

Supplementary Information

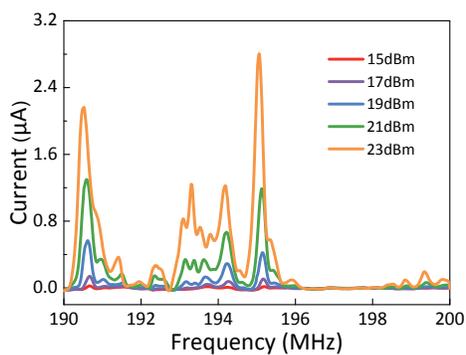


Figure S1. Dependence of the SAW-induced positive current in the dark on applied RF power.

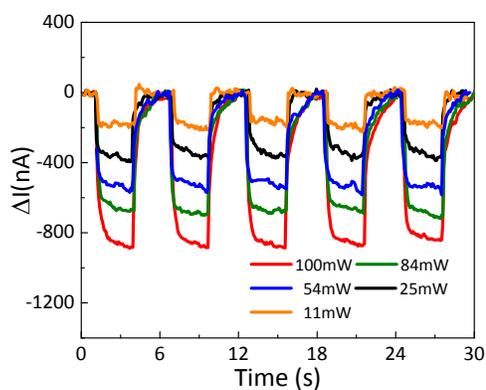


Figure S2. Photoresponsivity and photoswitching stability at different laser power (P_{laser}) with $V=0\text{V}$ and $P_{\text{SAW}}=21\text{dBm}$.

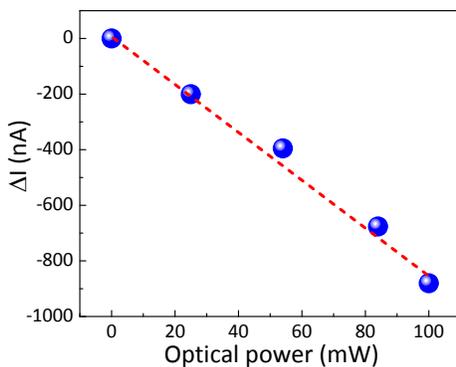


Figure S3. Dependence of the device photocurrent on applied optical power (P_{laser}).