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A low power and low noise infrasound sensor for temporary measurements

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Temporary infrasound measurements require low power consumption, reliable and compact equipments. As a consequence, these equipments are not always as accurate as equipments operating on long term stations. Measurements quality can be affected. DASE has developed a portable infrasound sensor from MB2005 microbarometer. This new microbarometer consists in improved mechanics from MB2005 and in a movement transducer providing a voltage directly proportional to pressure derivate all over infrasound bandwidth and even more: sensor response phase is purely independent from environment (temperature, condensation...) all over the same bandwidth. Moreover, thanks to its very simple design this sensor needs very low power and is lighter, smaller and cheaper than previous generation sensors. It reaches Infrasound Low Noise Model (IS LNM) down to 0.02 Hz and is very portable as it weights less than 3 kg with less than 1 L. A batch of prototypes has been manufactured and evaluated in lab thanks to an infrasound generator used for routine calibration of microbarometers installed by DASE on some International Monitoring System stations (IMS). Sensors field evaluation is running. First results are promising.