Moore’s law states that number of transistors on a silicon chip roughly doubles every year

Limitation of Moore’s law

1. The more transistors on chip the more the heat extraction will be there
2. The gate length with increasing transistors we sure have to decrease the size of transistors, which wont be possible after a certain length as it will drop the gate length below minimum possible value which is required to turn off the transistors.
3. Increase in heat proportionally increase in energy or power.
4. As density of transistor increase the power will increases (correlate proportionally)
5. Voltage scaling is also limited due to noise or (smaller) threshold voltage, hard to differentiate between high state or low state
6. As power value is proportionally the square of voltage scaling, so it may affect much things like reduces dynamic power significantly
7. So, voltage scaling may not prevent leakage power loss.