PASONICA

ARMBAND

Non-invasive Blood Chemistry Characterisation Technology

Re-inventing Pathology

ARMBAND NON-INVASIVE PATHOLOGY DEVICE

Hyperspectral Imaging / Ultrasound
Non-invasive Blood Chemistry Characterization Technology

Hyperspectral imaging can perform blood chemical characterization. It can be used to identify and quantify components of human blood, such as hemoglobin, oxygen saturation, and glucose, among other components. Hyperspectral imaging can detect subtle differences and identify molecules with exact spectral signatures.

This technique can also detect pathological components in blood, such as bacteria or virus cells. Hyperspectral imaging can analyse blood samples to determine the presence or absence of specific biomarkers and assess these compounds' concentration or lack of concentration distributions.

Pasonica specializes in performing blood examination without using the traditional method of centrifuge filtration and separation agents to isolate different elements of the patient's blood to achieve an analysis of their plasma. Pasonica uses a combination of technologies such as ultrasound and hyperspectral imaging to perform a remote sensing blood analysis of the patient's plasma which eliminates the need to tamper with the donor's blood physically.

This new method developed by Dean Viglione achieves higher analytical accuracy of the donor's blood for its ability to examine the plasma in its natural state without using centrifuge filtration. By exploiting ultrasound technology to produce pressure waves via a transducer, we bounce these waves off all targets which in this application is the blood plasma of a human body. Every element in the blood has a unique frequency signature which can be exploited to analyse many different targets of the blood plasma and cells.

Ultrasound pressure waves can also detect numerous abnormalities of the blood and blood cell structures.

All this critical blood information collected by using ultrasound technology; the application of this technology is limited only by its ability to assign a frequency signature to every single possible element in the blood. Once this is achieved performing an ultrasound blood test will only take 60 seconds to complete.

Furthermore, using a combination of hyperspectral imaging and ultrasound gives this technology application analytical capabilities that are unmatched by the current traditional centrifuge filtration blood testing methods. Hyperspectral imaging, like other spectral imaging, collects and processes information from across the electromagnetic spectrum. The goal of hyperspectral imaging is to obtain the spectrum for each pixel in the image of a scene, with the purpose of finding objects, identifying materials, or detecting processes.

Using ultrasound / hyperspectral technology to conduct blood testing in the medical industry is extremely disruptive and will save many lives. The possibilities are virtuously endless as the application of this technology can be exploited to a global healthcare market.


It's easy to smile
when it's non-invasive


NON-INVASIVE BLOOD TEST
PERFORMED IN ZERO GRAVITY SPACE
PASONICA

MONITORING ASTRONAUT'S VITALS ON THE INTERNATIONAL SPACE STATION

ARMBAND NON-INVASIVE PATHOLOGY DEVICE

This non-invasive blood testing device uses pressure electromagnetic waves to identify elements in the patient's plasma. Each ultrasound transducer on the device in sequence produces and sends pressure waves. These pressure waves pass through the Brachial Artery in the upper arm bouncing off all the different elements in the patient's blood.

The other transducers, in sequence, listen to pressure waves that have entered and exited or bounced off the different elements in the patient's plasma. By operating in this manner, the device produces a highly accurate 3D analytical data representation of the patient's blood.

All information collected by this device is sent wirelessly to the Pasonica A.I. cloud-based application (SaaS) that is designed to assign and identify frequency codes produced by every element in the human blood.

WE CAN DETECT AND IDENTIFY

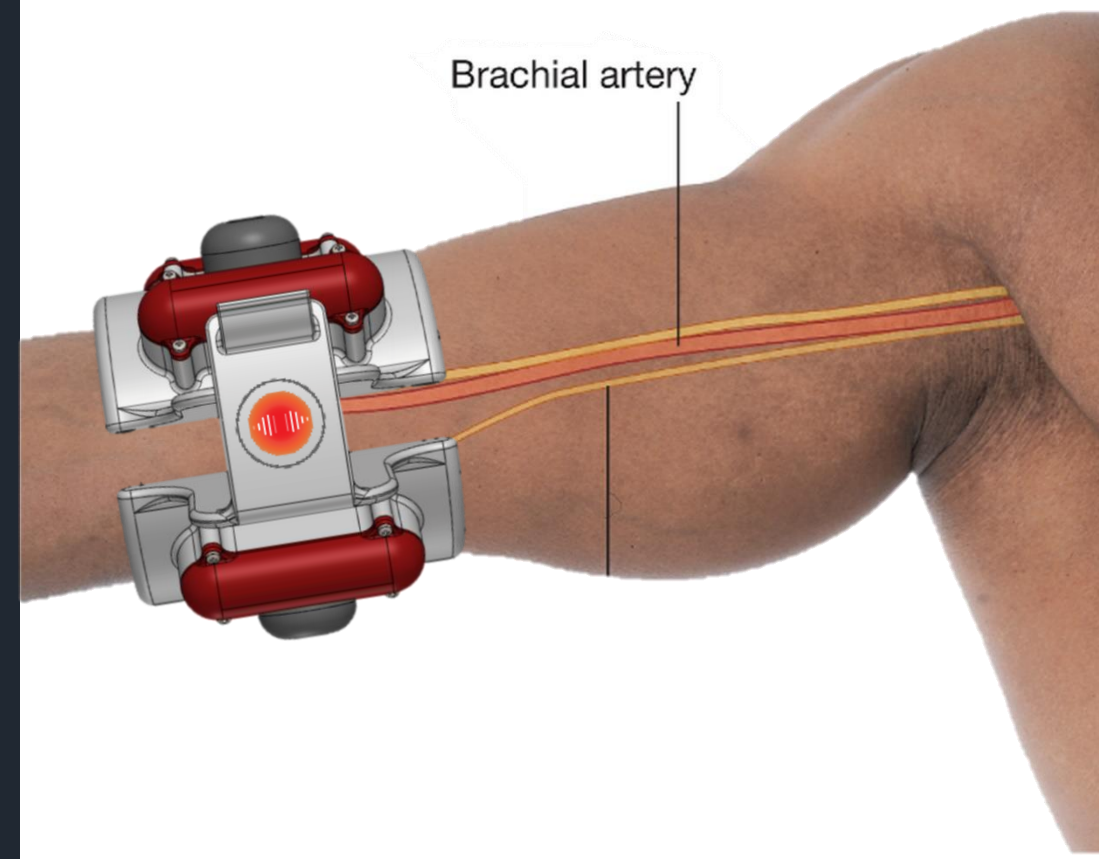
In combination, we use hyperspectral imaging technology to find different elements in human blood. Hyperspectral imaging has traditionally been applied in aerospace, satellites and military applications; as this technology has reduced in size and matured over the years, we now are applying this technology to blood chemical characterisation.

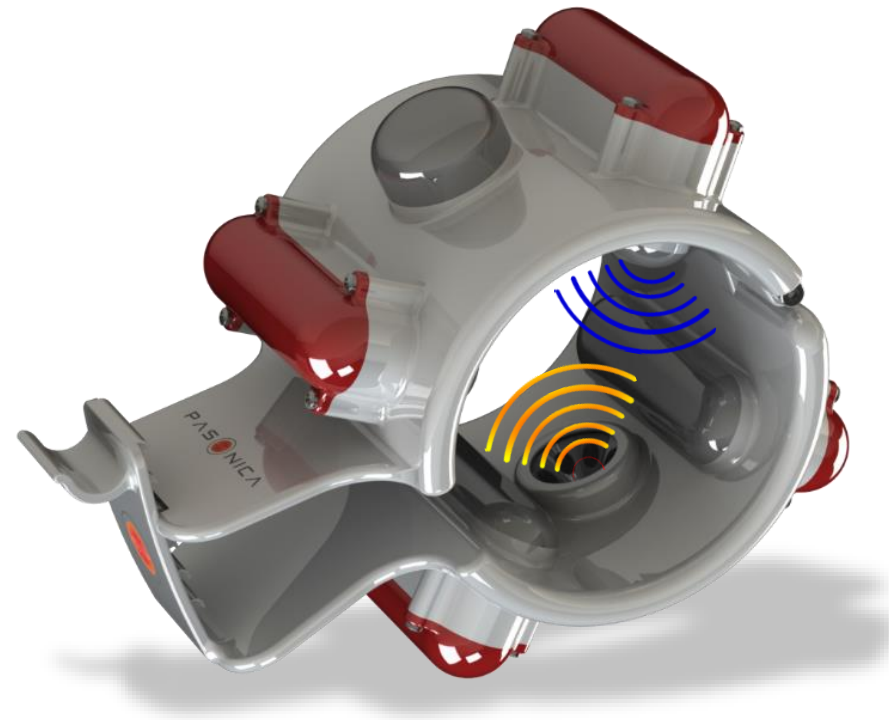
Hyperspectral imaging can perform blood chemical characterisation. It can be used to identify and quantify components of human blood, such as hemoglobin, oxygen saturation, and glucose, among other components. Hyperspectral imaging can detect subtle differences and identify molecules with exact spectral signatures.

This technique can also detect pathological components in blood, such as bacteria or virus cells. Hyperspectral imaging can analyse blood samples to determine the presence or absence of specific biomarkers and assess these compounds' concentration or lack of concentration distributions.

For example, hyperspectral imaging can detect cellular changes, detect biomarkers of disorders, detect drugs or toxins, and measure the concentration of proteins. The imaging technique can analyse a wide range of disease traits that might not be able to be detected or quantified with conventional methods.

For example, hyperspectral imaging can identify and quantify proteins in the blood that are indicative of various conditions, such as cancer, diabetes, and heart disease. The technology can also detect physiological changes, such as changes in red blood cell concentrations and hemoglobin levels, which can diagnose and monitor diseases.





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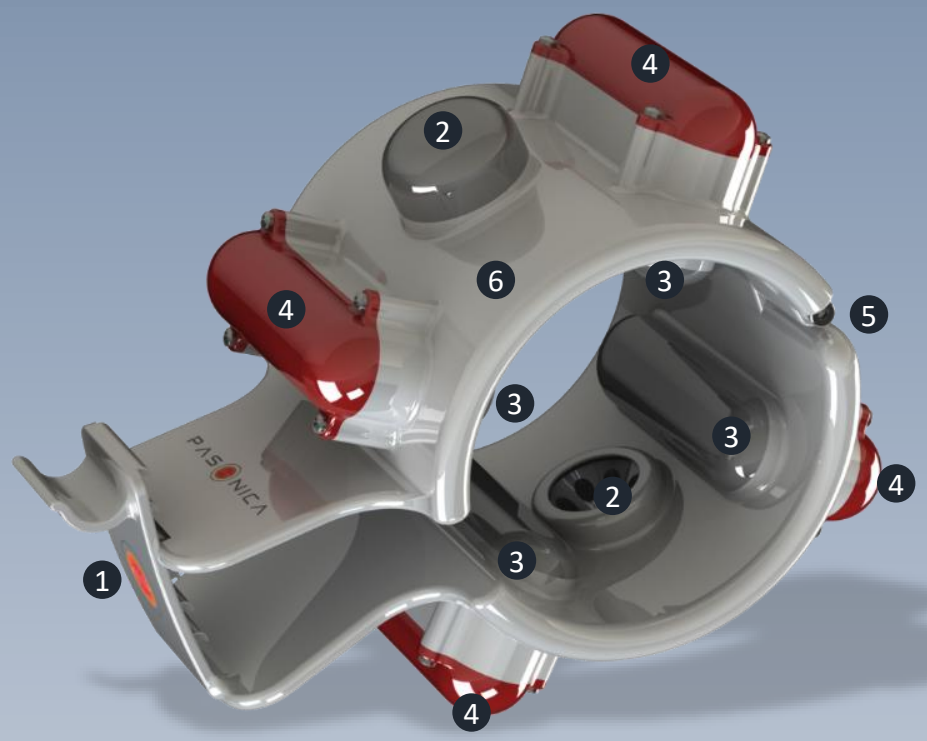
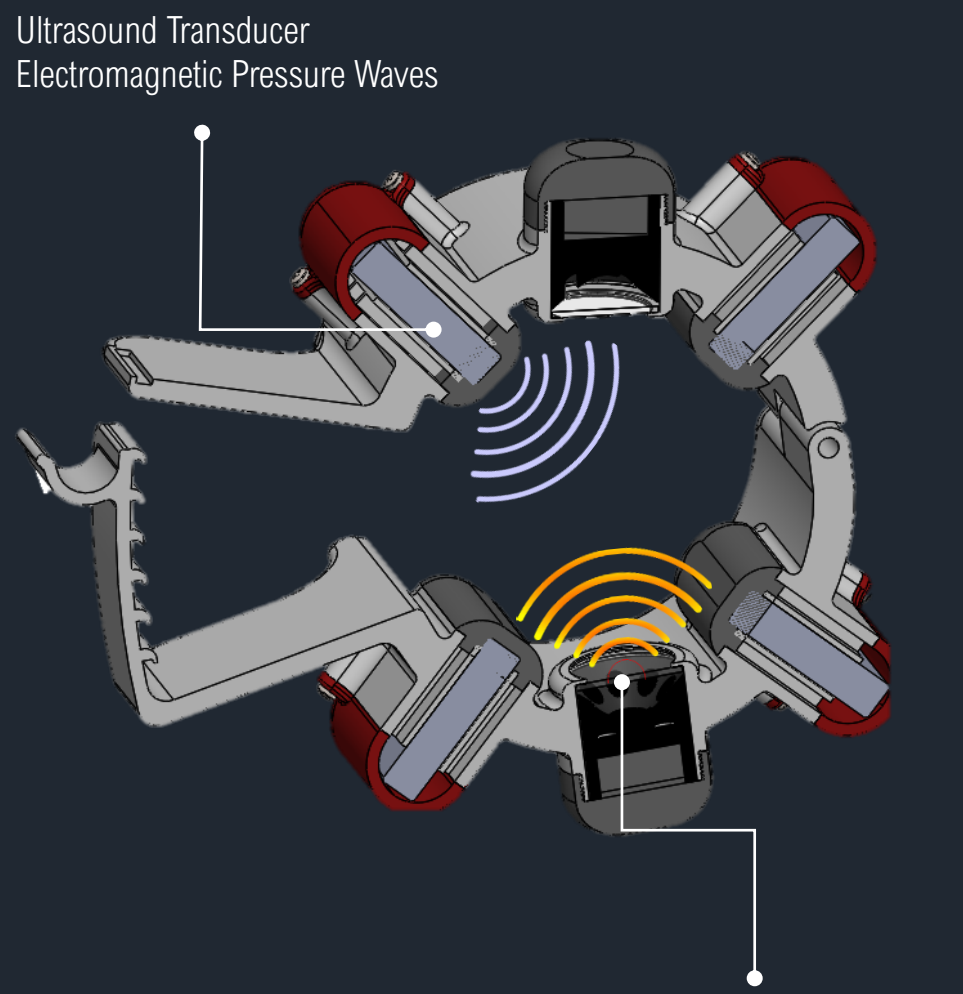
Armband Pathology Device Features:



1. Flexible Auto Lock
2. Hyperspectral Cameras
3. LED Lights
4. Transducers
5. Device Hinge
6. Medical Grade Plastic

SECTION VIEW



PASONICA

Your Patient's Pathology
Results in Minutes

QUANTUM INNOVATION AUSTRALIA PTY LTD

2 DAWN FRASER AVE SYDNEY OLYMPIC PARK 2127

FOR FURTHER INFORMATION PLEASE CONTACT:

Mr. Dean Viglione

Mobile: +61 (0) 447 167 483

Email: dean@rapidprodesign.com

Skype: dean.viglione777

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