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Scalable architecture for coherent microwave control of weakly anharmonic qubits DUIJE DEURLOO, WOUTER VLOTHUIZEN, TNO (Netherlands Organisation for Applied Scientific Research), Delft, LEO DICARLO, Delft University of Technology, Delft, QUTECH COLLABORATION — As the number of qubits in quantum processors continues to increase in the near future, architectures offering scalability of control signals will be essential. We describe an architecture and prototype for improved scalability in microwave control of weakly anharmonic qubits in quantum processors based on repeated unit cells. We present the scalable architecture and test results on a multi-qubit processor based on circuit quantum electrodynamics.

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