ID	Requirement	Related Use Case	Fulfilled By	Test	Description
1	The simulator has an on/off switch	Device Power Change Use Case (UC1)	MainWindow.ui , MainWindow	Run the simulator in Qt and press the power button.	Our user interface includes a clickable button that toggles the power state of the device
2	Continuous circuit check when electrodes are in contact with the skin indicated by a test circuit symbol that shows contact ON (connected) or OFF (disconnected). If skin contact is lost during treatment for less than 5 seconds treatment resumes, otherwise, treatment stops. Loss of skin contact is shown by the indicator changing from ON to OFF	Circuit Check Use Case (UC5)	MainWindow.ui , MainWindow	Start treatment by checking the *apply to skin* checkbox. Observe the indicator in the top right corner. Uncheck the checkbox for 5 seconds to see the treatment stop.	Our user interface includes an “Apply To Skin” toggle. Clicking this button will toggle simulation of skin contact. The MainWindow class is able to pause, start, stop, and continue treatment as needed based on this.
3	Three frequency options of 0.5hz, 77hz, 100hz	Set Frequency Use Case (UC3)	MainWindow.ui , MainWindow	While the device is on, press the “F” button to cycle through the frequency options.	Our user interface includes a frequency selection button depicted by a large F. Pressing this button cycles through the three possible frequency options. The currently selected frequency is shown in the GUI
4	Three wave form options of Alpha, Betta, Gamma	Change Waveform Use Case (UC7)	MainWindow.ui , MainWindow	While the device is on, press the “W” button to cycle	Our user interface includes a waveform selection button depicted by

				through the waveform options.	a large W. Pressing this button cycles through the 3 possible waveform options. The currently selected waveform is shown on the GUI
5	20, 40, or 60 minute countdown cycles	Time Usage Use Case (UC11)	MainWindow.ui , MainWindow	While the device is on, press the “T” button to cycle through the time options.	Our user interface includes a time selection button depicted by a clock icon. Pressing this button cycles through the 3 possible time options. The currently selected time is shown on the GUI
6	Large timer display. Treatment starts when electrodes touch skin	Circuit Check Use Case (UC5)	MainWindow.ui , MainWindow	Check the *apply to skin* checkbox to start treatment and observe the timer.	Our user interface includes an “Apply To Skin” toggle. Clicking this button when it is untoggled will result in treatment beginning if the device is powered on
7	0-500 microampere current control in 100 microampere increments (1-10)	Set Current Use Case (UC4)	MainWindow.ui , MainWindow	While the device is on, press the△ or ▽ button to increase or decrease current.	Our user interface includes two current control buttons. These are represented by an up arrow and a down arrow. Pressing these buttons will increase or decrease the current for the treatment. The currently selected current level is shown on the GUI
8	30 minute auto-off when not in use	Minute Auto-off Use Case (UC10)	MainWindow.ui , MainWindow	Do not use the device for 30 minutes.	The MainWindow class keeps track of the amount of time the device has

					been powered on and not in use and if this time reaches 30 minutes the device will power off
9	Battery charge indicator: device issues a warning at 5% charge and shuts down at 2% after issuing another warning.	Device Low Battery Use Case (UC2)	MainWindow.ui , MainWindow	Input a low percent battery to the batteryLineEdit to change the battery and the mainwindow will display the warning to the user.	Our user interface includes a line edit to change the battery. After input the value of expected battery press Enter can make the battery changed.
10	Recording: user can choose to record a therapy and add to history of treatment. Assume only a single user.Therapy information to be recorded: Waveform, frequency, start time, duration and power level (if changed during therapy choose last selected power level).	Recording Use Case (UC9)	MainWindow.ui , MainWindow	Press the “R” button on the device or the “save recording” button to save a treatment.	Our user interface contains two buttons that control recordings. The first button is a “Save Recording” button that will add the device's chosen treatment to the recordings list. The second is a “Load Recordings” button that loads a panel showing all recordings
11	Automatically and permanently disables itself should a single fault develop within the device causing the current to exceed 700 µA.	Treatment Use Case (UC8)	MainWindow.ui , MainWindow	Press the “current fault” button to simulate a current over 700 µA.	Our user interface include a button “Current Fault” that will add the current to 700 µA. And the device will check this situation to power off the device.