

BMW Advanced Car Eye 3.0 User Guide

**BEDIENUNGSANLEITUNG.
ORIGINAL BMW ZUBEHÖR.**

BMW Advanced Car Eye 3.0

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General information

BMW recommends that you only use parts and accessories which have been tested and approved by BMW with regard to safety, function and sustainability.

BMW reserves the right to change or modify any of the information or specifications in this user guide without prior notice or obligation.

The most up-to-date user guide is available on the Advanced Car Eye 3.0 application and at the following website: <https://www.ace-30.com>

The user guide is an integral part of the product. It contains important information relating to safety, use and disposal of the product. Carefully read all the operating and safety instructions before using the product.

Use the product only as described in this user guide for the designated purposes.

BMW does not guarantee that the recorded data can always be used as evidence.

When delivering the product to a third party, hand over all relevant documents along with the product.

If you have any questions about using Advanced Car Eye 3.0 (ACE 3.0) contact the following email for each country:

EU: EU-support@ace-30.de

China: support@ace-30.cn

Japan: support@ace-30.jp

South Korea: support@ace-30.kr

Other countries: support@ace-30.com

Legal regulations

The users take full responsibility for checking the local legal requirements for using the ACE 3.0 and Advanced Car Eye 3.0 application (hereinafter referred to as the "ACE 3.0 App"). You must check the current laws in the relevant countries and check whether the product is allowed to be used and its permitted uses to comply with the legal regulations.

In some circumstances, media data may also be legally used against the users (e.g., speeding).

Videos of public places recorded using the ACE 3.0 must not be published on the internet or in other places.



Always follow the legal regulations. Legal regulations are subject to change. Regularly check if there has been any changes in the local laws and regulations that prohibit the use of the product. If the use of the product is prohibited by the country, the front camera must be removed, and then the rear camera (optional) will be disabled as a result.

For more information about the use of the ACE 3.0 app, contact a professional authorized dealer.

Safety information

The product may only be installed by a BMW workshop.

Do not operate the ACE 3.0 app while you are driving or the engine is running.

When delivering the product to a third party, hand over the user guide and the Declaration of Conformity along with the product.

Format and factory reset the memory card using the ACE 3.0 app before delivering the product to a third party.

Symbols used



Indicates a potential hazard which, if not avoided, may result in injury or death.



Provides useful information to help users better utilize the product's features.

Product overview

Included items

- Front camera (rear camera is optional)
- Mounting cable set
- 32 GB microSD card
- Electronic user guide
- Declaration of Conformity
- 15 Cable ties
- Cleaning cloth & Anti bubble foil
- Window Sticker
- Socket

microSD Card

The product is provided with a microSD memory card inserted in it.

Recorded videos and taken pictures will be saved in the microSD memory card. The product cannot start recording or take pictures if the memory card is not inserted.

To avoid data loss or corruption, be sure to insert or remove the memory card while the product is turned off.

Use only authentic memory cards. BMW does not guarantee compatibility and proper operation of third-party memory cards.

Depending on the operation mode of the product, recorded images are saved in these respective folders:

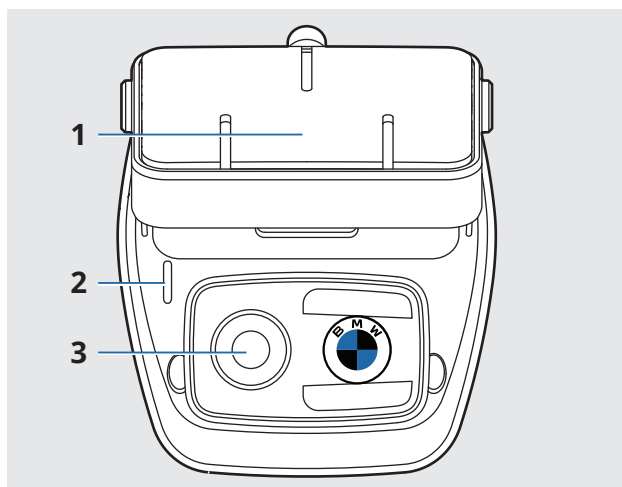
- DRIVING: Driving mode videos
- INCIDENT: Driving incident videos
- PARKING: Parking mode videos
- SNAPSHOT: Manually recorded videos/pictures
- MARKED: Storage



Memory cards are consumables with a warranty period of one year. Improper use of the memory card will void the warranty.

Front camera

The product may only be installed by a BMW workshop.

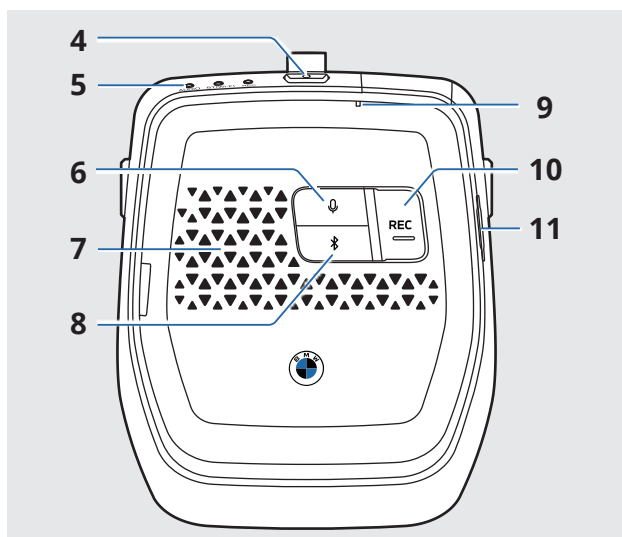


1 Mount connector

2 Security LED

- Driving recording: white LED on
- Driving incident/manual recording: white LED flickers
- Parking recording: White LED off
- Parking incident/Motion recording: white LED on

3 Front camera lens



4 Power button

- Press to turn on the product.
- Press and hold to turn off the product.

5 Status LED

- Displays the operating status of the product.



Refer to "Checking the status LED" on page 6 for more information.

6 Voice record button

- Press to turn voice recording on or off.
- Press and hold to turn voice recognition on or off.

7 Speaker

8 Bluetooth button

- Press to turn on Bluetooth.
- Press and hold to start Bluetooth pairing.
- When Bluetooth is on, press it again to turn off Bluetooth.

9 Microphone

10 Recording (REC) button

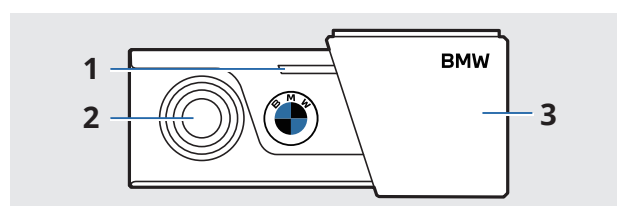
Press to take a picture or start manual recording.



You can change the action to be taken according to the **Blackbox Settings > Manual recording key setting** in the ACE 3.0 app.

11 SD card slot

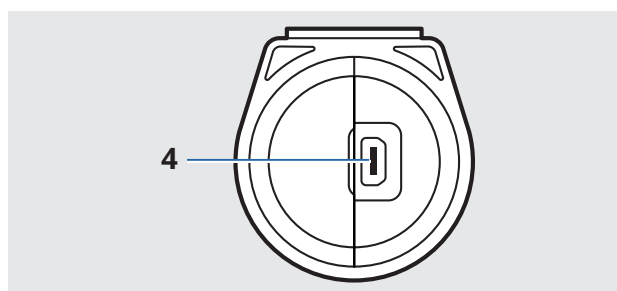
Rear camera (optional)



1 Security LED

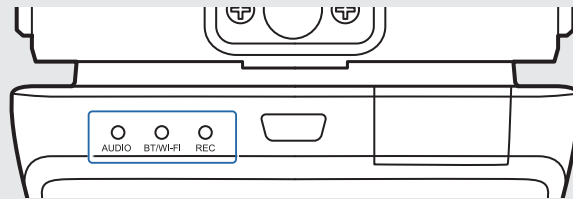
2 Rear camera lens

3 Mount



4 Rear camera cable connector

Checking the status LED



Status	Specification		
	Status LED		
	AUDIO LED	BT/WI-FI LED	REC LED
Voice recording on	Orange		
Voice recording off	Off		
Waiting for Wi-Fi connection		Flickers green	
Wi-Fi connected		Green	
Waiting for Bluetooth connection		Flickers blue	
Bluetooth pairing mode		Flickers blue quickly	
Bluetooth connected		Blue	
Bluetooth off		Off	
Recording standby			Yellow
Recording driving			Red
Event recording (Incident/Manual recording)			Flickers red
Event recording (taking pictures)			Flickers red twice
Recording parking		Off	
Firmware upgrade	AUDIO LED Orange > BT/WI-FI LED Blue > REC LED Red sequentially		
Error occurred	AUDIO LED Orange/ BT/WI-FI LED Red/ REC LED Red flickers 5 times simultaneously		

Using the product features

ACE 3.0 records videos while the vehicle is in operation.

When you start the vehicle and start driving, the product can check any damage caused by accidents that occurred in the front and rear (rear camera is optional) areas of the vehicle while it was in driving mode and from any accidents that occurred while the vehicle was parked and using parking mode.

Driving mode

When you start the vehicle, the status LED will turn on with a voice prompt and driving mode will start.

Driving recording: While driving, videos are recorded in 1 minute segments and stored in the "DRIVING" folder.

Incident recording: When an impact to the vehicle is detected, the video record from 10 seconds before the incident to 50 seconds after the incident is stored in the "INCIDENT" folder.



- You can choose between the two driving modes.
- Be sure to check if the laws and regulations of the country allow continuous video recording in driving mode.

Parking mode

When the engine is turned off and the set time for the product's exit phase elapses, the product automatically switches to the parking mode.

When an impact is detected while parking, a video record from 10 seconds before the impact to 20 seconds after the impact is saved in the "PARKING" folder.

*Exit phase refers to the assumed amount of time for the driver to leave the vehicle after the engine is turned off.

Videos of impacts recorded within this time frame do not add up to the number of incidents while parked, which is reported by the product or the ACE 3.0 App.

** Videos of impacts that are recorded during entry phase do not add up to the number of incidents while parked, since the driver is considered to be inside the vehicle in the moment of recording.



- Be sure to regularly check if the laws and regulations of the country allow using the parking mode.
- If the ACE 3.0 app and the product are connected during the exit phase, the parking mode will not be initiated as the driver is considered to be staying inside the vehicle.

Manual recording (REC)

You can manually record/take videos and pictures.

Press the record (**REC**) button on the front camera to start recording and save it in the "SNAPSHOT" folder.

- Video: From 10 seconds before pressing the button to 50 seconds after pressing the button, total 1 minute



Select between video or picture in ACE 3.0 app > **Blackbox Settings** > **Recording Function Settings**.

HDR(High Dynamic Range)

You can record the video with the front camera in high quality by setting the HDR (High Dynamic Range) feature.

The HDR feature provides a clear screen that looks just like you were seeing it with your own eyes by extending video's contrast ratio, rendering the objects on the video more distinguishable.

Night Vision

With the Super Night Vision feature, you can record videos that are much brighter than videos recorded without this feature. This feature is enabled by real-time image signal processing (ISP) that improves the brightness of videos recorded while parked at night.

GPS

The GPS feature is not approved in some countries for legal reasons, so the feature may be restricted or unavailable in certain countries.

Check the laws and regulations of your country before using the product for the first time.

Vehicle location

You can find your parked vehicle easily by using the ACE 3.0 app. When the product switches to parking mode while connected to the ACE 3.0 app, the pictures and videos taken by the front and rear camera (optional) are saved in the ACE 3.0 app, and the location of the vehicle is displayed on a digital map (may vary according to national law).

To use this feature, the GPS signal of the product must be activated when switching to the parking mode. This feature allows you to find your vehicle in the parking lot using the pictures taken by the front and rear camera, or locate your vehicle in the midst of a busy city using the digital map.

You can also start the feature by pressing the update button on the product.



Pictures taken by the front and rear camera (optional) and the location on the map (if the GPS feature is turned on) will be saved in the ACE 3.0 app until you use this feature again.

Using voice recognition

You can use voice recognition to perform 9 commands in 5 languages (English, German, Korean, Chinese, Japanese).



- The voice recognition can be turned on or off in the ACE 3.0 app > **Blackbox Settings** > **System Settings**.
- Refer to "Voice recognition commands" on page 13 for more information.

Using the product

MicroSD memory card

Ensure that the product is turned off before inserting the memory card.

If the memory card is removed or inserted while the product is turned on, the stored data may be lost or the product may malfunction.

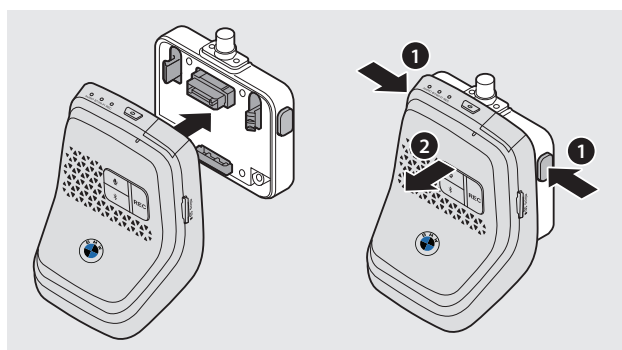
Remove the protective film from the camera lens

Remove the protective film from the front camera lens before installing and using the product.

Mounting/Removing the Front Camera

The front camera can be mounted or removed by pressing the buttons on both sides of the cradle at the same time.

Removing the front camera also disables the rear camera (optional).



Be sure to install and remove the front and rear camera (optional) while the product is turned off. The stored media may be lost or the product may malfunction.

Turning the product on

Driving mode starts when the vehicle is started, and the product and the ACE 3.0 app can be connected.



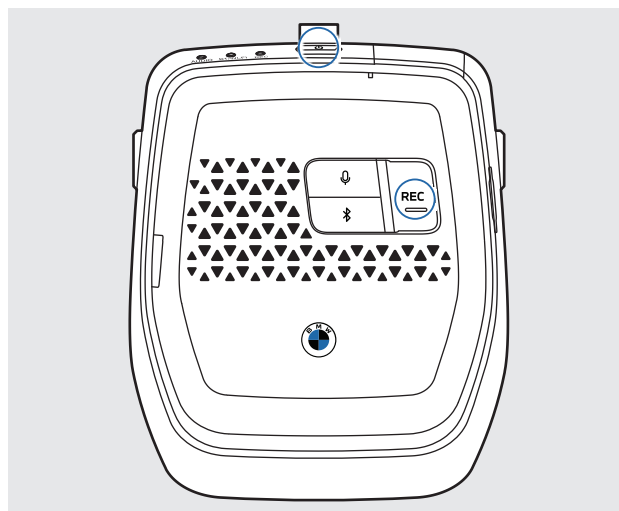
For more information, refer to the instruction manual provided with the vehicle.

Turning the product on/off manually

- When the engine is running, or when you are getting off the vehicle, briefly press the power button to turn on the product.
- Press and hold the power button for 3 seconds to turn off the product.

Resetting the product

Press and hold both the power (⏻) button and the record (REC) button together on the top of the product to factory reset the product.



Activating the product (Registering the product in the ETC app)



Product registration and activation in the ETC app is only applicable to users using the product in China.

- 1 Download and install the **ETC (e高速)** app on your smartphone.
- 2 Touch **e高速App > ETC网厅 > ETC免费领 > 前装ETC办理** and follow the in-app instructions to register user information.
- 3 When following the instructions, press and hold the Bluetooth (⌘) and the voice recording (📡) buttons on the product simultaneously on the ETC activation step to complete activation and registration.

Using the ACE 3.0 app

You can use the ACE 3.0 app on your smartphone to play and manage recorded videos and use the product's various features.

Download and install the **ACE 3.0** app from the Google Play Store or Apple App Store.



Do not operate the product while driving. Distraction while driving may cause accidents and result in injury or death.

Turn your smartphone's Bluetooth on and connect the product to your smartphone by following the ACE 3.0 app's instructions.



You can only connect one smartphone to the product. If the product does not connect to your smartphone, check if the product is already connected with another smartphone.

If you use the power saving mode on certain smartphones, the connection between the product and the smartphone may be lost.

After the product and your smart phone are connected, the language set on the smartphone will be applied to the ACE 3.0 app.

The connection between the product and the smartphone is maintained while operating the product using the ACE 3.0 app.

When there is a new version of the firmware, the ACE 3.0 app will immediately notify you of the update.



- Follow the instructions in the ACE 3.0 app before updating the firmware.
- Updating the firmware may automatically format the memory card. Back up the data stored on the memory card before updating.
- The customized settings are maintained even after the firmware update.

Settings

On the main screen of the ACE 3.0 app, touch **Blackbox Settings**. Each feature of the product can be set and used according to the user's need or preference.



In the ACE 3.0 app, select **Settings > System Settings > Reset settings** to delete all settings and saved data on the product.

Managing memory card

- **Format memory card:** Touch **OK** on the memory card format pop-up window to format the memory card.

Camera settings

- **Voice Recording:** Turn voice recording on or off.
- **Recording button action:** Select either video or picture when the recording (**REC**) button is pushed.
- **HDR:** Turn HDR on or off.
- **Night Vision:** Turn Night Vision on or off.
- **Channel setting:** Select either 1ch or 2ch as the desired setting.



If the product needs to be formatted when changing channel settings, a format notification pop-up window will be displayed. Touch **OK** to delete all stored data.

- **Front Camera Brightness:** Select the desired brightness.
- **Rear Camera Brightness:** Select the desired brightness among Dark/Normal/Bright.

Recording settings

◀ Driving mode ▶

- **Driving mode:** Select either **Continuous recording** or **Incident recording** only to be used in Driving mode.



When changing the mode to Incident recording only, the memory can be formatted according to the set memory partition.

- **Driving incident sensitivity:** Select the desired driving incident sensitivity.
- **Enter phase:** Set the time during which vibrations detected while getting into the vehicle are not recognized as events.
- **Exit phase:** Set the time period during which vibrations that are detected when getting out of the vehicle are not recognized as events.

◀ Parking mode ▶

- **Parking Mode:** Select **Disable** when not using parking mode.
- **Parking incident sensitivity:** Select the desired parking incident sensitivity.
- **Recording end voltage:** unspecified

◀ Volume settings ▶

- **System volume:** Set the product's default volume.
- **Voice guidance volume:** Set the volume for voice guidance.
- **Video volume:** Set the video playback volume.

System settings

- **Language:** Select the language to be used in the system.
- **Country/Region:** Select the country and region where the product is used.
- **Date and time:**
 - Set the same as the smartphone connected to the product or select a time zone to set the date and time.
 - Turn daylight saving (summer time) on or off.
- **Voice guidance gender:** Select the desired gender for the voice guidance.
- **Voice recognition:** Turn voice recognition on or off, and select the language to use for voice recognition.
- **Security LED:** Turn the security LED on or off.
- **Video stamp:** Select the stamp to be displayed on the video from Date/Time/Speed/GPS (multiple selection is possible).
- **Speed unit:** Select the desired unit for speed.
- **GPS:** Turn the GPS on or off.
- **Wi-Fi frequency band:** Select the desired Wi-Fi frequency band.
- **Memory card format:** Touch OK on the memory card format pop-up window to format the memory card.
- **Reset Settings:** You can reset the product's settings. The product may be formatted in order to change the settings.

Viewing the saved data

Checking videos/pictures

All recorded media data are saved in each folder on the memory card.

You can move the media data from the memory card to your computer or copy it to the ACE 3.0 app.

Picture/video data is saved with a file name of "**Date_Time_Type_Front/Back.File Format**".

2021_07_22_16_38_07_REC_F.MP4

2021_07_22_16_37_07_REC_R.MP4

- **REC: Driving recording video**
- **EVT: Driving incident recording video**
- **MAN: Manual recording video**
- **F: Front camera video**
- **R: Rear camera video**
- **MP4/JPG: File format**

When an important event (incident recording) occurs, back up the video and picture data to the ACE 3.0 app or external memory.



To prevent data loss and malfunctions, insert and remove the memory card only when the product is turned off.

Voice recognition commands

The voice recognition commands for each language are as follows.

Items	Commands				
	Korean	English	German	Chinese	Japanese
Turn on the screen	Hi Camera	Hi Camera	Hi Camera	睿眼，你好	はい、カメラ (Hai, Kamera.)
Start manual recording (photo)	사진 찍어	Take a picture	Foto aufnehmen	拍照	写真を撮って
Start manual recording	녹화 해	Save Video	Video aufnehmen	录视频	動画を撮って
Turn sound off	소리 꺼	Speaker Off	Lautsprecher aus	关闭扬声器	スピーカーオフ
Turn sound on	소리 켜	Speaker On	Lautsprecher an	开启扬声器	スピーカーオン
Turn voice recording off	음성 녹음 꺼	Microphone OFF	Mikrofon aus	关闭录音	録音オフ
Turn voice recording on	음성 녹음 켜	Microphone ON	Mikrofon an	开启录音	録音オン
Turn down the voice guidance volume	볼륨 작게	Decrease volume	Leiser	调低音量	ボリュームを下げて
Turn up the voice0 guidance volume	볼륨 크게	Increase volume	Lauter	调高音量	ボリュームを上げて

Preventing Product Malfunctions

Mistakes during use may cause the product to malfunction. Refer to the following instructions to avoid the following malfunctions.

Malfunctions	Correct usage
Loss of saved data	Turn off the product before removing the memory card from the product.
Loss of saved data, system failure	Use the included memory card.
Loss of saved data due to auto format	Back up important event videos to an external hard drive or the ACE 3.0 app. Do not edit the data saved in the memory card on a different computer or on other devices, and do not move the data from their original location on the assigned device.
Loss of saved data due to overwriting	Back up important event videos to an external hard drive or to the ACE 3.0 app.
Saving insignificant events/ Missing important events	Set the appropriate enter/exit phase time period or sensor threshold.
Unable to connect product to ACE 3.0 app	Check if the product is connected to another smartphone.

Specifications

Items		Description	
CPU		Quad-core Cortex-A53, up to 1008 MHz	
Memory		DDR3 512MByte (32bit) / NAND 512 MB	
Resolution		QHD 2560 x 1440p (30fps) FHD 1920 x 1080p (30fps)	
G sensor		3-axis acceleration sensor / acceleration range $\pm 4g$	
Memory card		UHS-I 32GB / 64GB / 128GB	
Emergency current		Super capacitor	
GPS		3GNSS (GPS,GLONASS), Number of concurrent GNSS: 3	
Interface		<ul style="list-style-type: none"> • AV-IN terminal: rear camera • USB: Mass storage only 	
Operating voltage		12V	
Operating/storage temperature		-30 - 80°C	
Bluetooth	Standard	BLE	
	Frequency range	2402MHz ~ 2480MHz	
	Number of channels	40	
Wi-Fi	Frequency	2.4GHz RF Specification	5GHz RF Specification
	Standard	IEEE 802.11b/g/n	IEEE 802.11a/n
	Frequency range	2.400 GHz - 2.497 GHz	5.15 GHz - 5.25 GHz
	Number of channels	1-11(USA), 1-13(Europe, Korea, China)	36-48 Channel (Allocated by country)
	Transmit output	<ul style="list-style-type: none"> • 802.11b /11M: 12 dBm \pm 1.5 dB • 802.11g /54M: 12 dBm \pm 1.5 dB • 802.11n /MCS7: 11 dBm \pm 1.5 dB 	<ul style="list-style-type: none"> • 802.11a /54M: 11 dBm \pm 2 dB • 802.11n /MCS7: 11 dBm \pm 2 dB

Disposal of electrical devices

In accordance with the European Directive 2012/19/EC on the disposal of electrical and electronic devices and the applicable national laws, old electrical devices must be collected separately and recycled in an environmentally friendly manner. If the symbol with an X on a waste bin is marked on the product or accompanying documentation, it must be discarded separately from general waste at the end of its lifespan. For the disposal and recycling of these materials, take the product to your local collection point or recycling bin, or check with a qualified authorized dealer or local disposal company for the correct disposal method and information on nearby recycling points.

FCC Statement

This device comply with part15 of FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device & its accessories must accept any interference received, including interference that may cause undesired operation.

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 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.

WARNING: Changes or modifications not expressly approved by the manufacturer (or party responsible) for compliance could void the user's authority to operate the equipment

This device should be installed and operated with minimum 20 cm between the radiator and your body.