Traceability Matrix (OasisPro)

ID	Requirement	Related Use Case	Fulfilled By	Test	Description
1	The application interface contains buttons, text boxes	N/A	MainWindow.ui	Run the simulator in Qt to observe the ui	Using Qt's framework to build user interface. All Interface elements are disabled. Only battery charge status is on.
2	User can turn the power on by pressing the power button while the device is off, enabling the device to be used and illuminating the power LED	UC2	CESmc class, Cranio-Electro Stimulation machine.	Press the power button while the device is off and observe it turn on the device and power button.	CESmc will turn on the device. A menu contains starting new session item and History item is displayed. The simulator's interface will be activated with a simulated red LED is on.
3	User can turn the power off by pressing the power button while the device is on, disabling the device and turning the power button off.	UC3	CESmc class, Cranio-Electro Stimulation machine.	Press the power button while the device is on and observe it turn off the device and power button.	CESmc will turn off the device. The main menu will disappear. The simulator's interface will be deactivated and the simulated red LED is off.
4	Device does a 'soft off' when it is powered off during a session that slowly reduces the intensity of the electroshock therapy from the current intensity to 0.	UC9	CESmc class, Cranio-Electro Stimulation machine.	Press the power button while the session is running and observe it turn off the device and power button.	CESmc will turn off the device. The main menu will disappear. The simulator's interface will be deactivated and the simulated red LED is off.
5	Device turns off automatically when the remaining battery level is critically low, softOff during a session.	UC9, UC14	CESmc class, Cranio-Electro Stimulation machine, and Battery class	Battery Low signal, can be triggered by the battery slider, before session starts	Note: to see it clearly during session increase intensity to at least 5. CESmc will slowly reduce the intensity of the electroshock therapy from the current intensity to 0, Menu disappears and then press Power button to turn off the simulator.
6	The amount of battery depleted per session is impacted by the intensity and length of the session	UC9, UC14	CESmc class, Cranio-Electro Stimulation machine, and Battery class	Run a session	CESmc will consume the battery based on a formula calculated based on session time, and intensity.
7	User can mark a new session to be recorded, meaning that the length, session type and last recorded intensity will be saved to their user profile's treatment history when the session is completed	UC11	Record, and CESmc classes	Press the power button to turn on device. Main menu will appear	After starting a session, press record button to record current session.
8	Users can view all the treatments they have previously recorded	UC10	CESmc class, Cranio-Electro Stimulation machine	Press the power button to turn on device. Main menu will appear	From the main menu chose HISTORY then press OK button, sub-menu will appear then chose VIEW then press OK button. The History list of therapies will be displayed. To return to previous menu , press the Back button
9	User can change and view the type of their session before beginning it	UC8	QMainWindow, and CESmc classes	Press the power button to turn on device. Main menu will appear	From Main menu chose START NEW SESSION, then press OK button. Chose the duration of the session using the UP/DOWN buttons then press OK button. Use the UP/DOWN buttons to choose from different types of frequencies then press OK button.
10	User can change and view the intensity level of their session during running a session	UC9	Intensity, QMainWindow, and CESmc classes	Press the power button to turn on device. Main menu will appear	Same procedure of Traceability #12 and after starting a session you can use UP/DOWN Arrow buttons to increase/decrease intensity during session. Intensity level will be displayed as numbers from 1 to 8 (1 is the minimum and 8 is the maximum intensity) with different colors (Green {1,2}, Yellow {3,4}, Orange {5,6}, Red {7,8})
11	User can change and view the duration of their session before starting it	UC8	QMainWindow, and CESmc classes	Press the power button to turn on device. Main menu will appear	From Main menu chose START NEW SESSION, then press OK button. Chose the duration of the session using the UP/DOWN buttons then press OK button.

12	User start a new session	UC8, UC9	CESmc, Intensity, Battery, and Connection classes	Press Power button. Main menu will appear	Chose START NEW SESSION at the main menu, then click OK button. Chose one of Sub-menu different Time intervals (20 MIN, 45 MIN, USER DESIGNATED) then click OK button. Chose a Frequency from sub-menu then Check Connection Status check box (without checking Connection Status the session will not start). Then press OK button to start the session. During session you can press UP/DOWN button to adjust Intensity during session. As the session progresses the battery charge will be decreased monitoring
13	When requested to start a new session or during a session, the device checks to see if the user and the device are connected by their earclips and does not start or continue the session if they are not connected.	UC12, UC8, and UC9	CESmc, Intensity, Battery, and Connection classes	Press Power button. Main menu will appear	Chose START NEW SESSION at the main menu, then click OK button. Chose one of Sub-menu different Time intervals (20 MIN, 45 MIN, USER DESIGNATED) then click OK button. Chose a Frequency from sub-menu then press OK button but in this case the session will not start. In order to let the session starts, you need to Check Connection Status checkbox (without checking Connection Status the session will not start).
14	User can connect or disconnect their earclips at any point	UC12, UC8, and UC9	CESmc, and Connection classes	Press Power button. Main menu will appear	Same procedures as start new session. Uncheck the Connection Status check-box to simulate losing the connection with user's ear. Session will stop noticed in battery charge and session elapsed time stops. If checked again the session will continue.
15	User can adjust the intensity level while the session is in progress.	UC13, UC12, UC8, and UC9	CESmc, Intensity, Battery, and Connection classes	Press Power button. Main menu will appear	Do Strat new session procedure, then while session is running use the UP/Down Buttons to increase or decrease intensity of the current therapy.
16	User can replay a treatment from their history.	UC7	Replay, CESmc, Intensity, Battery, and Connection classes	Press Power button. Main menu will appear	Chose HISTORY at the main menu, then click OK button. Then chose VIEW from the sub-menu. A list of previous session therapies will be displayed. Then chose one then press OK button. Check the Connection Status checkbox then press OK button. The session now is running.
17	User can create a new user profile.	UC5	CESmc, and User classes	Press Power button. Main menu will appear	Chose Create User Profile, Then press OK button. A form contains user name will appear, enter required data then press OK button.
18	User can select a user profile from a list of all user profiles.	UC4	CESmc, and User classes	Press Power button. Main menu will appear	Chose Users, Then press OK button. A list of available users will be displayed select users using UP/DOWN arrow buttons then press OK button.
19	Device issues a warning when it has low battery power	UC14	Battery, QMainWindow, and CESmc classes	Move Battery slider to decrease battery charge level	A message will appear telling the user to change battery.