

Cellular / WAN / Wi-Fi Router

Quick Start Guide

v0.1

Maestro Wireless Solutions

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QUICK START GUIDE

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1. Overview

With LTE, WAN, LAN and Wi-Fi connectivity, Maestro's E228 VZ router are highly versatile, reliable and rugged router designed for mission-critical enterprise applications requiring faultless connectivity.



E228 VZ

It is a High-Speed Verizon Wireless LTE router

2. Prerequisite

Before continuing with the installation of your E220 Series router, make sure you have a computer equipped with the following:

- » Computer with an Ethernet port or Wi-Fi connectivity and Internet service
- » Active SIM card
- » Web browser such as Internet Explorer 7+ or Google Chrome, Mozilla Firefox 1.5+ or Apple Safari to access the Maestro Web Admin Console
- » HCP enabled in the computer. To enable the DHCP, go to Start > **Control Panel > Network and Sharing Centre** > Click the existing **Connection** > **Network Connection Status** dialog box appears > click **Properties** > Double click Internet **Protocol Version 4 (TCP/IPv4)** > **Internet Protocol Version 4 (TCP/IPv4) Properties** dialog box appears > Under tab **General**, select following options:
 - a. Obtain an IP address automatically
 - b. Obtain DNS server address automatically

3. Checking the Package Content

Check the Package contents. Check that the package contents are complete.

- » One Maestro E228 VZ Router
- » One AC Power connector cable – 2-pin connector for power supply
- » One cross Ethernet Cable
- » Wi-Fi antennas
- » Diversity Antenna
- » Cellular Antenna
- » Quick Start Guide

Note

All the components are exclusive to the Maestro Router and must be purchased.

If any component(s) from the package are missing, please contact Maestro Support at support@maestro-wireless.com.

4. Default Configuration

4.1 Web Admin Page

Parameters	Details
IP Address (LAN)	192.168.1.1
Username	admin
Password	admin

Note

Username and Password are case sensitive.

4.2 Wi-Fi enabled, with WPA/WPA2 TKIP key

Parameter	Details
SSID	Maestro
WPA Key	W1rele\$\$

Note

Username and Password are case sensitive.

4.3 Connection

- » WAN Connection – Automatic (DHCP - Automatic IP Address lookup)
- » Active DHCP with starting IP Address: 192.168.1.100 with pool of 100 clients.
- » WAN as automatic IP, with Cellular backup
- » Cellular default APN is "internet"

5. Understanding the Maestro Router

5.1 LAN Panel Details

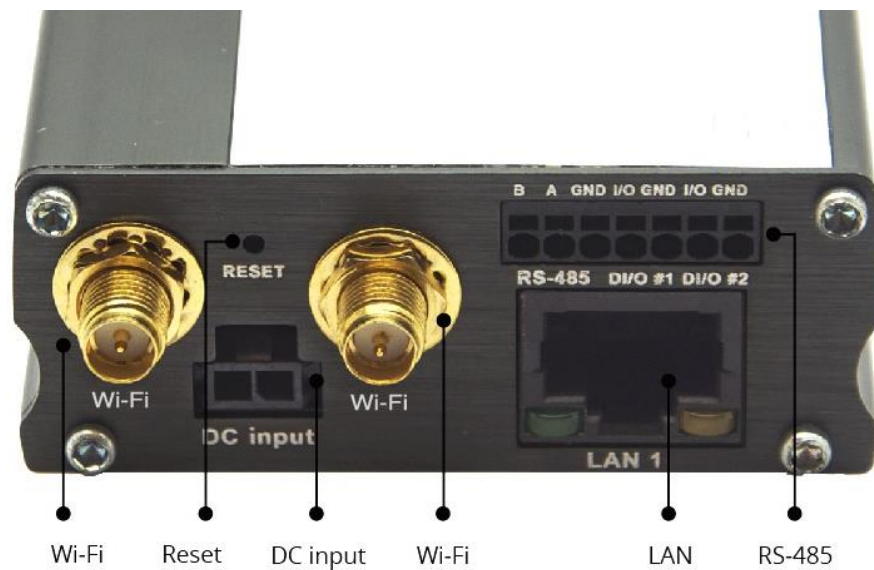


Figure – Maestro Router LAN Panel

- » Power Supply – 2-pin Micro-fit 3.0 connector
- » Ethernet port (LAN) – Ethernet cable connects to LAN.
- » Reset Button – Push the reset button for 3 seconds and the device will be reset to default settings.
- » Wi-Fi Connector – RP-SMA antenna connector

5.2 WAN Panel Details

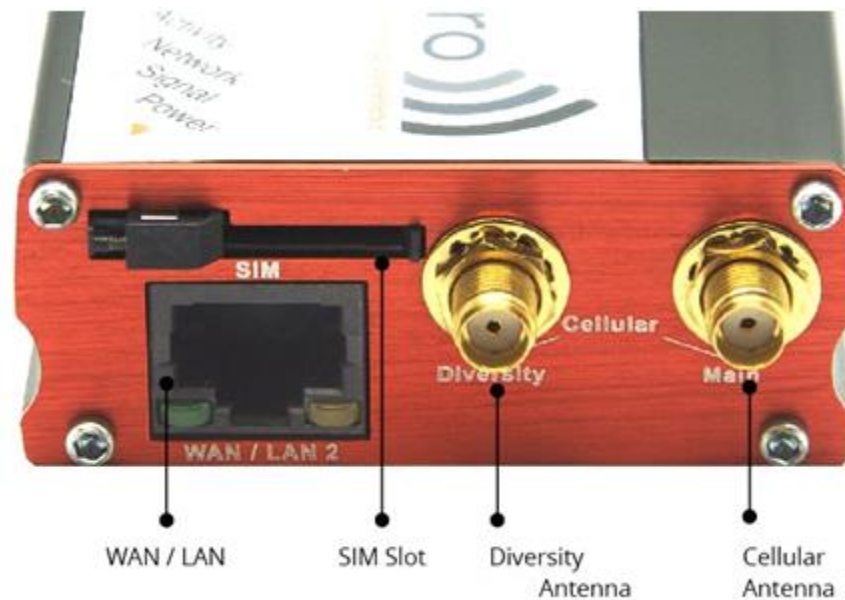


Figure – Maestro Router WAN Panel

- » Diversity SMA Antenna Connector
- » Ethernet port (WAN), switchable to LAN
- » SIM Card holder
- » Cellular SMA Antenna Connector

5.3 Front Panel Details



Figure – Front Pan

The top panel of Maestro's E228 VZ features 6 LEDs on the front to indicate critical system information.

Name	Colour and State	Description
WI-FI	OFF	Wi-Fi network is inactive
	Blue Flashing	Wi-Fi network connection traffic
	Blue ON	Wi-Fi network is up and activate
Activity	OFF	Cellular data service is not connected
	Amber ON	Cellular data service is connected
Network	OFF	SIM card is not inserted, or Device is not registered on the cellular network
	Amber Flashing	Device is registered on the cellular home network
	Amber ON	Device is registered on the cellular roaming network
Signal	OFF	No signal (CSQ=0,99)
	Amber ON	Weak signal (CSQ<7)
	Amber Flashing	Strong signal (CSQ>7)
Power	OFF	Power off
	Green ON	Power on
Alert 	OFF	No alert, device is running smoothly
	Red Flashing	Software fault (crash, issues...)
	Red ON	Hardware fault (high temperature, problem with module or SIM card)

Table – LED States and Description

6. Connecting Maestro Router

Step1. Insert the SIM card in your router as show below.

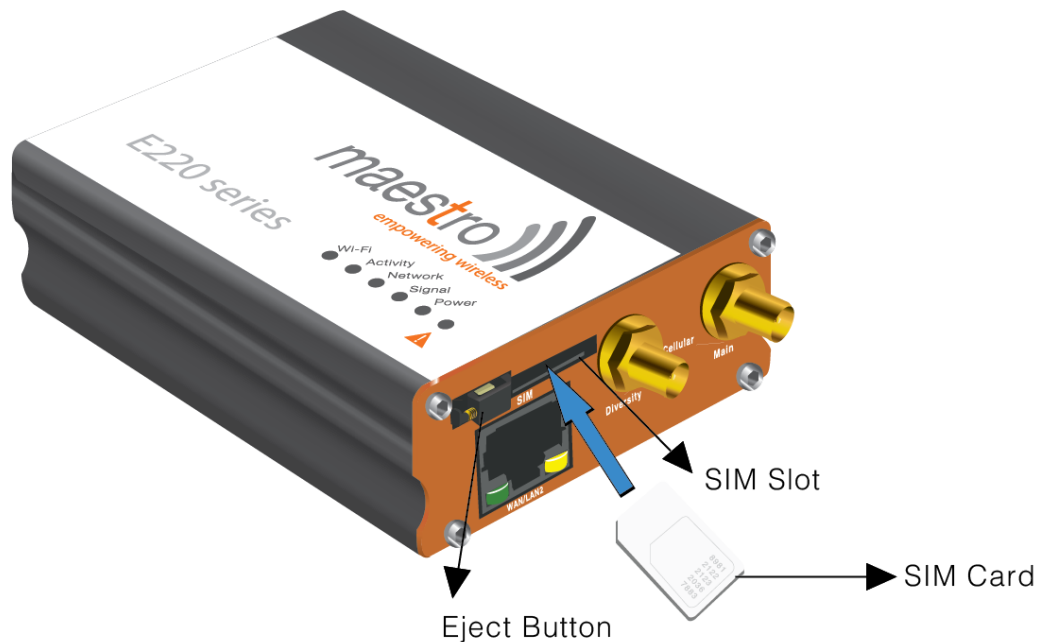


Figure – Installing SIM Card in Maestro Router

Step2. Connect WWAN antenna with “Main” connector on the E228 VZ. Make sure the antenna is tightly secured.

Step3. Connect diversity antenna with “Diversity” connector.

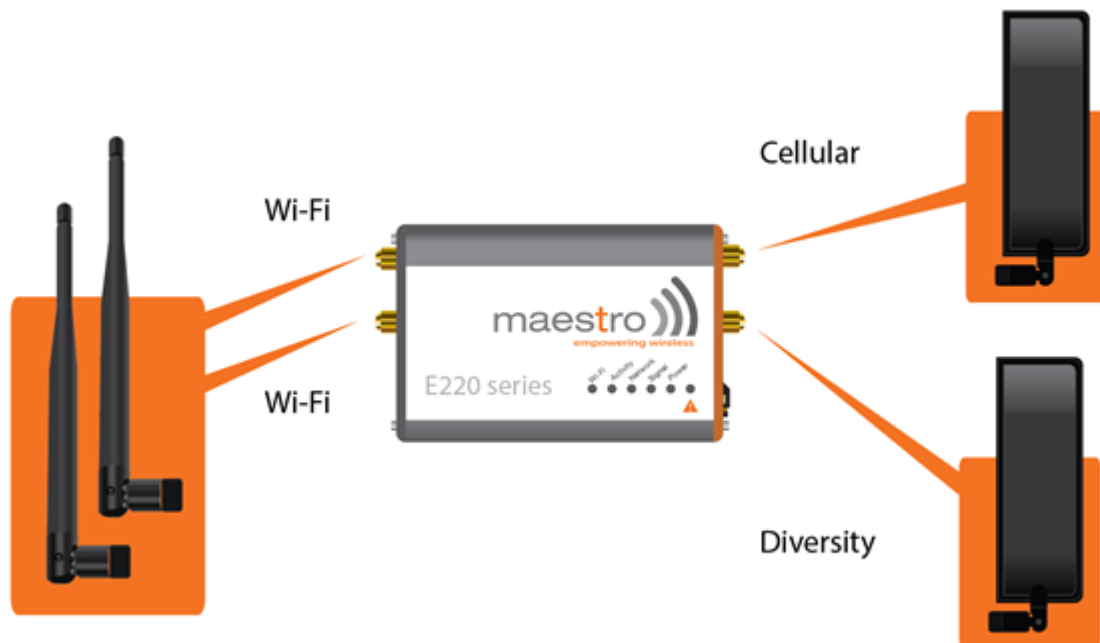


Figure – Connecting WWAN antenna & Cell connector on Maestro Router

Note

We strongly recommend connecting the diversity antenna with "Diversity" connector, if the Maestro Router package content includes it. A dual antenna provides diversification that is improved signal strength and thus better performance.

For certain circumstances/environments may require a higher quality of antenna or one mounted in a different location. In this case, Maestro has many antenna options to choose from, please contact Maestro Support at support@maestro-wireless.com.

Step4. Use cross Ethernet cable to connect “LAN” port with the LAN port of the computer.

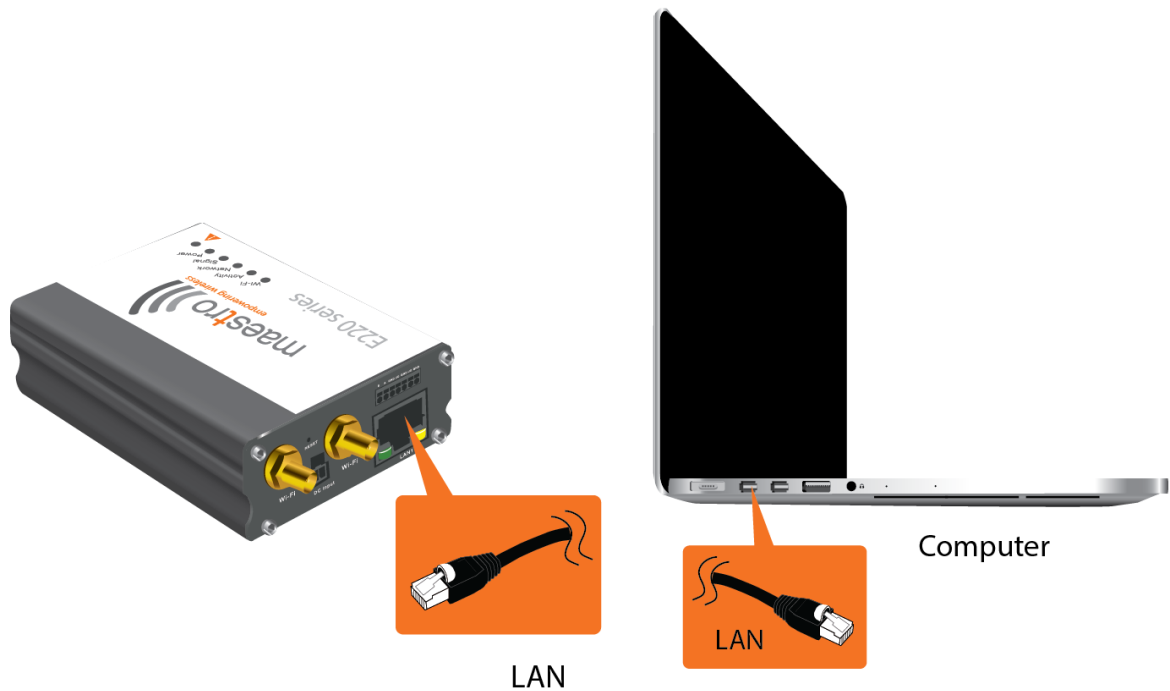


Figure – Connecting Ethernet cable on Maestro Router & computer

Step5. Connect the AC power connector into the “DC in” jack on LAN-side panel of the Maestro Router. Plug the other side of the cord to a standard AC receptacle and turn the power switch ON. The power LED will light when power is applied.



Figure – Connecting Ethernet cable on Maestro Router & computer

Step6. Open a Web browser on the computer, and enter the LAN IP Address <http://192.168.1.1> of Maestro Router in browser's URL box. A dialog box appears prompting to enter Username and Password.

Note

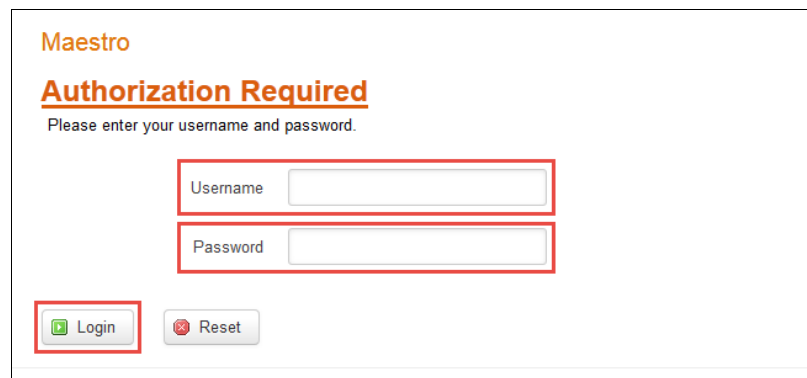
The default LAN IP Address of Maestro Router is 192.168.1.1

DHCP must be enabled on the computer to access Maestro Router with LAN IP Address 192.168.1.1

Step7. Enter the Username **admin**, and the Password **admin** in the login window. Click Login.

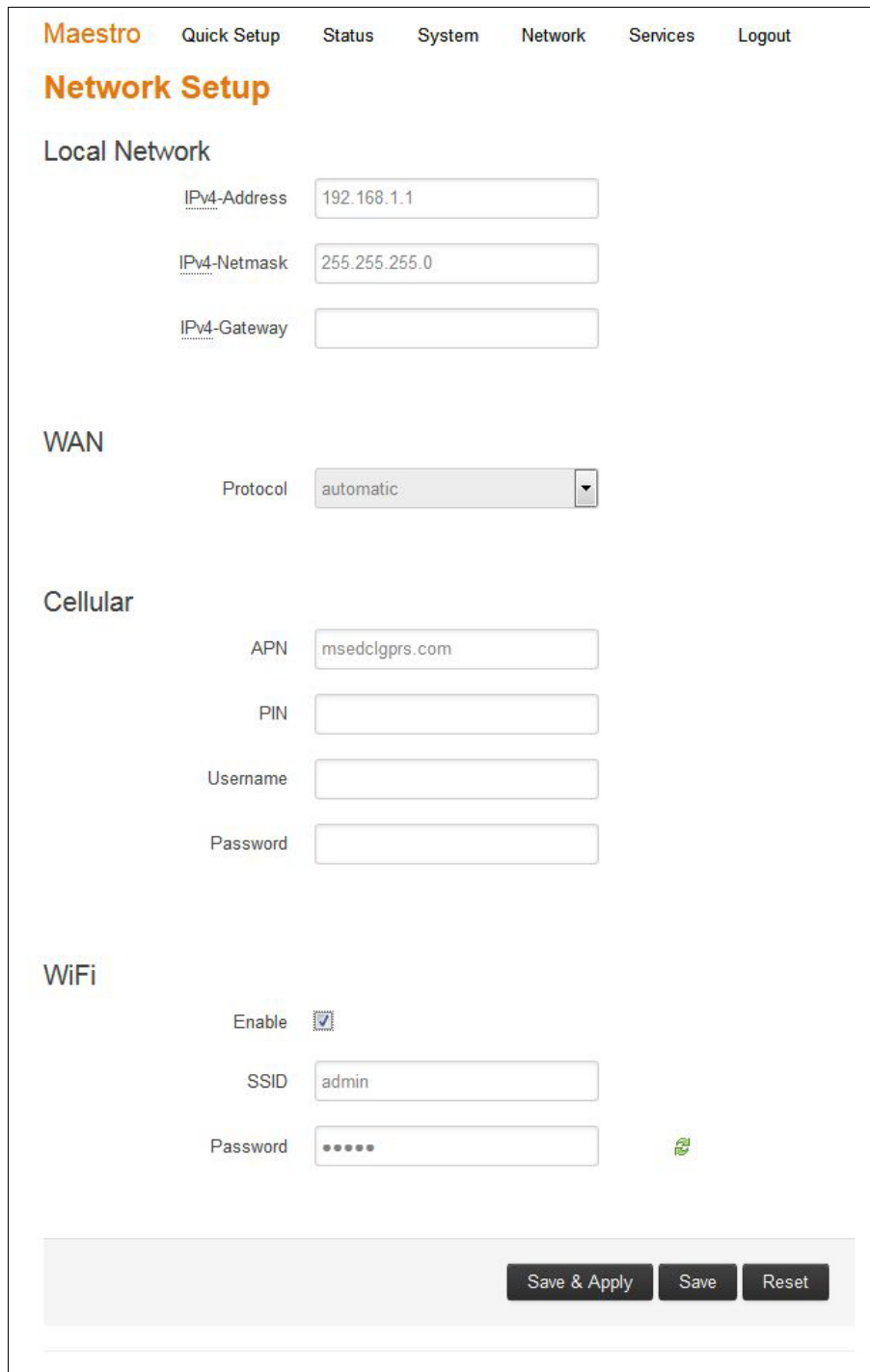
Note

We strongly recommend you to change your login password.

The image shows the Maestro router's login page. At the top left, the word "Maestro" is displayed in orange. Below it, the heading "Authorization Required" is in orange and underlined. A subtext "Please enter your username and password." is in black. There are two input fields: "Username" and "Password", both with red borders. Below the "Username" field is a "Login" button with a green icon and a "Reset" button with a red icon. The "Login" button is highlighted with a red border.

Screen – Login Page

Step8. Click **Next** on the Quick Setup Page. Configure the network parameters for LAN, WAN, Cellular and Wi-Fi.
Alternately, go to Management Settings, import and load predefined settings file.
Click Save & Apply to set the configuration.



The screenshot shows the 'Network Setup' page of the Maestro router's web interface. At the top, there is a navigation bar with links: Maestro, Quick Setup, Status, System, Network, Services, and Logout. The 'Network Setup' title is prominently displayed. The page is divided into four sections: Local Network, WAN, Cellular, and WiFi. The 'Local Network' section contains three input fields: 'IPv4-Address' (192.168.1.1), 'IPv4-Netmask' (255.255.255.0), and 'IPv4-Gateway'. The 'WAN' section has a 'Protocol' dropdown menu set to 'automatic'. The 'Cellular' section includes four input fields: 'APN' (msedclgprs.com), 'PIN', 'Username', and 'Password'. The 'WiFi' section has an 'Enable' checkbox checked, and three input fields: 'SSID' (admin) and 'Password' (masked with dots). At the bottom right, there are three buttons: 'Save & Apply', 'Save', and 'Reset'.

Screen – Quick Start Network Configuration Page

Screen Element	Description
Local Network	
IPv4-Address	Enter IPv4 Address of LAN interface. The default IPv4 Address is 192.168.1.1
IPv4-Netmask	Enter IPv4 Subnet Mask of LAN interface. The default Netmask is 255.255.255.0
IPv4-Gateway	Enter the Gateway IPv4 of the Gateway.
WAN	
Protocol	Select the WAN protocol from the available options: Available Options Manual Automatic PPPoE The default WAN protocol is selected as Automatic.
Cellular	
APN	Access Point Name (APN) is the name (Web address) of an access point for LTE data connection. Generally, wireless cellular network operator provides the APN to their end users. Enter the APN provided by the cellular network operator.
PIN	SIM card Personal Identification Number (PIN) is used to lock the card, preventing people from making unauthorized phone call or access cellular data. Enter the PIN of the SIM card.
Username	Enter the login name.
Password	Enter the password.
Wi-Fi	
Enable	By default, Wi-Fi interface is enabled every time the

	Maestro Router reboots. Click and disable the Wi-Fi interface if you do not want to use them.
SSID	Service Set Identifier (SSID) is a sequence of characters, which uniquely names a wireless local area network (WLAN). The default SSID is Maestro .
Password	The default password is W1rele\$\$.

Table – Quick Start Network Configuration Page

Congratulations!!!

This finishes the basic configuration of Maestro Router and you are ready to use the Router.

7. Conformity

Federal Communications Commission (FCC) Declaration of Conformity

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.

This device has been tested and found to comply with the limits for a Class B digital , 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 radiated 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.

FCC Caution:

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

RF Exposure Information

This device meets the government's requirements for exposure to radio waves.

This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.