
Product Manual

Double-Lower-Limb Hip Joint Motion Assistance Device



Youlong Exoskeleton Robot

US-H8-2.0

Note: All images in this manual are schematic diagrams; the actual product shall prevail.
The company reserves the right to interpret this manual.

Welcome

Thank you for choosing our exoskeleton robot.

This manual contains important information necessary for the safe and correct use of this product. As an integral part of the product, the manual must be kept with the device throughout its service life and shall not be discarded for easy reference. All users must read this manual carefully before using the product.

This product is safe and reliable for use, but hazards may arise from special factors such as improper operation not in accordance with the manual or use for other purposes. Therefore, please follow the provisions of the manual during use to avoid accidents.

Equipment maintenance must be performed by our company technical service personnel or authorized parties.

If you have any operational questions not mentioned in this manual, please contact our company in a timely manner. Without the prior consent of our company, any reproduction, photomechanical reproduction, digital post-processing, or copying of this manual is prohibited.

The content of this manual is subject to change without prior notice. The final interpretation right belongs to our company.

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01 Product Overview

The Bilateral Lower Limb Hip Joint Movement Assistance Device - "Youlong" is a bilateral hip-lifting assistance exoskeleton designed to improve the movement efficiency of wearers in daily activities such as walking, climbing stairs, outdoor sports, and hiking.

Through an intelligent power system, advanced sensing system, and intelligent control algorithms, it can real-time perceive the wearer's movement intentions, provide precise and efficient assistance support, significantly reduce lower limb burden, and make every step more effortless and smooth.

02 Product Features

Intelligent Assistance: Bilateral motor drive (maximum 32Nm), intelligent algorithms real-time perceive movement intentions to provide precise power support.

Efficient Burden Reduction: Reduces knee joint pressure by 3-5 times, decreases climbing energy consumption by 35%, increases walking distance by 2-3 times, and improves cardiopulmonary endurance by 15%.

Lightweight and Flexible: The main unit weighs only 2.25kg (excluding battery) with a foldable design, suitable for environments from -10°C to 45°C.

Assistance Effect: Personalized adjustment, automatically provides different assistance schemes according to the user's needs.

03 Accessory List

No	Name	Model	Quantity
1	Main Unit (Bilateral Lower Limb Hip Joint Movement Assistance Device)	US-H8-2.0	1
2	Battery		1
3	Type-C Charging Cable		1
4	Instruction Book		1
5	QC Card		1

04 Safety Precautions

Before using this product, please read this user manual carefully and keep it properly for future reference. Any operation inconsistent with this manual may cause damage to the product and may result in accidental injuries such as electric shock, fire, or personal injury/death.



Contraindications

Violation of contraindications may result in serious personal injury or death.

Contraindicated Groups: The following groups are strictly prohibited from using this product. If you are unsure about your physical condition, please consult a doctor.

1. Bone and Joint-Related Contraindications

- Fracture/crack recovery period (not meeting clinical healing standards)
- Severe osteoporosis (bone mineral density T-score < -2.5 with a history of fragility fractures)
- Active phase of bone-destructive diseases such as bone tumors and bone tuberculosis
- Within 3-6 months after joint replacement surgery (not passing the rehabilitation stability period)
- Scoliosis/kyphosis deformity > 40°
- History of acute or habitual dislocation of the hip or knee joint

2. Muscle and Nerve-Related Contraindications

- Populations with severe myasthenia such as progressive myasthenia gravis and muscular dystrophy
- Acute lower limb neuritis, spinal cord injury within 3 months of onset
- Severe spastic paralysis caused by stroke, cerebral palsy
- Peripheral nerve injury with complete loss of lower limb sensation

3. Soft Tissue and Skin-Related Contraindications

- Stage III-IV pressure ulcers, severe ulcers, or infections (such as cellulitis) on the lower limb skin
- Severe varicose veins of the lower limbs with thrombosis
- Extensive skin scar contracture affecting joint movement

4. Systemic and Other Contraindications

- Patients with severe cardiopulmonary insufficiency such as grade III-IV heart failure and severe chronic obstructive pulmonary disease
- Uncontrolled severe hypertension (blood pressure > 180/110mmHg) or orthostatic hypotension
- Patients with severe cognitive impairments such as severe Alzheimer's disease and confusion
- Patients with severe heart disease, hypertension, mental illness, psychological disorders, pregnant women, physically weak individuals, and those who are not suitable for standing or walking as deemed by doctors are prohibited from using this product.

If the above contraindicated groups use this product forcibly, they may face risks such as physical injury and worsening of conditions. Please be advised. If discomfort such as pain, numbness, or dizziness occurs during use, stop using the product immediately and seek medical attention.



Warnings

Violation of warning items may result in serious personal injury or death.

- 1.This device is not suitable for people with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge (including children), unless they have received supervision or guidance on the use of the device.
- 2.Do not use this device if you cannot stand alone, cannot control balance, or cannot walk independently.
- 3.Users who need to use knee-ankle-foot orthoses, ankle-foot orthoses, single crutches, hand crutches, etc. to maintain balance and ensure safety are prohibited from using this product.
- 4.Do not use this device if your height or waist circumference exceeds the limited range.
- 5.This device is not a toy; children are prohibited from playing with it. This device shall not be used by children under 16 years old (unless they are effectively supervised or guided to use the device safely and understand the associated risks).
- 6.Keep the device and its power cord out of the reach of children under 16 years old.
- 7.Before charging, check whether the voltage on the device matches the charging voltage.
- 8.If the power cord is damaged, to avoid hazards, it must be replaced by the manufacturer or its authorized professionals.
- 9.Using accessories not sold or approved by the manufacturer may cause accidents such as fire and electric leakage.
- 10.Do not place the device near gas stoves, electric stoves, or places where it may come into contact with heating appliances.
- 11.Do not immerse the electrical appliance, power cord, or plug in water or other liquids.
- 12.Keep the power cord away from sharp edges, hot components, or other heat sources.
- 13.In extreme cases, the battery may leak. If the liquid in the battery comes into contact with the skin, immediately wash with water and soap, or neutralize with a mild acid (such as lemon juice or vinegar). If the liquid comes into contact with the eyes, rinse the eyes with clean water for at least 15 minutes and contact a doctor.



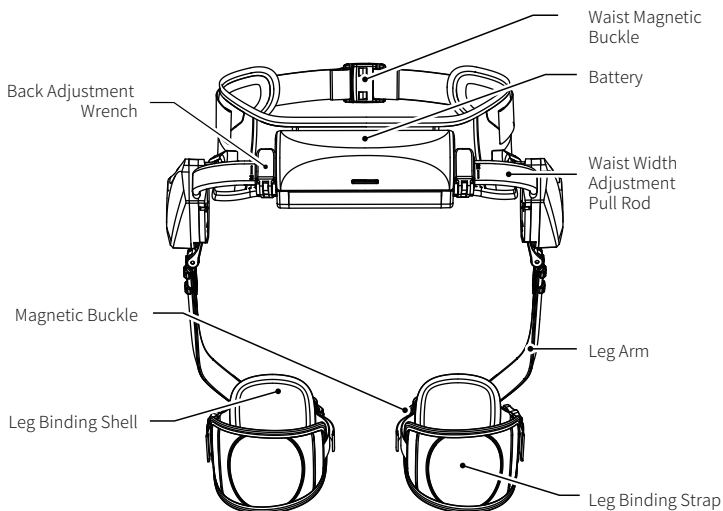
Cautions

Violation of caution items may cause personal injury or property damage.

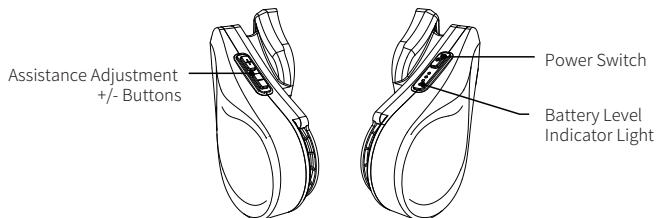
- 1.The device has no waterproof devices; do not splash any liquid on the machine or allow it to flow into the machine.
- 2.To better adapt to the device, use it under supervision for the first time.
- 3.Always observe the device for any abnormalities during use.
- 4.Remember to turn off the device before unfastening the straps.
- 5.Do not use the device while it is charging.
- 6.Do not use any third-party batteries.
- 7.Do not disassemble, repair, or modify the device without permission. Do not open the device's casing.
- 8.If the power cord is damaged or broken, stop using it immediately and contact customer service for handling.
- 9.For transporting the product, ensure the device is turned off and it is recommended to use the original packaging box.
- 10.Before use, remove all packaging materials and any promotional stickers.

05 Product Structure

Main Structure



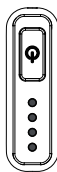
Buttons on Both Sides



Function Button Details



Press the right "+/-" buttons to adjust the assistance level, with a total of 6 levels available.



Long-press the left "⏻" power button for 3 seconds to turn on; short-press the "⏻" power button for 1 second to turn off.

06 Specific Parameters

Device Name	Double-Lower-Limb Hip Joint Motion Assistance Device
Device Model	US-H8-2.0
Maximum Overall Weight	Approximately 2.25kg (excluding battery)
Operating Voltage	14.4V
Battery Capacity	5000mAh
Charging Time	within 2 hours
Battery Life	More than 2 hours
Output Power	960W
Max Torque	32Nm
Waterproof and Dustproof Rating	IP54
Assistance Level	Adjustable 6 level
Ambient Temperature	-10~45°C

07 Notes

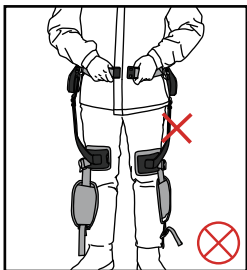
This model does not have medical functions. If you need to purchase a product with medical functions, please contact us through the contact information in the manual for more relevant information.



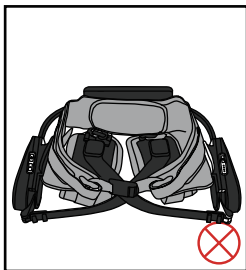
(To avoid falls, people who cannot stand or need assistance to stand are prohibited from using this product.)

Applicable height range: 160cm - 190cm

Applicable waist circumference range: 70cm - 135cm



Do not turn on the device before wearing it properly.



Do not turn on the device when placing it on a table.

08 Product Usage

8.1 Pre-Use Preparation



Find a flat surface, either indoors or outdoors. Clean up obstacles on the ground in advance, including wires, debris, stones, etc., to avoid tripping.



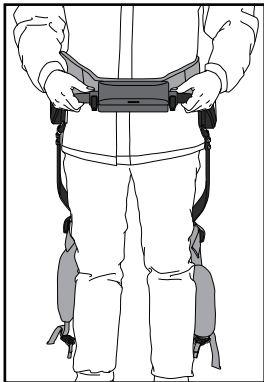
Wear loose long pants and sports shoes when using this product; do not use the product with high heels, flip-flops, shorts, or skirts.

8.2 Wearing Guide

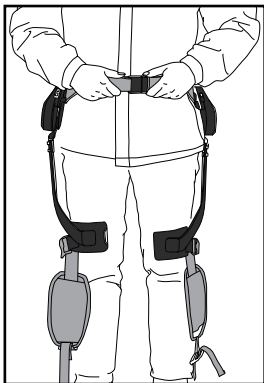


Before wearing the product, confirm that the power switch is in the off state.

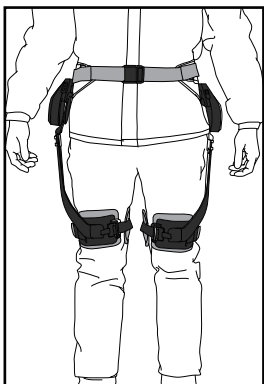
If the power button is accidentally pressed before wearing the device properly, turn it off immediately.



1. Wear the device backwards in front of your body, align the waist center, and keep it fitted. Push the pull rods on both sides inward to the appropriate width, ensuring the scales on both pull rods are consistent.



2. Wrap the device around the back of the waist, adjust to a comfortable position, fasten the waist magnetic buckle, and tighten the strap until it is snug but not constricting.



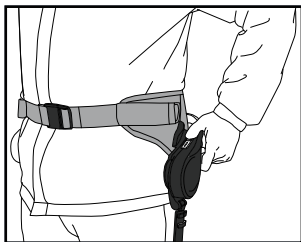
3. Place the lower edge of the leg binding approximately 1-3 fingers above the knee on the front of the thigh for optimal fit. Fasten the magnetic buckle and tighten the leg strap until it is snug but not constricting.



If the binding strap becomes loose or falls off during use, turn off the device immediately and adjust.

8.3 Starting Use

Device Power-On



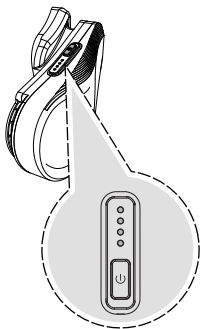
Power-on: Confirm the device is worn and fastened properly, maintain a standing posture, long-press the left "⏻" power button for 3 seconds to turn on, and you will hear a relevant prompt sound and battery level announcement; after preparation, it will enter the walking assistance mode.

In case of problems, short-press the "⏻" power button for 1 second to turn off.



Note: The device must be turned on when wearing, fastened, and in a standing position. Do not turn on the product during downward movements such as going down stairs, mountains, or slopes.

Device Battery Level and Indicator Light

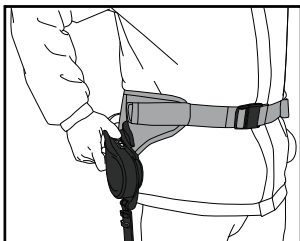


Turn on the device	The device will sound a low battery warning.
$\leq 100\%$	4 blue lights on steadily
$\leq 75\%$	3 blue lights on steadily
$\leq 50\%$	2 blue lights on steadily
$\leq 25\%$	The device will emit a prompt sound, and 1 blue light will be on steadily
$\leq 15\%$	1 red light on steadily
$\leq 10\%$	The device will emit a prompt sound and stop working

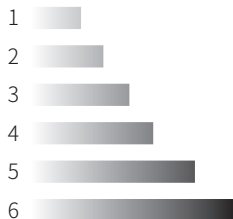
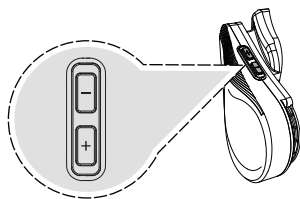
Assistant Level Adjustment



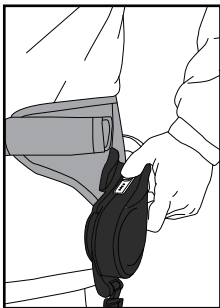
Note: Assistant Level adjustment should be performed in a standing position to avoid imbalance and falls caused by changes in assistance during walking.



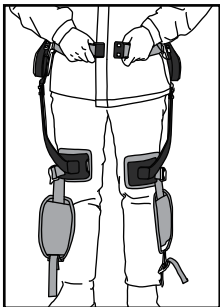
The switching button is on the right side; use the "+/-" buttons to adjust the assistance level, with a voice prompt upon successful switching. Users can adjust the assistance to one of 6 levels according to their own needs.



8.4 Ending Use



After use, in a standing position, short-press the " ⏻ " power button for 1 second to turn off. A voice prompt will indicate shutdown, the indicator light will go out, and the shutdown is complete.



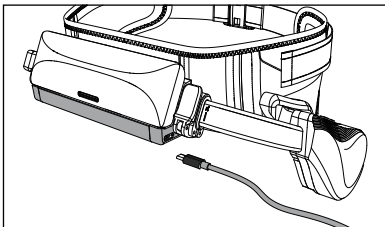
Unfasten the waist strap buckle and leg strap buckle, then remove the device. Adjust the pull rods on both sides to the shortest length, fold the leg arms, and store them in the original packaging box.



Note: When needing to remove the device, turn off the power first before removing it. During removal, be careful to prevent the device from falling and causing injury to the user.

09 Battery Maintenance

9.1 Battery Charging

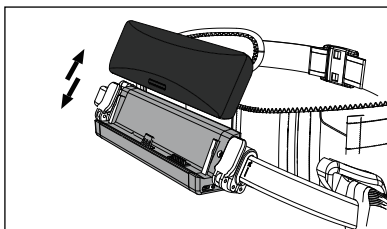


Insert the Type-C charging cable into the device's charging port, and connect the other end to a daily mobile phone charger adapter. The battery level indicator light will gradually brighten (breathing effect) indicating normal charging; when fully charged, the indicator light will remain blue.

Precautions:

- ⚠ Charging should be performed in a well-ventilated and fire-free safe environment. Only use chargers that meet national standards. Do not use other chargers arbitrarily if the original one is damaged, as this will reduce the safety of the device. Please confirm that the charger meets the requirements of IEC60601-1 first.
- ⚠ During charging, place the device out of the reach of children and people with mobility impairments to avoid hazards.
- ⚠ The ambient temperature during charging must be between 0°C and 45°C. If the device is still charging beyond the normal charging time, stop charging immediately; otherwise, there may be risks such as battery overheating, deformation, or extreme thermal effects.

9.2 Battery Replacement



Press the button on the battery case and push outward to remove the battery. When installing the battery, align it with the buckle position and push inward until you hear a "click" sound, indicating correct installation.

9.4 Waste Battery Disposal Method

- ⚠ The battery installed in the device contains substances harmful to the environment. Before discarding the device, the battery pack must be removed from the device.
- ⚠ Dispose of the waste battery pack safely and properly; do not throw it into fire, water, or soil.
- ⚠ If the waste battery pack leaks and comes into contact with the skin or clothing, rinse immediately with clean water and seek medical attention promptly.

10 Product Maintenance

Recommended Storage Conditions	
Storage Temperature Range	-10°C ~ 45°C
Relative Humidity Range	10%~75%
Atmospheric Pressure Range	700hPa ~ 1060hPa

10.1 Storage Method

Store the product at room temperature in a dry place, avoiding direct sunlight.

10.2 Product Transportation

During transportation, the product should be protected from heavy pressure, direct sunlight, and rain.

10.3 Main Unit Cleaning

To avoid affecting the performance of the machine, it is recommended to maintain its components regularly.



It is recommended to wipe the product surface with a clean, soft, dry cloth.



Do not use corrosive cleaning agents to clean the product.



Do not allow water or water vapor to enter the main unit.



Do not remove any components for cleaning.

10.4 Battery



If not in use, turn off the device and remove the battery for storage to avoid battery depletion.



Use chargers that meet the requirements of IEC60601-1.



This product contains a battery; do not discard it directly into the trash after use.

10.5 Removable Straps and Cushions



Hand wash only



Do not dry clean



Do not tumble dry



Wash at 40°C



Do not bleach



Do not scrub to avoid magic tape failure



Remove the waist strap buckle completely before cleaning



After cleaning, dry completely before assembling and using

11 Installation, Disassembly, and Disposal

11.1 Assembly Instructions

The product is delivered fully assembled in the packaging box and can be worn and used directly. The wireless communication encryption protocol of this product has been set at the factory; no user configuration is required. If any problems occur during use, please contact the after-sales service department of the company.



Note: Keep the original product packaging for use in case of return for repair.



Warning: Modification of this device is prohibited.



Warning: Ensure all equipment operating nearby complies with relevant electromagnetic compatibility (EMC) requirements.

11.2 Precautions for Device Disposal



1. Electronic components, printed circuit boards, plastic parts, metals, wires, etc., should be placed in "recyclable" trash bins or handed over to specialized recycling departments for professional disposal.

2. When the battery reaches the end of its service life, the waste battery should be disposed of centrally or handed over to recycling departments. Do not discard it randomly to avoid pollution.

3. Products marked with this symbol are electronic and electrical products that require separate recycling. Please dispose of them in accordance with local laws and regulations. If you have any other questions, please contact our company.

12 Product Hazardous Substance Statement

Hazardous Substances (RoHS)										
Substance Name	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated Biphenyls (PBBs)	Polybrominated Diphenyl Ethers (PBDEs)	Dibutyl Phthalate (DBP)	Diisobutyl Phthalate (DIBP)	Benzyl Butyl Phthalate (BBP)	Bis(2-ethylhexyl) Phthalate (DEHP)
Housing	○	○	○	○	○	○	○	○	○	○
Plastic Parts	○	○	○	○	○	○	○	○	○	○
Metal Parts	○	○	○	○	○	○	○	○	○	○
Adapter	○	○	○	○	○	○	○	○	○	○
Battery	○	○	○	○	○	○	○	○	○	○
Electrical Modules	○	○	○	○	○	○	○	○	○	○
Binding Straps and Cushions	○	○	○	○	○	○	○	○	○	○
Carbon Fiber Arms	○	○	○	○	○	○	○	○	○	○

Note 1:

○: Indicates that the content of the hazardous substance in all homogeneous materials of the component does not exceed the limits specified in the national standard for the restriction of hazardous substances in electrical and electronic products.

×: Indicates that the content of the hazardous substance in at least one homogeneous material of the component exceeds the limits specified in the national standard for the restriction of hazardous substances in electrical and electronic products.

Note 2:

For components not listed above, their hazardous substance content does not exceed the limits specified in the national standard for the restriction of hazardous substances in electrical and electronic products.

13 Simple Troubleshooting

Troubleshooting and Solutions

Fault	Possible Causes	Solutions
Unable to Start	Dead battery; Battery not installed	Install the battery correctly or charge it
No Assistance After Power-On	Incorrect power-on operation	Power on while standing upright, and start walking only after hearing the "Start Walking" announcement
Assistance Disappears When Climbing Uphill	When the leg lift reaches the limit position at an excessive speed, the machine stops power assistance because the protection function is triggered	Resume normal walking posture to use
Wearing Detection Failure	Device not worn; Improper wearing	Stand upright and wear the device in accordance with the specifications
Device Malfunction	Voice broadcast of fault information	Restart the device or contact after-sales service if the problem persists
Shutdown Due to Fall	Voice broadcast "Fall Detected"; The device stops assistance when tilted	Resume normal walking posture to use
Other Faults		Contact after-sales service

14 Repairs and Warranty

If your product needs repair, please contact the manufacturer or an authorized service center. You can get the contact information for authorized service centers from the manufacturer.

To help us handle your repair request more quickly, please provide the following product details:

- a. Product Model
- b. Product Serial Number
- c. A detailed description of the problem

Warranty

1. The manufacturer provides a 12-month warranty for the product's functionality. This warranty applies only to claims submitted in written form within the warranty period, starting from the invoice date, and is valid based on the invoice number. Legal warranty rights are not restricted by this warranty.

2. This warranty does not cover failures due to normal wear and tear, improper use, incorrect operation, poor maintenance, or natural causes.

3. The warranty becomes void if the product is repaired by the user or any non-authorized service center. The same applies if the device requires maintenance.

4. Claims cannot be made for issues caused by incorrect operation or problems arising from use with other devices or accessories.

15 After-Sales and Repair Service

Thank you for purchasing the "Youlong" series of intelligent products! To protect your legitimate rights and interests, our company Customer Center makes the following standard service commitments and is dedicated to providing you with relevant services when needed.

After-Sales and Repair Card

Name:		Tel:	
Mailing Address:			
Purchase Date:		Purchase Address:	
Product Model:		Product SN:	
Order Number:			
Fault Description:			

Should you require additional after-sales service, feel free to contact us.

Manufacturer: Yidexinnao Intelligent Technology (Shandong) Co., Ltd.

Address: Room 220, Area A5, Xianjia Lake Scenic Area Creative Culture Street (Xihu Science and Technology Innovation Park), No. 720, Fenglin 1st Road, Yuelu District, Changsha City, Hunan Province, P.R.China.

FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.