

Product Specification

Product Name: Smart Gateway
Model Name: DSGW-021

Revision History

Specification		Sect.	Update Description	By
Rev	Date			
1.0	2020-08-07		New version release	

Approvals

Organization	Name	Title	Date





Model List

Mode feature	Wi-Fi 2.4G/5G	LTE cat4	BLE
DSGW-021	●	●	●

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1. Introduction

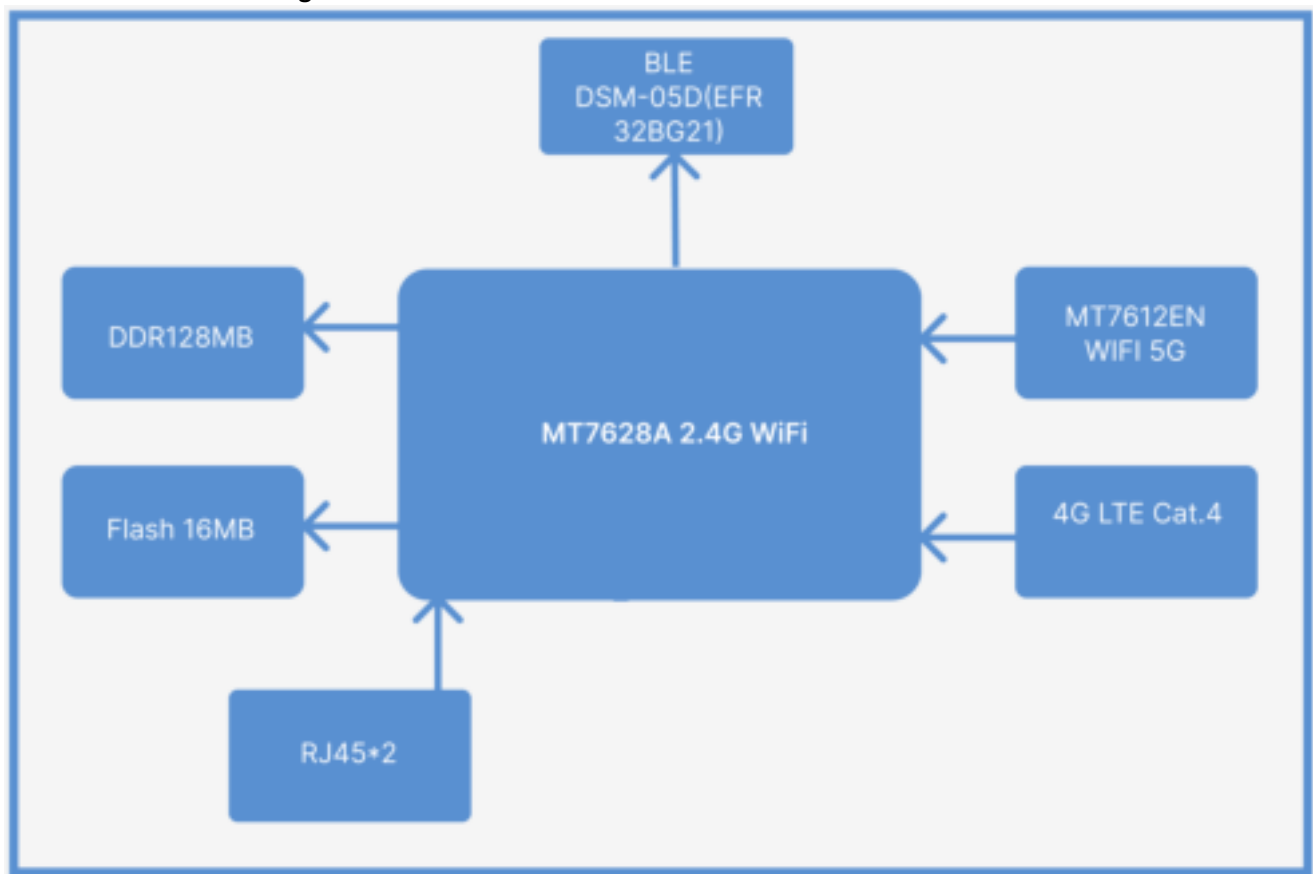
1.1 Purpose& Description

DSGW-021 wireless router complies with the latest IEEE 802.11ac Wi-Fi standard and LTE 4G function. It offers continual high-speed data transmission for multiple devices at the same time. Built-in 600MHz processor provides powerful data handling capacity to improve wireless transfer efficiency. Meanwhile, simultaneous dual band with middle power design on both bands makes wireless connection more flexible and stable, especially over long distance. Generally, DSGW-021 is designed for medium-size homes with increasing demand for high-speed Wi-Fi. It also supports Bluetooth, can connect to the BLE devices.

1.2 Product Feature Summary

- Cutting-edge 4G network – share internet access with up to 64 Wi-Fi devices and enjoy download speeds of up to 150 Mbps
- AC1200 Wi-Fi – creates simultaneous dual band Wi-Fi networks, with maximum speeds of up to 300 Mbps on the 2.4 GHz band and 867 Mbps on the 5 GHz band
- Plug a SIM card and play – no configurations needed, compatibility for SIM cards in 100+ countries are assured by years of field tests
- Two detachable advanced LTE antennas – enjoy stable and efficient connections to every device thanks to the two external antennas
- Wi-Fi router mode – plug an Ethernet cable into the LAN/WAN port for flexible access as a backup option if you can't get a 4G connection
- Support IoT wireless protocol: BLE5.2.
- Backup Li battery, lasts 12 hours

1.3 Hardware block diagram



2. Mechanical Requirement

2.1 Drawings



3 .Electrical Requirements

3.1 Hardware Information

Category	Specifications
CPU	MT7628AN 600MHz processor
RAM	128MB
Flash	16MB
Power Supply Port	Support DC Input , input Voltage range is 4.5V to 5V. Power seat aperture is 3.5mm. The needle diameter is1.35 mm and is positive. Power adapter: 100-240V 50/60HZ, Output is 5V/2A
Reset button	After pressing the reset button for more than 5 seconds, the Wi-Fi unit will be restored to the factory settings.
Network Interface	1 10/100Mbps LAN Ports, 1 10/100Mbps LAN/WAN Port, 1 Micro SIM Card Slot
Indicator LEDs	1) .Power LED normally on when powered on 2) .Network LED normally on when connected 3) .Wi-Fi LED normally on after connecting to Wi-Fi for 1-2 sec
Antenna	Internal 4G LTE Antenna , 2 * 2.4G FPC antenna , 2 * 5 G FPC antenna
Operating Temperature	-0°C~40°C
Storage Temperature	-40°C~65°C
Currents	350mA@5V

3.2 Performance Requirement

Wi-Fi-Performance	● IEEE wireless LAN standard: IEEE802.11ac, IEEE802.11n; IEEE802.11g; IEEE 802.11b ● Data Rate: IEEE 802.11b Standard Mode: 1, 2, 5.5, 11Mbps IEEE 802.11g Standard Mode: 6, 9, 12, 18, 24, 36, 48, 54Mbps IEEE 802.11n: MCS0~MCS7 @ HT20/ 2.4GHz band MCS0~MCS7 @ HT40/ 2.4GHz band MCS0~MCS9 @ HT40/ 5GHz band IEEE 802.11ac: MCS0~MCS9 @ VHT80/ 5GHz band ● Sensitivity: VHT80 MCS9 : -60dBm@10% PER(MCS9) /5GHz band HT40 MCS9 : -63dBm@10% PER(MCS9) /5GHz band HT40 MCS7 : -70dBm@10% PER(MCS7) /2.4GHz band HT20 MCS7 : -71dBm@10% PER(MCS7) /2.4GHz band ● Transmit Power: IEEE 802.11ac: 13dBm @HT80 MCS9 /5GHz band IEEE 802.11ac: 16dBm @HT80 MCS0 /5GHz band IEEE 802.11n: 14dBm @HT20/40 MCS7 /5GHz band IEEE 802.11n: 16dBm @HT20/40 MCS0 /5GHz band IEEE 802.11n: 16dBm @HT20/40 MCS7 /2.4GHz band IEEE 802.11g: 16dBm @54MHz IEEE 802.11b: 18dBm @11MHz ● Wireless Security: WPA/WPA2, WEP, TKIP, and AES ● Working mode : Bridge、Gateway、AP Client
Cellular network	● LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 ● LTE-TDD: B38/B39/B40/B41 ● WCDMA: B1/B2/B4/B5/B6/B8/B19; ● GSM: B2/B3/B5/B8

Bluetooth (EFR32BG21)	● TX Power: 19.5dBm ● Range: 150 meters minimum, open filed ● Receiving Sensibility: -90dBm@0.1%BER ● Frequency offset: +/-20KHZ ● Frequency Range (MHz):2401.0~2483.5 ● Low Frequency (MHz):2400 ● High Frequency (MHz):2483.5 ● E.i.r.p (Equivalent Isotopically Radiated power)(mW)<10mW ● Bandwidth (MHz):2MHz ● Modulation: GFSK
Data rate	● Max. 150Mbps downlink / 50Mbps uplink under LTE

3.3 Software feature

Quality of Service	Prioritizes network traffic by device or application
Operating Modes	3G/4G Router, Wireless Router
WAN Type	Dynamic IP/Static IP/PPPoE/PPTP(Dual Access)/L2TP(Dual Access)
Management	Access Control, Local Management, Remote Management (TR069) reboot schedule
DHCP	Server, Client, DHCP Client List, Address Reservation
Port Forwarding	Virtual Server, Port Triggering, UPnP, DMZ
Dynamic DNS	DynDns, NO-IP
VPN	PPTP VPN, IPSec VPN , OpenVPN
Access Control	Parental Control, Local Management Control
Firewall Security	DoS, SPI Firewall, IP Address Filter/Domain Filter, IP and MAC Address Binding
Protocols	Supports IPv4 and IPv6
Guest Network	2.4GHz guest network x 1, 5GHz guest network x 1
IPSec VPN	Supports up to 10 IPSec VPN tunnels

3.4 Other

Certification	CE, FCC, RoHS
Environment	Operating Temperature: 0°C~40°C (32°F ~104°F) Storage Temperature: -40°C~70°C (-40°F ~158°F) Operating Humidity: 10%~90% non-condensing Storage Humidity: 5%~90% non-condensing

4. QA Requirements

4.1 Quality Information

Quality &Testing Information	
Information Description	Standard(Yes) custom(No)
ESD Testing	Yes
RF Antenna Analysis	Yes
Environmental Testing	Yes
Reliability Testing	Yes
Bluetooth Certification	Yes
Radio Certification	CE, FCC, IC, SRRC

5. Application

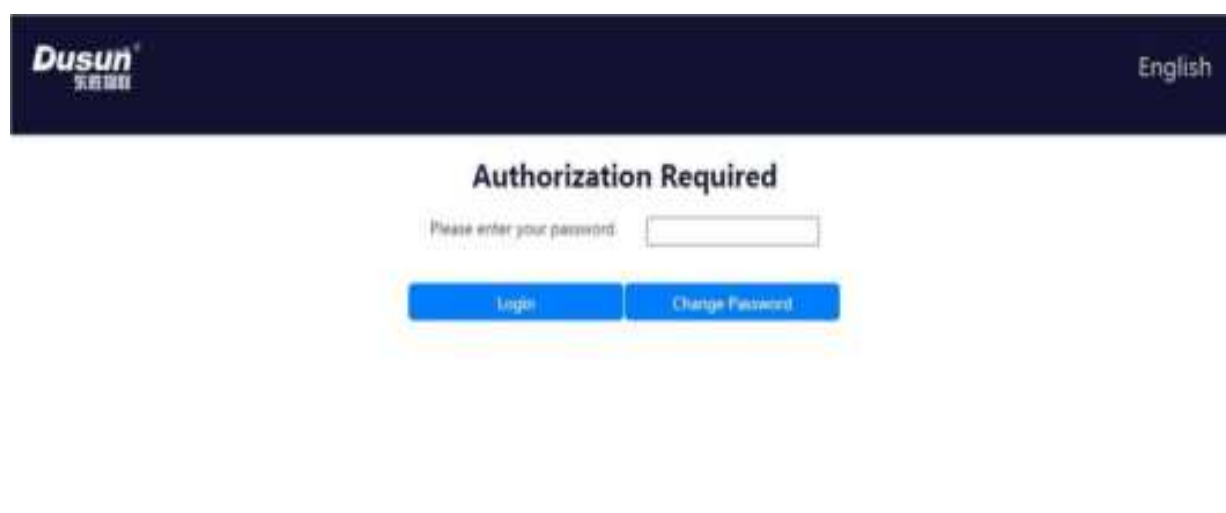
1. Conference Room
2. Remote Area
3. Temporary Store
4. Private villa

6.Packing list

Gateway	1
adapter	1
network cable	1

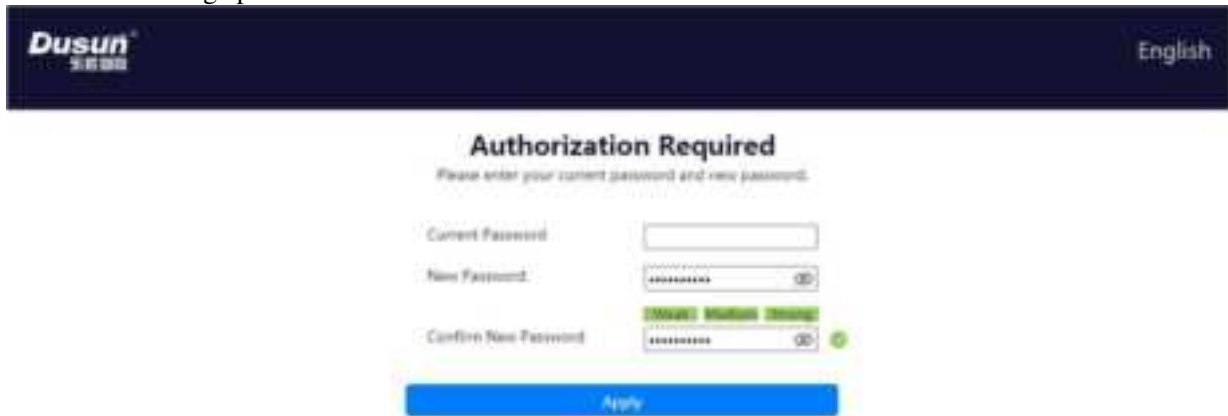
7.Web management

7.1Login



7.2 Modify the password

Click on the change password on



The screenshot shows a web interface for password modification. At the top, there is a dark blue header with the 'Dusun' logo on the left and the word 'English' on the right. Below the header, the main content area has a title 'Authorization Required' followed by the instruction 'Please enter your current password and new password.'. There are three input fields: 'Current Password' (a standard text box), 'New Password' (a masked text box with a toggle icon), and 'Confirm New Password' (also a masked text box with a toggle icon). Above the 'Confirm New Password' field, there are three tabs: 'Masked', 'Hidden', and 'Visible', with 'Masked' currently selected. A green checkmark icon is visible to the right of the 'Confirm New Password' field. At the bottom of the form is a large blue button labeled 'Apply'.

the login page to enter the change password page.

7.3Router Status



7.4 Internet Setting

You can setting the WAN Ethernet port and LTE.

The screenshot shows the 'Internet Setting' page of a DUSUN router. The sidebar on the left contains the same navigation menu as in the previous screenshot. The main content area is divided into two panels: 'Wired Internet Setting' and 'LTE Internet Setting'. The 'Wired Internet Setting' panel has two dropdown menus: 'Ethernet WAN' (set to 'Ethernet') and 'IP setting' (set to 'Dynamic IP'). The 'LTE Internet Setting' panel has a dropdown menu for 'LTE WAN' (set to 'LTE'), followed by a note: 'If you don't know before info, leave them as blank.' Below this note are four input fields: 'APN', 'AuthMode' (set to 'None'), 'Username', and 'Password'. At the bottom of the page, there are two buttons: 'Cancel' and 'Apply'.

7.5 Wi-Fi setting

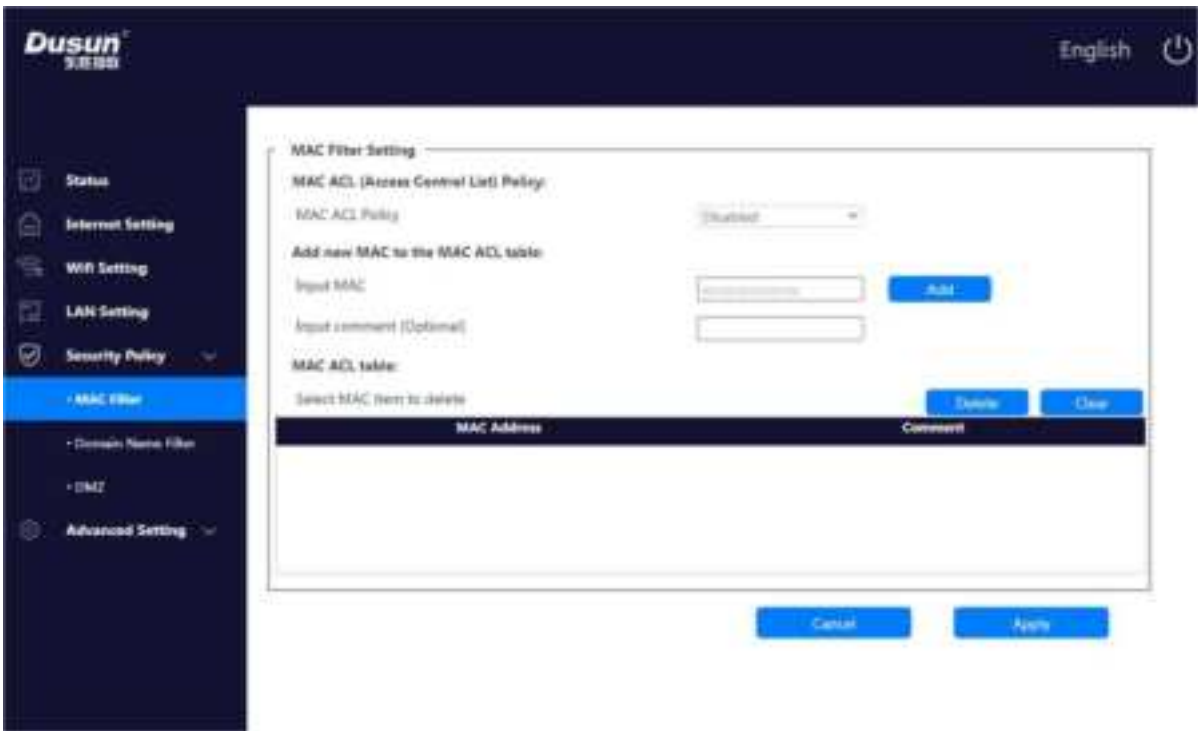


7.6 LAN setting

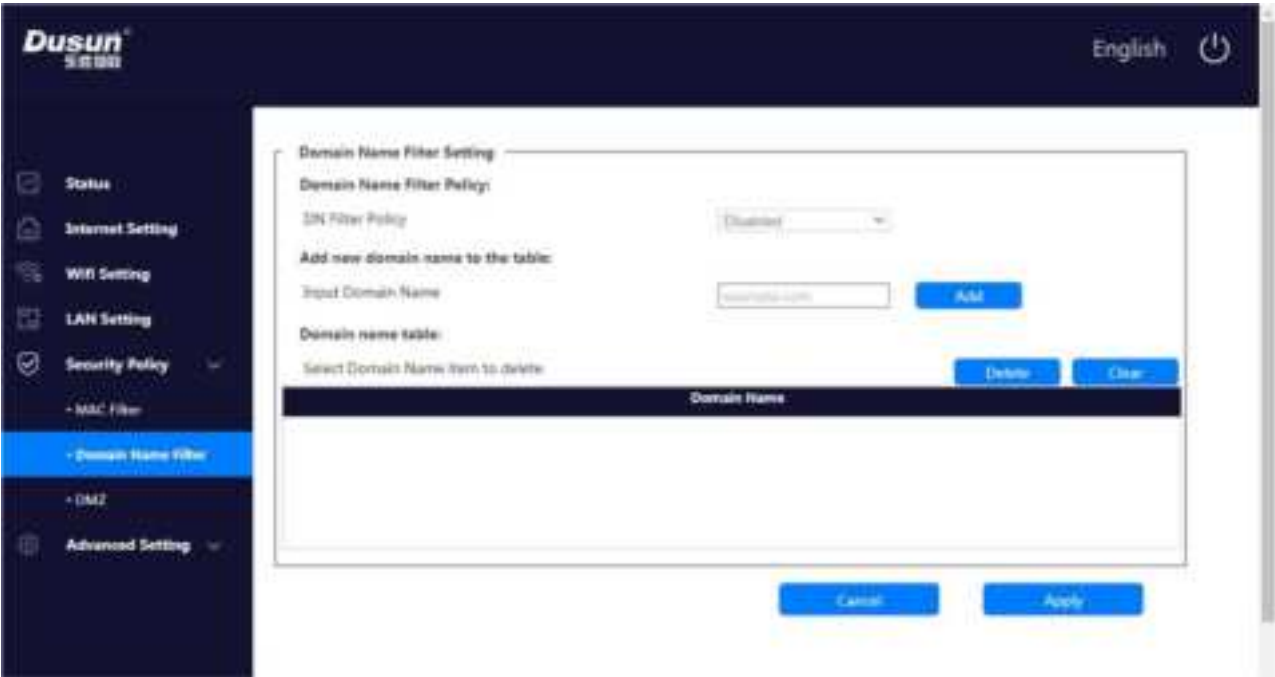


7.7 Security Policy

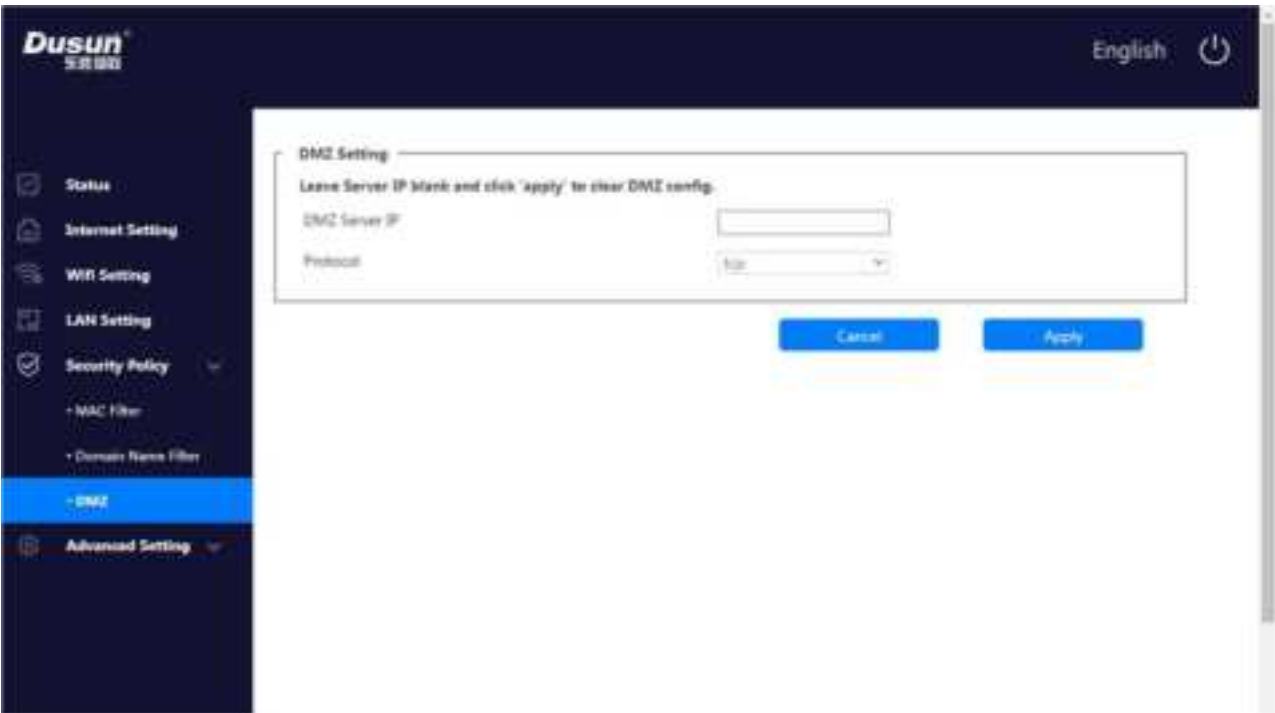
7.7.1 MAC filter



7.7.2 Domain Name filter



7.8 DMZ



7.9 Advanced Setting



7.10Factory Setting



FCC Statement

1. 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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

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

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 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.

To comply with RF exposure requirements, a minimum separation distance of 20cm must be maintained between the user's body and the device, including the antenna.