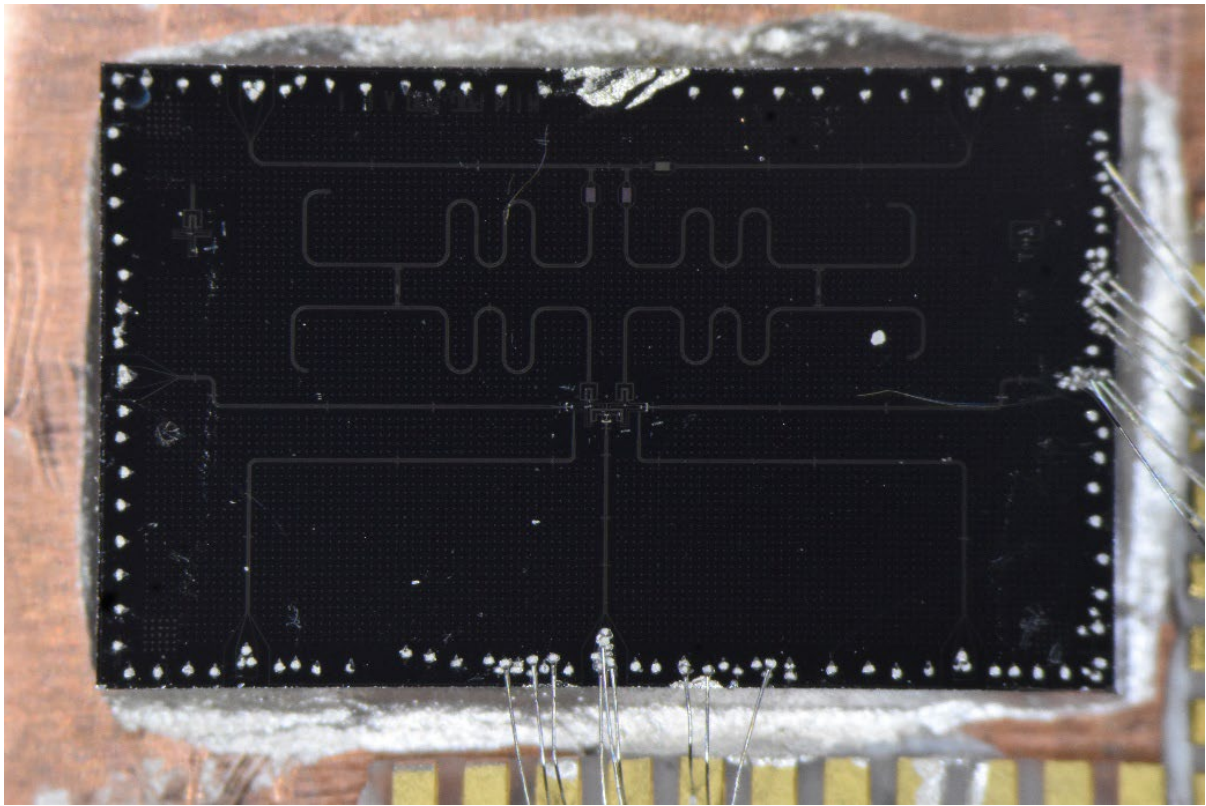


Supplementary Image



Optical micrograph showing the superconducting qubit circuit mounted on Cu holder in the scanning SQUID microscope. Bonds connecting the ground plane to the system ground are visible on the top right edge and on the bottom edge just to the left and right of the central modulation line. This imbalanced grounding likely leads to the flow of current out of the modulation line and into the right side of the grounding plane, shown in Fig. 2 (d). Bonds to the central modulation are visible in the middle of the bottom edge. Bonding sites that are connected during normal operation of the qubit are visible as metallic dots uniformly distributed around the perimeter of the chip.