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

Development of Biological Tissue-Equivalent Phantom in HF Band Ito Koichi et al.
IEICE Transactions on Communications Vol. J96-B No.9 pp. 964-970
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.