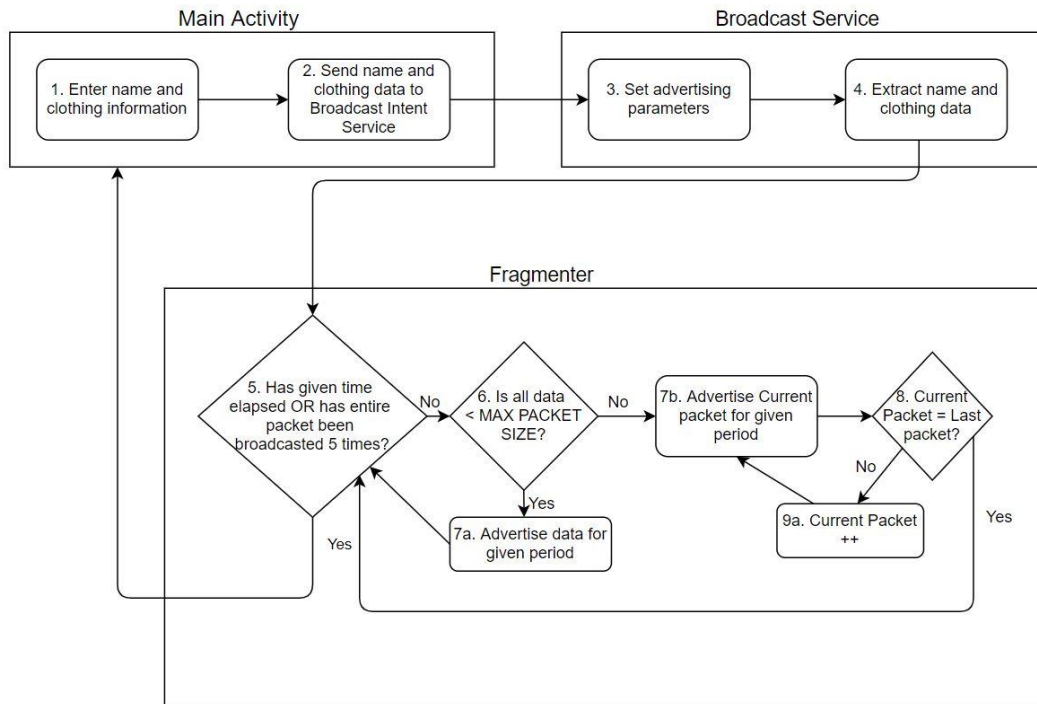# BLE 5 Performance Test Flowcharts and Explanations

SENDER

Step Explanations

1. Data for the performance test is in the form of name and clothing information because this test was derived from the EV-Retina model, in which a user broadcasts their name and appearance information for identification purposes

3. The advertising parameters for the current implementation are as follows:

- Interval: High
- Tx Power Level: Medium
- Primary PHY: LE_1M
- Secondary PHY: LE_2M
- Legacy Mode: false

The PHY settings and Legacy Mode setting should not be changed, as this is what forces the devices to use BLE 5. The other settings can be modified if necessary.

5. The minimum amount of advertising time is currently set to 20 seconds. This can be modified according to the implementers need. The repeat number of 5 can also be modified.

6. The parameter MAX PACKET SIZE is set to 245 bytes. This is the maximum data payload for BLE 5. If the implementer would like to decrease this number, he/she can do so.

7. The advertising period for a single packet is currently set to 420 milliseconds. This can be modified, but 420 ms was found to be more or less optimal for 3 devices with data greater than 245 bytes.

RECEIVER
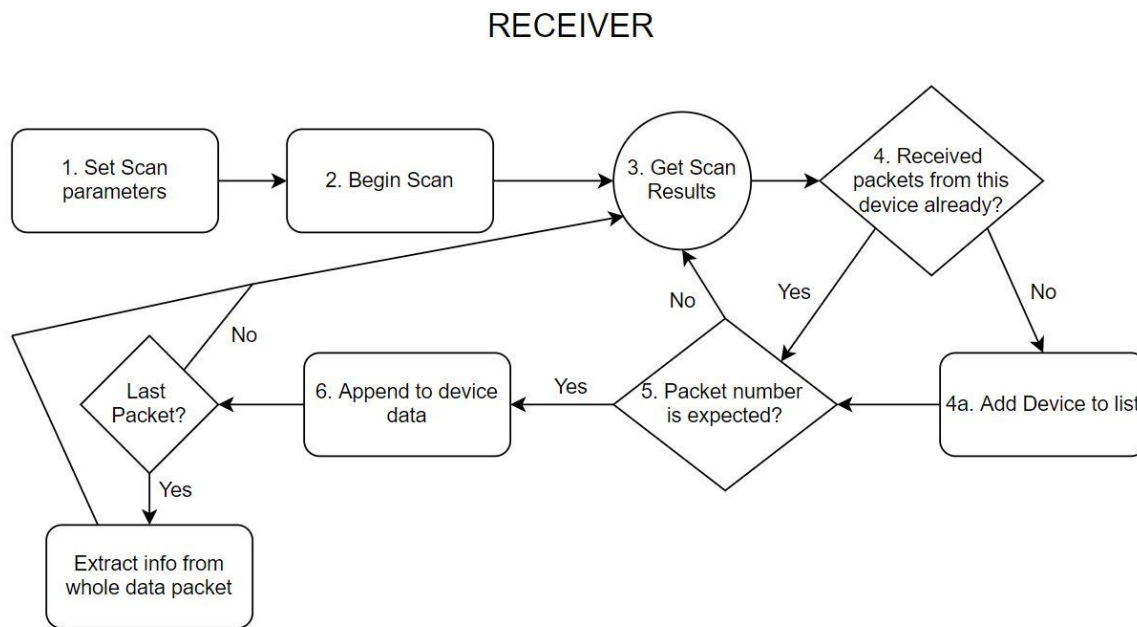
Step Explanations

1. The Scan parameters are as follows:

- Mode: Low Latency
- Legacy: false (required for BLE 5)
- PHY: LE_ALL_SUPPORTED
- Match Mode: Aggressive
- Filters: filter by service UUID of application

3. Continually parse scan results

4, 5, 6. If scan result is from a device that we have already received and the packet is in the correct order (it is the packet that we are expecting, append the data to the data we have already collected from the device. If we have not received packets from this device, add the

device to a list. If this is the first packet, store the data as well. If we have received the last packet in the correct order, extract that data.