec)					
2025-10-02		Total		HR		Tachy (x HR 100, x 30sec)		Brady (x HR 60, x 30sec)		Burden					
17:17:37~06:00:00		Analyzed		AVG		Total Time		Total Time		Episodes					
Event Button		Arrhythmia		MIN		Fastest (start~finish)		Slowest (start~finish)		Longest (start~finish)					
		12:42:22		119 bpm		10.36%				-					
		12:18:05		85 bpm		01:16:30		00:00:00		-					
1		00:00:08		60 bpm		(21:30:51 ~ 21:34:29)		-		-					
Category		Supraventricular			Ventricular										
		Day (06~14h)	Evening (14~22h)	Night (22~06h)	Day (06~14h)	Evening (14~22h)	Night (22~06h)								
		PAC			PVC										
Single	Burden	0.01%			0.01%			0.01%							
	Episodes	2			1			2							
Couplet	Burden	-			0.01%			-							
	Episodes	0			1			0							
Bigeminy	Burden	-			-			-							
	Episodes	0			0			0							
		Short-Duration SVT(1AT, AVNRT, AVRT)						NSVT							
less than 30 sec	Burden	-			-			-							
	Episodes	0			0			0							
	MAX	-			-			-							
	AVG	-			-			-							
	MIN	-			-			-							
		SVT(1AT, AVNRT, AVRT)						Sustained VT							
more than 30 sec	Burden	-			-			-							
	Episodes	0			0			0							
	MAX	-			-			-							
	AVG	-			-			-							
	MIN	-			-			-							
		AFIB/AF						Analysis Summary							
AFIB/AF	Burden	-			-			● Average heart rate: 85 bpm ● Minimum heart rate: 60 bpm ● Max heart rate: 125 bpm ● Major arrhythmia incidence: ▶ HR 6~140: 0.0%							
	Episodes	0			0			▶ SVT less than 30 seconds: 0.0% SVT for 30 seconds or more: 0.0% ▶ VT less than 30 seconds: 0.0% VT for 30 seconds or more: 0.0%							
	MAX	-			-			● Pause: 0.0sec Longest Pause: 0 sec ● Heat arrhythmias of any time zone							
	AVG	-			-			● Day (06~14h) Most common arrhythmias: ▶ Fastest (14~22h) Most common arrhythmias: -							
	MIN	-			-			▶ Night (22~06h) Most common arrhythmias: -							
		Longest			-										

2 Atrial Fibrillation Prediction System (PAPS)

PQRST AFIB Possible Statistics What is PAPS?

The ability to predict the risk of Atrial Fibrillation occurrence within 12 months, a capability possibly recognized as a first in Korea.



- ✓ Designated for New Health Technology Assessment (Korea Health Industry Development Institute)
- ✓ SAMD Class 3 Medical Device Approval (MFDS)
- ✓ Multi-center Clinical Trial at Samsung Seoul Hospital and Wonju Severance Hospital

PAPS Competitive Advantage



- 12-Lead ECG data comparison alone is used to predict the probability of Atrial Fibrillation occurrence.

* PAPS predicts the possibility of Atrial Fibrillation occurrence within 12 months for all normal individuals, using only the current ECG data and ECG data from 2 months to 2 years ago



- An XAI-based interpretation algorithm trained on 2.1 million ECG data points from over 800,000 patients.

Enhances reliability for patients and medical staff by providing the basis for the 638 contributing variables that factored into the Atrial Fibrillation prediction score, using explainable XAI technology.



- High accuracy verified through multi-center, multi-device clinical trials

Prediction Accuracy within 1 month : AUC 0.963
Prediction Accuracy within 12 months : AUC 0.887

Easy and Advanced Examination Process

Preparation

For normal individuals (excluding arrhythmia patients) in health screening centers, inpatient, or outpatient settings.

ECG Data Input

Select and input the current ECG data along with up to two past **ECG XML files** (from 2 months to 2 years prior).

AI Analysis

The AI analyzes the data to generate an **AFib risk score** for the next 12 months, providing reports for both clinicians and patients.

Result Confirmation

Based on the risk score, clinicians can **establish a personalized healthcare management plan** for the patient.



PAPS Test Date: 2025-12-16 14:58:45 Patient05 (Male 177 years old)

AI-Based AF Risk Score Report Health Information

Name: Patient05 Atrial Fibrillation Risk Score: 82 Score Risk level: High risk

70 Score or higher (High risk)
Atrial fibrillation risk is **very high**.
Consult a cardiologist and take ECG or wearable ECG tests to assess heart health and check for atrial fibrillation.

Age-based guidelines
65 years old or older | If one or more of diabetes, hypertension, heart failure, vascular disease, stroke, or embolism is positive
Under 65 years old | If two or more of diabetes, hypertension, heart failure, or vascular disease are present, or if there is a history of stroke or embolism

► If the above applies, AF should be actively investigated, regardless of symptoms.
► Lifestyle changes like reducing alcohol/caffeine and regular exercise help lower AF risk.

51-69 Score (Moderate risk)
Atrial fibrillation risk is **moderately high**.
If you have symptoms of irregular heartbeat and meet the above age-specific guidelines

► Repeat ECG and cardiology consultation are advised in 3 months
► Additional detailed monitoring, such as a wearable electrocardiogram, may be required.
► An annual ECG is recommended to monitor changes in atrial fibrillation risk. It's also important to adopt healthy habits like limiting alcohol and caffeine and exercising regularly.

If there are no symptoms and the age-based guideline doesn't apply, it's recommended to consult a doctor to determine whether a standard or wearable ECG is necessary.

50 Score or less (Low risk)
Atrial fibrillation risk is **low**.
While AF risk remains low, maintaining healthy habits—like avoiding alcohol, limiting caffeine, and exercising regularly—is recommended for prevention.

PAPS Test Date: 2025-12-16 14:58:45 Patient05 (Male 177 years old)

AI-Based AF Risk Score Report Health Information

What is atrial fibrillation?
Atrial fibrillation is a fast, irregular heartbeat of 350–600 beats per minute. In a normal heartbeat, the heart contracts regularly and pumps efficiently. In atrial fibrillation, the atria quiver, causing blood stagnation and potential clot formation.

Why is it dangerous?
Atrial fibrillation raises **stroke** risk by 5 times. Over 30% of patients have no symptoms, making early detection difficult. If untreated, it may cause **stroke, heart failure, and cognitive decline**.

How is the stroke Risk Score calculated for AF patients?
Score are assigned for the following factors, and if the **stroke Risk Score is 2 or higher**, anticoagulant therapy is recommended for prevention.

Risks	Diabetes	Hypertension	Renal failure	Vascular dx	Age ≥ 65	Age ≥ 75	Prior stroke/embolism
Score	1	1	1	1	1	2	2

Why is early diagnosis difficult?
A standard ECG shows only the heart rhythm at the moment of the test. However, **early atrial fibrillation is often intermittent** and may be missed with a standard ECG.

Types of Atrial Fibrillation (AF)

First diagnosed Atrial Fibrillation	Paroxysmal Atrial Fibrillation	Persistent Atrial Fibrillation	Long-standing Persistent Atrial Fibrillation	Permanent Atrial Fibrillation
Regardless of duration or severity of arrhythmia or symptoms, this is atrial fibrillation that has never been diagnosed before.	Mostly resolves spontaneously within 48 hours. Some cases persist up to 7 days. Rhythm conversion and recovery to normal rhythm occurs within 7 days.	Atrial fibrillation lasting more than 7 days. Includes cases converted back to normal rhythm spontaneously or with medication after more than 7 days.	Atrial fibrillation lasting over a year where rhythm conversion treatment is planned.	AF accepted by patient and doctor; no rhythm control planned. If later pursued, classify as long-standing persistent AF.

Symptoms of Atrial Fibrillation

PAPS Test Date: 2025-12-16 14:58:45 Patient05 (Male 177 years old)

AI-Based AF Risk Score Report Health Information

Risk factors for atrial fibrillation

Risk Factor	Description
Obesity	Overweight and obesity are linked to poor long-term cardiovascular outcomes and may increase the risk of ischemic stroke, thromboembolism, and death in AF patients.
Alcohol consumption	Excessive alcohol intake is a risk factor for AF and bleeding in anticoagulated patients, and is linked to thromboembolism and mortality.
Smoking	Nicotine promotes ectopic atrial activity and may directly increase the risk of tachycardia. Smoking also raises the risk of hypertension and coronary artery disease—major AF risk factors—indirectly contributing to its development.
Hypertension	Hypertension is a major AF risk factor, with a 1.7–1.8× higher risk than in normotensive individuals.
Heart failure	Heart failure increases AF risk, and AF is linked to higher hospitalization and mortality in these patients.
Coronary disease	AF occurs in 2–23% of acute coronary syndrome patients, and incidence rises further during acute myocardial infarction.
Diabetes	AF is at least twice as common in diabetics, and both type 1 and 2 diabetes are key stroke risk factors in AF.
Sleep apnea	Obstructive sleep apnea is common in AF, heart failure, and hypertension, and is linked to higher mortality and major cardiovascular events.

Factors improving atrial fibrillation

What is PAPS, the atrial fibrillation risk analysis system?
PAPS is an AI-based system for predicting atrial fibrillation.
It analyzes patients' recent and Previous ECG data and provides an AF occurrence probability as a 'Risk Score'.

Key advantages of PAPS
It enhances predictive accuracy by precisely comparing ECG waveforms at different testing times. Even without repeating ECG tests, **you can increase the likelihood of detecting high-risk atrial fibrillation patients**.
For those with high AF Risk Score, wearable ECG testing and specialist follow-up are recommended only when needed, reducing unnecessary tests while ensuring appropriate care.

• PAPS Analysis Result

- Atrial Fibrillation (AF) is critical for early detection, and this revolutionary software medical device can **prevent cardiovascular complications such as stroke, heart failure, and myocardial infarction (heart attack) in advance**.
- AI-based early prediction technology enables preventive diagnosis and treatment**, thereby reducing the burden of disease, cutting medical costs, and strengthening public health promotion. It is available as a SaaS (Software as a Service) model for use anywhere in the world.

3 Portable ECG/Holter (CA-100/100H)

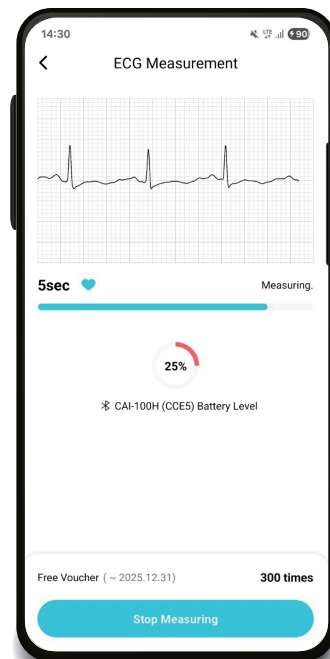
CAI-100



CAI-100H



Type C charging



Cardial App.

AI algorithm are applied for ECG self-measurement and analysis system.

Individuals can carry the device and connect it to a mobile phone anytime, anywhere, to easily and quickly check their heart heart waveforms and interpret arrhythmia such as

Atrial Fibrillation, Tachycardia, and Bradycardia.

For Medical Institutions: Device + Mobile App + Web Viewer

For Individual Use: Device + Mobile App

*The Web Viewer is a system that enables remote monitoring and is exclusively for medical institutions.



ECG Examination
Portable Medical Device



30-second
Measurement
Quick and Easy Use



Analysis Results
**Real-time Confirmation
(or Real-time Check)**



Remote Consultation
**Consultation
with Medical Staff**

Types of Arrhythmias Available for Analysis

✓ Atrial Fibrillation

✓ Tachycardia

✓ Bradycardia

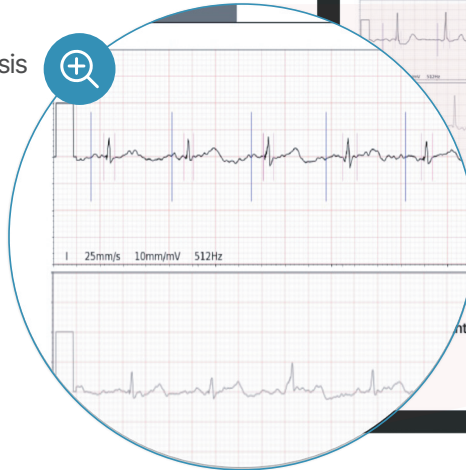
✓ Unclassified

Detailed Analysis Report

Detailed Analysis Report



Provision of Analysis Basis



Real-time Synchronization
of Mobile App and Analysis
Results



Real-time
Communication
with the Patient



Telemedicine
Service

