



# Proposal for Collaboration between Genius Holding and OpenAI Converge 2

Innovative Applications in Sound and Ultrasound Technology

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# Company Introduction

1

## Genius

Genius Holding founded in 2016, provides creative ultrasound innovations to upgrade products with digitalized and wireless, and AI audio analysis for customers.



2

## exOxygen Smart Breath Checker-2019 CES Innovation Award

- ezOxygen personal spirometer with CES 2019 Innovation Award, Sport Fitness, and Biotech category.
- Strategic cooperation with **AstraZeneca** to launch “**Health Lung App** 呼吸肺健康”



3

## Our Partnership

Provide Audio AI for smart manufacturing with **Chang Chun Petrochemical** (iEar Project), **Formosa Petrochemical corporation** (machine monitoring), **Asia Vital Components** (Product QA), etc.



# Technology Overview

## 1 Respiratory

Passive ultrasonic airflow determination: respiratory area (**ezOxygen**), anemometer, and gas flowmeter.

## 2 Smart Manufacturing

Audio Analysis with hearable and multiple sensors  
ultrasound wireless.

## 3 Fitness, VR/AR/MR, home security

Ultrasound Motion Tracking

## 4 Digitalized Medical Device

Ultrasound wireless medical devices, such as blood pressure, blood sugar, weight scale, etc

## 5 Non-Digitalized Medical Device

Ultrasound wireless medical devices, such as incentive spirometer, Intravenous (IV) Sets, etc.



# Market Potential and Application: US

1

## Home-based Evaluation

Annually, over 80 million devices are marketed, indicating a substantial demand in the US.

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2

## Lung Function Rehab

Post-surgery, this segment caters to over 9.7 million patients annually. Asthma and COPD affect 71 million patients, accounting for more than 21.7% of the population, with long-COVID cases yet to be included.

3

## Revolutionizing Connectivity

This innovation has the potential to revolutionize connectivity. It enables smartphones, tablets, notebooks/PCs, smart speakers, and smart TVs to seamlessly connect with medical devices and home security systems, enhancing user convenience significantly.

**Ultrasound Wireless Communication:** This technology revolutionizes wireless data transmission by separating emission and reception. It promises efficient, secure, and interference-free communication, ideal for dense urban areas and smart homes. This method offers a distinct alternative to conventional Wi-Fi and Bluetooth connections, enhancing device connectivity



# Collaboration with OpenAI: Unlocking Synergistic Advances in Ultrasound Technology

## Genius Holdings

Pioneers in ultrasonic coding and algorithms, transforming wireless medical device communication.

## OpenAI

Enhances audio recording capabilities with extended frequency range up to 24 kHz, and provides APIs for precision ultrasound applications.

## Expected Synergy from Collaboration

- **OpenAI Ecosystem Integration:** Introduces a novel ultrasonic Voice API that revolutionizes voice-command activation, seamlessly integrating with consumer electronics including smartphones, tablets, and computers.
- **Smart Manufacturing Synergy:** Leverages OpenAI's Advanced Data Analysis and Smartphone Audio Analysis GPTs to innovate in audio and ultrasound industrial analytics.

# Strategic Market Expansion with AI-Enhanced Ultrasound Technology

## Innovation in Ultrasound

Pioneering the integration of ultrasound technology with OpenAI's AI capabilities to revolutionize connectivity in healthcare and beyond.

## Ultrasound Hardware Solutions

Developing and selling state-of-the-art wireless ultrasound modules and sensors, tailored for telehealth applications, smart manufacturing, home security, and consumer electronics.

## Enhanced Ecosystem

Establishing a comprehensive ecosystem that utilizes OpenAI's advanced APIs, fostering seamless integration and smarter interactions across devices and platforms.

## Market Prospects

Positioned to tap into a multi-billion dollar market, leveraging unique ultrasound technologies to capture significant market share and drive revenue growth.

# Strategic Collaboration Plan

- 1 SDK for ultrasound wireless coding system
- 2 Audio sampling rate API
- 3 Ultrasound wireless GPTs
- 4 Ultrasound analysis fine-tune
- 5 Official API to ecosystem
- 6 ChatGPT App upgrade function
- 7 AI hardware ecosystem Smartphone API

# Conclusion and Call to Action

**1**

## **Integrating AI for Advanced Digital Services**

Real-time seamlessly converges with OpenAI's AI capabilities, to enhance telehealth services, home security, digitalized transmission, and even smart manufacturing

**2**

## **Enhancing Ultrasonic Sensors with AI-Augmented Acoustic Analysis**

Leveraging OpenAI's advanced data analysis, Whisper API plus ultrasonic algorithm (AI-augmented acoustic analysis), to refine our ultrasonic sensor data interpretation, enhancing connection.

**3**

## **Universal Health Monitoring through ChatGPT-Integrated Interfaces**

Integrating ChatGPT with our devices to offer intuitive, language-agnostic user interfaces, making advanced health monitoring universally accessible.



# Team

## Team



**Duncan Chen**  
CEO/ Founder

- Founder of Original Biomedical Co., Ltd. (6483.TW)
- R&D and market strategy with expertise in pharmaceuticals and medical devices.



**Tifa Su, Co-Founder**  
**Medical Master**  
Business, product & software development.

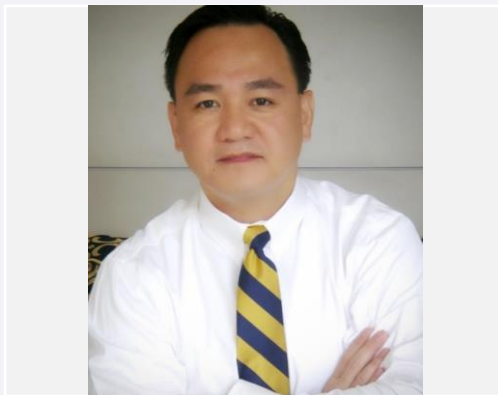


**Celine Sung** ·  
**RA Director**  
Regulatory, QC & manufacturing management.



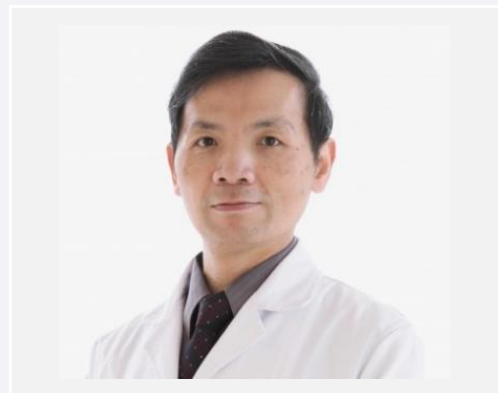
**Alan Su** · **RD Manager** ·  
**Medical Master**  
RD · Mechanical · AI

## Consultant



**Jerry Chang**  
**Senior Consultant**

- Yuyell MedTech Senior Consultant.
- Expert in pharmaceutical & medical device sales/management.



**Dr. Liu Wen-Te,**  
**Pulmonology**

- Attending Pulmonologist at Shuang-Ho Hospital
- Director of Sleep Center at Shuang-Ho Hospital
- Deputy Director of AI Research Center at Shuang-Ho Hospital
- Associate Professor, Respiratory Therapy Department, Taipei Medical University.



**Dr. Ma** · **Dentist** · **MBA**

- Harvard Business School PL DA alum
- Trained in implantology at UCLA
- Current Dean of Fengcai Aesthetic Dental Clinic.

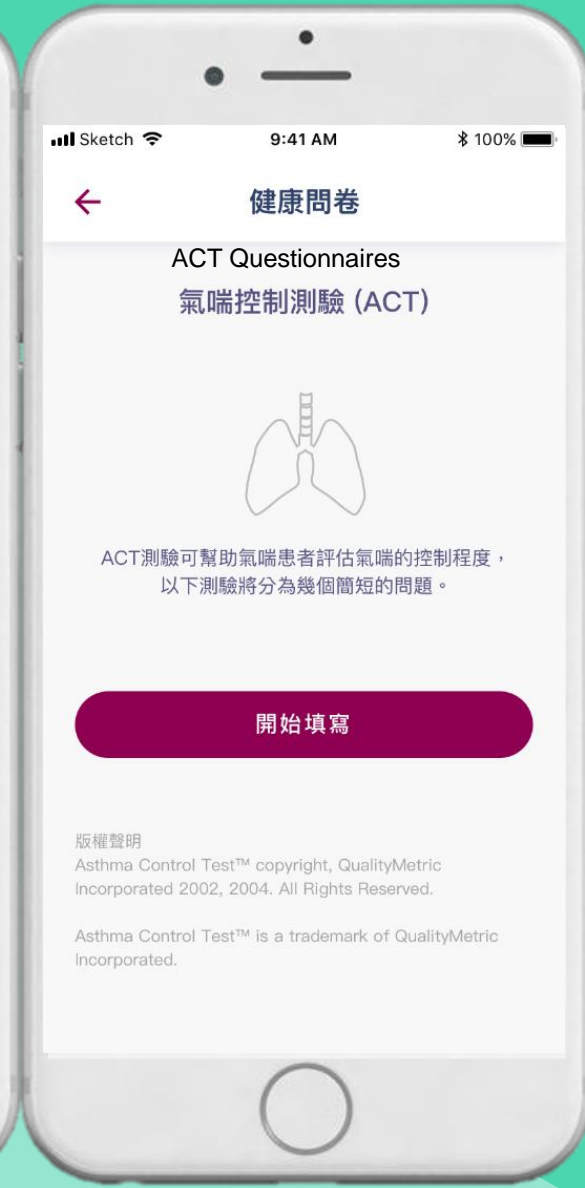
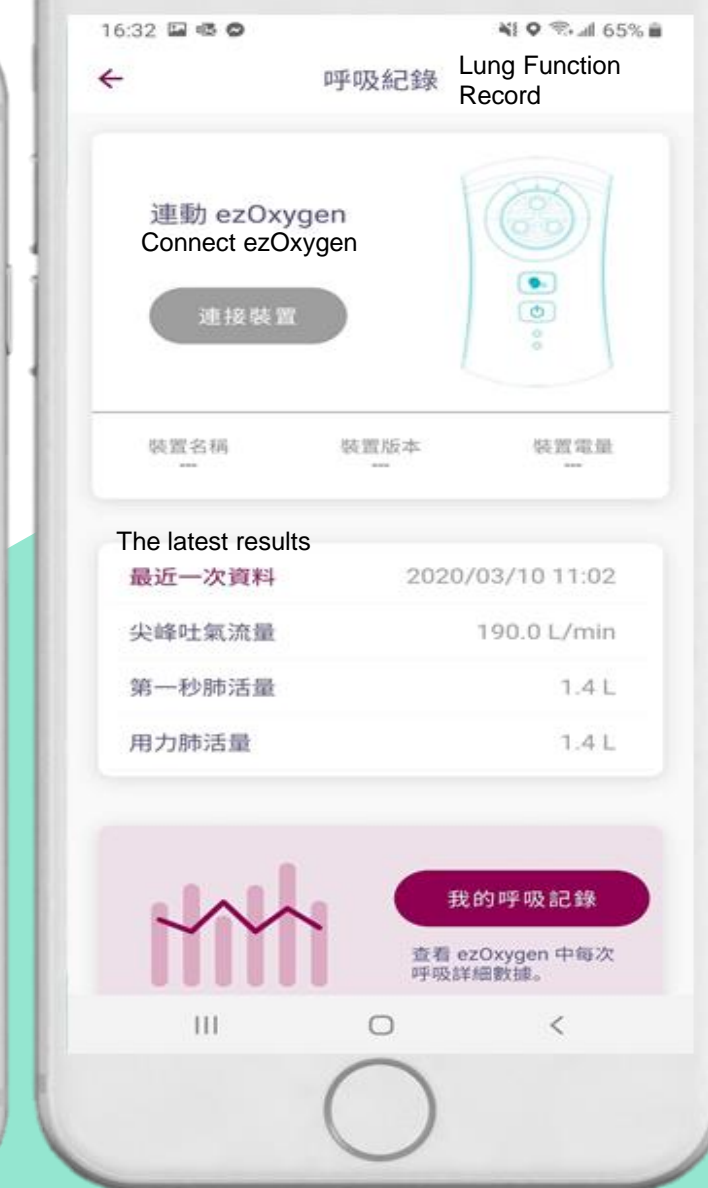
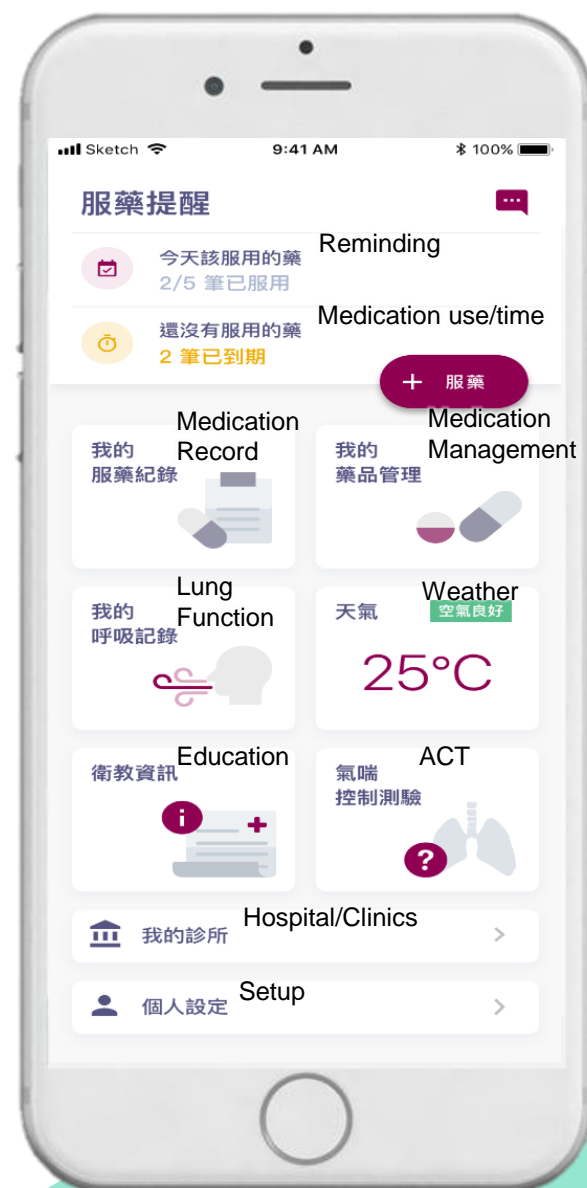
# Patent

TITLE	Area	Applicant	Inventor	Appl. No.	Patent number	Pub . No	Application date	Status
Medical vast and using method thereof	US	Chia - Hung CHEN	Chia-Hung Chen,Chia-Chi Su,Yu-Wen Sung	17 / 619,833 -		US 2022/0354736 A1	2020/6/17	Pending
RESPIRATORY FUNCTION TESTING SYSTEM AND RESPIRATORY FUNCTION TESTING METHOD THEREOF	US	Chiachi SU, Hsiaopao YEN, Peiling Hsu, Chiahung Chen	Chiachi SU, Hsiaopao YEN, Peiling Hsu, Chiahung Chen	17/062,846	-	-	2020/10/5	Pending
Spirometer, mouthpiece tube and inspection method thereof	US	Chia - Hung CHEN	Chia-Hung Chen, Hsiao-Pao Yen, Chia-Chi Su, Liang-Lin Yen	15 / 677,168	US 10,863,923 B2 -		2017/8/15	Approved
Device and system for determining property of object	US	Chia - Hung CHEN	Chia-Hung Chen, Chia-Chi Su	17/785,307	-	US20230027916 A1	2020/12/28	Pending
Method and various applications of delivering object related messages by using wide-frequency sound signal	US	Chia-Hung Chen, Chia-Chi Su, Jian-Long Su	Chia-Hung Chen, Chia-Chi Su, Jian-Long Su	18/023,075	-	US20230310936 A1	2021/8/30	Pending

※ Global IP submission, only list US public status patents pending here.

# Customer Achievements Overview-Medical

## AstraZeneca Healthy Lung APP





# Social Media/Customer Overview-Smart Factory

## Digitimes News



[https://www.digitimes.com.tw/tech/dt/n/shwnws.asp?CnId=13&cat=20&cat1=50&id=0000623141\\_BO12VVDm31V57S2IRUNRR&ct=d](https://www.digitimes.com.tw/tech/dt/n/shwnws.asp?CnId=13&cat=20&cat1=50&id=0000623141_BO12VVDm31V57S2IRUNRR&ct=d)

## Digitimes Media



【D Forum 2021智慧工廠論壇】傑尼斯：超聲波與聲音AI在智慧製造的應用

<https://www.youtube.com/watch?v=CGhu8rRvCkc>

## Our Customer



<https://www.ccp.com.tw/>



<https://www.fpcc.com.tw/tw>



<https://www.avc.co/zh-tw/>



# Passive Ultrasound Technology



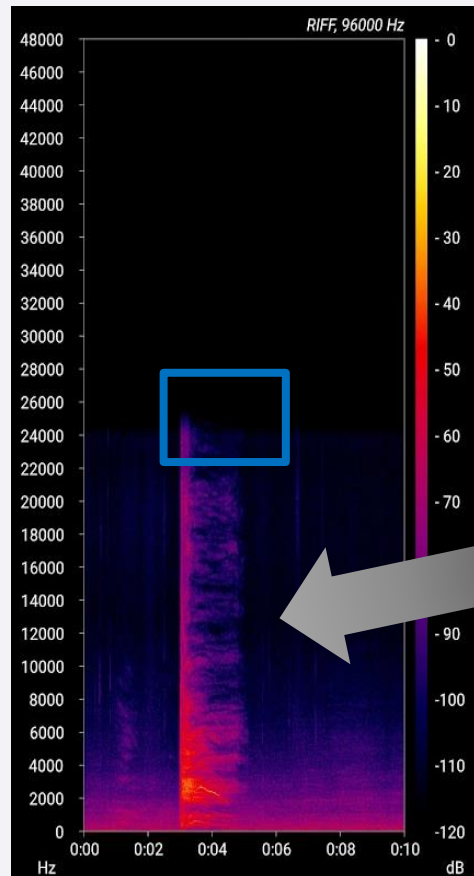
Airflow  
transducer

Microphone

Algorithm &  
display

## Passive ultrasonic detection

The airflow generates a resonant frequency response through the metal whistle, and the signal to flow rate and volume are both calculated by the exclusive algorithm



Galton's whistle

Flow Direction

Ultrasonic Signal

Patented Metal Whistle



## Advantage

- Better accuracy than traditional method and no inertia effect or environment interference.
- **10,000 airflow rates** per second, v.s. traditional between **50~400 airflow rates** per second.)

Calibration-free.

Mouthpiece is easy to clean, and detachable



# AI Pharmacodynamics & Personal Medicines

As data collection is more accurate to let the spirogram sharper, we could detect AI Pharmacodynamics and Personal Medicines through ezOxygen

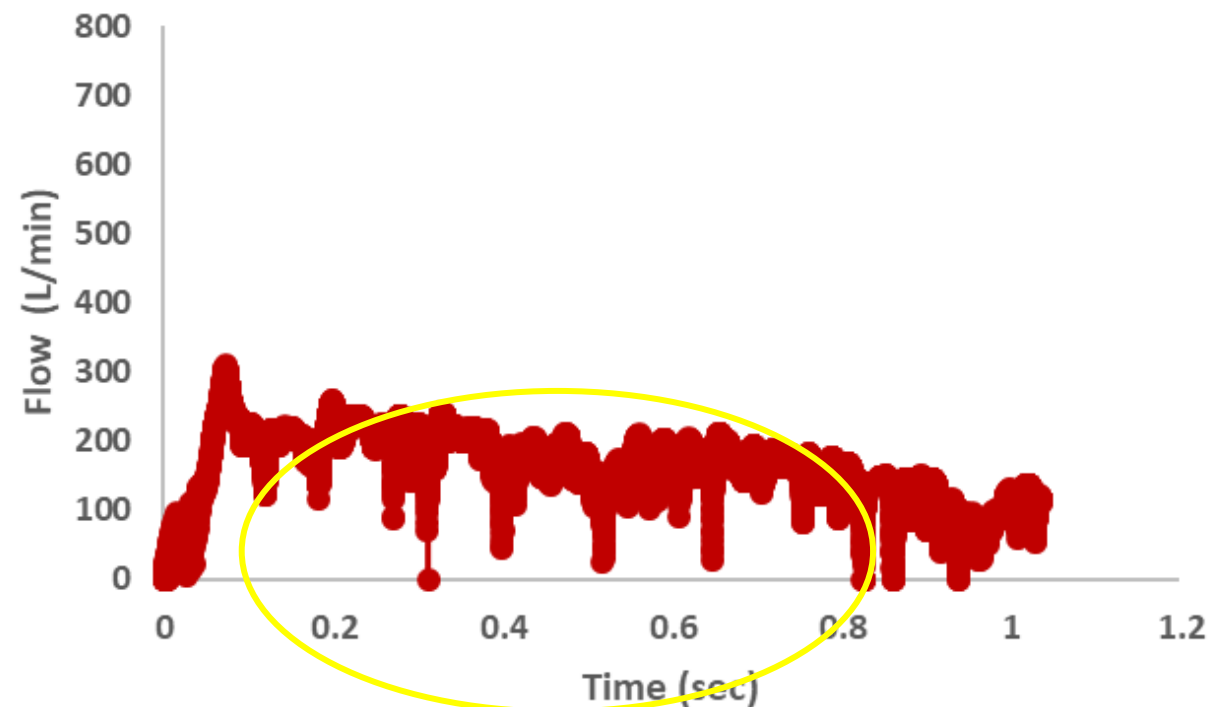
Female, 32 y, 159cm

Drug: Bronchodilator (100 µg) PDI inhalation

Onset around 5~10min., duration 4~6hrs

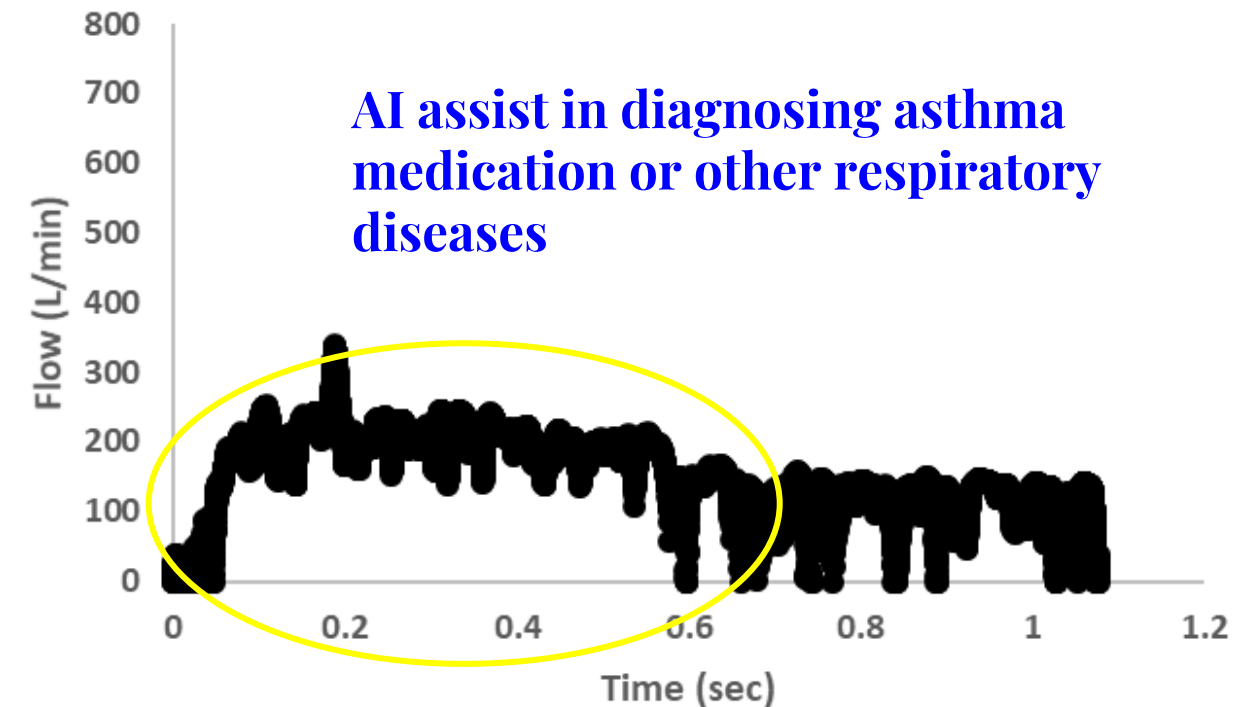
## Results before medication

Sampling rate= 1/10,000 second

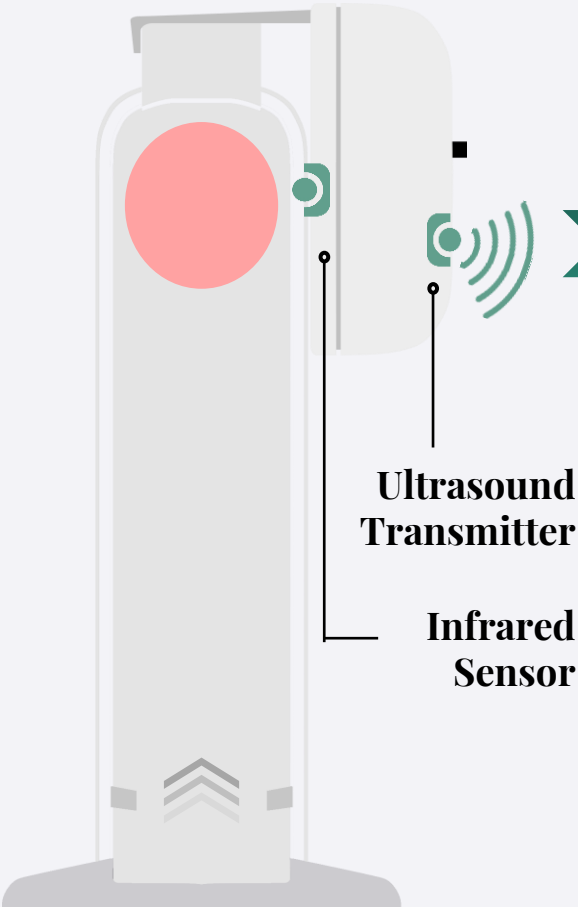


## Results after 30 min. medication

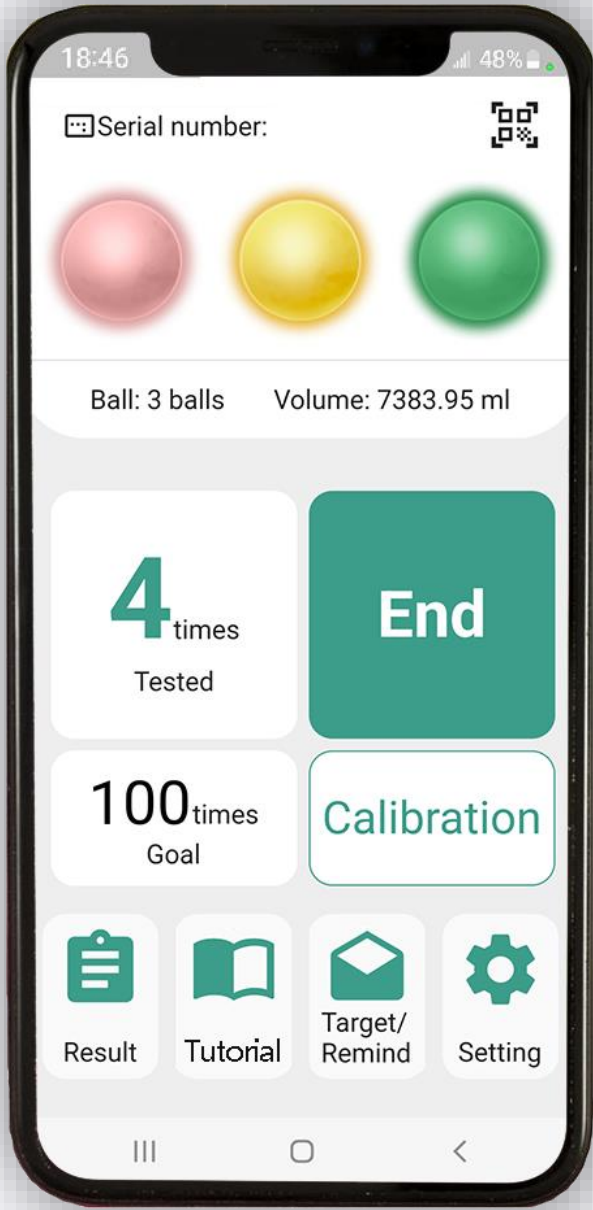
Sampling rate= 1/10,000 second



# Ultrasonic innovated technology



## APP UI



## Spectrogram

