



Bendable force sensor

The device consists of polyimide sheet with patterned soft magnetic amorphous thin film inside of a polyurethane film. It can be bent and is able to measure the bending itself, as well as a force applied to it even under bended condition.



Fabrication by sputtering FeCuNbSiB on PI film on carrier: XENOMAX® (Toyobo Co., Ltd.)

1) Resist coating



2) Metal sputtering



3) Lift-off



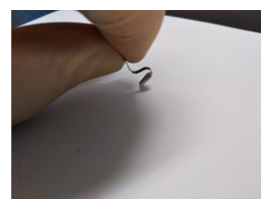
4) PI removal from carrier



5) Fix on PCB

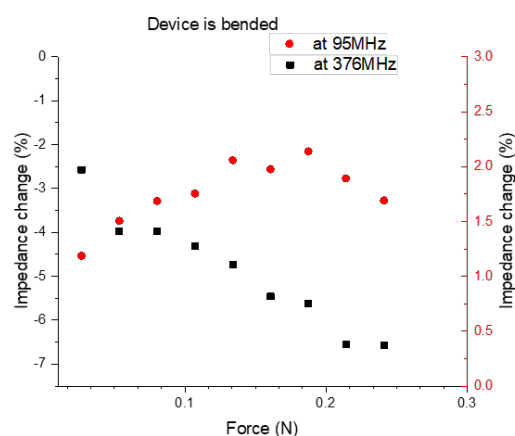
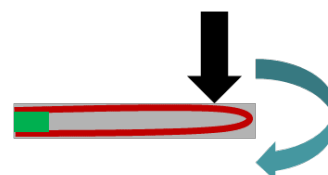
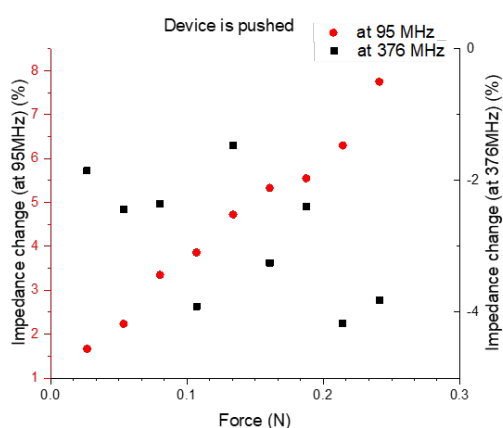
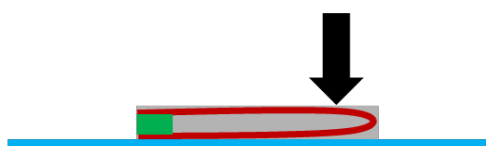


6) Fill with PU foam



very robust metal layer

Measurement result:



Bending and pushing can be sensed separately at different frequencies.

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