



FIG. 3. The required noise floor density in dBc/Hz of an ADC as a function of the number of resonators being read out and the readout power per resonator for an amplifier noise temperature of 6 K. With a 512 MSample/s sample rate, 10.6 ENOB, we expect about -147 dBc/Hz for the ADC's phase noise. Even at the relatively high readout power -85 dBm this would allow for reading out over 1000 channels. Alternatively, 256 channels could be read out with power as high as -70 dBm.