

Use Case: Device Power Change (UC1) (Dai)

Primary Actor:

- User

Precondition:

- User has a device

Main Success Scenario:

1. User press the Power Button when the device is off
2. The device power on
3. User press the Power Button when the device is on
4. The device power off

Extensions:

- 2a. The device cannot power on
 - 2a1. Try to charge the device battery. Check whether the device is out of power.
 - 2a2. Contact after-sales service personnel for maintenance.
- 4a. The device cannot power off
 - 4a1. Contact after-sales service personnel for maintenance.

Use Case: Device Low Battery (UC2) (Dai)

Primary Actor:

- User

Precondition:

- User has a device

Main Success Scenario:

1. User received warning when device at 5% charge
2. User received warning when device at 2% charge and then device power off

Extensions:

- 1a. No warning occur
 - 1a1. Contact after-sales service personnel for battery check.
- 2a. After warning the device still working
 - 2a1. Stop use and charge the device battery.

Use Case: Set Frequency (UC3) (Braedon)

Primary Actor:

- User

Precondition:

- Device is powered on and not running

Main Success Scenario:

1. User selects the desired frequency from the options of 0.5hz, 77hz or 100hz
2. Device uses the selected frequency during operation

Postcondition:

- Frequency set successfully

Extensions:

- 1a. No frequency selected
 - 1a1. Device defaults to 0.5hz

Use Case: Set Current (UC4)(Braedon)

Primary Actor:

- User

Precondition:

- Device is powered on

Main Success Scenario:

1. User selects the desired current in increments of 50 microamperes between 0-500 prior to operation
2. Device uses the selected current during operation
3. Current can be changed during operation

Postcondition:

- Current has been changed successfully

Extensions:

- 1a. No current selected
1a1. Device defaults to 0 microamperes (no power)?

Use Case: Circuit Check (UC5)(Braedon)

Primary Actor:

- Device

Precondition:

- Device is powered on and currently operating

Main Success Scenario:

1. Circuit check ensures electrodes are fully in contact constantly
2. If contact is lost for less than 5 seconds, resume treatment when contact resumes
3. If contact is lost for longer than 5 seconds, abort treatment
4. Show status of contact on user interface

Postcondition:

- Treatment stops if contact is lost for longer than 5 seconds

Use Case: Fault Discovered (UC6)(Braedon)

Primary Actor:

- Device

Precondition:

- Device attempts to use a current exceeding 700 microamperes

Main Success Scenario:

1. Device notices current usage beyond 700 microamperes
2. Device turns off and becomes permanently disabled

Postcondition:

- Device turns off and will not turn back on

Use Case: Change waveform (UC7) (Dai)

Primary Actor:

- User

Precondition:

- Device is power on

Main Success Scenario:

1. The default waveform should be Alpha
2. User press the waveform options button (may change)
3. Waveform changed after button pressed

Extensions:

- 1a. The default waveform is Beta or Gamma
1a1. If it is only an initial error, it will not affect normal use.
- 3a. The waveform has not changed even after pressing the button
3a1. Contact after-sales service personnel for maintenance
- 3b. Wrong waveform replacement sequence
3b1. The default waveform should be Alpha. And the waveform replacement sequence should be [Alpha(default) -> Beta(1st time press) -> Gamma(2nd time press) -> Alpha(3rd time press) and so on]. Therefore, if the replacement order occurs something wrong, the user needs to contact the after-sale service to mantintance.

Use Case: Treatment (UC8) (Dai)

Primary Actor:

- User

Precondition:

- Device Power On
- Electrodes are in contact with skin (Circuit check shows ON)
- Time chosen

Main Success Scenario:

1. Treatment start with default or chosen waveform
2. Treatment start with default or chosen frequency
3. Treatment start with default or chosen current
4. Current can be adjusted at any time
5. Current control in the range of 0-500 μ A
6. Treatment ends

Postcondition:

- Timer ends or user stops treatment or electrodes disconnected with skin

Extensions:

- 5a. Current to exceed 700 μ A
5a1. The device auto power off
- 6a. Battery runs out before the treatment ends
6a1. Charge the device battery before the battery at 2 %

Use Case: Recording (UC9)(Yaro)

Primary Actor:

- User

Precondition:

- The device is turned on and therapy has just concluded.

Main Success Scenario:

1. User presses the record button to save current therapy settings.
2. The device saves the current therapy settings to the history of treatment.

Postcondition:

- The therapy's settings have been saved to the device's history of treatments.

Extensions:

- 2a. User changes the power level during therapy.
 - 2a1. The device saves the last selected power level.

Use Case: 30 Minute Auto-Off (UC10)(Yaro)

Primary Actor:

- User

Precondition:

- The device is turned

Main Success Scenario:

1. Device checks time counter to see if it has been used in the past 30 minutes.
2. Device turns off.

Postcondition:

- Device is off.

Extensions:

- 1a. User has used the device in the past 30 minutes.
 - 1a1. The device continues to operate.

Use Case: Change Time (20, 40, 60 min) (UC11)(Yaro)

Primary Actor:

- User

Precondition:

- The device is turned on and is not in the middle of therapy.

Main Success Scenario:

2. User cycles through one of the 20, 40 or 60 minute countdown options using the timer button.
3. User selects the desired time option using the Ok button.
4. The device returns the user to the previous page.

Postcondition:

- A time option was selected.