



September 19, 2020

Federal Communications Commission
Equipment Authorization Division
7435 Oakland Mills Road
Columbia, MD 21046
USA

Attn: OET Dept.

Ref: FCC Class II Permissive change for FCC ID: 2AOH8-NM

Applicant: Theranica Bio-Electronics Ltd.

Dear Examiner,

This is to request a Class II Permissive change for FCC ID: 2AOH8-NM originally granted on 07/29/2019.

The change under this application is to reduce its cost.

However, to maintain as much identicity as possible between the revisions only very specific and localized changes were made.

The following guidelines were observed when deciding on/performing the changes:

1. There are NO changes in the electronic PCB dimensions, material and trace widths.
2. There are NO changes in the power source of the device, or its usage.
3. There are NO changes in the BLE and RF aspects: the same MCU+BLE IC, printed antenna footprint and connecting components and traces are used
4. There are NO changes in the electrical output parameters of the device: the same pulse shape, duration, frequency, voltage and current ranges are used



#	Change	Reason
1	Update user manual from rev LBL-NM-0014-1.1 to rev LBL-NM-0014-1.3	Following application changes
Update device from rev DEV-NM-0010-2.1 to DEV-NM-0010-x.x with the changes listed below		
2	Update the device label from rev LBL-NM-0010-1.1 to LBL-NM-0010-1.2	Update product name and Theranica address
3	Update package label from rev LBL-NM-0012-1.1 to LBL-NM-0012-2.0	Update product name and Theranica address and general graphical changes
4	Updated QSG from rev LBL-NM-0015-1.0 to rev LBL-NM-0015-2.0	General update and release for production
5	Update NM Electrodes and soft layers Assy from rev HDG-NM-0010-1.2 to HDG-NM-0010-1.3	Minor change in PAD-NM-0011-1.1
6.	Add Nerivio leaflet LBL-NM-0017-1.1	
Update PCBA from rev 2.0 to rev 3.0 with the changes listed below		
1	Replaced ON dome switch with SMT switch (same location)	Reduce cost of assembly
2	Remove one DC2DC stage, keeping same voltage parameters	Reduce cost
3	Replace other components with reduced-cost components, keeping the same functionality	Reduce cost
4	Added support for eyelets, no functional reduce	Reduce cost of device assembly
Update FW from rev 3.1.0.8 to rev 3.1.5.0 with the changes listed below		
1	Adding a NULL pointer on all BLE characteristics that were not terminated.	To avoid the application from reading junk after the FW info.
2	Changing the LED behavior at the init phase so it is constantly lit until it starts blinking after connection	Marketing requirement
3	The clearpwd and clearudid commands that enable to clear a password will be available also when the device is locked (and may be used with a special application tool we shall provide)	Marketing requirement
4	When the device shuts down the SW shuts down the BLE, resets the watchdog and waits	Bug fix

	after than in an infinite loop, to prevent the FW from working unexpectedly after shutting down the GPIO (it takes 7 msec for the CPU actually to power down) – this is to resolve the rare phenomena we got from production that devices are blinking infinitely (due to flash corruption)	
5	Enable the test command setnoactto (to shut down the device) to operate also if the device is not authenticated	Production requirement
6	Support inserting the UDI to the device	Engineering requirement
7	Add 2 new characteristics in the BLE, one to read the battery level and one to read the UDI	Production requirement
8	Resolving the “spike” that may occur during treatment when re connecting the application via BLE.	Bug fix
9	Fix the bug regarding average intensity not rounded to the nearest integer value, but always rounded down	Bug fix
10	Calibration of the crystal frequency	Fine-tune BLE frequencies

I attest that the certified device will not be capable of ad-hoc mode operation outside of the grant conditions.

Sincerely,

Name: Ofer Rivkind

Date: 08.30.2020

Title: Director of VLSI and Hardware

Signature of applicant

