

# Sample TA210715A46 in Speedy 3-10-15 cooldown

Thomas Aref

February 10, 2016

## 1 Summary

This is an attempt at reducing the coupling by changing the spacing of the fingers pairs on the qubit IDT, pushing them to a higher frequency. The coupling appears reduced by an order of magnitude and the qubit seems to be operating as a qubit. Unfortunately, the qubit frequency is below the IDT listening/talking frequency so it is never directly on resonance (this could be easily fixed by having less resistive junctions). Speedy was also experiencing quite a bit of trouble with blockages so the temperature was often in the 50-80 mK range.

this is the second entry

### 1.1 Qubit values

Qubit	
Finger type	double finger
Number of finger pairs, $N_{pq}$	9
Overlap length, $W$	25 $\mu\text{m}$
finger width, $a_q$	80 nm
DC Junction Resistances	8.93 k $\Omega$ , 9.35k $\Omega$
Metallization ratio	50%