Wireless Digital Audio Player
HCA-100

1. Introduction

The AudioMate is a standalone multifunction wireless entertainment appliance that supports digital audio player (MP3, WMA), Internet radio, FM radio receiver and alarm clock functionalities in a box.

The digital audio player feature can receive and playback audio streaming contents wirelessly from your premium content providers, or existed media server at home, or retrieve and playback digital audio contents from local USB based storage devices, like portable USB flash, MP3 player or USB based hard-drive. AudioMate can also act as an Internet radio that lets you enjoy cool Internet live radio without need to rely on your PC. In addition, the build-in FM radio feature of AudioMate lets you listen to traditional FM radio programs if you don't have Internet available at your place.

The built-in high quality stereo speakers eliminate the need of extra accessories while enjoy your favorite music.

2. Main features:

- **Hardware**
- Compatible with standard IEEE 802.11b and 802.11g standards
- Acting as a client in infrastructure wireless network
- Support site survey and SSID selection/connect via local UI
- Support Wi-Fi certificated security, such as WEP and WPA-PSK (only WPA-PSK needed for home applications).
- Built-in 128 x 64 pixels graphic based LCD with backlight.
- Built-in 2-channel high quality stereo speakers.
- Built-in USB host for connecting to local storage devices.
- Built-in FM radio receiver to receive FM radio programs.

- **Software**
- Play audio files (MP3, WMA) to built-in stereo speakers or external audio output
- Play Internet content services, such as premium audio content, Internet radio.
- Management schemes
  - By infrared remote controller, or local LCD UI and buttons for configuration and control.
  - By PC host utility, user can customize Internet radio profiles. Subscribe Internet premium audio contents.
- Support seeking function while playing audio clips.

- Support Windows Connect Now self-configure to appropriate wireless network settings.
- Support auto-discover and access to the content over the network, which may reside on PC-based media server, networked HDD storage or other digital media devices, providing that these devices support de facto Digital Home protocols, such as UPnP AV, Intel NMPR, DLNA protocols, or Microsoft Media Connect solutions.
- Play audio files in USB storage device via built-in USB host port.
- Normal alarm clock function

Keypad definition:

▲ UPPER arrow key

▶ RIGHT arrow key

◀ LEFT arrow key

▼ DOWN arrow key

▶❚❚ ENTER, PLAY, PAUS key

Volume up

Volume down

AudioMate Remote Controller Layout

Snooze (Alarm) — Alarm ON/OFF

Sleep — Toggle 1: 30 min / Toggle 2: 60 min / Toggle 3: 90 min / Toggle 4: OFF

CLCK — Go to Clock "Standby" page / Toggle again to get back

A/a — Up/Low case of alphabet

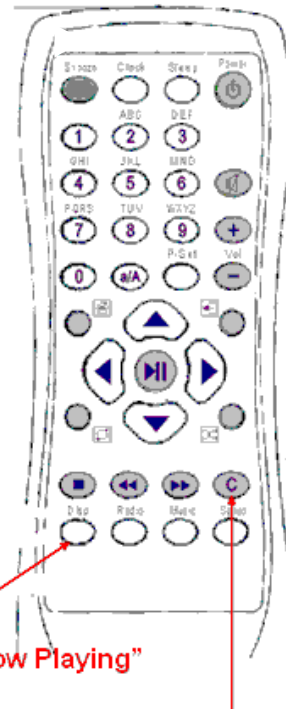**Main** — Go to "Main Menu" page

Back — Go to previous level page

RPT — Toggle 1: Repeat 1 / Toggle 2: Repeat ALL / Toggle 3: Repeat OFF

P-SET — Pre-set

Display: mapping to "Now Playing" icon of main menu

Cancel/Clear

3. Getting Start

AudioMate supports de facto Digital Home protocols, such as UPnP AV, Intel NMPR, DLNA protocols. It can work with all UPnP compliant media servers. However, for better AudioMate evaluation, you are recommended to use Microsoft Windows Media Connect running over Windows XP with SP2 (Service Pack 2) as your media server.

In addition, AudioMate also supports Windows Connect Now (WCN) self configuration. AudioMate provides a built-in USB host port for WCN. You are recommended to use Windows Connect Now (WCN) to easily setup your WLAN network to appropriate settings.

Learn more about Windows XP SP2, please visit
http://www.microsoft.com/windowsxp/sp2/default.mspx

For the details about Windows Media Connect, please visit Microsoft Web site
http://www.microsoft.com/downloads/details.aspx?FamilyID=56fd1b34-48ba-424b-9227-7c10e2e9fff1&displaylang=en

And visit http://www.microsoft.com/whdc/device/netattach/WCN.mspx to get the detail information of Windows Connect Now (WCN)

Note: You have to update your Windows XP to SP2 before you enable WCN function and install Windows Media Connect media server.

Wired Ethernet Connection (option)

Depending on your router requirement, you can select either dynamic IP address assigned by your DHCP server (or router) or you can assign static IP address for AudioMate manually. You are always recommended to use dynamic IP address ("Audo" mode) for wired connections, if applicable.

Using dynamic IP address assigned by DHCP server ("Auto" mode) – Factory Default

To establish wired Ethernet connection, you just need to simply connect RJ-45 cable (with dynamic IP address assignment) to AudioMate, AudioMate will get IP address from DHCP server and activate Ethernet connection automatically. For the details of DHCP server setup, please refer to your DHCP-ready broadband router user's manual.

Go to Main Screen → Settings (or press "Setup" hot key on remote controller directly) → select "Interface Setting" → select "Ethernet" → go to "IP Setting" → select "Network Mode" → select "Auto"

Using static IP address

You can use static IP address for the wired connections. To use static IP address for network connections, you have to assign and specify the dedicated IP address, corresponding network Mask, Sub-net, DNS address, etc… information at both router side and AudioMate.

Go to Main Screen → Settings (or press "Setup" hot key on remote controller directly) → select "Interface Setting" → select "Ethernet" → go to "IP Setting" → select "Network Mode" → select "Static → go to "IP Address" and assign dedicated IP address for AudioMate → Go to "Subnet mask" and enter the mask → go to "Default Gateway" and give gateway IP address (usually the IP address of your router) → go to "DNS Server" setting and enter DNS server address

WLAN Connection

WLAN Connection with Security Disabled (no security)

To make WLAN connection without security, you can follow the procedure:

Main Screen → "**Settings**" menu → "**Network Setting**" menu (or press "SETUP" button on remote controller) → "**WLAN Setting Wizard**" menu, then press **ENTER**.

AudioMate will do wireless LAN site survey automatically. Choose the appropriate WLAN AP (SSID) for your WLAN connection.

Enable WLAN Security with WCN (Windows Connect Now)

AudioMate supports Windows Connect Now (WCN) self configuration. AudioMate provides a built-in USB host port for WCN. You are recommended to use Windows Connect Now (WCN) to easily setup your WLAN network to appropriate settings.

Note: You have to update your Windows XP to SP2 (Service Pack 2) before you enable WCN function

Learn more about Windows XP SP2, please visit
http://www.microsoft.com/windowsxp/sp2/default.mspx

For the details about Windows Media Connect, please visit Microsoft Web site
http://www.microsoft.com/downloads/details.aspx?FamilyID=56fd1b34-48ba-424b-9227-7c10e2e9fff1&displaylang=en

And visit http://www.microsoft.com/whdc/device/netattach/WCN.mspx to get the detail information of Windows Connect Now (WCN)

Prepare a WCN profile from Windows XP (with SP2 supported) and store to portable USB disk. Plug the USB flash disk that contains WCN profile to the USB port of AudioMate. AudioMate will pop-up a dialog with message "**Use Connect Now settings**?". Click "**Yes**" to setup secured WLAN connection automatically.

Main Screen → "**Settings**" menu → "**Network Setting**" menu (or press "SETUP" button on remote controller) → "**WLAN Setting Wizard**" menu, then

press **ENTER**.

AudioMate will do wireless LAN site survey automatically. Choose the appropriate secured WLAN AP (SSID) for your WLAN connection. Then, AudioMate will pop-up "Need Key!" screen to let you enter encryption/decryption key. The key should be same as that on your wireless AP/Router. Use remote controller keypad or use keypad on AudioMate front panel to enter the security key.

Or you can go to "Advanced WLAN Setting" under "Network Setting" to configure WLAN settings item by item.

Curent Info: display current wireless LAN connection information

Site Survey: fresh wireless LAN site survey result

Operating mode: choose between "Infrastructure" mode and "Ad-Hoc" mode (peer to peer) SSID Setting: give the SSID for a dedicated wireless AP to be connected if it is not displayed (hidden SSID) at site survey display list. Use remote controller keypad or use keypad on AudioMate front panel to enter SSID.

Security Setting: select wireless LAN security scheme that you want to apply. Press "Enter" key, then AudioMate will pop-up "Need Key!" screen to let you enter encryption/decryption key. The key should be same as that on your wireless AP/Router. Use remote controller keypad or use keypad on AudioMate front panel to enter the security key.

How to use Media Server with AudioMate?
Music
AudioMate support two kind of digital music sources: one is from media server through wireless or wired network connection, the other is from local USB based storage drive.

To stream and playback digital contents on media server, you firstly have to activate media server program and establish either wired Ethernet (option) or wireless LAN connection.

Playback Music on Media Server

As soon as wireless or wired network link between Media Server and AudioMate is established, you can stream digital music contents from media server to your AudioMate. On AudioMate LCD screen, select "Media Server" icon under "Music" sub-menu, then press ENTER/PLAY/PAUSE key (button). Now you can browse the available media server on the network and enter your desired server to stream and playback the digital music contents to AudioMate. AudioMate may take a couple of seconds to link to media server and parse music contents.

Track Selection & Playback
Use UP/DOWN arrow key (button) to browse the tracks, then use ENTER/PLAY/PAUSE key (button) to select the tracks that you want to listen. You can use RIGHT or LEFT key (button) to jump to next or previous track while in playback mode.

You can use DOWN arrow key to go to command area, then use ENTER (PLAY) key to trigger "Repeat All" (all tracks) and "Repeat 1" (current track only) function, or trigger "Direct Through" and "Random" (shuffle) playback order.

You can also press "RPT" and "RDM" (Random) button on remote controller to enable "Repeat" and/or "Random" (Shuffle) function.

Playback Digital Music on USB Disk
It is no need to make wireless or wired network connection for local USB disk playback.

Plug the USB flash disk that contains digital music contents (MP3, WMA) to the USB port of AudioMate. AudioMate will automatically parse all the digital music files and list on LCD screen. Use UP/DOWN arrow key and ENTER (PLAY) key to select the songs that you want to listen, then press RIGHT arrow key to playback.

(1) Internet Radio "My Favorite" stations creation
    Select your desired Internet Radio station and make playback. Under
    Internet Radio "Now Playing" status, press "DOWN" arrow key to move to
    command selection area, select "My Favorite" icon, press "ENTER" key to

save the current playing station to "My Favorite Stations" folder.

(2) Create/Add your own Internet Radio URL entries.
   This function needs the support of PC running Windows Media Player (version 9 or 10) or WinAmp.
   1. Download and install Windows Media Player or WinAmp.
   2. Run Windows Media Player or WinAmp.
   3. Plug your USB pen-drive disk to PC/NB USB port.
   4. Follow below procedures to export Internet Radio URL entries to your USB pen-driver disk.

Windows Media Player
1. Choose "Radio Tuner" after running Windows Media Player.

   Note: The "Radio Tuner" path varies on different Windows Media Player version.

2. Select a desired Internet Radio station and play it.
3. Choose "Now Playing"
4. Choose "File" →"Add To Media Library" → "Add Currently Playing Playlist"
5. Save current playing station URL entry to USB pen-drive disk.
6. Repeat step 2~5 to collect more URL entries.
7. Remove USB pen-drive disk from PC/NB and plug it into AudioMate USB port.
8. Now you can browse and playback the previous saved Internet Radio URL entries on AudioMate.
9. You can follow above -- Internet Radio "My Favorite" stations creation-- to save desired URL entries to AudioMate's Internet Radio "My Favorite Stations" folder.

WinAmp
1. Run WinAmp
2. Click "PL" and "ML" buttons. Three windows should open: WINAMP, PLAYLIST EDITOR and MEDIA LIBRARY

3. On MEDIA LIBRARY window, choose "Internet Radio" under "Streaming Media". WinAmp will list all Internet Radio stations at the right-hand side panel.
4. Double click your desired station, WinAmp will start to play the station and add to PLAYLIST EDITOR window.
5. On PLAYLIST EDITOR window, click "Manage Playlist" button and choose "Save Playlist" to save the current station at M3U file format. Save this file to pne-drive disk.
6. Repeat above steps to collect more URL entries.
7. Remove USB pen-drive disk from PC/NB and plug into AudioMate USB port.
8. Now you can browse and playback the previous saved Internet Radio URL entries on AudioMate. While you plug USB pen-drive disk to AudioMate, AudioMate will automatically pop-up USB pen-driver disk file list automatically. Otherwise go to "Music" → "USB Disk" to search for the M3U format files.
9. You can follow above -- Internet Radio "My Favorite" stations creation-- to save desired URL entries to AudioMate's Internet Radio "My Favorite" Stations" folder.

What is vTuner?

vTuner is an Internet Radio database provider (see vTuner URL at http://www.vtuner.com). vTuner maintains the most extensive and always up-to-date for detailed database of Internet Radio stations listings available. AudioMate is incorporating with vTuner's Internet Rdiao database to provide always alive Internet Radio service.

Description of vTuner Premium Service
The vTuner Premium Service will consist of full set of live stations in the vTuner database that can be played using the AudioMate, currently in excess of 4,000 live stations for MP3 plus WMA live stations or about 1,800 for MP3 live stations only.

AudioMate package provides each consumer a free trial subscription to the Premium vTuner Internet Radio service for 60 days (trial period is subjected to be changed without prior notice). At the end of the free trial the consumer has the option to pay vTuner to extend the Premium service or they retain a high quality listing of selected 150 stations (High Quality Basic Service) that has been included in AudioMate package. The premium service extension subscription pricing will be settled at vTuner's (http://www.vTuner.com) sole discretion. vTuner maintains full rights to the commercialization of the
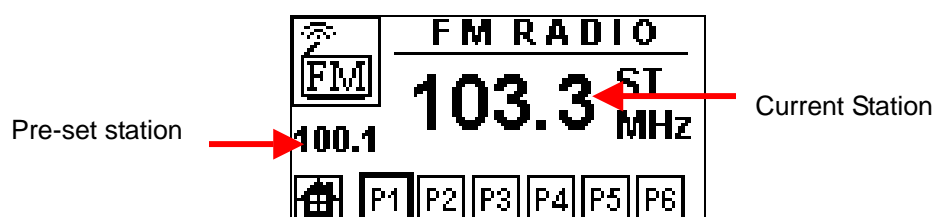
Greeting Screen

When you power-up AudioMate, system will pop-up this screen automatically. In a few seconds, AudioMate will enter following "Main Screen".

Main Screen

Alarm Clock ON

12:00 AM

WLAN Connected

FM RADIO

Use RIGHT/LEFT arrow key to select the desired functions, then press ENTER (PLAY/PAUS) key

FM Radio

Pre-set station

Current Station

Use RIGHT/LEFT arrow key to scan and listen to the desired radio station (frequency). Or you can use DOWN arrow key to go to command area and quickly recall the radio station (frequency) pre-stored in preset list (P1 to P6), then press ENTER (PLAY/PAUS) key to change to the selected station (frequency).

Preset Setting
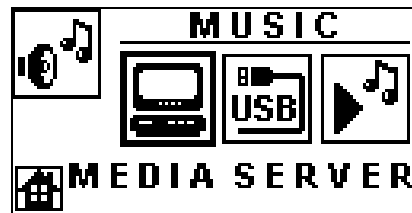You can program the preset station (frequency) list by yourself.

On System Keypad
Use RIGHT/LEFT arrow key to scan to the desired radio station (frequency). Press DOWN arrow key to switch to command area, then use RIGHT or LEFT arrow key to move cursor to the preset position (P1~P6) that you want to store the station (frequency), then press and hold ENTER (PLAY) key for a while (2~3 seconds) until you see the preset station shows at the left side of LCD panel.

On Remote Controller
Use RIGHT/LEFT arrow button to scan to the desired radio station (frequency). Press and hold P-SET (Preset) button plus digit key, for example "P-SET" + "1" (equal to "P1"), to store the station (frequency) in your preset list..

Digital Music

AudioMate support two kind of digital music sources: one is from media server through wireless or wired network connectivity, the other is from local USB disk.

To stream and playback digital contents on media server, you firstly have to establish either Ethernet or WLAN connection. Select " Music" icon on "Main Screen" or press "MUSIC" button on remote controller.
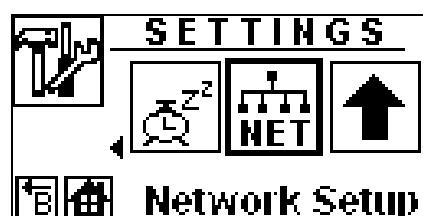
Through Ethernet Connection (if available)
You can select either dynamic IP address assigned by your DHCP server (or router) or you can assign fixed IP for AudioMate.

To establish wired Ethernet connection, you just need to simply connect RJ-45 cable (with dynamic IP address assignment) to AudioMate, AudioMate will get IP address from DHCP server and activate Ethernet connection automatically. For the details of DHCP server setup, please refer to your DHCP-ready broadband router user's manual.

Through WLAN Connection
You are strongly to use Windows Connect Now (WCN) to ease WLAN setup, especially when you enable WLAN security (WEP or WPA) settings.

WLAN Connection with Security Disabled
To make WLAN connection without security, you can follow the procedure:

Main Screen → "**Settings**" menu → "**Network Setting**" menu (or press "SETUP" button on remote controller) → "**WLAN Setting**" menu → "**Site Survey**", then press **ENTER (PLAY)**.

Then choose the appropriate WLAN AP (SSID) for your WLAN connection.

Enable WLAN Security with WCN (Windows Connect Now)

You are always recommended to use Windows Connect Now for secured WLAN settings.

Prepare a WCN profile from Windows XP and store to portable USB disk. Plug the USB flash disk that contains WCN profile to the USB port of AudioMate. AudioMate will pop-up a dialog with message "**Use Connect Now settings**?". Click "**Yes**" to setup secured WLAN connection automatically.

Playback Digital Music on Media Server

As soon as wireless or wired connection is established, you can stream digital music contents on your media server (refer to Microsoft Windows Media Connect Web site for the details of media server installation) through WLAN network.

Select "Media Server" icon under "Music" sub-menu, then press ENTER/PLAY/PAUS key (button).

Now you can browse the available media server on the network and enter your desired server to stream and playback the digital music contents to AudioMate. AudioMate may take a couple of seconds to link to media server and pars music contents.
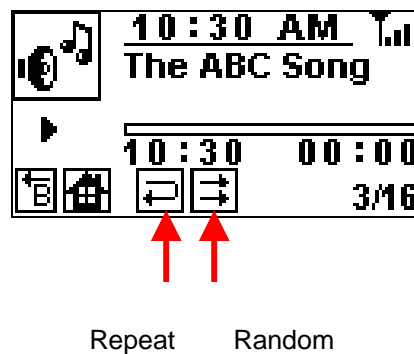
Track Selection & Playback

Use UP/DOWN arrow key (button) to browse the tracks, then use ENTER/PLAY/PAUS key (button) to select the tracks that you want to listen, then press RIGHT arrow key (button) to playback the selected tracks.

If you don't select any tracks and press RIGHT key (button) directly, all the tracks will be played.

If several tracks are selected, you can use RIGHT or LEFT key (button) to jump to

next or previous track while in playback mode (see following screen shot).

Repeat   Random

You can use DOWN arrow key to go to command area, then use ENTER (PLAY) key to trigger "Repeat All" (all tracks) and "Repeat 1" (current track only) function, or trigger "Direct Through" and "Random" (shuffle) playback order.

You can also press "RPT" and "RDM" (Random) button on remote controller to enable "Repeat" and/or "Random" (Shuffle) function.

Playback Digital Music on USB Disk
It is no need to make wireless or wired connection for local USB disk playback.

Plug the USB flash disk that contains digital music contents (MP3, WMA) to the USB port of AudioMate. AudioMate will automatically pars all the digital music files and list on LCD screen. Use UP/DOWN arrow key and ENTER (PLAY) key to select the songs that you want to listen, then press RIGHT arrow key to playback.
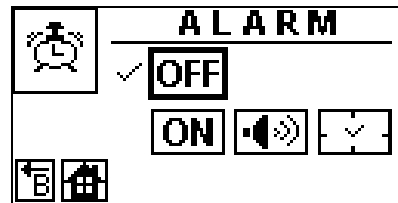
Internet Radio
To listen Internet Radio programs, you have to establish either wired Ethernet or wireless LAN connection in advance. Refer to the above "Digital Music" section about network setting for establishing wired/wireless network connection.

Go to "Main Screen"and select "Internet Radio", then press ENTER (PLAY) key. Or press "I.RDO" button on remote controller directly. Enter "Select Station" sub-menu to choose the Internet Radio station that you want to listen. AudioMate is already pre-programmed some Internet Radio stations in memory. You can add your preferable Internet Radio station(s) manually later via software upgrade.

Alarm Setting

AudioMate supports a very useful function – alarm clock. Various alarm sources are supported, such as Media Server, USB Disk, Internet Radio, FM Radio and system buzzer.

"Alarm Clock" function is disabled as default. Go to "**Main Screen"** → "**Settings"** → "**Alarm Setting",** use DOWN arrow key to select "**ON"** button, then press ENETR (PLAY) key to enable alarm clock function.

Use RIGHT arrow key to go to alarm source button, then press ENTER (PLAY) key. Use UP/DOWN arrow key to scroll and select alarm source, then press ENTER (PLAY) key. Once alarm source is selected, use UP/DOWN and LEFT/RIGHT arrow key to setup alarm time.

Make sure network connection (wired or wireless) is alive when you select "Media Server" and "Internet Radio" as alarm source. Make sure USB disk containing music contents is attached to the USB port of AudioMate if you select alarm source from "USB Disk".

When the alarm source is USB Disk, Internet Radio, or Media Server, AudioMate will use the latest playing track or playlist as alarm source. If you didn't play any track or playlist since AudioMate is powered-on, it will automatically switch to default system buzzer as alarm source.

Now you can switch off AudioMate to test the alarm clock function.

Snooze Function,

As soon as alarm is ringing, when the snooze button is clicked, AudioMate will stop the ring. After 5 minutes, AudioMate will ring again. The alarm will not be dismissed until you disable the alarm function from network setting or it will automatically stop after 20 minutes if you don't disable alarm clock function in alarm setting.

Date Setting

The "Date Setting" is used to setup date information.

Go to "**Main Screen**" → "**Settings**" → "**Date Setting**"
Or press "**DATE**" button on remote controller to enter date setting.
Use UP/DOWN and LEFT/RIGHT arrow key to setup date information.

Time Setting

The "Time Setting" is used to setup current time information.

Go to "**Main Screen**" → "**Settings**" → "**Time Setting**"
Or press "**Time**" button on remote controller to enter date setting.
Use UP/DOWN and LEFT/RIGHT arrow key to setup time information.

Sleep Setting

The "Sleep Setting" is used to automatically power off AudioMate on the programmed time point. The default setting of sleep setting is OFF.

Go to "**Main Screen**" → "**Settings**" → "**Sleep Setting**"

Use DOWN arrow key to select ON button, then press ENTER (PLAY) key.
When "Sleep Setting" is turned ON, use RIGHT arrow key to select "Clock" button. Then, press ENTER (PLAY) key to set sleep time.

You can also use the "**Sleep**" key on remote controller to toggle the sleep time among 30, 60, 90 minutes and OFF.

Federal Communication Commission 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 try 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 that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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 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.

IMPORTANT NOTE:

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 20cm between the radiator & your body.