How to setup the portable router for Intel RealSense Spatial Awareness Wearable

Every device connecting to the portable router is assigned fixed IP in the router and is reserved in the router. This is done because the main camera application running on the laptop runs a TCP server looks for clients with specific IP addresses for specific Vibration Actuators. Similarly, the Vibration Actuators, which run the TCP Client application connect to a TCP server with a specific IP Address. You have to go into the router settings and make sure every single Vibration Actuator and the Laptop which runs the Main Application has reserved IP address in the router.

In the sample code for the Particle Core (The WiFi enabled microcontroller), The Particle Cores connect to a server with a specific address and port number. (IP Address: 198.162.0.102, Port No.: 5555) The laptop needs to be assigned this IP address in the router. This IP address can be changed, but you have to make sure that the IP Address in the Particle Core Code matches with the reserved IP address for the laptop in the router. So if one changes, the other has to change.

Similarly, you have to make sure you have fixed IP addresses assigned to all the Vibration Actuators in the router.

In the Main application code, you can see that the IP Addresses of the Vibration Actuators are hard coded.

//Fixed IP's of the clients

//Here you specify the assigned fixed IP's of the Vibration Actuators which you stored in the router

TLIP = "192.168.0.101"; //IP Address for Top Left Vibration Actuator

TCIP = "192.168.0.103"; //IP Address for Top Center Vibration Actuator

TRIP = "192.168.0.111"; //IP Address for Top Right Vibration Actuator

MLIP = "192.168.0.105"; //IP Address for Middle Left Vibration Actuator

MCIP = "192.168.0.106"; //IP Address for Middle Center Vibration Actuator

MRIP = "192.168.0.107"; //IP Address for Middle Right Vibration Actuator

BLIP = "192.168.0.108"; //IP Address for Bottom Left Vibration Actuator

BRIP = "192.168.0.109"; //IP Address for Bottom Right Vibration Actuator

You have to make sure that the IP addresses in the Main Application Code and the reserved ones assigned to the Vibration actuators in the router match. For doing that you can either use the reserved IP addresses already assigned to the Vibration Actuators in the router, and change it in the main code or make sure you assign the same IP address in the router as you reserve the IP addresses in the router.

A very important thing is that the IP Addresses for all the devices should be reserved in the router so that every device will get assigned the same IP Address when it reconnects to the router.