Traceability Matrix

ID	Requirement	Related Use Case	Fulfilled By	Implemented-by	Tested-by
1	21 Electrodes for headset (7 for demo)	2	QT Interface console	Electrode.cpp Lenstest.cpp	7 electrodes are scanned, and data processed in the UI and the console when we start a LENS session.
2	On/off button	1	QT Interface console	Maincontrol.cpp Mainui.cpp	Pressing of POWER button will change access levels to the UI.
3	Persistent battery	1	QT Interface console	Maincontrol.cpp Mainui.cpp	Power level widget displays same level of charge when turning device on/off
4	Battery drains with treatment	2	QT Interface console	Maincontrol.cpp Mainui.cpp	Running a LENS treatment has battery level go down significantly. 1%/sec otherwise. Warnings to recharge if system is low on battery.

5	Reset battery level	NA	QT Interface console	Maincontrol.cpp devpanel.cpp	Pressing the “recharge battery” button in the devpanel will reset the battery widget icon to full
6	Navigate UI	3	QT Interface	Maincontrol.cpp Mainui.cpp	UP and DOWN arrows can be clicked on UI to navigate the menu. MENU Button to change into a screen will enter the given interface
7	Headset connection required for LENS test; abort if no connection for 5 minutes. (10sec demo)	2	QT Interface console	Devpanel.cpp Mainui.cpp	Pressing “Toggle Headset Connection” will change the state of connection. First contact line will be blue on initialization. If no contact during treatment, 3rd light will flash red

8	Timer for approximate time for a session with progress bar	2	QT Interface	countdowntimer .cpp Lenstest.cpp Maincontrol.cpp Mainui.cpp	Timer in New Session UI will change based on elapsed time during active treatment (pausing will pause timer)
9	1 min Baseline calculation and adjustment for treatment over 1 second per electrode (2.5 sec+1sec for demo)	2	QT Interface console	Electrode.cpp Lenstest.cpp Mainui.cpp	Console outputs will be given for calculated baseline and subsequent treatment shift over 1 second
10	EEG Waveform projection	2	QT Interface Console	Eegwaveformgenerator.cpp Mainui.cpp	Waveforms can be viewed while an active LENS session is running
11	Pause/Start/Stop functionality	2	QT Interface Console	Maincontrol.cpp Mainui.cpp	Pressing the appropriate button during a new LENS session will change the state of the session.

12	Session abort if stop pressed OR paused longer than 5mins (10 secs demo)	2	QT Interface Console	Maincontrol.cpp Mainui.cpp Timer.cpp	Pausing during an active LENS session will activate a timer. If timer elapses, session is aborted. Immediate abort with stop
13	Date and time setting	NA	QT Interface Console	Maincontrol.cpp Mainui.cpp	Change string in UI element and set by pressing button.
14	Persistent successful session log	2	QT Interface Console	Maincontrol.cpp Mainui.cpp Databasemanager.cpp Devpanel.cpp	1: View session date/time after selecting option in MainUI 2: View detailed logs on PC through devpanel