| **Requirement** | **BLE Protocol** | **Comments** | **Questions** |
| --- | --- | --- | --- |
| **1.1** The Device should be able to learn the IR control signals (learning mode) | Custom characteristic.  **Name**: IR Codes learn  **UUID**: TBD  **Properties**: WRITE, WRITE NO RESPONSE  **Type**: ??? | The App tells the Device to enter learning mode.  The App tells the Device what IR control signal is to be learned.  The App needs to map each IR control signal to a unique signal code.  The app needs to store the signal code for later usage. | Will the App get confirmation from the Device that the code has been successfully learned?  User needs to input to the App what signal is being learned (e.g. turn on air conditioner). No UI design for that today. Will there be design? |
| **1.2** The Device should be able to emit IR control signals. | Custom characteristic.  **Name**: IR Codes emit  **UUID**: TBD  **Properties**: WRITE, WRITE NO RESPONSE  Type: ??? | The App tells the Device what IR control signal to send. | Will the App get confirmation from the Device that the code has been successfully emitted? |
| **1.3** The App will allow the user to set schedules to turn on and off an air conditioner | Custom characteristic.  **Name**: Set schedule  **UUID**: TBD  **Properties**: WRITE, WRITE NO RESPONSE  **Type**: ??? | The App tells the Device:   * On or Off * When to trigger   Proposed type: UTF-8 String  Where the first char is “0”(On) or “1”(Off). Remaining chars are the scheduling timer in seconds.  Example: Turn on in 10 minutes:  App sends: “1600”  Example: Turn of in 4 hours:  App sends: “014400” | We need a command to disable/erase a schedule. |
| **1.4** The App will allow the motion sensor sensitivity to be set | Custom characteristic.  **Name**: Motion sensor sensitivity  **UUID**: TBD  **Properties**: WRITE, WRITE NO RESPONSE  **Type**: uint32 |  | What are the possible values for sensor sensitivity? |
| **1.5** The App will allow a timeout to be set (to turn off the air conditioner if no motion is sensed for a while) | Custom characteristic.  **Name**: Motion sensor timeout  **UUID**: TBD  **Properties**: WRITE, WRITE NO RESPONSE  **Type**: uint32 | The App tells the Device the timeout value.  Proposed timeout value: Timeout in seconds.  Example: Turn off air conditioner if no motion is sensed for 10 minutes:  App sends: 600 | We need a command to disable/erase a schedule. |
| **1.5** The App will allow the air conditioner to be controlled manually using buttons in the App (for testing purposes mainly) | N/A | Completely handled by the App. Given that IR control signals have been learned. |  |
| **1.6** The App will show a battery state of charge indicator | Battery service.  **UUID**: 0x180F  **Battery** level characteristic.  **Name**: Battery level  **UUID**: 0x2A19  **Properties**: NOTIFY, READ  **Type**: uint8  Custom characteristic.  **Name**: Battery voltage  **UUID**: TBD  **Properties**: NOTIFY, READ  **Type**: uint16 |  | Why is a custom characteristic needed? Isn’t it enough with the Battery service? |
| **1.7** The App will display a notification when the battery is getting low | N/A | Completely handled by the App |  |
| **1.8** The App will allow turning on the air conditioner when motion is sensed | TBD | The BLE protocol for this is missing |  |
| **1.9** The App will support QR code reading to connect to the device |  |  | More information needed about the information that will be handled by the QR code. |