

| Parameter name | Value |
|------------------|-------------|
| EC_q/h | 0.0734 GHz |
| $2E_J/h$ | 7.92 GHz |
| $W_q/2\pi$ | 2.0687 GHz |
| $\omega_c/2\pi$ | 7.294 GHz |
| $/2\pi$ | -81.4 MHz |
| $\alpha_c/2\pi$ | -0.0155 MHz |
| $\kappa_c/2\pi$ | 17.2 MHz |
| $\chi_{qc}/2\pi$ | -2.02 MHz |

Table 1: Main sample parameters. Note that the effective Josephson energy of the transmon mode is $2E_J$ instead of E_J .