Roomba 650 - Test Plan

Device On/Off
1. Turn On the device when "Clean" Button is pressed
2. Turn On the Green-Light when the device is On
3. Turn Off the device when "Clean" Button is pressed again
4. Turn Off the device lights when the device is in Off state

Charging
1. Orange-Light is ON when charging
2. Low Battery Red-Light is on when battery is low
3. Automatically return to Home-Base to recharge
4. Charging Orange-Light is ON when charging by Charging pin
5. Charging Orange-Light is ON when Charging by Resting At Home-Base (dock)
6. Charging light should be turned OFF when fully charged

Movement
1. Verify Both wheels are moving
2. Verify the front Rotating wheel is moving
3. Can move forward
4. Can move backward
5. Can move left
6. Can move right
7. Can circle around
8. Can move from **hard floor** to **carpet**
9. Can move from **carpet** to **hard floor**
10. Can cross over thresholds
11. Can move around clutter
12. Should turn around from walls
13. Should turn around from stairs
14. Should turn around from any cliffs
15. Should turn around form virtual wall
16. Can move along the wall
17. Can move along the edges
18. Can go under 4" tall furniture
19. Can go under Curtains and skirts
20. Can move and clean at the same time

Smart Cliff Detection

1. Should avoid stairs and turn around
2. Should avoid cliffs and turn around
3. Should be able to detect virtual wall and turn around

Home-Base
1. Should return to Home-Base when "Dock" button is pressed
2. Automatically return to home after 60 minutes of cleaning
3. Automatically return to home when the battery is low
4. Should become on Stand-by status when resting at home-base
5. Should leave home-base and start cleaning when the device clean button is pressed physically
6. Should leave home-base and start cleaning when clean button is pressed via iRobot app

Dust Bucket and Brush Panel
1. Dust Bucket: Show warning light once dust bucket is almost full
2. Dust Bucket: Stop cleaning when the dust bucket is full
3. Brush Panel: Show warning light once brush panel is full
4. Brush Panel: Stop cleaning when brush is hard to move

Sensors checks
1. Motion sensor light is ON
2. Dust bucket sensor should detect when the bucket is full
3. Brush Panel sensor should detect when the brush panel is full dirty and hard to move

Cleaning & Sweeping:
1. Turns ON suction/vacuum when detects dirt/litter on the floor
2. Turns OFF suction/vacuum when no dirt/litter found around
3. Moves and cleans on less dirty surface (dirt, hairs)
4. Should Circle around the dirtier area and spend 60 seconds to clean
5. Can clean along walls
6. Can clean along Edges
7. Should not clean area restricted by Virtual Wall

Preset Cleaning Schedule
1. Display Screen should turn on when "Schedule" button is pressed
2. Should Display "Days" on schedule screen
3. Should display "Hours" on schedule screen
4. Should display "Minutes" on schedule screen
5. Can set days by pressing "Day" button
6. Should set day after pressing day button and wait for 3 seconds

7. Can set hours by pressing "Hour" button
8. Can set minutes by pressing "Minute" button

Clock
1. Display Screen should turn on when "Clock" button is pressed
2. Can set day by pressing "Day" button while holding clock button at the same time
3. Can set hours by pressing "Hour" button while holding clock button at the same time
4. Can set minutes by pressing "Minute" button while holding clock button at the same time
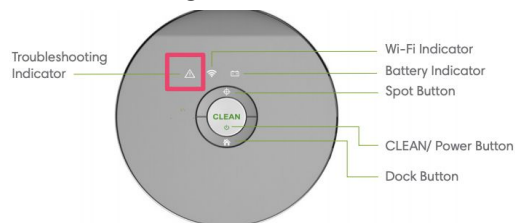
iRobot Home App
1. Should be able to connect with iRobot app
2. Should be able to Preset Schedule from app
3. Should start cleaning when tab Clean from app
4. Should Stop cleaning when cleaning button is pressed again

Wifi
1. Should be able to connect to the wifi
2. Wifi light should be turn Blue when connected to the Wifi
3. Wifi light should be Yellow when not connected to the Wifi

Troubleshoot Indicator
1. Troubleshoot light should be ON when Sweeper/brush is jam

2. Troubleshoot light should be ON when device is unable to move due to Jam
3. Troubleshoot light should be ON when device is stuck

Home-Base (Dock Station)
On/Off
1. Should turn ON green light when plugged-in
2. Should turn OFF lights when unplugged
3. RCON sensor light should be on when in ON state
4. Changing the dock station place should call the Roomba device to new location