Human Healthcare

skeeper®

AI-based Smart Stethoscope

SMARTSOUND

A Smart Healthcare Solution Company

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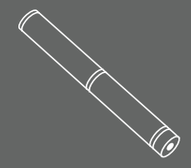
skeeper®



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200 Years

Next 200 Years

Skeeper® will inherit the value of the stethoscope, which has contributed to human health over the past 200 years and create innovative values for the next 200 years by evolving from the field of digital healthcare to the AI smart stethoscope.

Human Healthcare

skeeper® R1

AI Smart Stethoscope Designed to Revolutionize Medical Staff's Treatment Process

Key Feature

- Application of Edge-AI technology
- Primary screening by AI for heart and lung health abnormalities
- Supports remote medical treatment and cooperative diagnosis by sharing auscultation sound and analysis information
- High-performance CPU, expandable memory
- Built-in thermometer and camera
  (Sensors will be added in the next version)

The World's First All-in-One Smart Stethoscope

01

Product Overview

- The Skeeper R1, smart stethoscope applies powerful digital innovation technology to provide clinicians with improved sound quality and convenience.
- Skeeper R1 helps clinicians more easily assess health in order to detect and treat disease early.
- All digital functions can be used with the R1 device alone, without connecting a separate smartphone and mobile app. In addition, artificial intelligence can automatically identify heart murmurs and abnormal lung sounds in a matter of seconds.

02

Skeeper Edge AI

Skeeper AI is a medical support solution that is mounted on the R1 device and enables edge-computing based on stethoscope sound. Skeeper's AIoT technology enhances the security of medical data and improves the treatment process for medical personnel.

03

R1 Specifications

System	CPU, Memory	OCTA Core (2GHz), 4GB RAM (LPDDR4), 32 / 64GB eMMC
	Display, Touch, Camera	2.8inch IPS LCD, Capacitive touch screen, Barcode scan camera
	OS	Android 9.0
Wireless Connection	Bluetooth, WLAN	BLE 4.1, WiFi 2.4GHz, 5GHz 802.11 a/b/g/n/ac (T.B.D)
Basic Specification	Size (W×L×H)	150 × 60 × 36
	Weight	170g (Device only)
	Input, Output	5F Multi-touch, Buttons, USB-C type, Loud-speaker
	Sensor	MEMS Microphone, IR Thermometer
Battery	Type	Rechargeable Li-ion Polymer
	Recharging Time	Approx. 2 Hours
	Hours of Battery Use	Approx. 4 Hours

Human Healthcare

skeeper® H1

AI Stethoscope for Telemedicine and Homecare

Key Feature

- Self-monitoring of heart and chronic lung disease
- Early screening of childhood asthma
- Primary self-screening for infectious lung diseases such as COVID-19
- Healthcare of pregnant women and fetuses
  (fetal movement test, fetal health monitoring)

Self-Diagnosis Device of Heart / Lung Disease for Homecare

01

Product Overview

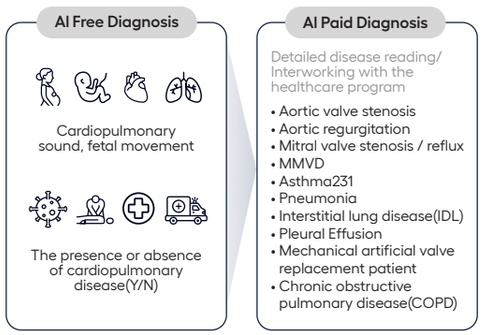
- The Skeeper H1, smart stethoscope provides functionality that allows ordinary people to easily manage their family's health at home.
- Pairing with the Skeeper mobile app makes your Skeeper stethoscope even smarter
- The measured stethoscope sound is analyzed by artificial intelligence, allowing you to check the health of your heart and lungs in seconds and monitor changes over time.

02

SkeeperCare™ AI Service

Measurement, diagnosis process and service history

The function to analyze the stethoscope sound to determine whether there is an abnormality in heart and lung health will be provided free of charge. The opinion of "detailed cardiopulmonary sound disease reading" classified through the consultation of specialists and professors based on clinical data and a program linking health management will be provided for a fee.



03

H1 Specifications

Wireless Connection	Bluetooth	BLE 5.2
Basic Specification	Size (W×L×H)	99 × 72 × 24
	Weight	60g
	Port	USB-C (Water Proof Support)
	Mic Sensor Type	MEMS Microphone
Battery	Type	Rechargeable Li-ion Polymer
	Recharging Time	Approx. 2 Hours
	Battery Life Time	Approx. 8 Hours (Measurement)
Water Proof	IP Code	IPx4

Human Healthcare

skeeper® P1

Patch Type Wearable AI Stethoscope for Continuous Patient Monitoring

Key Feature

- Self-monitoring of heart and lung disease, and fetal health
- Healthcare of pregnant women and fetuses
  (fetal movement test, fetal health monitoring)
- Long-term monitoring by attaching in the form of a patch,
  and long-term reuse by simply replacing the attached band

Patch Type Wearable Self-Diagnosis Device of Heart / Lung Disease for Homecare

01

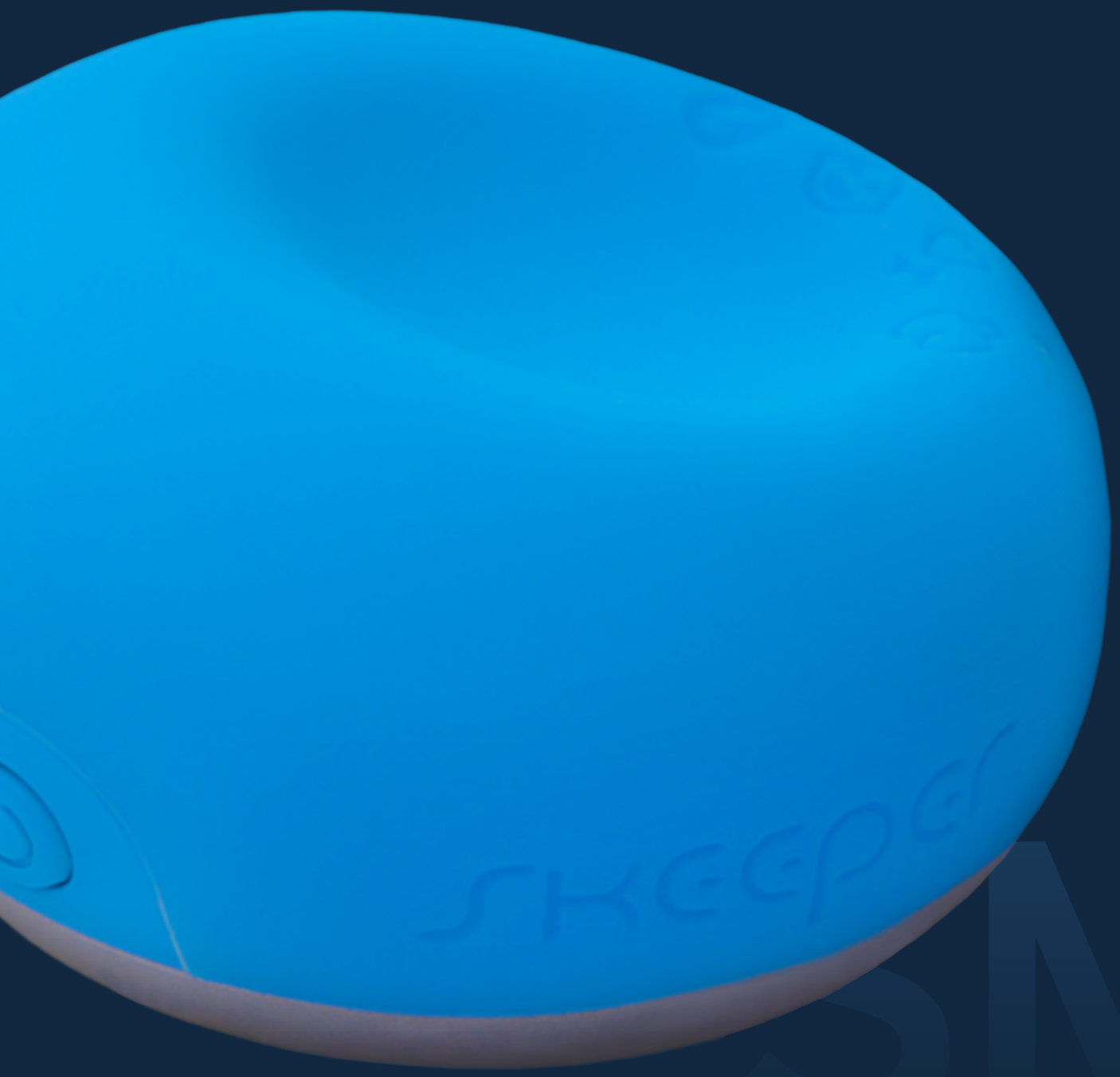
Product Overview

- The Skeeper P1 smart stethoscope attaches to the body to provide long-term health monitoring functionality.
- Pairing with the Skeeper mobile app makes your Skeeper stethoscope even smarter.
- You can analyze a stethoscope sound for a certain period of time to detect abnormalities, monitor changes over time, and check your health with artificial intelligence.

02

P1 Specifications

Wireless Connection	Bluetooth	BLE 5.1
Basic Specification	Size (W×L×H)	32 × 31 × 12
	Weight	10g
	Port	USB-C (Cradle Only)
	Mic Sensor Type	MEMS Microphone
Battery	Type	Rechargeable Li-ion Polymer
	Recharging Time	Approx. 2 Hours
	Battery Life Time	Approx. 8 Hours
Water Proof	IP Code	IPx4



Human Healthcare

skeeper® SM-300

Non-face-to-face Telemedicine Stethoscope

Key Feature	• Advisory & Performance Evaluation from World-Class Medical Experts • Applied “Core Sound Processing Technology” (HSC™) • Innovative Product Design Optimized for Telemedicine • Securing Stable Reliability of Measured Sound Data

SM-300

Specialized in non-face-to-face telemedicine

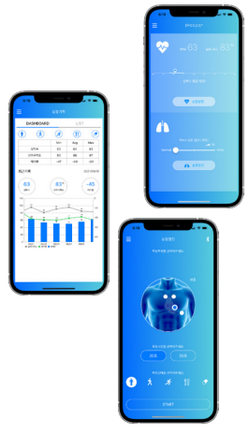
01

KEY Functions

Measure with a smart stethscope (Skeeper)
- Lung (breathing) and heart measurement
- Measured data transmission through Bluetooth

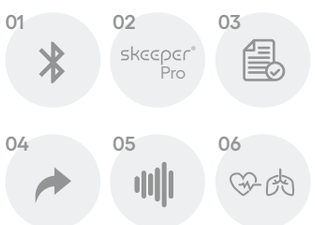
Store, analyze, monitor using smartphone apps.
- 2-types of app : Skeeper Pro (home), Skeeper Doctor (hospital)
- Analysis, History monitoring, Transmission to remote places

Share rhe measured data, Doctor's diagnosis
- Non-face-to-face treatment at the hospital (COVID-19)
- Transmit the measured data using e-mail or SNS
- Best for telemedicine service



02

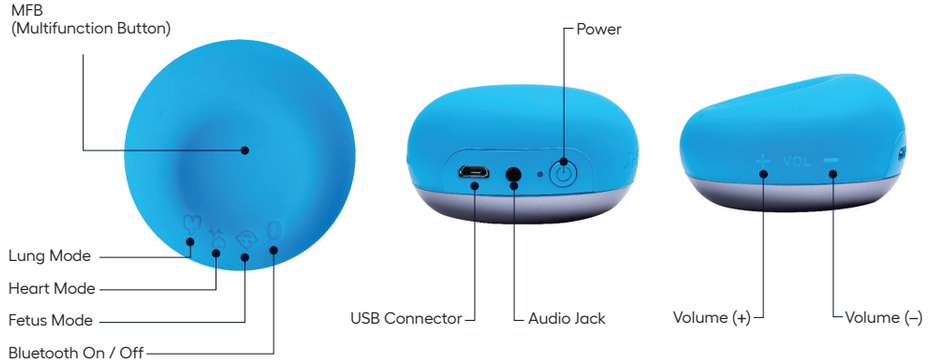
skeeper® pro



01 Connest smart stethscope and smartphone through Bluetooth.
02 Run the Pro app.
03 Enter your own answers to questionnaire.
04 Choose heart or lung (breathing), then move to the measurement screen.
Choose the measuring spot and time duration, then press Start.
05 When measurement is complete, move to the measurementresult screen.
06 Save the result and send it to doctor via email or SNS.
Record and manage the measurement result.

03

SM-300 Specifications



Wireless Connection	Bluetooth	BLE 5.0
Basic Specification	Size (W×L×H)	62 × 62 × 35
	Weight	53g
	Port	Micro USB, 3.5 pi Audio Jack
	Mic Sensor Type	MEMS Microphone
Battery	Type	Rechargeable Li-ion Polymer
	Recharging Time	Approx. 2 Hours
	Battery Life Time	Approx. 8 Hours (Measurement)

Company

Composition - Skeeper Products & Services

Smart Devices

Input all the focus sound signals of the human body

R1
Smart Stethoscope for Hospital / Professiona

H1 **SM-300**
Digital Stethoscope for Homecare / Telemedicine

P1
Smart Patch for Hospital / Homecare

Smart AI Solutions

X-AI diagnostic solutions by diseases

- Aortic valve stenosis
- Aortic regurgitation
- Mitral valve stenosis
- Mitral valve reflux
- A mechanical valve replacement patient

- Asthma
- COPD
- Pneumonia
- IDL
- Pleural Effusion

- Prenatal inspection
- Pregnant Women's Stress Management

AI self-diagnosis of respiratory infectious diseases (clinical)

Continuous expansion of diagnostic items(clinical)

AI Classification Model

Number of human sound-based diagnoses : 12(World's Largest)

Cloud Bigdata

Provides cloud bigdata services specialized for respiratory and circulatory diseases

Heart
Lung
Bronchial tubes
Abdomen
Voice
Sleep
Fetus

AI

BIG DATA

Government
Hospital
Telemedicine
Home
Insurance

01

Core Advantages

Heart and lung health analysis with AI

The world's first all-in-one smart stethoscope	Stethoscope optimized for family health management at home	A patch-type stethoscope that can be attached to the body for long-term monitoring	AI diagnosis service based on clinical data
			Paid service
Skeeper R1	Skeeper H1	Skeeper P1	Free service

02

Core Competencies

- Technology of sound processing algorithm (HSC™) and the design of sound instruments
- Disease diagnosis AI solution by location of human sound-based measurement
- AI heart/lung sound classification algorithm
- Securing of clinical data for AI diagnosis

Securing of Clinical Data for AI Diagnosis

Applying a 5-step clinical verification process to secure the reliability of clinical data

STEP 1

STEP 2

First, Mage Reading

STEP 3

Second, Disease Classification Labeling

STEP 4

Third, Confirmation of Disease Classification

STEP 5

AI Learning

Use Cases

- Non-face-to-face care in COVID-19 dedicated / severe hospitals
- Interworking with hospital EMR system (Stethoscope data)
- Interworking with the Telemedicine (marine medical) system
- Monitoring of pregnant women/fetal health
- Local government 'AI smart health project'

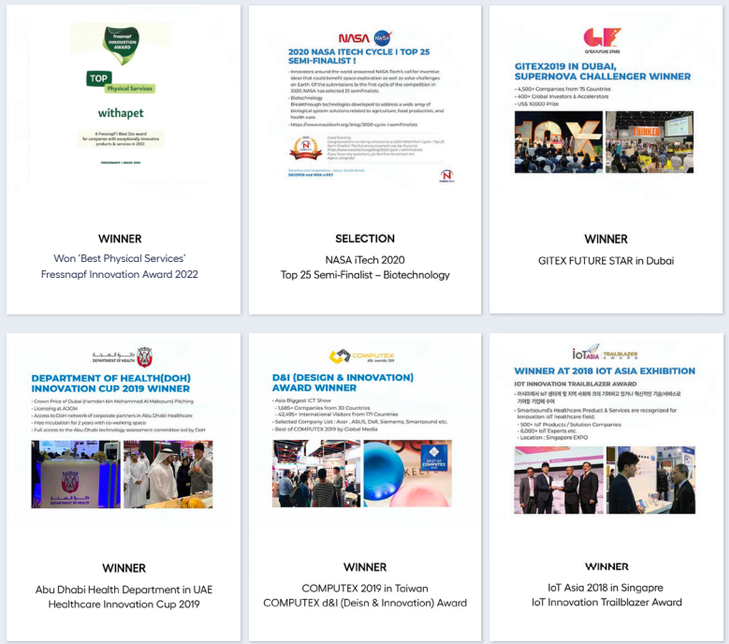
SMARTSOUND

Smartsound Corporation has been working to secure key technologies (HSC™, instrument design, AI diagnosis) to diagnose diseases based on bio sound in the 12 years since its foundation in 2011.

Since 2021, in cooperation with 12 of the nation's top university hospitals, it has begun collecting and analyzing clinical data on the sounds of the hearts and lungs of hospitalized/inpatient patients in the largest scale in the country. Through this, it has secured "AI diagnosis technologies and solutions" that can accurately diagnose and there are symptoms of lung disease (5 types) and heart disease (5 types), respectively, and focuses on certification of related medical care at home and abroad and secures intellectual property rights.

In conjunction with Seoul National University Hospital's EMR (Electronic Medical Record) system, Skeeper® will be the first medical solution to store human sound signals in the medical information system, and it will have great implications.

Global Awards



Based on our core "Sound & AI Technology", we develop an AI-based smart stethoscope that can measure human and pet's vital signs. We will enable transmission of the measured health sound signals to Cloud Server and provide AI Auscultation Diagnosis Solutions for medical treatment, non-face-to-face telemedicine, and homecare.

Certification : FDA, IEC60601, ISO13485, MFDS etc.

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For more information