



HT LinkVue™ 1.0 User Manual

User Manual

Last Update 2023.09.13

Document Ver. 1.00



Basic Model : HT LinkVue 2C

Variant Model : HT LinkVue



WARNING

This manual contains important safety and operations information. To avoid property damage, serious injury, or death, read the instructions in this manual carefully and keep with trailer at all times.

Revision History

Rev.	Date	Revised by	Revision Content
1.00	2023-09-13	Wonin Baek	▪ Initial Draft

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1. Safety Instruction

Please read this manual and safety instruction carefully before driving. It is strongly recommended that do not operate this HT LinkVue while driving, serious traffic accident may be caused by keep watching on the screen or operating the system during the driving. We block the view mode of HT LinkVue screen at the driving speed more than 20 miles per hour.

HT LinkVue is a parking and driving assistant system which offers the road situation surround the vehicle to eliminate blind spots and thus works perfectly as a visual guide for safe parking and driving. It may bring inconsistency between the screen image content with actual surroundings of the vehicle and cause a little delay of actual image due to the WIFI connection. Please check the actual surrounding view of the vehicle and handle this case according to actual situation.

Please contact professional installation service in case of any abnormal situations.

2. Brief Introduction of HT LinkVue™

- A. This guide is to provide the basic illustration for topological structure of the SVM system, operating principle and basic concept to help users to understand the whole system installation procedure, camera calibration steps, and how to interact with system menu.
- B. The HT LinkVue Surround View Monitoring System technology synthesizes images from four or more than four cameras images from four or more than four cameras to create a true 360 surrounding 3D sophisticated view of a vehicle's surroundings.
- C. The technology enables flexible omni-directional monitoring surround a vehicle from a dynamically definable perspective or "free eye point ". Such kind of technology can display the complete vision of the positioning and moving path of the vehicle, it covers blind spot and thus works perfectly as a safe parking and driving guide wven when restricted by adjacent vehicles and objects, parking line, etc.
- D. The system offers four channel DVR function with 24 hours videos loop recording support, but recording image is overriding when the recording memory is full. User can extend memory capacity by insert necessary SD card.

* The devices are restricted to indoor operation only in the band 5150-5250 MHz.

3. HT LinkVue™ Features

- A. Four 180+ degrees ultra wide fish-eye cameras
- B. Seamless video stitching based on HT LinkVue ECU and hardware high efficiency acceleration engine.
- C. Arbitrary and dynamic 2D / 3D mode view angle switching for better surrounding environment observation.
- D. Independent calibration parameter and algorithm for each camera
- E. Pixel statistic engine for real time brightness balance among four camera channels external cameras.
- F. 2D / 3D video de-interlacing and noise reduction technology for signal decoding.
- G. Support alternative recording media for SD card or USB SATA

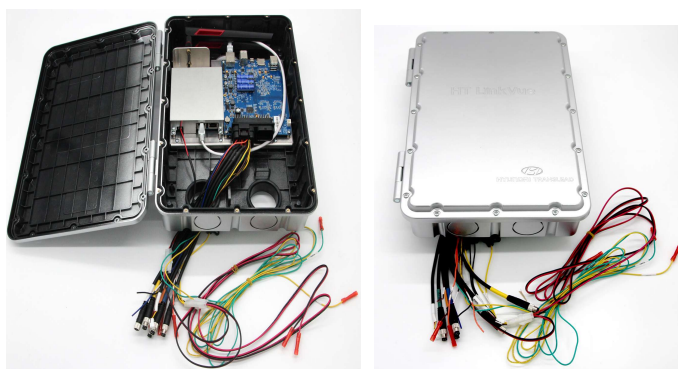
- H. The simplest calibration steps with calibration tape and packing box, and system applicable for almost all types of Trailers.

3.1. LinkVue™ Components Specification

A. HT LinkVue™ Model & SAP Code

HT SAP #	HT LinkVue™ Model	Components	HT Description
10087951	ECU	HT LinkVue Version1.0 ECU	LINKVUE_ECU+WIFI RTR+ANT+26/34PN+SD+V1.0
		Wi-Fi Router and 2 Antennas	
		256GB Micro SD Card	
		34pin Harness	
		26 pin Harness	
10087952	Exterior Camera	SVM Cameras	HT LINKVUE_SVM CAM+EXT+R_1280Hx720v+V1.0
10087953	Interior Camera	IR Camera	HT LINKVUE_IR CAM+INT+R_1280Hx720v+V1.0
10087954	Camera Bracket	Rear Bracket for HY-cube	HT LINKVUE_CAM+EXT+BACK PLATE+HY-CUBE
10087955	Extension Cables	3.5m (Front)	HT LINKVUE_CAM+CABLE_3.5M+FRONT
10087956	Extension Cables Calibration Mat	13m (Left, Right)	HT LINKVUE_CAM+CABLE_13M+SIDE
10087957		24m (Rear)	HT LINKVUE_CAM+CABLE_24M+REAR
10087958		Calibration Pattern	HT LINKVUE_CALIBRATION PATTERN+MATT_2M^2
10087959	Camera Installation Kit	Template to Drill hole	HT LINKVUE_EXT_CAM KIT+TEMPLATE FOR HOLE

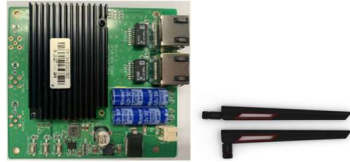
1. ECU (Enclosure)



2. ECU (HT LinkVue Main Board ECU)



3. ECU (Wi-Fi Router & Antenna)



4. ECU (Harness 26/34 Pin)



5. ECU (SD Card)



6. Exterior Cameras



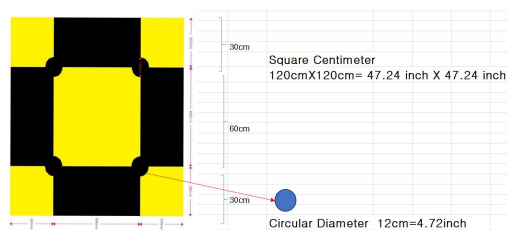
7. Camera Bracket for HY Cube



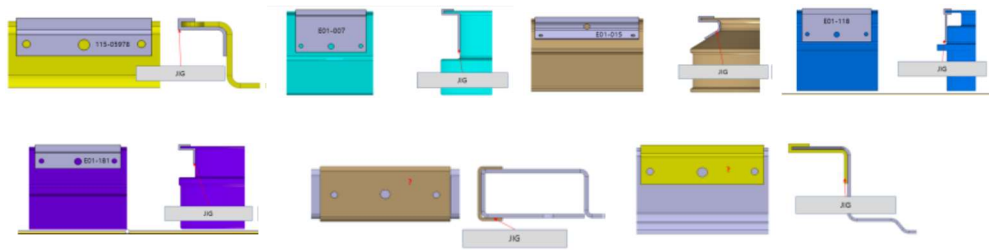
8. Extension Cables



9. Calibration Mat



10. Camera Installation Kits



4. HT LinkVue™ LinkVue Hardware Installation

4.1. Installation Step

Please keep in mind that choosing a proper camera installation to get as many pixel content possible while keeping body of the vehicle visible. The camera optical axis should keep a vertical angle of 45degree approximately corresponding to Trailer visible. Camera garnish is designed to fit to 45degree approximately corresponding to Trailer rails.

1. Wire routing inside the car
 - A. Please refer to wiring diagram for more details.
 - B. Please be alert for the color and connector size of each extended cable
 - C. Wire routing should be from cameras to the host device side
 - D. All the cables should be gathered to the host device side
2. Cameras Installation
 - A. Camera location
 - B. Please refer to the corresponding section for detail installation steps
 - C. Please use installation guide paper and installation guide jig when drilling the trailer hole
 - D. Please check left and side camera before installing the camera
 - E. Please carefully handle camera lens cover, it should keep until completion of camera installation.
3. Enclosure Installation
 - A. Please locate the installation guide paper to the face of front side of Trailer and drill the 3 holes
 - B. Connect all the harness cables to cameras, signal cables, power cables for the coming function testing and debugging procedure
4. Remote Controller Introduction
5. Wiring Test
6. Functional Test
7. Side Camera's Angle Adjusting
8. Camera Calibration Parameter setting
9. Enclosure Device Fixing
10. Tablet or Smart Phone App Test
11. Play Back menu

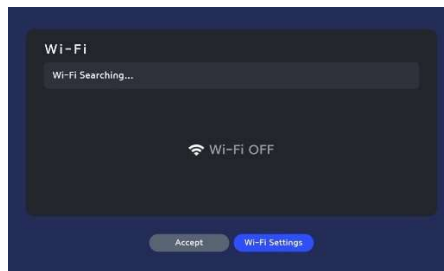
5. HT LinkVue™ Android App and IOS App Installation

5.1. HT LinkVue™ Android App and IOS App Installation


1. Please get URL from HYUNDAI TRANSLEAD and download and install app to your Tablet or Smart Phone.
2. Download the "HT LinkVue" App from the App Market and install it on your dedicated tablet.
(Android : Google Play Store / IOS : App Store)
3. Please click wifi address and find HT LinkVue WIFI address of your target Trailer and connect to your Tablet or Smartphone.
4. In the tablet's Wi-Fi settings, find the same name as the "Wi-Fi ID" attached to the E CU enclosure sticker in the list and click on it, and it will automatically connect to the tablet.
※ Depending on the network conditions, there may be some delays in connecting.
5. Make sure it is your target Trailer wifi connecting to your Tablet or Smrat Phone. After you connect to the Trailer as below instruction #3, you can easily find view mode change by the left signal and right signal operation.
6. Click the installed "HT LinkVue" icon to launch the APP .



< HT LinkVue INTRO >



< APP WIFI Setting >

7. Click HT LinkVue icon  and then HT LinkVue intro screen will display on the screen.
8. "HT LinkVue Apps" is launched, "HT LiveView" mode is automatically displayed on the screen..

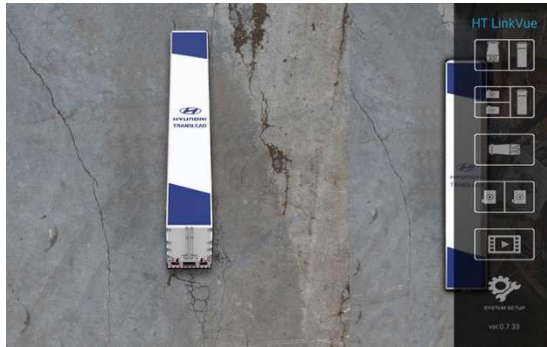


9. Automatically HT LinkView mode will be displayed on the screen
10. When you touch the tablet screen, the "HT LinkVue" menu will appear on the right.
11. View Mode Description.

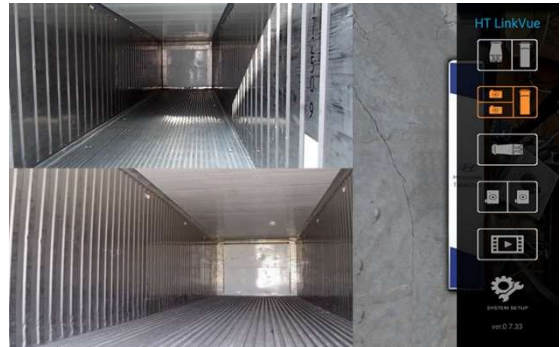
- **Driving View**

: You can switch screens by clicking the three View Mode icons on the right.

※ To ensure safe driving, the playback screen is blocked when the speed of the car exceeds 20 miles per hour.



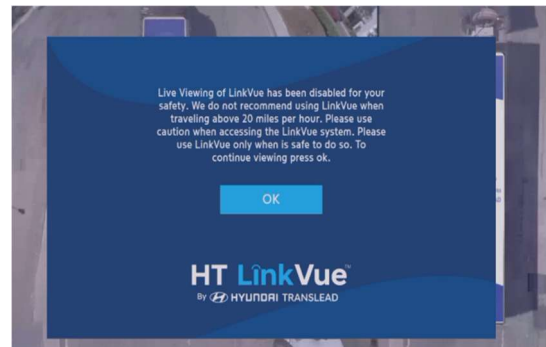
< View Mode 1 >



< View Mode 2 >



< View Mode 3 >



< Over speed (20miles/hour) >

- **Interior View (Interior Camera View)**



- **Replay**

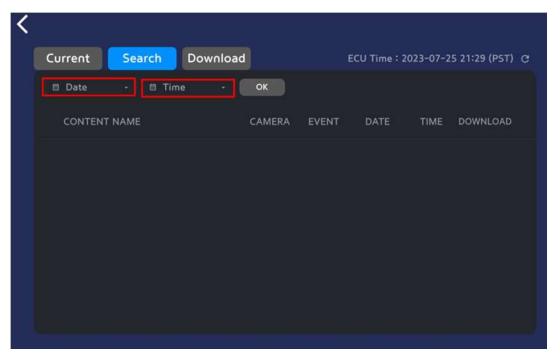
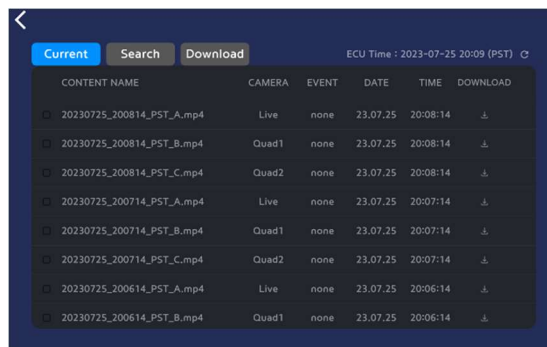


- If you click the Replay icon, you can view the saved DVR video, select each recording file, and play the VOD. Each file is saved with a time and a file name.

※ Please note that HYUNDAI TRANSLEAD is not legally responsible for the DVR system and is only used for safety purposes when parking and driving.

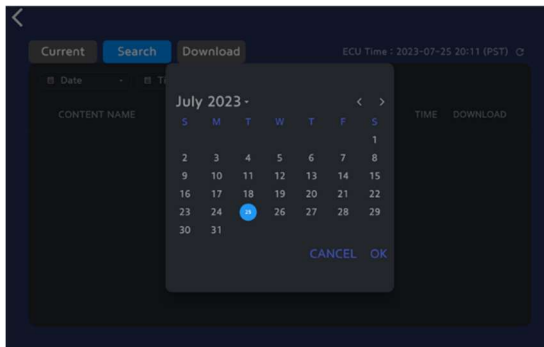
- **Current** : A list of recently saved VODs as of the current time is displayed.

- **Search** : Users can set the date and time to search for VOD.



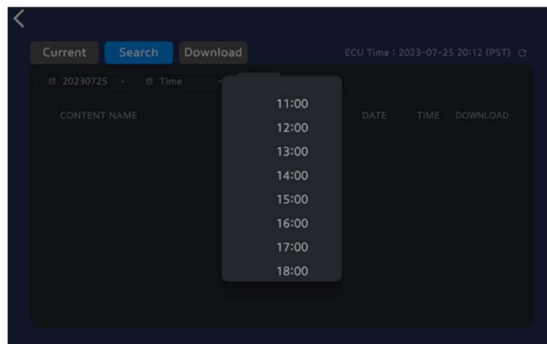
< Day & Time setting >

Select the date and time and display the recorded files in the ECU during that time slot.



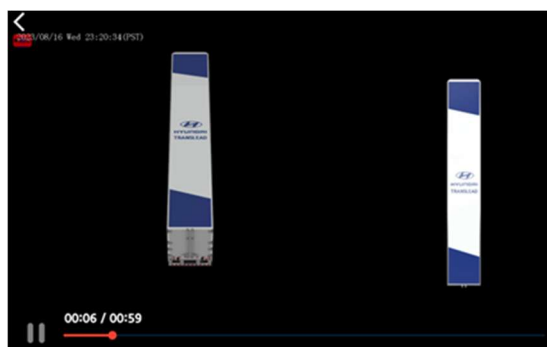
< Day & Time setting >

Find and display only the ECU files recorded on the selected date



< Day & Time setting >

It finds and displays only the files of the ECU recorded during the selected time period.



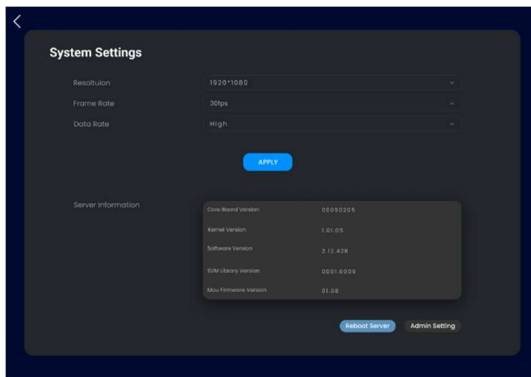
< VOD Playback >

Select the desired file from the VOD list and the VOD will be played.

- **Settings**

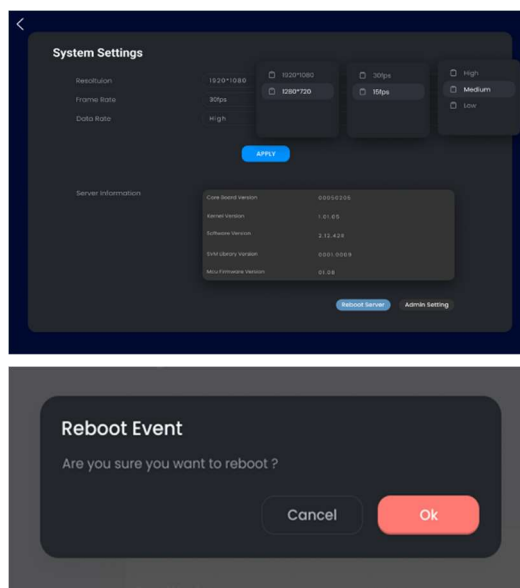
: Click the "System Setup" icon in the menu on the right.





[SVM System Setting]

The Streaming Resolution, Frame Rate, and Data Rate that are currently set on the SVM are displayed.



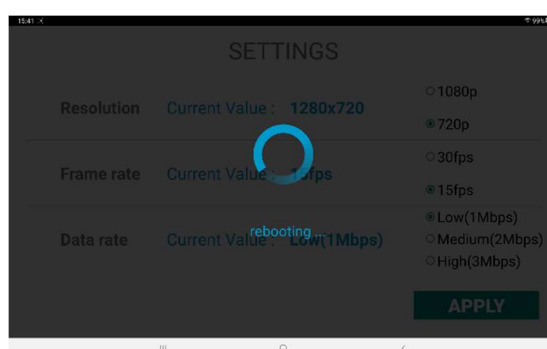
[Change SVM Video Settings]

If necessary, you can change the desired setting value, and after changing the setting value, click the "APPLY" button at the bottom to save the changed setting value.

The changed settings require a reboot to take effect

[Applying user setting values]

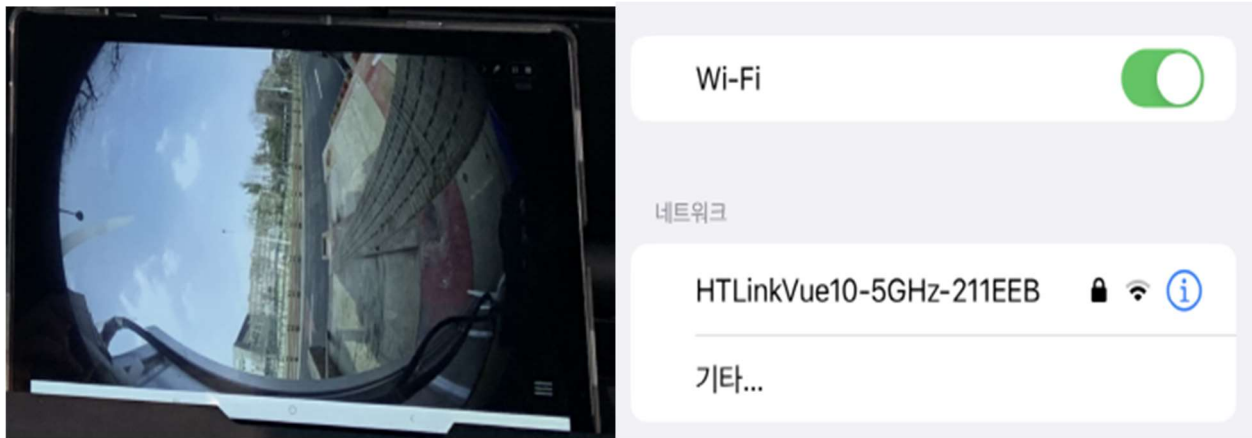
If you press the "OK" button in the pop-up, SVM will reboot and apply the changed setting value..



< Reboot : takes more than 10 seconds

6. Trouble Shooting and Q&A

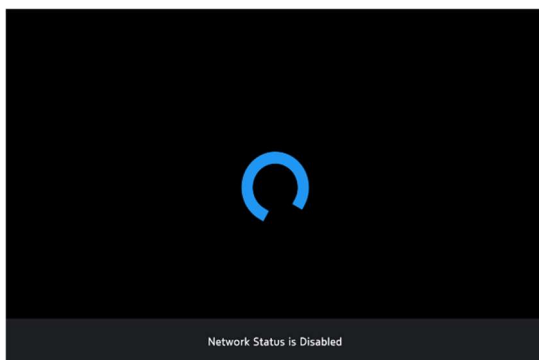
6.1. Trouble Shooting



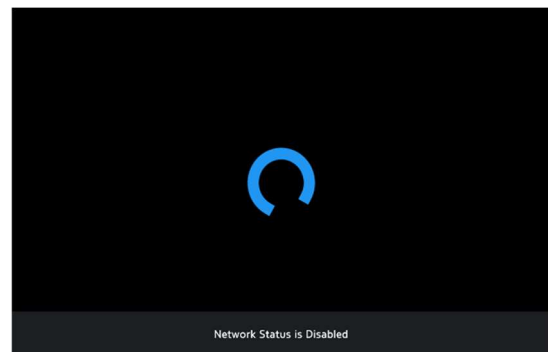
[Tablet video and WIFI connection normal status]



[Tablet video and WIFI connection OFF status]



[Wi-Fi Router connection OFF status]



[ECU connection OFF status]

1. Camera video does not appear on the screen
 - A. Please check connection between camera and harness cables
 - B. Please check connection between ECU and WIFI Router LAN cable
 - C. Please check Main Power cables
2. Monitor screen turned out to black or blue screen.
 - A. Please check ECU connecting power is unplugged by the LED light on the side of HT LinkVue
 - B. Please check memo message on the side of HT LinkVue, you can check the message by different signals of LED lighting.
3. No signal message on the screen.
 - A. Please check wifi connected between your Tablet and HT LinkVue wifi.

FCC Instructions

FCC Compliance 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.

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. **This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.** This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Interference Statement

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 correct the interference by one 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 which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

IC

Industry Canada Statement

This device complies with RSS-247 of the Industry Canada 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. Ce dispositif est conforme à la norme CNR-247 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Industry Canada Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.