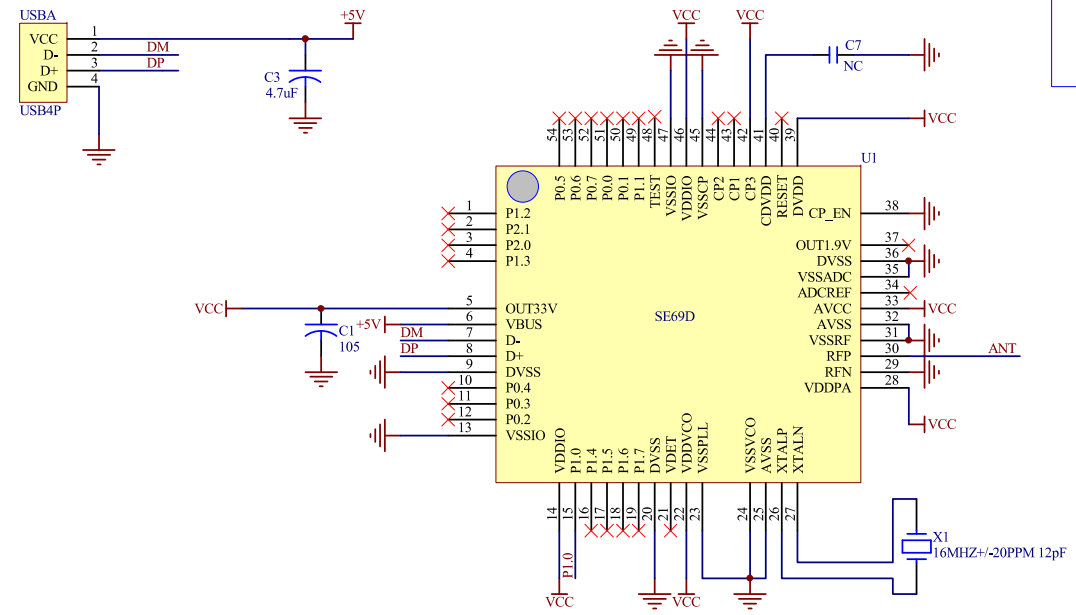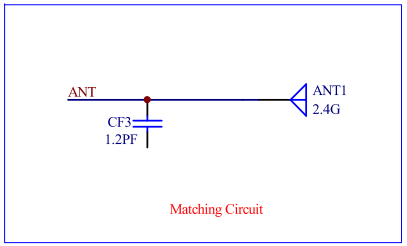Main Circuit