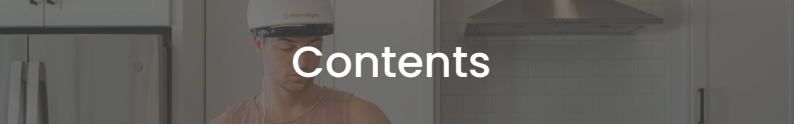
mitoredlight

USER MANUAL

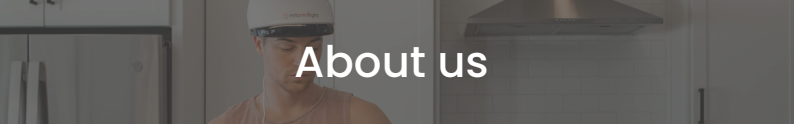
MitoGROW™

www.mitoredlight.com


intovedlight



Contents



About us

Located in Scottsdale, Arizona, **Mito Red Light®** is dedicated to bringing the highest powered, highest quality red light therapy lights to market at the best possible value.

Having extensively studied and realized the benefits of red light therapy firsthand, Mito Red Light was brought into existence in order to provide consumers truly affordable, yet highly effective red light therapy options.

If you have any further questions, please feel free to contact us at:

info@mitoredlight.com

You can also call our phone number

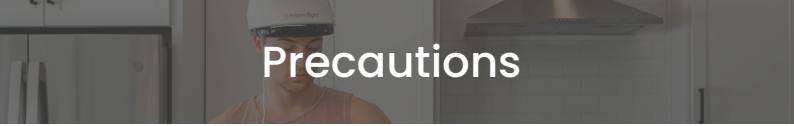
Monday - Friday 9am - 5pm MST

+1 866-861-6486

Mail correspondence can be sent to:

Mito Red Light, LLC

9319 N 94th Way, Suite 400 Scottsdale, AZ 85258



Precautions

Thank you

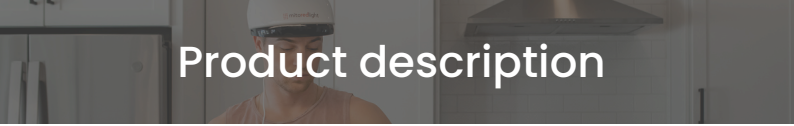
for purchasing the MitoGROW laser helmet, please read this manual carefully before use.

The MitoGROW laser helmet is indicated to promote scalp health by delivering red light to the scalp. In order to use the Laser Helmet safely, please follow the instructions in user manual.

Please note that the laser helmet is meant to be used ONLY on the head. DO NOT attempt to use the helmet on any other parts of the body.

If you have any questions about the operation of the device, please contact customer service : 1-866-861-6486 or email us at info@mitoredlight.com.

WARNING: DO NOT LOOK DIRECTLY AT ANY OF THE LIGHT-EMITTERS INSIDE THE DEVICE.



Product description

The MitoGROW laser helmet is comprised of 162 class 2 lasers with a laser output of <1mW (wavelength: 650-660nm, power <1mW) configured within an outer helmet and protective inner liner.

The combined light is absorbed by the scalp.

The use of diode lasers provides for a full coverage of the upper portion of the head; i.e., the area commonly covered with stylized hair.

The helmet system is designed to automatically pause therapy if the subject's head is moved outside of the zone of radiation and will resume therapy when the correct head position is re-established.

At the end of the therapy cycle, the system signals that therapy is complete and ready to be powered down, by emitting an audible beeping sound.

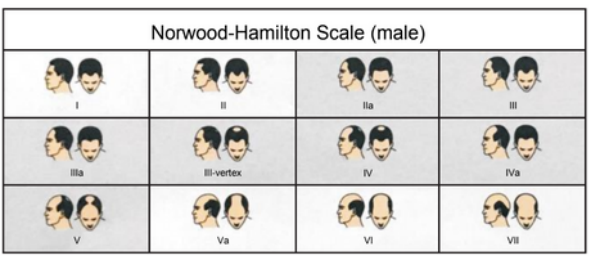
The laser helmet may produce ~20% maximum output deviation in different sites.

It uses a non detachable polymer lithium battery for power supply, and the continuous use time for the battery is 80 minutes. Which meets the requirements of IEC 62133-2 safety standard. Please note: The standard individual session is 12 minutes.

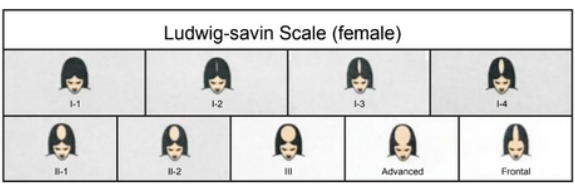
WARNING: DO NOT LOOK DIRECTLY AT ANY OF THE LIGHT-EMITTERS INSIDE THE DEVICE.

Indications of use

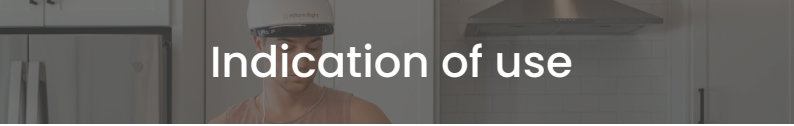
The Hair Growth Device is indicated to promote hair growth in males with androgenetic alopecia who have Hamilton-Norwood Classifications of IIa-V and females with androgenetic alopecia who have Ludwig-Savin Classifications of I-II and Fitzpatrick Classification of Skin Phototypes I to IV. All users should have Fitzpatrick Skin Types I to IV.



The device is indicated for males who have Norwood-Hamilton Classifications of Class IIa to V.



The device is indicated for females who have Ludwig-Savin Classifications of Class I to II.



Indication of use

The device is indicated for males and females who have Fitzpatrick Skin Types I to IV.

Type I: Highly sun-sensitive, always burns, never tans (e.g. pale, freckled or white skin)

Type II: Very sun-sensitive, burns easily, rarely tans (e.g. fair skin)

Type III: Sun-sensitive, sometimes burns, sometimes tans (e.g. light brown or olive skin)

Type IV: Minimally sun-sensitive, burns minimally, tans easily (e.g. brown skin)

The device is not indicated for males and females who have Fitzpatrick Skin Types V or VI.

Type V: Sun-insensitive, rarely burns, always tans (e.g. dark brown skin)

Type VI: Sun-insensitive, never burns, always tans darkly (e.g. black skin)

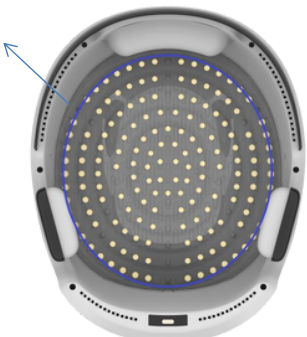
Component introduction

What's included

Laser Helmet	1
Data cable	1
Controller	1
User Manual/Warranty	1

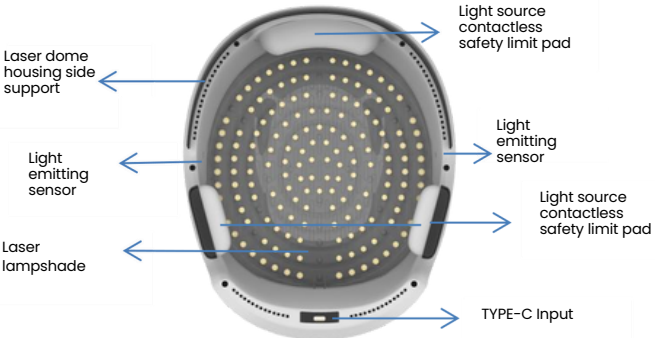
Schematic diagram of light source output window

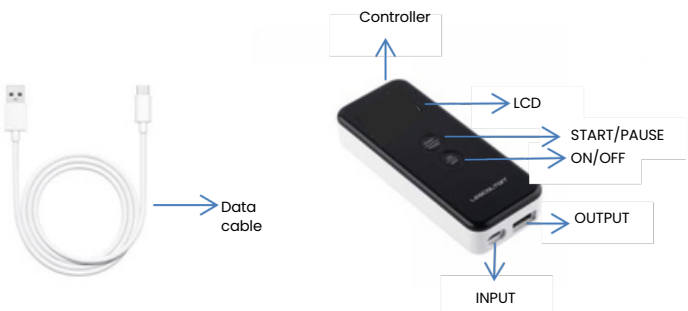
Laser output window



WARNING: DO NOT LOOK DIRECTLY AT ANY OF THE LIGHT-EMITTERS INSIDE THE DEVICE.

Component introduction





Contraindictations

The MitoGROW is contraindicated in the following situations:

Do not use the device if you have a medical condition that makes your skin sensitive to sun or light, or if you are taking photosensitizing medications.

NO

Do not use the device if you have cancer on your scalp.

NO

Do not use the device if your skin is sensitive or allergic to laser (650-660nm). Sensitive skin or allergic reactions may cause itchy scalp or sunburn redness, for example, redness, etc., if there is any abnormal condition when using, please stop using immediately and consult a physician.

NO

The device should not be used by or on children under 18 years of age.

Warnings and precautions

Warning: To control or adjust the laser helmet or to perform any step of the operation other than those specified in the operating instructions, may cause hazards such as possible harmful radiation, electric shock, fire or malfunction.

Do not disassemble, modify, or repair the laser helmet.

NO

Do not look directly at the light source or use an optical instrument (such as a magnifying glass or microscope) to observe the light source. It may damage your eyes.

NO

Discontinue use of the device if scalp itching or tingling occurs and lasts more than one hour after completion of a session. If the problem continues for more than one hour after the session, discontinue use and consult with a physician.

NO

Warnings and precautions

Do not put tension on the cord while handling, untangle or straighten the cord. The tension may break the cord, which could result in a malfunction or electrical hazard.

NO

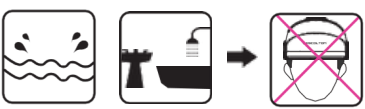
Do not allow the helmet or controller to come into to contact with water while in use. This could cause the product to malfunction.

NO

Do not place the device or controller where it can fall or be pulled into a sink or a tub. This could cause the product to malfunction.

NO

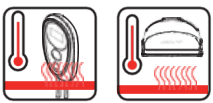
Never use the device while sitting in the bathtub or swimming pool. This could cause the product to malfunction.



NO

Warnings and precautions

Always keep the helmet or controller away from hot or heated surfaces such as radiators, stoves, ovens or room heaters. If the helmet or remote control makes contact with a hot or heated surface, it can cause the product to malfunction.



NO

Do not use the device when your hair is wet from showering, swimming or bathing etc. Towel dry your hair before use. Wet hair may result in the product to malfunction or preventing the laser light from being delivered to the scalp.

NO

Do not operate the device if it has a damaged cord, controller, or helmet. If you notice damages to the above, please contact Mito Red Light.

NO

Warnings and precautions

Keep the lasers and device out of reach of children and pets. The laser light may cause harm or injury to your children and pets if they look directly at the laser light.

NO

Please turn off the power before cleaning the device, otherwise the product may become damaged

YES

Only use the device according to the instructions provided. The device is for scalp and hair follicle health and for use on the scalp only.

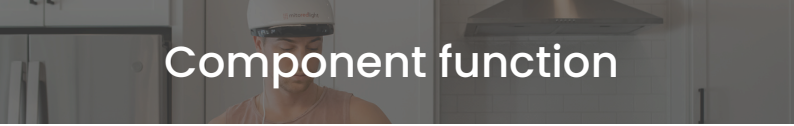
NO

Warnings and precautions

Avoid dropping the device, as this may cause the device to malfunction and become damaged. If you drop the device or suspect device malfunction (e.g. device exterior cracks, lasers do not light up, or the device does not turn on), contact Mito Red Light to request repair or replacement.

NO

The charger used by the equipment shall be provided by the user, which shall comply with IEC 60601-1, and the output power shall be DC5V, 2A

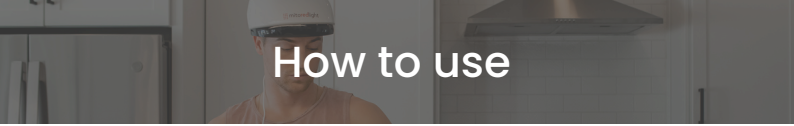


Component function

Description	Function
Laser Dome Housing	Plastic laser dome configured with 162 Class 2 laser diodes (<1mw) to provide low-level light therapy treatment to the scalp
Laser lampshade	Protect the treatment site from direct contact with light sources.
Light Source Contactless Safety Limit Pad (Leather mat)	Protect the treatment site from direct contact with light sources.
Laser Diode (Class 2)	Provide treatment light source
Light Emitting Sensor	An electronic sensor that permits use of the device only when it is placed on the head in the recommended position
Data cable	Connect device and controller
Controller	External system control to operate ON/ OFF, START/PAUSE,built-in timer

Device safety symbols

The safety symbols of the laser helmet conform to IEC 60825-1 and IEC 60601-2-57.



How to use

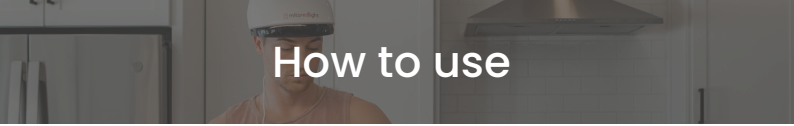
Warning

The helmet has an infrared sensing function. It will not work normally unless the helmet is worn correctly on the head. If the helmet is removed from the head or not situated properly on the head, it will automatically stop working until it is properly repositioned on the head.

Session recommendations

It is recommended to use the laser helmet device for 12 minutes every other day for 16-24 weeks.

After this time period you may wish to continue using the device for 12 minutes 2-3 times per week according to your own goals. You may also choose to reduce the usage time to 12 minutes for maintenance.



How to use

Warning

1. To control or adjust the laser helmet device or to perform each step of the operation other than those specified in the operating instructions, may cause hazards such as possible harmful radiation, electric shock, fire or malfunction.

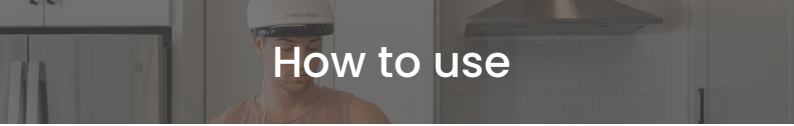
2. It is recommended to use the laser helmet 3-4 times a week. The recommended session time is 12 minutes, and the next s can be carried out after an interval of 24 hours.

Step 1: Unpack!

- Upon arrival, inspect the product packaging and helmet and carefully check whether any items were damaged during transportation.
- Keep the package for future use.

Step 2: Charge

- Insert the USB end of the data cable into the charger interface and the type-C interface end into the charging input port of the remote control (as shown on the next page).
- After the charger is powered on, start charging. The battery mark in the upper right corner of the remote control displays the power.
- After being fully charged, the power displays 4 grids, and then stop charging.



How to use

Warning

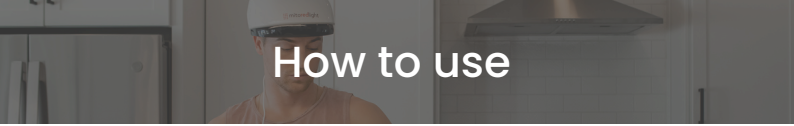
1. When charging, the remote controller is in the startup protection state and cannot be started.

2. Please connect the remote controller and the host with the supporting data cable of the product. It is strictly prohibited to connect other data cables.

3. Do not connect the laser helmet to a computer USB interface.

Step 3: Operate

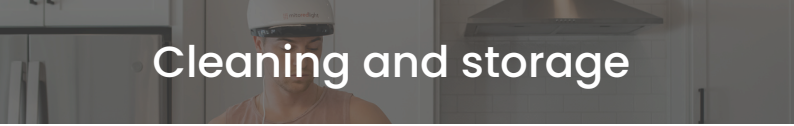
- Connect the remote control and the laser helmet with the data cable.
- Press and hold the on / off key for 2 seconds to start or shut down the machine. The default time for starting up is 12 minutes, and the display is 12:00.
- After starting up, the logo indicator on the helmet will start to emit blue light.
- When the shutdown light is off, the remote control will "beep" once when the machine is switched on and off. If the power is insufficient, the remote control will "beep" three times when it is automatically switched off.



How to use

Step 3: Start/Stop your session

- Press the start / pause key for a short time to power on the laser helmet. All laser lights are always on. The timing is set to 12 minutes. Start the countdown. Press it again for a short time to pause. All laser lights are off and the timer is suspended. Press it again for a short time, and then the previous operation continues to work. It can cycle until the set time reaches automatic shutdown. Press the pause or start key, and the remote control will "beep" once.
- When the use time expires, the remote control will send out a "beep" sound and turn off automatically.



Cleaning and storage

- Gently clean the product before each use and keep the product off.
- First wipe the helmet surfaces with a clean cloth lightly dampened with clean water. Inspect the surfaces thoroughly for any remaining visible contaminants, and repeat wiping if necessary until no visible contaminants remain.
- Allow to air dry. Then wipe the helmet surfaces with a clean cloth dampened with 70% ethanol or 70% isopropyl alcohol.
- Allow contact time of 1 minute and then allow to air dry.
- Do not use the device unless it is completely dry.
- If the product is not used for a long time, pay attention to moisture and dust: power on once every 3 months and charge once every 6 months to avoid moisture aging and damage of internal components.

Keep the device away from sunlight and store the device in a dry location (e.g. away from windows, sinks, bathtubs, kitchens, and bathrooms) at around room temperature after each use.

- Storage & Transportation Temp -30°C ~ 60°C (-22°F ~ 140°F)
- Storage & Transportation Humidity 10% ~ 95%RH
- Storage & Transportation Pressure 500 ~ 1060 hPa

Warning: If the product is taken out of the highest or lowest storage environment and placed in a room temperature environment it can be used normally only after standing for at least 1 hour.

Troubleshooting

Fault	Cause	Troubleshooting method
No "beep" sound, or the display does not light up, after holding the "ON/OFF" down while the power is on.	The remote controller failure	Contact Mito Red Light
No "beep" sound, or the timer flashes, after pressing the "START/PAUSE" button when the device is on.	The remote controller failure	Contact Mito Red Light
During the light output check, after blocking either the transmitter or receiver of the light sensor with your finger and pressing the "START/PAUSE" button, the device does not emit light.	The laser helmet device failure	Contact Mito Red Light
When the equipment stops working, the controller will shut down automatically	The battery is low	1. Please charge it in time 2.Contact Mito Red Light
The remote controller bleeps "beep" sound continuously, while the display screen flashes continuously	The timer failure	1. Shut down and restart 2. If this happens multiple times failure phenomenon, please contact Mito Red Light

Troubleshooting

Fault	Cause	Troubleshooting method
Laser diodes do not all emit light.	Laser diodes failure	Contact Mito Red Light
The remote controller display flashes continuously	1.Light emitting sensor failure	Contact Mito Red Light
	2. Not wearing hair growth device correctly	Re-wear the hair growth device
The remote controller bleeps "beep" sound continuously, while the display screen indicates "Er:Er."	Power cord connection failure	1. Check that the power cord is properly connected 2. If this happens multiple times failure phenomenon, please contact Mito Red Light

Troubleshooting step-by-step:

- With the helmet plugged in on the back and on your head.
- Next, turn on the controller, unplug the controller, and turn it off.
- While it's off, plug the controller back in and then turn it on and click start.
- If that does not work, verify the controller has a battery on the top left side of the screen.
- Please make sure the helmet is on your head when starting a session. There are sensors in the helmet.
- If issues still occur, please reach out to info@mitoredlight.com

Product specifications

Trade name	Mito Red Light
Model	Laser Helmet
Wavelength	Laser: 650-660nm
Laser Power for Classification	<1mW per light output point, Laser Class 2
Electrical Current	1650±100 mA
Net Weight	836g±2%
Size	(L)260mm×(W)210mm×(H)135mm
Number of Laser diodes	162
Laser light emitting mode	Continuous light
Laser Irradiated area	447±10cm²
Short wave boundary value	653nm
Maximum output illumination deviation	≤20%
Precision of device timer	12 minutes ±10%
Failure tolerance time	120 seconds
Software version	V1.0

Caution: When the remote controller makes a “beep” sound continuously, while the display screen indicates "Er:Er", the device will stop working within 120 seconds.

Product specifications

Laser Size	Ø 5.6mm
Life Time	About 5 years
Input	DC5V/2A(Does not work when charging)
Lithium battery	DC3.7V 3600mAh
Power Consumption	< 8W
Operating Environment Temperature	5℃~ 35℃/ 41°F ~ 95/106°F
Operating Environment Humidity	15%~85% RH
Operating Environment Pressure	700 hPa ~ 1030 hPa
Electrical Safety Classification	Class II, Type BF, Applied Part Laser not suitable for use in the presence of a flammable anesthetic mixture IP22: Dust proof and water proof grade Prevent medium - sized solids from invading; When the enclosure is tilted to 15 degrees, there is no effect if water drops in it.
The temperature of the inner surface, laser diode surface of the helmet	Do not exceed 41℃/106°F

Symbol explanations

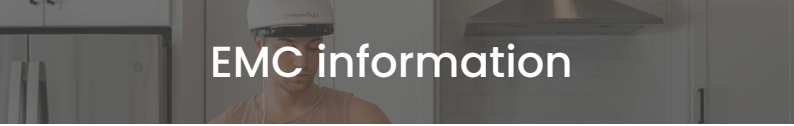
BF symbol, which indicates this device is in accordance with the degree of protecting against electric shock for type BF equipment.

Consult accompanying document.

Warning

Serial number

Dispose of the device in accordance with the directive 2002/96/EC-WEEE (Waste Electrical and Electronic Equipment



EMC information

The following information is provided in accordance with EN IEC 60601-1-2.

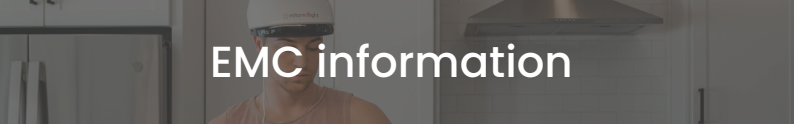
The MitoGROW laser helmet is compliant with IEC 60601-1-2.

If the product is not installed according to the instructions, it may emit radiated radio waves, which may cause interference to other products.

Under specific installation conditions, no interference can be guaranteed. Therefore, the following conditions must be observed during installation:

- To prevent electric shock, do not open the product shell
- Use qualified company technicians for service
- Never run the product with a damaged power cord
- If the product does interfere with other products during startup or shutdown, please eliminate the interference according to the following methods

  - Reposition the product
  - Increase spacing with other products
  - Connect the product to a circuit different from other products



EMC information

Declaration-electromagnetic emissions		
The laser helmet is intended for use in the electromagnetic environment specified below. The customer or the user of the laser helmet should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment-guidance
CE emissions CISPR11	Group 1	The laser helmet uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RE emissions CISPR11	Class B	The laser helmet is suitable for use in all establishments, including domestic establishments and those directlv connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/ flicker emissions ICE 61000-3-3	Not applicable	

Declaration-electromagnetic immunity

The laser helmet is intended for use in the electromagnetic environment specified below. The customer or the user of the laser helmet should assure that it is used in such an environment.

Immunity test	IEC60601 test level	Compliance level	Electromagnetic environment-guidance
Electrical discharge (ESD)ICE61000-4-2	±6kV contact ±8kV air	±6kV contact ±8kV air	Floors should be wood, concrete or ceramic tile, If floors are covered with synthetic material. The relative humidity should be at least 30%.
Electrical fast transient/ burst IEC 61000-4-4	±2kV for power supply lines ±1kV for input/ output lines	Not applicable	Not applicable
Surge IEC 61000-4-5	±1kV differential mode ±2kV common mode	Not applicable	Not applicable
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5%UT *(>95% dip in UT)* for 0.5 cycle 40%UT (60% dip in UT) for 5 cycle 70%UT (30% dip in UT) for 25 cycle <5%UT *(>95% dip in UT)* for 5 sec	Not applicable	Not applicable
Power frequency (50/60 Hz)magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE: UT is the AC mains voltage prior to application of the test level.

Guidance and Manufacturer's Declaration: Electromagnetic Immunity

The laser helmetis intended for use in the electromagnetic environment specified below. The customer or the user of the laser helmet should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment-guidance
Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 3 V/m 80 MHz to 2.5 GHz	3 V 150 kHz to 80 MHz 3 V/m 80 MHz to 2.5 GHz	Portable and mobile RF communications equipment should be used no closer to any part of the laser helemt including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended Separation Distance** $d=1.2\sqrt{P}$ 150kHz to 80MHz $d=1.2\sqrt{P}$ 80 MHz to 800 MHz $d=2.3\sqrt{P}$ 800 MHz to 2.5 GHz where P is the maximum output power rating of the transmitter in watts(w) according to the transmitter manufacture and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitter, as determined by an electromagnetic site survey[a] should be less than the compliance level in each frequency range[b]. Interference may occur in the vicinity of equipment marked with the following symbol: 

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

a Field strengths from fixed transmitter, such as base stations for radio(cellular/cordless) telephones & land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the laser helmet is used exceeds the applicable RF compliance level above, the laser helmet should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary. such as reorienting or relocating the laser helmet.

b Over the frequency range 150 kHz to 80 MHZ, field strengths should be less than 3V/m.

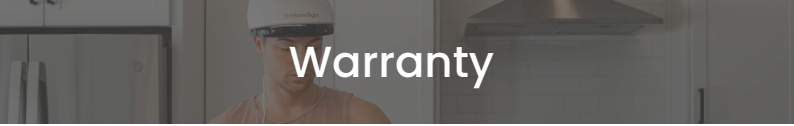
Recommended separation distances between portable and mobile RF communications equipment and the laser helmet

The laser helmet is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the laser helmet can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters)and the laser helmet as recommended below. according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter(M)		
	150 kHz to 80MHz $d=1.2\sqrt{P}$	80 MHz to 800MHz $d=1.2\sqrt{P}$	800 MHz to 2.5GHz $d=2.3\sqrt{P}$
0.01	1.2	0.12	0.23
0.1	3.8	0.38	0.73
1	12	1.2	2.3
10	38	3.8	7.3
100	120	12	23

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Dongguan Lescolton Intelligent Electrical Appliance Co., Ltd.



Warranty

The MitoGROW laser helmet has a one year warranty.

The warranty is valid only to original purchaser if item purchased directly from www.mitoredlight.com or authorized reseller and is non- transferable. The warranty period starts the date the original purchased unit is delivered.

The warranty covers any defects in material or workmanship under normal use during the warranty period. During the warranty period, Mito Red will replace, at no charge, products that prove defective because of improper material or workmanship, under normal use and maintenance.

Mito Red will replace the products at no charge. For the first 180 days, Mito Red will be responsible for all shipping costs related to your request. After the first 180 days, buyer will be responsible for product shipping charges and related coverage while in transit to Mito Red. Please retain the tracking information for proof of delivery to us.

The warranty does not cover any problem that is caused by damage resulting from your negligence, improper maintenance, improper use, experimental use, or modifications; the warranty does not cover theft or loss of the product.

To obtain warranty service, you must first contact us at info@mitoredlight. com to determine the problem and the most appropriate solution for you. You may be asked to provide proof of any defects, and therefore you should maintain photos and videos of any alleged defects.

mitoredlight

User Manual and Instructional Videos

This user manual can be found here:
https://mitoredlight.com/pages/user-manual

Follow Us!

/mitoredlight

/mitoredlightofficial

@MitoRedLight

@mitoredlightofficial

www.mitoredlight.com

Updated February 2025