Remodeling of the Sensor for Non-Audible Murmur (NAM) Interface Communication

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Stethoscopic NAM Microphone

OCWHS Type NAM Microphone
(Open Condenser Wrapped with Hard Silicone)

Visible Difference of Acoustic Impedances by Medical Ultrasonography
We fixed input gain volume of microphone amplifier into minimum (50K $\Omega$). We estimated contact sensitivity of NAM microphone by the amplitude of NAM signals at fixed gain volume.

1. Evaluation of Bandwidth
2. Evaluation of the Contact Sensitivity

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Conclusion

- The new soft silicone NAM microphones provide higher accuracy of NAM recognition rate, clearer NAM sounds that convey the utterances even without digital signal processing, and more robustness against noise than the former type.
- Not only NAM recognition but also “NAM phone” (Non-Voice Phone) will be possible.
- We propose that NAM should be used for both human-to-human and human-to-machine interfaces under the name of ‘NAM Interface Communication’.