To better understand the basics of ZigBee, our group decided to build an actual ZigBee network. One popular module that deploys the ZigBee protocol is the XBee module. There are various XBee versions available on the market, and our group selected XBee S2C Version E Module as the main testing device. This is an RF module that is designed to communicate or exchange data wirelessly by sitting on top of IEEE 802.15.4 layers. The module we chose is lowest in cost and most available compared to other more advanced versions that included unnecessary functionalities such as Wi-Fi, Cellular, LoRa etc.

From the official website of XBee producer, we have gathered some essential information critical for our simulation and network construction: The maximum data rate is 250 Kbps, and it will accept a 3.3 Volt power supply and consumes a maximum of 40-45 milli-ampere current at active mode and uses at most 1 micro ampere at idle mode. It supports SPI communication, on which we will our simulation would rely on.

We will use DIGI XCTU, the only official development tool XBee, to configure the XBee module.



