



Detailed tests and specifications of the new microbarometer MB3

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To solve the unaddressed issue of remote calibration of infrasound stations and some needs for temporary deployment, CEA developed a new microbarometer called MB3.

The goal was to propose a sensor as reliable and robust as the worldwide deployed reference sensor MB2005, with a self-noise 10 dB under the Low noise model on the whole IS bandwidth.

The core of the sensor is an aneroid capsule coupled to a magnet & coil transducer. A secondary coil wrapped with the main one ensures remote calibration.

Two versions are available. The analog one MB3a, is compatible with usual digitizers while the MB3d is digital, embedding a low consumption high performance ADC, a low drift GPS timing board and a 1 GB data storage memory. This last version is especially suitable for temporary measurement required by scientific studies.

Experiments showed the MB3 ability to measure very low frequency signals down to 24 hours.

Environment testing was performed with success: Operating temperature, Waterproofness, Shock/fall, Transportation, EMC compliancy...