Unrestrained vital sensor monitoring system

This system can detect and monitor the breathing and heart rate of a driver and passengers in an unobtrusive manner in real time.

Features
- Unrestrained monitoring by RF sensor
- Real-time processing
- Breathing and heartbeat monitoring
- Motion monitoring

Applications
- Non-contact monitoring of patients with burn injuries
- In-vehicle biological information monitoring system
- Respiratory gating in radiation therapy
- Nursing facility
- Search and rescue

Multi-cell type dynamic humanoid phantom

By controlling the pressure on multiple cells, a phantom of lung is constructed in which breathing and heart movement can be simulated.
Human body equivalent phantom in low-frequency, microwave, and millimeter-waves

Features

- Evaluation of interactions between the human body and mobile devices, RFID tags, medical devices, and wireless EV charging systems, etc.
- Evaluation of SAR by thermography as well as by thin probes
- Mimicking dielectric constants of human tissues over the wide frequency range from Low-frequency to millimeter wave
- Elastic semisolid materials and filling gel phantoms
- Evaluation of wearable and implantable wireless devices

References

Development and the Characteristics of a Biological Tissue-equivalent Phantom for Microwaves

Characteristics of Biological Tissue Equivalent Phantoms Applied to UWB Communications

Hand Phantom
Multi Layer Phantom

Semisolid phantom prototype for millimeter waves
Comparative evaluation of the semisolid phantom prototype by AET and the broadband frequency characteristics

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