



Wireless Display Tester

BL-526-106

User Manual



Launched in Jun.2018, revised in Jun.2018

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1.Introduction

Wireless Display Tester is a portable tool that helps users find the best Wi-Fi channel and probe interference levels (noise floor) in the installation and troubleshooting of network fault areas to help with installation troubleshooting, analysis and testing of residential and Small and medium-sized business (SMB) Wi-Fi network. This rugged handheld device is designed to operate in stand-alone mode and does not require connection to an access point (AP) and the installer to easily identify the best signal strength of the Wi-Fi device. This will help the installer decide which channel to use, detect strong/weak Wi-Fi signals, and determine the level of interference in the area. Another application is to identify the location of the "Signal Enhancer" and the Grid Add-on.

The Wireless Display Tester operates on 802.11b/g/n networks in the 2.4 GHz band and 802.11a/n/ac networks in the 5 GHz band.

The product will be designed as a simplified, handheld "qualified/failed" device and standardized test instrument for use by Level 1 / field technicians. It provides technicians with a less complex graphical representation of the home or SMB radio frequency (RF) environment with key parameters for successful Wi-Fi network installations on the 2.4 GHz and 5 GHz ISM spectrum.











Using color-coded "PASS (green)" and "failed" (red) bands (scopes that can be defined by corporate policies) will show the channels available to the technician and the level of interference

that may be present in the immediate area. The design of the device will include a "sturdy" shell with a hardened glass surface.

The product contains a long-life lithium-ion battery for the purpose of field technicians operating under normal conditions for at least four hours without charging. The core features and shell are unique to the market that provides cost-effectiveness, and you can make a fast decision and diagnose through failure showing. When combined with an external scorecard, the technician is also able to record the installation environment for use in future service commissioning when the environment may change. The device is also intended to be used with the arrangement of signal boosters to optimize Wi-Fi signal performance in the environment.

Button Function Introduction



Buttons	Function
	The "Up" key for move up the cursor.
	The "Down" key for move down the cursor.
	The "Left" key for move left the cursor.
	The "Right" key for move right the cursor.
	The "ENTER" key be sure the selected item.
	The "ON/OFF" key be power on or power off the device.
	The "MENU" key be showing the function of menu.
	The "2.4/5GHz" key to switch the Wi-Fi frequency of 2.4GHz and 5GHz.
	The "CLEAR" key to clear the items if you don't want to see the function or return back the mistake.
	The "NEXT" key to test the next step.

USB Port	Forcharging and Firmware program, Input: 5V/2A.
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Operation Indication

1. Power on

Press and hold "ON/OFF" key 3S to turn on the unit.

2. Standby mode

Short press the "ON/OFF" button and the screen goes out.

3. Wake up

Short press the "ON/OFF" button, the screen lights up

4. Power off

Long press "ON/OFF" button for 3s , the screen goes out.

5. Introduction of the basic interface

5.1 Interface of Power on

Operation instructions:

Long press "ON/OFF" button for 3S to turn on the tester.

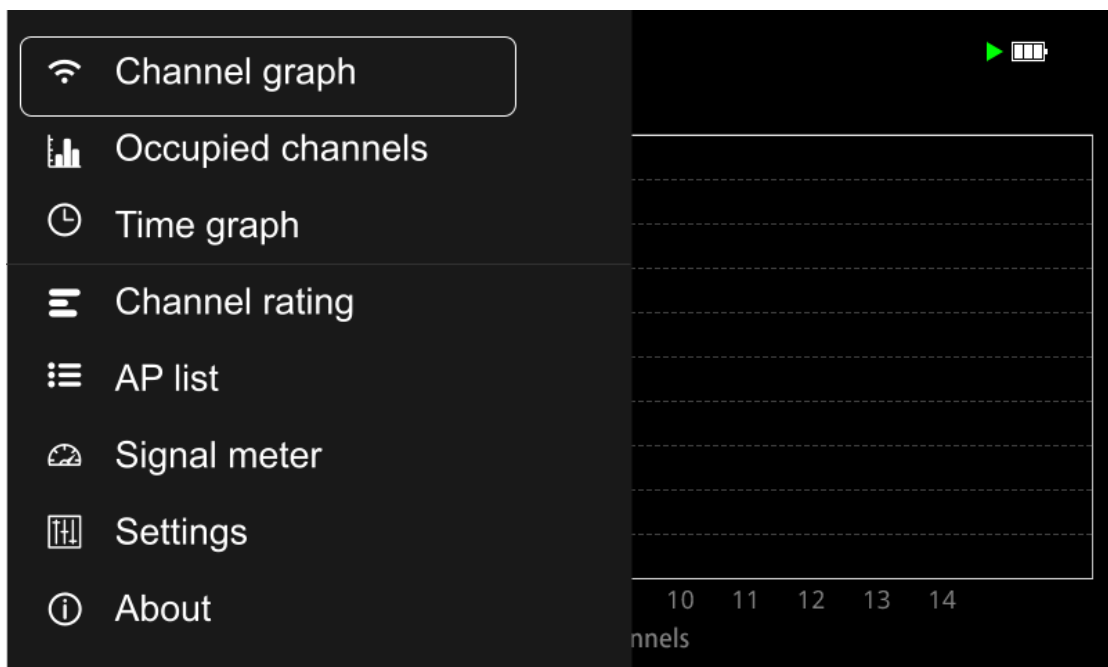


The power up screen

5.2. Interface of menu

Operation instructions:

Click "Menu" to pop-up the side-slip menu, press again to hide, press "Up" and "Down" to select the target function, press Enter to confirm.



Interface of menu

5.3. Interface of channel graph

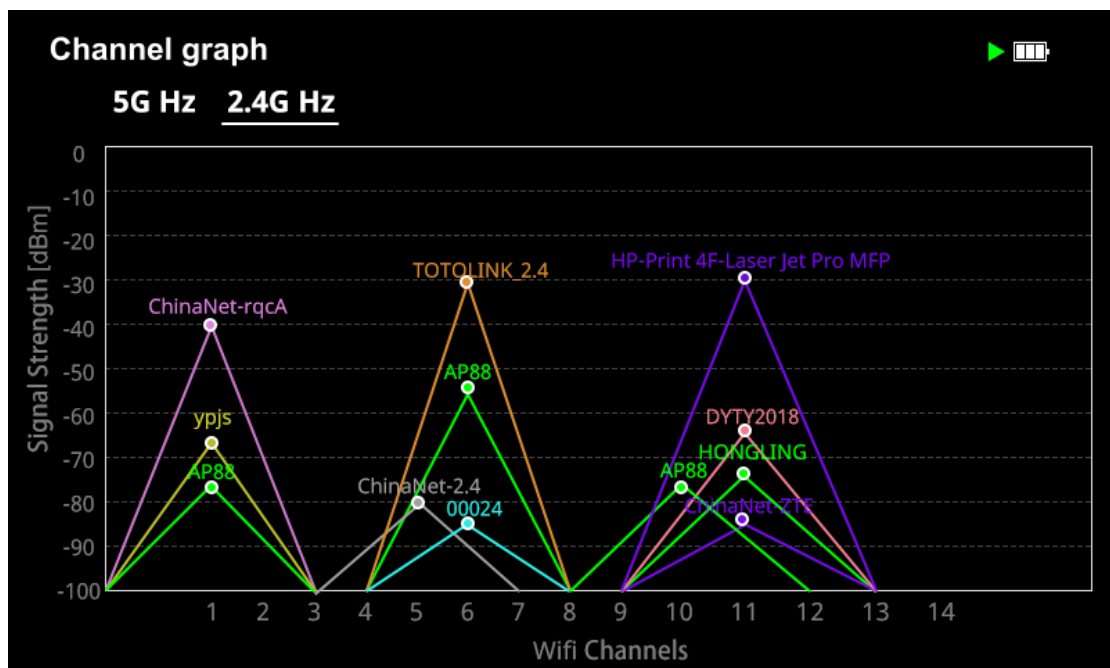
5.3.1. 2.4GHz Bandwidth channel graph

Function :

On the 2.4 GHz to 2.5 GHz Wi-Fi band, a graphical representation of the discovered Wi-Fi network will be displayed. Each channel is 22MHz wide and these channels can overlap each other and interfere with each other. Channels 1, 6, 11, and 14 do not overlap, and generally represent the best alignment, with all 14 channels being 5 MHz apart from each other (with the exception of channel 14 being 12 MHz apart). The horizontal axis of the channel map represents 14 channels of the 2.4 GHz bandwidth, and the vertical axis represents the signal strength value.

Operating Instruction:

- a. Press the “Menu” button to pop-up the menu list on the left side of the screen and select Channel Graph.
- b. 2.4 GHz and 5GHz channel maps can be switched by pressing the “2.4GHz/5G” signal button.
- c. The left and right movement of the channel graph can be viewed by pressing the “Right” and “Left” buttons.
- d. Press the “Enter” button to run and pause the channel scan function.



2.4GHz Bandwidth channel graph

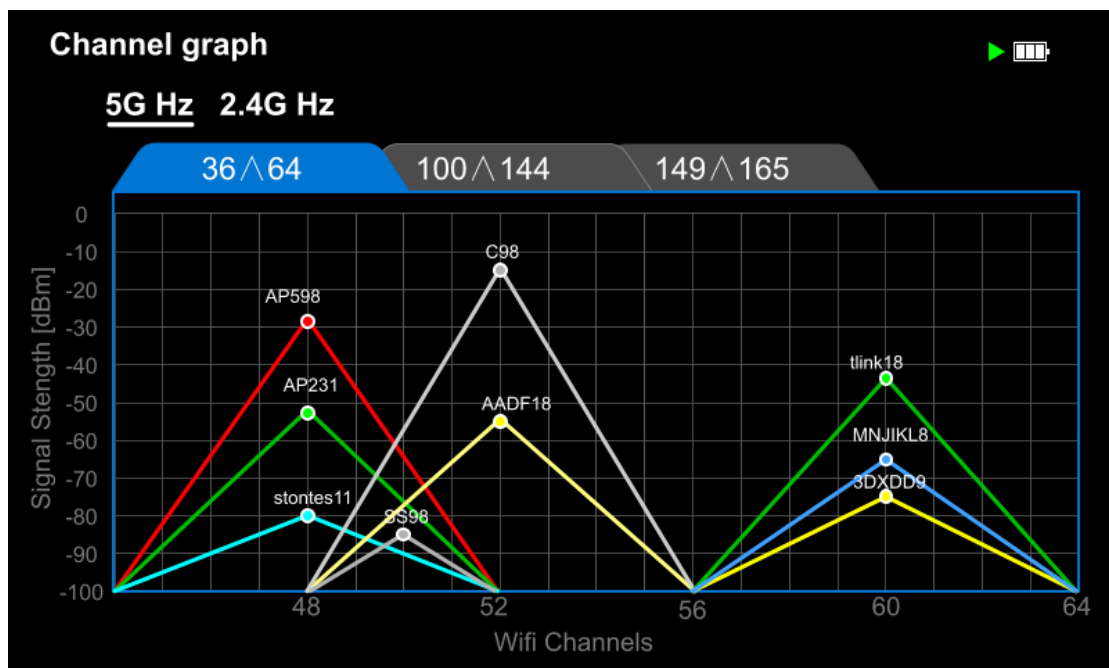
5.3.2. 5GHz Bandwidth channel graph

Function:

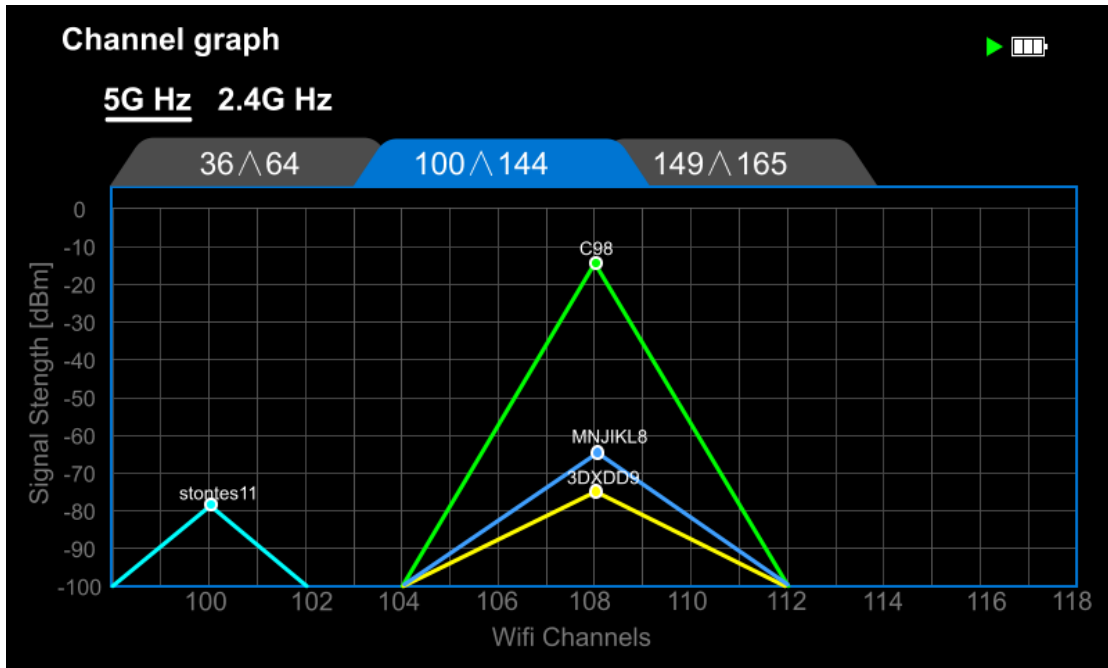
The 5GHz channel graph will show a graphical representation of the Wi-Fi network found on the 5.15GHz to 5.835GHz Wi-Fi band. Each channel is 20MHz, 40MHz or 80MHz wide.

Operating Instruction:

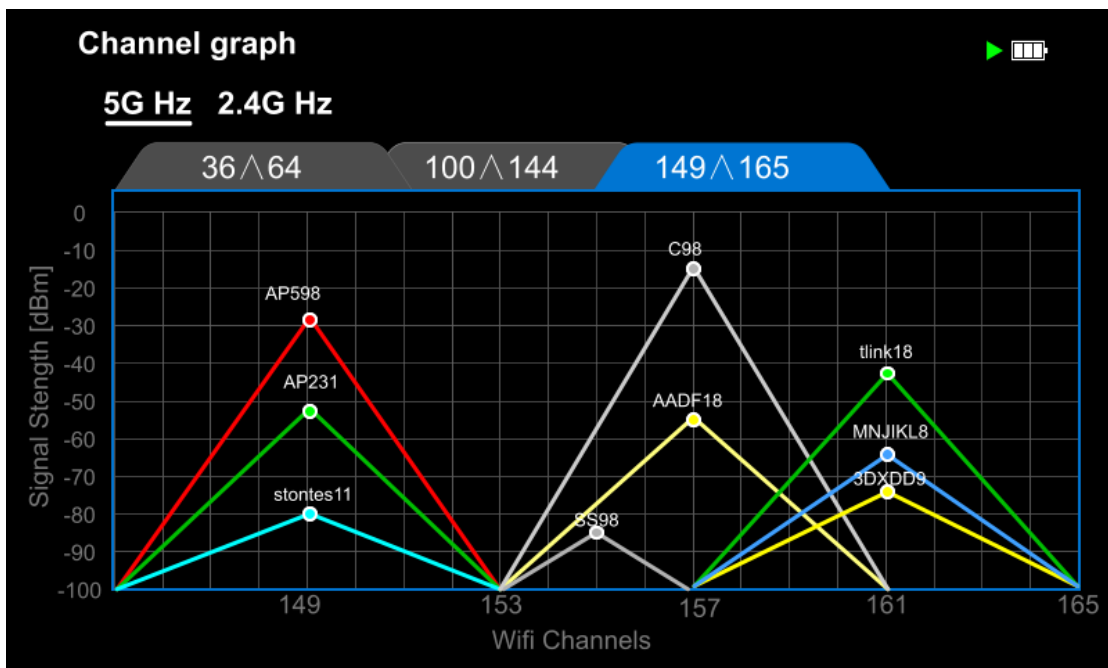
- Under 5G channel graph interface, CH36-CH64, CH100-CH144, CH149-CH165 channels can be switched by pressing the button "Up" "Down" or Next.
- The left and right movement of the chart of the channel graph can be viewed by pressing the "Right" and "Left" buttons.
- Pressing the "Enter" button run and pause channel scan function.



5GHz Bandwidth channel graph CH36-CH64 channel



5GHz Bandwidth channel graph CH100-CH144 channel



5GHzBandwidth channel graph CH149-CH165 channel

5.4 Channel occupancy interface

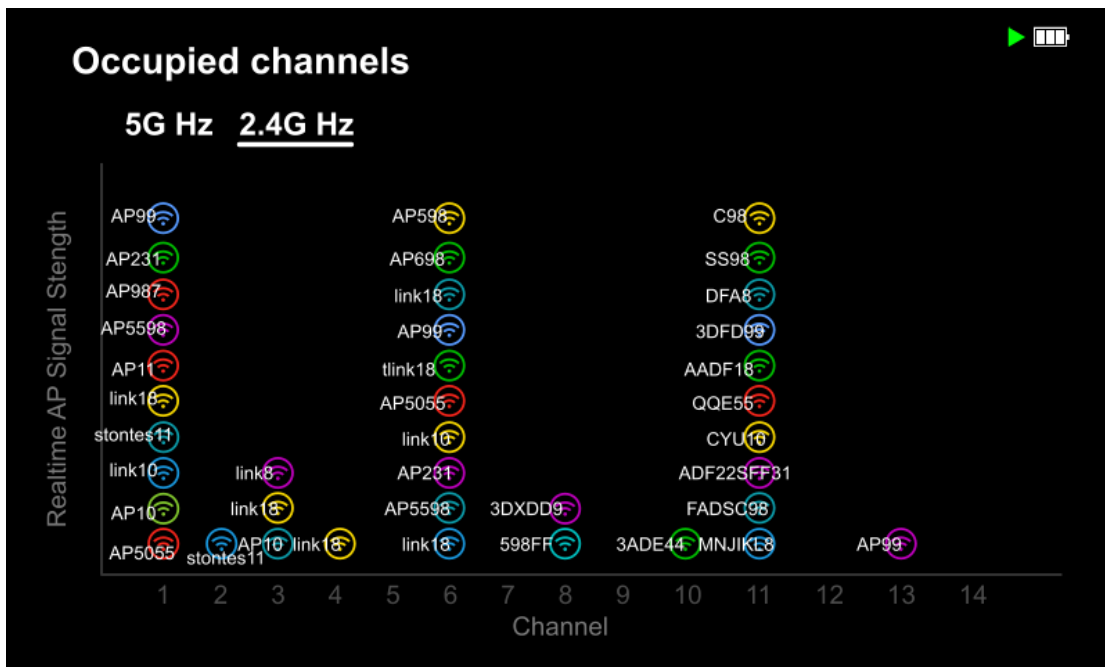
5.4.1. 2.4GHz Bandwidth Channel Occupancy

Function :

The 2.4GHZ bandwidth channel occupancy interface will clearly show the stacking of Wi-Fi networks found on the 2.4GHz to 2.5GHz Wi-Fi band channel.

Operating Instruction:

- a. Press the Menu button to pop-up the menu list on the left side of the screen and select Occupied channels.
- b. 2.4Ghz Channel occupancy of 2.4GHz and 5GHz can be switched by pressing the "2.4/5Ghz" button.
- c. The left and right movement of the chart of the channel occupancy can be viewed by pressing the "Right" and "Left" buttons.
- d. Press the "Enter" button to run and pause the channel scan function.



2.4GHz Bandwidth Channel Occupancy

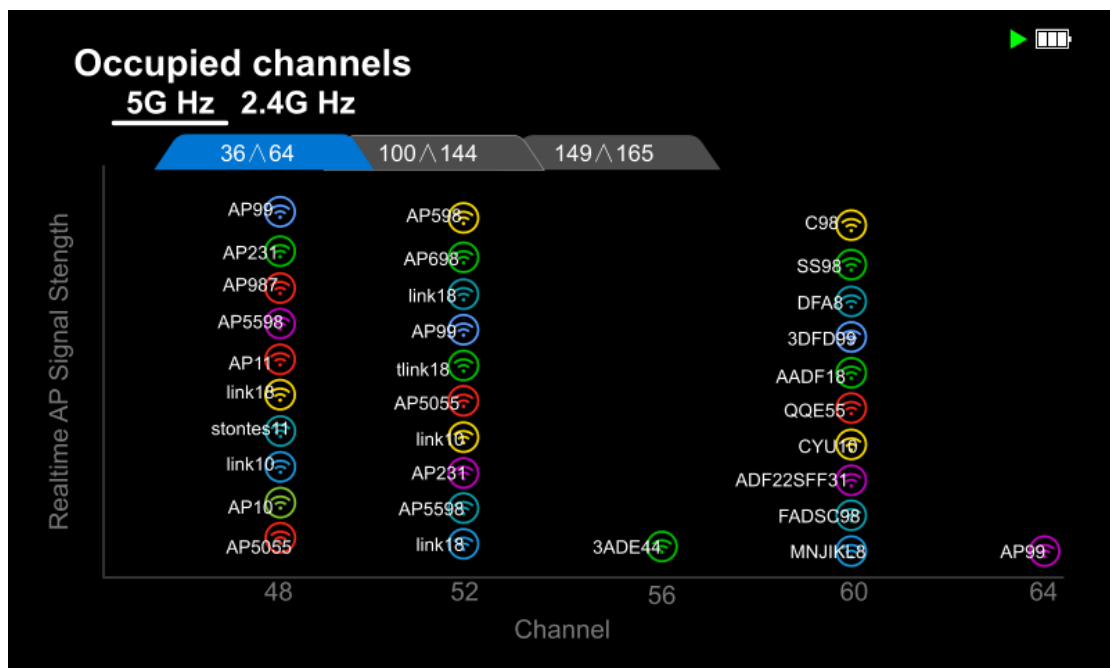
5.4.1. 5GHz Bandwidth Channel Occupancy

Function:

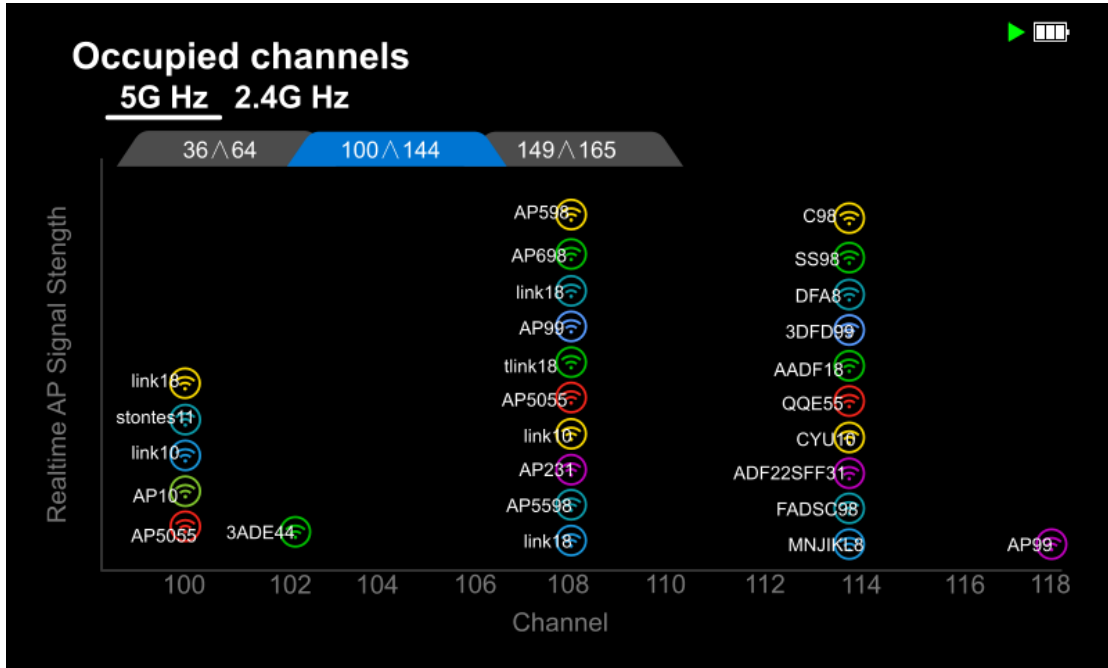
5GHz Bandwidth Channel Occupancy Map clearly shows the stack of wi-fi networks found on the 5GHZ to 5.25ghz wi-fi band channels

Operating Instruction:

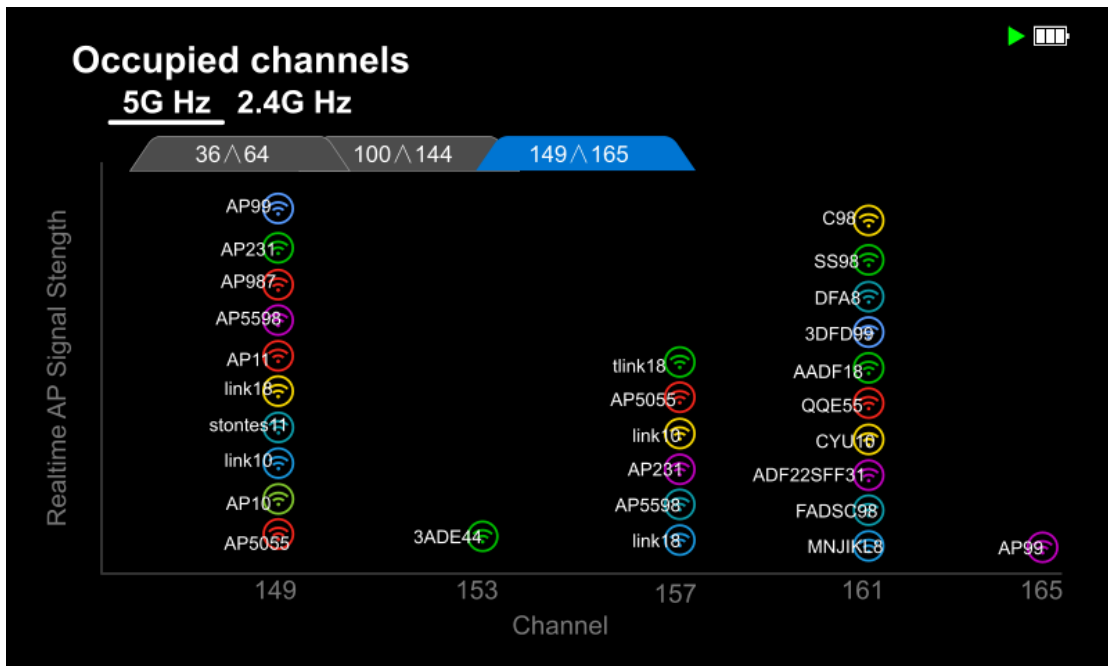
- a. Press "Menu" button to pop-up the menu list and select the occupied channels.
- b. By pressing the "2.4/5Ghz" button, to check the occupancy of each channel.
- c. By pressing the buttons "Up", "Down" and "Next" to check CH36-CH64, CH100-CH144, CH149-CH165 occupancy.
- d. The chart of the occupied channel can be moved left or right by press "Right" "Left" button.
- e. Press the "Enter" button to run or pause the channel scan function.



5GHz Bandwidth Channel Occupancy CH36-CH64 Channel



5GHz Bandwidth Channel Occupancy CH100-CH144 Channel



5GHz Bandwidth Channel Occupancy CH149-CH165 Channel

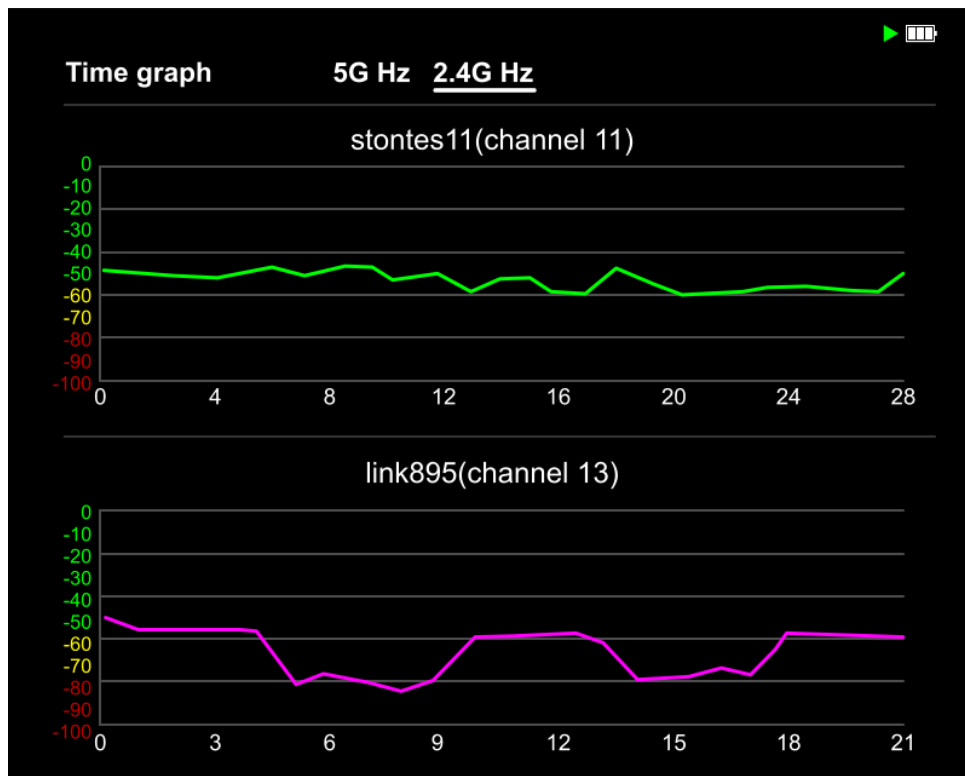
5.4. Interface of Time Graph

Function:

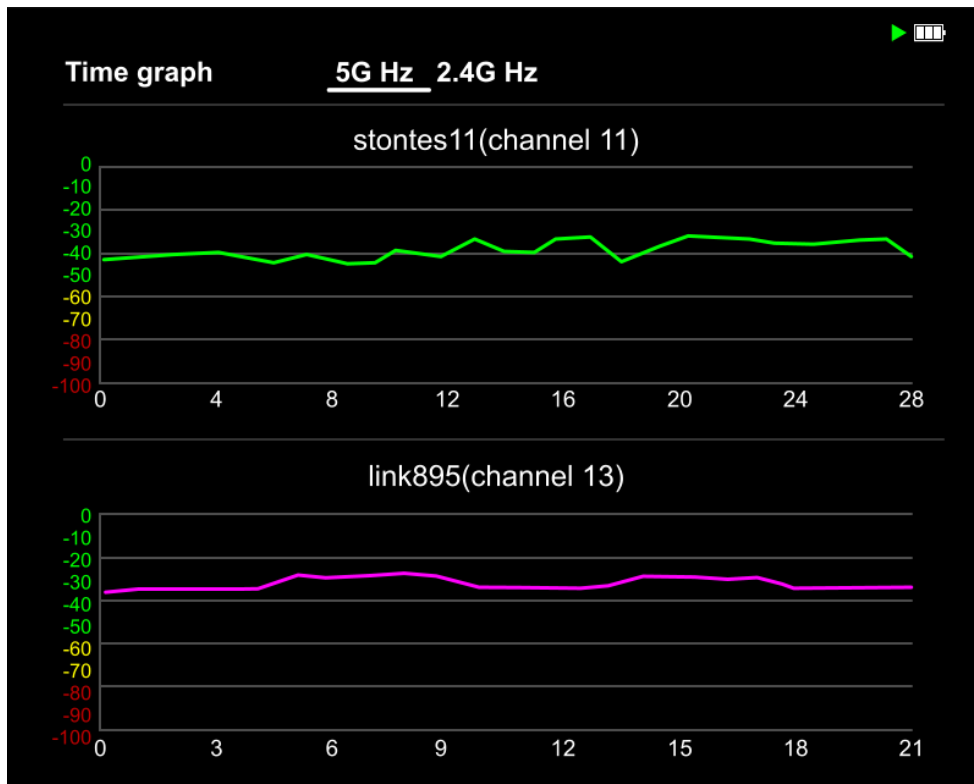
The time graph mainly shows the variations of wireless network signal intensity with scanning time.

Operating Instruction:

- a. Press "Menu" button to pop-up the menu list and select the Time Graph.
- b. Time graph for 2.4GHZ & 5GHZ can be checked by switching "2.4/5Ghz" button.
- c. Time graph can be checked by moving around Right/Left button.
- d. Press "Enter" to run or pause time graph scan.
- e. Press "Up","Down" and "Next" to check different AP time graph.



2.4GHZ Bandwidth Time graph



5GHZ Bandwidth Time graph

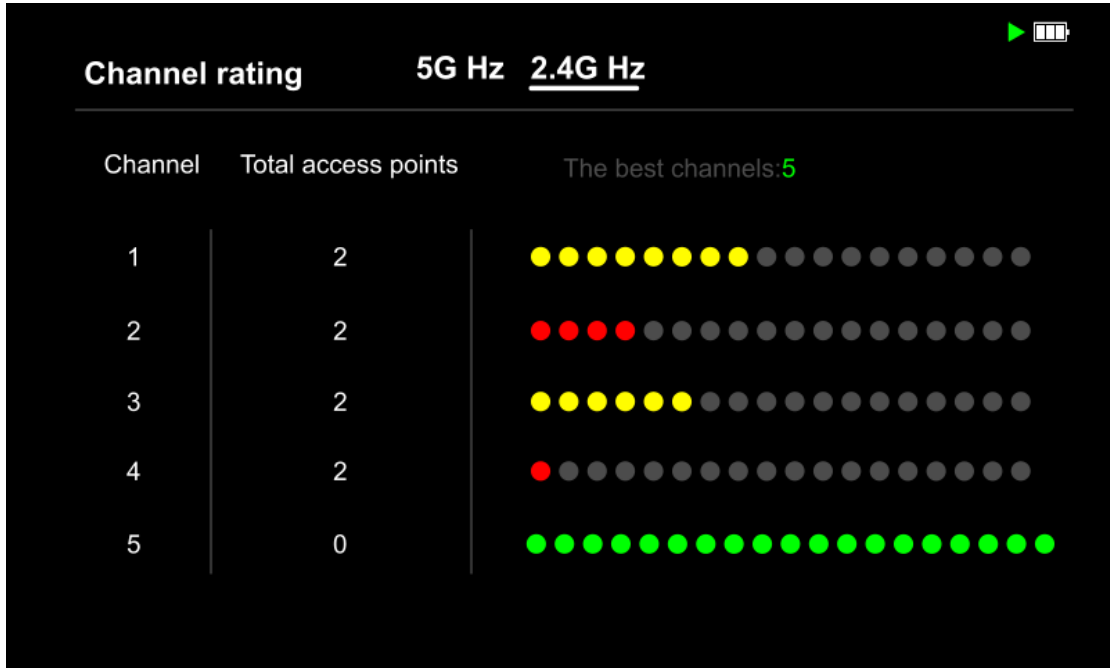
5.6 Channel Rating

Function:

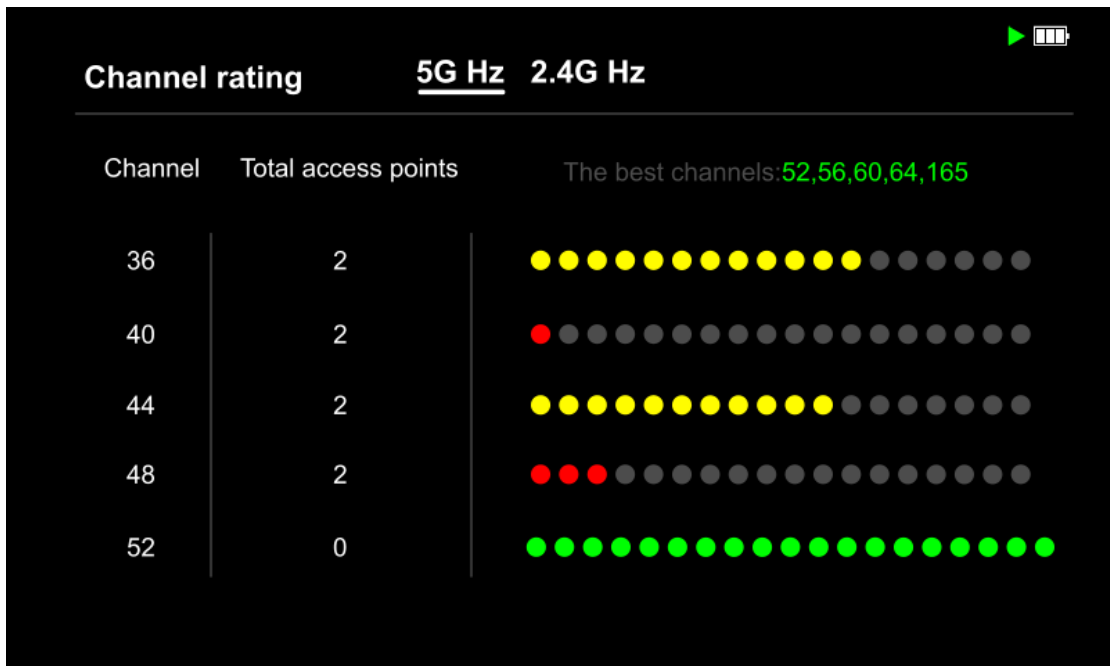
Channel rating shows the quality of wireless network channel. The more points mean the better quality. Green indicates the best channel quality, Yellow means general, red means poor channel quality.

Operating Instruction:

- Press "Menu" button to pop-up the menu list and select Channel rating.
- Read channel rating of 2.4GHZ & 5GHZ by switching "2.4/5GHZ" button.
- Read scanned channel rating by pressing "UP", "Down" or "next" button.



2.4GHZ Bandwidth Channel Rating



5GHZ bandwidth Channel Rating

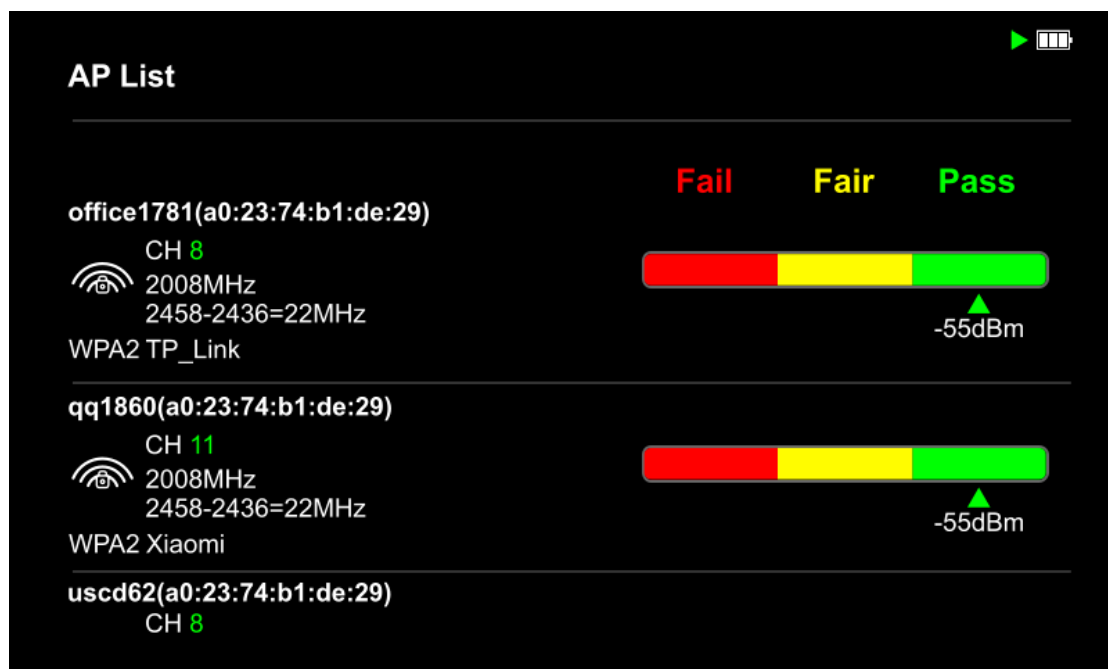
5.7. Interface of AP List

Function:

AP list shows the frequency and channel of the wireless access point (WAP), MAC address and signal security encryption methods: WPA, WPA2, distance between the wireless access point and the tester. The signal strength automatic slider indicator is on the right side, shows Green means Good signal strength, Yellow means Fair, Red means Poor.

Operating Instruction:

- a. Press "Menu" button, then in the menu list on left side of the screen to select AP List.
- b. For scanned AP, press "UP", "Down" and "Nex" to view the access points on the list.
- c. Press "Enter" to Run or Stop AP list function.



5.8. Interface of Signal Meter

Function:

Signal Meter indicated the signal intensity of the wireless network which is mainly through sound frequency and chart. The higher the signal intensity is, the more quickly the sound is.

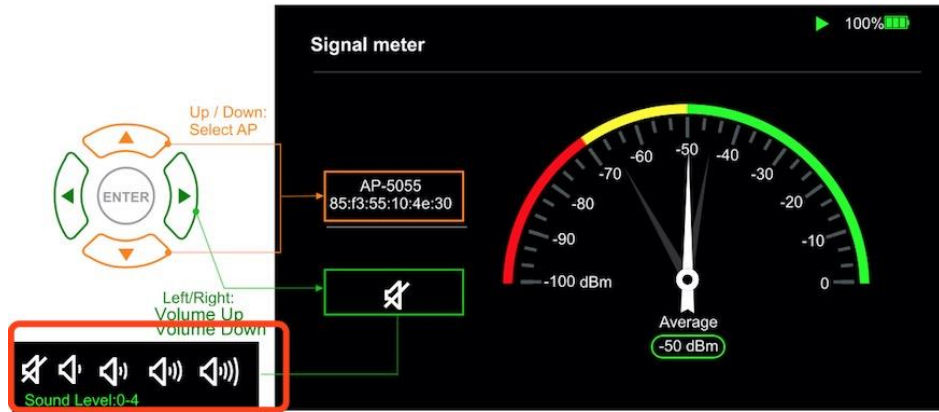
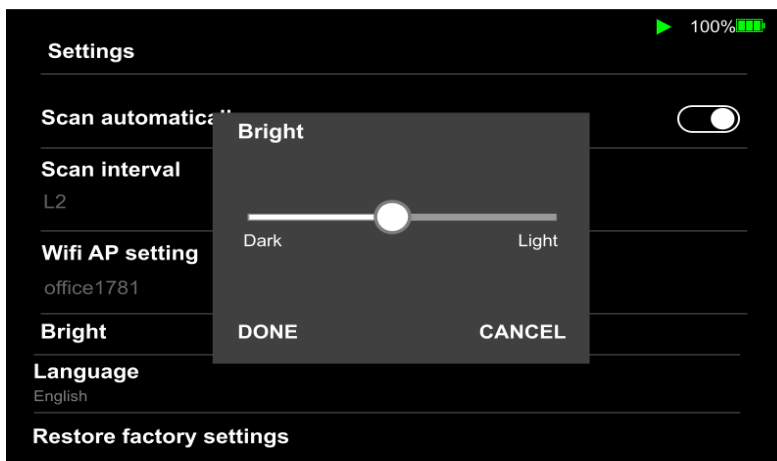


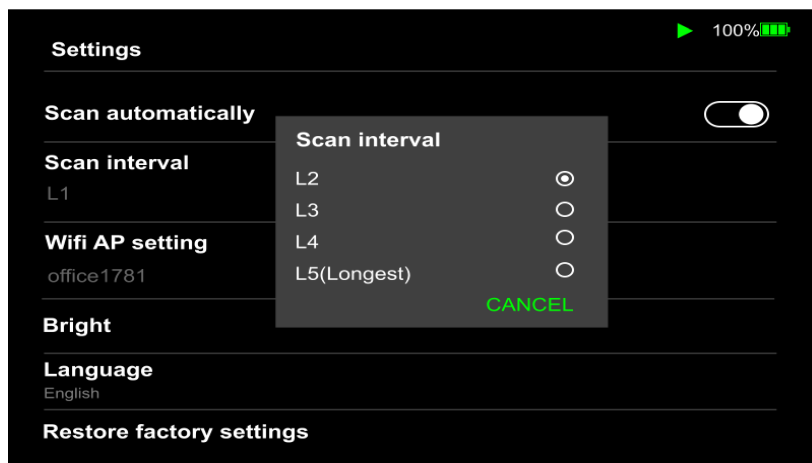
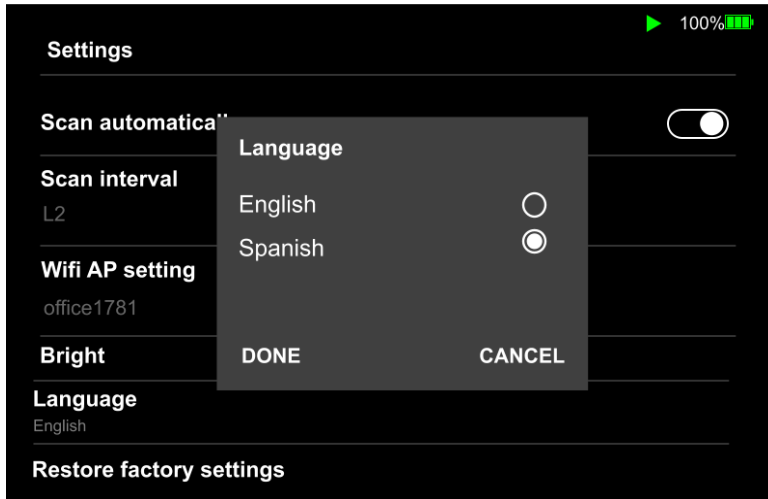
Illustration 5.0 ▲

Operating Instruction:

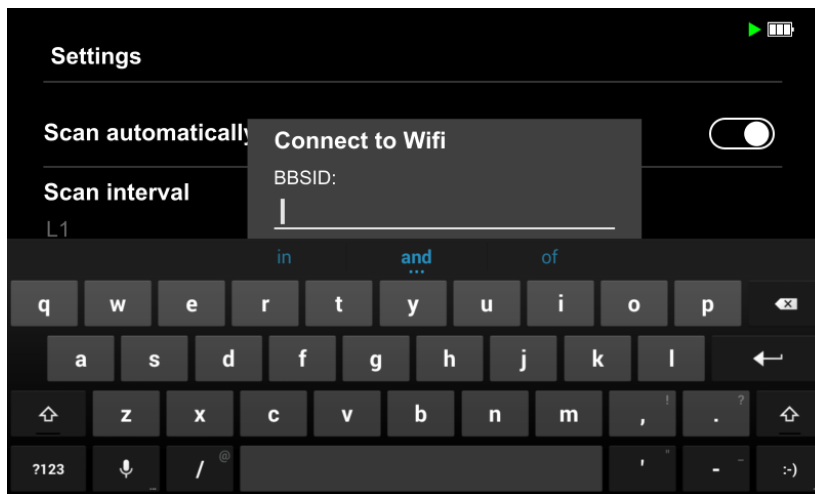
- Press "Menu" button to pop-up the menu list and select "Signal Meter".
- For scanned AP, press "UP", "Down" and "Next" to view the access points on the list.
- Press "Enter" to run or pause AP list function.
- Press "Left" to lower volume, Press "Right" to increase volume, total 5 Levels.

5.9. Setting Interface





5.9.1



5.9.2

Need add one signal range setting UI here

Function:

Set the scanning time, signal range, connect the wireless access point(WAP), brightness, language and factory reset.

Operating Instruction:

- a. Press "Menu" button to pop-up the menu list and select "Setting".
- b. Press "Up" and "Down" to select target setting.
- c. Select "Scan interval", then click "Enter" to set scan time interval, 5 levels to select, refer to photo #5.9.5.
- d. Select "signal range" and press "up" "down" "left" and "right" to set up the signal range.
- e. Select "Wireless connect setting" and target"SSID", it will pop-up the keyboard, after entering password and press "CLEAR" to exit the keyboard, then select "OK", check if new version is ready to update, if so, click install to follow the instructions, refer to photo#5.9.2
- f. Select "Brightness" to pop-up the brightness adjustment messagebox, press "Left/Right" to adjust the brightness, then press OK or "Clear" to exit, refer to photo#5.9.3.
- g. Select Language: there are English, Spanish and French three languages, choose your target"language".
- h. Factory reset: click and select confirmation, the system will restart to restore the original factory settings.

6.0. Interface of About

Function:

1. About product info& version introduction
2. Check if there is new version to be upgraded.

Operating Instruction:

While you have connected to the internet, the updated software revision will automatically pop-up and you just follow the installation instructions, or you could ignore it and upgrade later when you are available by clicking "CHECK UPGRADE", updated software revision is always ready to be downloaded and installed.



About



Device Name: rk3126c
Serial Number: unknown
App Version: 1.0.39
Android Version: 7.1.2
Wifi MAC: 10:D0:7A:C2:78:07

CHECK UPGRADE

7.0. 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.

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 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.

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

FCC Radiation Exposure Statement

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.