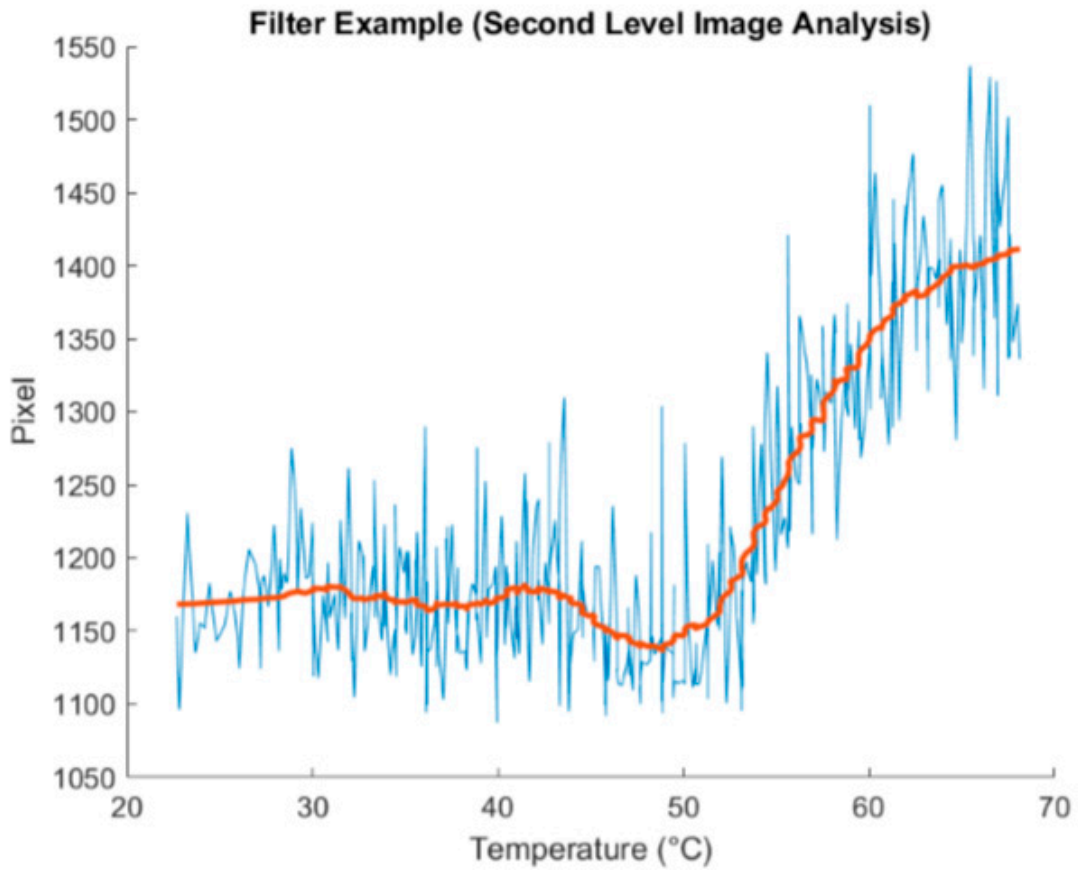
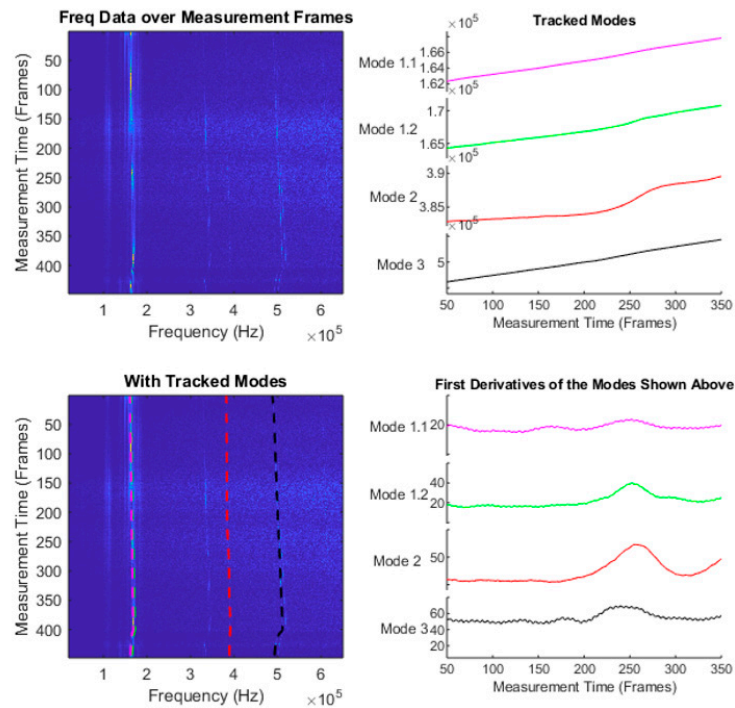


**Figure S1.** Camera picture and scanning electron microscopy (SEM) images of the produced micromechanical string resonators. Left: picture of a substrate after the final PECVD nitride etch, showing the 40 individual chips. Right: SEM image, acquired at a tilt angle of  $30^\circ$ , showing an overview of several strings. The scale bar corresponds to  $200\ \mu\text{m}$ . The inset, acquired at a tilt angle of  $46^\circ$ , shows a zoom-in on the anchor point where the thin strings are attached to the Si substrate. The inset scale bar corresponds to  $2\ \mu\text{m}$ .



**Figure S2.** Measurement example of the applied filter (orange) to the raw pixel count signal (blue) obtained from the image analysis.



**Figure S3.** Left, top: Overview of the raw frequency data over the measurement frames of a single measurement. Left, bottom: Same overview with tracked mode examples. Right, top: Stacked plot of the different tracked modes. Right, bottom: First derivative of the tracked plots to highlight the different response to the slope changes during the glass transition at around frame 250 (equal to 49°C).