

ATOM OD15 CPE Installation & Configuration Guide

Model EG8015G-M19

April 2020

Version 1.2



About This Document

This document is for operators who will be installing and configuring the Baicells ATOM OD15 CPEs, model EG8015G-M19.

Related Documents

All technical specifications and documents are on the Baicells website under Resources > Documentation.

- Baicells SNAP PoE+ Router Data Sheet
- Baicells SNAP PoE+ Router User Manual
- Baicells ATOM OD06H/L Data Sheet

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Support Resources

- Documentation Baicells product data sheets, this document, and other technical manuals may be found at Baicells > Resources > Documentation.
- Support Open a support ticket, process an RMA, and the Support Forum are at Baicells > Support.

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1. Introduction

1.1. Description

The Baicells Atom OD15 Outdoor Low-Gain and Outdoor High-Gain User Equipment (UE) is part of a broadband wireless access system that integrates with Long-Term Evolution (LTE) backhaul networks to provide subscribers with Internet access. The UE, also referred to as Customer Premise Equipment (CPE), communicates through a wireless connection to the operator's eNodeB's (eNB) at cell sites located in the region. The eNBs communicate with the backhaul network.



Figure 1: LTE Network Architecture

The outdoor low-gain or high-gain UE may be selected because of the distance between the user's location and the closest eNB or for environments where there may be blockage or partial blockage in the wireless signal path between the UE and eNBs in the area - e.g., dense trees or buildings.

As an LTE standards-based product, the Baicells equipment provides higher near-line-of-sight (nLOS) and non-line-of-sight (NLOS) signal penetration than other wireless technologies. The high-gain UE has a higher antenna gain than the low-gain UE, making it possible to get the strongest possible signal reception for subscribers.

The LTE standards organization that defines certain characteristics of user equipment across manufacturers labels each progression of the standards as releases, such as Release 9, Release 10, etc., and categories, such as Category 4 (CAT4) and Category 6/7 (CAT6/7).

Typically the difference from one release/category to the next is in capacity, i.e., higher throughput. There is no physical difference between the CAT4 and CAT6/7 UE, but the low-gain UE and the high-gain UE do look different from one another. A physical comparison is provided in section 4.

1.2. ODU Modes

This device can work at two modes, ODU standalone or IDU+ODU mode.

(1) ODU standalone Mode

Standalone mode, ODU can worked at NAT/TUNNEL/BRIDGE mode

- a) NAT Mode, the ODU work as a LTE and Ethernet Gateway, it converts LTE network data to local Ethernet data.
- b) Tunnel Mode, the ODU can build a L2 or L3 VPN tunnel with a designated VPN server.
- c) Bridge Mode, the ODU can bridge it LTE IP address to LAN port devices, when configured as the bridge, the CPE's LAN port will work as trunk mode, so it can't assign IP address to any no-trunk devices (like PC), so you have to Manual Configure the PC's IP address in the same broadcast domain (e.g. 192.168.150.88).
- (2) IDU+ODU Mode

When the ODU connect to a IDU device (Baicells PoE router), it will automatic be configured as Bridge mode, and assign all its LTE IP to IDU, at that mode, the IDU will take the place of ODU to control all the CPE functions.

Before contacting Baicells FAE or your distributor, please **DO NOT** mixed use the two modes.



1.3. Features

The Baicells Atom UEs provide robust throughput and are designed for growth and expansion as technology evolves. Some of the key features and attributes of the Atom outdoor UEs are listed below. Exact specifications vary by model. For the latest information, please refer to the <u>Baicells website</u> for your specific UE model.

- Standardized LTE TDD bands 41. Customization may be requested.
- Complies with 3GPP Release 11 (CAT12/15)
- 1000 Mbps Ethernet interface
- Built-in bipolar directional LTE antenna
- Power supply using Power Over Ethernet (PoE)
- Cell lock, SIM lock, and Pin lock
- Pole or wall mount options
- TR-069 management protocol support
- Local and remote GUI management

2. Installation

2.1. Part & Materials

Refer to Table 1 for a list of the components that you should receive with the Baicells outdoor UE.

Table	e 1:	Parts
Tuble	L T •	1 01 13

Item	Qty	Picture
Atom OD15 unit	1	
Power Cable	1	
PoE Power Adaptor	1	

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Atom OD15 Mounting	1 each	
Bracket		

You will need standard tools, Ethernet cable, ground wire, and RJ-45 connectors for installing and connecting the outdoor unit (Table 2).

Table 2: Materials

Item	Description
Ethernet Cable	Outdoor shield CAT5E, shorter than 330 feet
Ground Wire	16mm ² yellow-green wire

2.2. LEDs & Interfaces

On the low-gain UE the LEDs are on the side of the unit, and the connection interfaces are on the bottom of the unit. On the high-gain UE both the LEDs and the interfaces are on the side of the unit.

Table 3: LEDs

LEDs vary by model – not all models will have all of the LEDs listed below.

Identity	Description	Color	Status	Description
19.5	LTE network and USIM	Plue	Off	The UE is not connected to the network
LQS	status	ыце	Steady On	The UE is connected to the LTE network
	Dower status	Vallow	Off	No power supply to the UE
PVK	Power status	rellow	Steady On	Power to the UE is on
LTE Signal				The signal is too weak for the UE to connect to
	L/M/H 3 bars to indicate	Green	All Off	the network
	wireless connection		Steady On	Bars will light steadily according to signal
	status. The more bars,			strength
	the stronger the signal			The UE is scanning the network
	between the UE and a		Blinking	The UE is authenticating with the network
	network cell (eNB).			The UE is getting an IP address from the
				network

Table 4: Interfaces

Interfaces vary by model - not all models will have all of the interfaces listed below.

Interfaces	Description
PoE	Power over Ethernet (PoE) power adaptor
SIM/USIM Slot	Universal Subscriber Identity Module card slot, 1.8V/3.0V USIM 2FF



Interfaces	Description
RESET	Reset/restore button
GND	Ground lug. The unit is connected to Earth by conductor.

2.3. CPE Software

The firmware of the CPE should be BaiCE_BG_1.5.4 or above, if the CPE is not running this version, please download it from the Baicells website > Resources > <u>Firmware</u> or contact Baicells support.

2.4. Login

The CPE comes preloaded with a GUI to configure the device. With the CPE turned on and connected to the router, access the GUI login page by opening a Web browser and entering <u>http://192.168.150.1</u>.

Figure 2: Login

4G Router	
Lisemame	
Password	
Log in	

Initially, use the default Username = *admin*/Password = *admin* (Figure 21). Once you are in the GUI, you will want to change the password; please refer to <u>section 3.9.1 Account</u>.

2.5. Status Menu

2.5.1. Overview

After logging in, the GUI opens to the Status > Overview page. This page is a dashboard of key information regarding the CPE. The top row, *Current State*, shows the network connection status, signal intensity, LAN link status, and the number of smart devices (cell phones, pc's, laptops) connected to the Internet through the CPE.

The *Device Info* pane displays the product name, software version, serial number, etc. The *LTE Status* pane shows important operational information, such as the CPE's SIM card status and its IMSI and IMEI numbers, wireless frequency being used, eNB connection status, and current signal strength and quality.

Under *Throughput Statistics* you will see downlink (DL) and uplink (UL) data rates for current throughput (kbps), average rates, peak rates, and total throughput. The data is measured during a 3-second interval every 5 minutes. The *APN Status* pane displays any gateway connections. The bottom pane, *Devices List*, will show details about all smart devices currently connected through the CPE. Refer to Table 5 for a description of the *Status* fields.

Figure 3: Status

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Status							
	Current State	2		8	onnected	Good 1 Stand Intendity Destando	or and the
Network	l			_	_		
LTE	_						
Security	Device Info						
NAT	Product Name :	LTE BOUTER		Software Versi	ion : BaiCE NG 1	3.4	
Surtam	Product Model :	EG7010A_M11		Software Build	Time : Aug 3 2020	151547	
System	Hardware Version :	A		SN :	120300008	12023400199	
Reboot	LTE Module FW Versi	on: 0.5.3.12		MD :	8075450400	066470	
Log out	LTE Connection Time	: 2 days, 21 hours	, 6 minu, 27 secu	System Up Tim	ne : 3 days, 10 h	ours, 9 mins, 16 secs	
	LTE Status	Available 460680001200064	DL Prequency(MHz) : UL Prequency(MHz) :	3630.0 3630.0	R5NP1	-90.3 dBm	
	LTE Status	Available Asio680001200064 Asio68	DL Prequency(MHz) : UL Prequency(MHz) : RSSI(JdHn) :	1610.0 1610.0 -60.5 / -61.0 / -62.9 / -61.1	R5891	-90.3 dBm -94.8 dBm	
	LTE Status USM : MR2 : POMV : PC :	Analiable Asibeletotti200064 Asibele Tel	DL Frequency(MHz) : UL Frequency(MHz) : R031(dbm) : R032(db) :	36338 36538 4857 4837 4839 / 483 487 487 487 487 488	85891 85892 85893	-90.3 dBm -94.8 dBm -92.8 dBm	
	LTE Status USM : MR2 : RUNV : RC : Cell D : Cell D :	Analishie 460680001300064 46068 183 87 87	DL Frequency(MH4) 1 UL Frequency(MH4) 1 R030;dtm() 1 R040;j40 1 S040;j40 1	3650.8 3650.8 -60.5 / -60.3 / -62.9 / -63.3 -63.7 -63.7 -63.9 / -63.8 25 25 24 / -15	R5891	-90.3 dBm -94.8 dBm -92.8 dBm -93.2 dBm	
	LTE Status USM : MR2 : POMV : PO : Cel 10 : WR8 10 : MR8 10 :	Available 460680001190064 46068 180 87 0 0 40000	DL Frequency(MH4) 1 UL Frequency(MH4) 1 R030;d8(4) 1 R040;j48 1 S840;j48 1 C(2) 1 T2980;j484 1	3650.8 3650.8 -60.5 / 46.0 / 42.9 / 43.3 -60.7 -40.7 -40.9 / 40.9 25 14 / 15 14 / 15	R5891 R5892 R5893 R5894	-90.3 dBm -94.8 dBm -92.8 dBm -93.2 dBm	
	LTE Status USM : MEI: FUMV: FCI: CellD: eNEID: EARPON:	Available 460680001190064 46068 183 87 0 44090 20	DL Frequency(MH4) 1 UL Frequency(MH4) 1 R050;d8m(1 R040;j48) 1 S3M0;d8) 1 CQ1 1 CQ1 1 T3M0;d8m(1 R04m 1	3650.8 3650.8 -60.5 / 46.0 / 42.9 / 43.3 -60.7 -40.7 -40.9 / 40.9 25 14 / 15 16.5 Ne	R5891 R5892 R5893 R5894	-90.3 dBm -94.8 dBm -92.8 dBm -93.2 dBm	

Figure 4: Throughput Statistics

Throughput Statistics

		3+		24		- he	2. 2. 2. 2. 2. 2.	_
10.141	ingo (that when							
14793	No. (1997, 1997)							
3230	NA DACINE							
							3 weate andres 1 larenatio	
<u>91.</u>	10.57 Moleck (12.45 MB/h)	Average	NEET MARKS (12.30 MRX)	Peak	PLAT MEN	Saw.	21.36.07 18 2022.548521 Pets	
site:	EMPA	Average	215 92255	Peak	ALL MERCH	Sam	THE REAL OF MALE	

Figure 5: Internet Statistics

nternet Status				
Notice Name 1	APH1			
Pub Aubiente 1	10,000.10.101	Probabilities -	4	
full Primary DNS :	DEPERTATION	multituring (NG)	1	
Pol Secondary ONE :	1010	Public Considery (196)		



Figure 6: LAN Status

LAN Status		
IPv4 Address :	192.168.150.1	IPv6 Address :
IPv4 Netmask :	255.255.255.0	IPv6 Prefix :
IPv4 MAC Address 1	48/0474.0da9/ca	Ipv6 Prefix Len :

Figure 7: Device List

C62 F121			
Phoet Niama	MAC Advinue	(P Address)	Loses Time
Comparison and statements	Transfer Status (Spinsor	100 100 100 100	12,4111

Table 3: Status

Field Name	Description
Connection State	Connection status between the CPE and the network – either Checking SIM, Scanning,
	Registering, Acquiring IP, Connected, or Disconnected
Signal Intensity	Indicates the strength of the signal between this CPE and the serving eNB, either
	excellent, good, general, bad, or severe. The ODU CPE hardware typically displays 1 to 5
	LEDs to indicate this level (Figure 3&4).
Devices Connected	The number of smart devices connected to the Internet through this CPE via a LAN or
	Wireless LAN (WLAN)/Wi-Fi connection
Device Info	
Product Name	LTE ROUTER indicates the CPE is operating as a router
Product Model	ODU CPE model number
Hardware Version	ODU CPE hardware version
LTE Module FW Name	LTE Module FW's version
LTE Connection Time	The timer will be reset after every LTE connections
Software Version	ODU CPE operating software version
Software Build Time	Date and time the software was built
SN	Serial Number
IMEI	International Mobile Equipment Identity is like a serial number for the SIM card
System Up Time	The timer will be reset after reboot
LTE Status	
USIM	The Universal Subscriber Identity Module, or SIM, card status is either available or not
	ready in the ODU CPE
IMSI	The unique International Mobile Subscriber Identity (IMSI) number associated with the
	SIM card in the subscriber's ODU CPE. The IMSI must be identifiable by the operator's LTE
	network in order to access it.
PLMN	The Public Land Mobile Number (PLMN), or operator network ID, to which the CPE is
	connected
PCI	The Physical Cell Identifier (PCI) unique to each eNB. PCI indicates to which eNB the
	ODU CPE is connected. An operator can have multiple eNBs serving the same cell.
eNB ID	The operator's cell site ID to which the CPE is connected. A cell site may comprise more
	than one eNB. Each eNB is given a PCI to identify it.



which the CPE operatesBandwidthThe range of frequencies within the band the CPE may use for wireless communications with an eNB, expressed in MHzCINRThe Channel Signal-to-Interference-plus-Noise Ratio reflects the signal strength of the signal received from the two antennas in the eNB, expressed in decibels (dB) NOTE: Additional SINR values are reported when a transmitting device is using more than two antennas.DL FrequencyThe frequency, in MHz, being used in the downlink (eNB to CPE). In LTE, the carrier frequency in the uplink and downlink is designated by the EARFCN, which identifies the LTE band and carrier frequency.UL FrequencyThe frequency, in MHz, that the CPE is using in the uplink (CPE to eNB). In LTE, the carrier frequency in the uplink and downlink is designated by the EARFCN, which identifies the LTE band and carrier frequency.RSSI (dBm)Reference Signal Receiving Quality indicates the quality of the wireless signalCQIChannel Quality indicationTXPWR (dBm)Real time UE TX power	EARFCN	The E-UTRA Absolute Radio Frequency Channel Number (band and frequency) within
BandwidthThe range of frequencies within the band the CPE may use for wireless communications with an eNB, expressed in MHzCINRThe Channel Signal-to-Interference-plus-Noise Ratio reflects the signal strength of the signal received from the two antennas in the eNB, expressed in decibels (dB) NOTE: Additional SINR values are reported when a transmitting device is using more than two antennas.DL FrequencyThe frequency, in MHz, being used in the downlink (eNB to CPE). In LTE, the carrier frequency in the uplink and downlink is designated by the EARFCN, which identifies the LTE band and carrier frequency.UL FrequencyThe frequency, in MHz, that the CPE is using in the uplink (CPE to eNB). In LTE, the carrier frequency in the uplink and downlink is designated by the EARFCN, which identifies the LTE band and carrier frequency.RSSI (dBm)Reference Signal Receiving Quality indicates the quality of the wireless signalCQIChannel Quality indicationTXPWR (dBm)Real time UE TX power		which the CPE operates
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RSSI (dBm) Reference Signal Receiving Quality indicates the quality of the wireless signal CQI Channel Quality indication TXPWR (dBm) Real time UE TX power		LTE band and carrier frequency.
RSRQ (dBm)Reference Signal Receiving Quality indicates the quality of the wireless signalCQIChannel Quality indicationTXPWR (dBm)Real time UE TX power	RSSI (dBm)	
CQI Channel Quality indication TXPWR (dBm) Real time UE TX power	RSRQ (dBm)	Reference Signal Receiving Quality indicates the quality of the wireless signal
TXPWR (dBm) Real time UE TX power	CQI	Channel Quality indication
	TXPWR (dBm)	Real time UE TX power
Roam Roam status	Roam	Roam status
Throughput Statistics	Throughput Statistics	
DL The current downlink data throughput rate, in Kbps	DL	The current downlink data throughput rate, in Kbps
UL The current uplink data throughput rate, in Kbps	UL	The current uplink data throughput rate, in Kbps
Average The average DL and UL data throughput rates, in Kbps, for this CPE in the last 3 minutes	Average	The average DL and UL data throughput rates, in Kbps, for this CPE in the last 3 minutes
Peak The peak DL and UL data throughput rates, in Kbps, for this CPE in the last 3 minutes	Peak	The peak DL and UL data throughput rates, in Kbps, for this CPE in the last 3 minutes
Sum The total (sum) DL and UL data throughput rates, in Kbps	Sum	The total (sum) DL and UL data throughput rates, in Kbps
Internet Status	Internet Status	
APN Number Access Point Name (gateway) connection to other network devices. At least one APN	APN Number	Access Point Name (gateway) connection to other network devices. At least one APN
must be configured to establish the TR-069 connection to the CloudCore or other NMS		must be configured to establish the TR-069 connection to the CloudCore or other NMS
Enable Indicates if the APN is enabled or disabled	Enable	Indicates if the APN is enabled or disabled
MAC Address MAC address of the APN gateway	MAC Address	MAC address of the APN gateway
Connection Type Type of network connection	Connection Type	Type of network connection
IP Address IPv4, IPv6, or IPv4v6 address of the APN gateway	IP Address	IPv4, IPv6, or IPv4v6 address of the APN gateway
DNS server Domain Name Server IP address	DNS server	Domain Name Server IP address
LAN Status	LAN Status	
MAC Address MAC address of the LAN device, e.g., router, to which the CPE is connected	MAC Address	MAC address of the LAN device, e.g., router, to which the CPE is connected
IP Address The IP address of the LAN device	IP Address	The IP address of the LAN device
Netmask The subnet mask of the LAN device	Netmask	The subnet mask of the LAN device
Devices List	Devices List	
Index Numerical ID assigned to each smart device connected through the ODU CPE	Index	Numerical ID assigned to each smart device connected through the ODU CPE
Device Name The name of each smart device connected through the CPE	Device Name	The name of each smart device connected through the CPE
MAC Address The MAC address of each smart device connected through the CPE	MAC Address	The MAC address of each smart device connected through the CPE
IP Address The IP address of each device connected through the CPE	IP Address	The IP address of each device connected through the CPE
Lease Time Amount of time a smart device's IP address has been leased	Lease Time	Amount of time a smart device's IP address has been leased
Type of smart device connection	Туре	Type of smart device connection

2.6. Network Menu

2.6.1. LAN Settings

Enter the Network > LAN DHCP Server enable, IP address, subnet mask, DHCP range, lease time, UPNP enable.

Figure 8: DHCP Settings

THES-OF	OHCP			
and leaves	DHCK			
Marth Reserve		and here.	Unite.	-
(MA)		W. Inside and	10.001	
iner.		Summer Starte	200.000.000-0	
CHE .		Sector Sprint	700,700,200,70	
Security .		1000 Hot (140 H	702.000.000.000	
PART		loss test	-	
System .			Sheet *	
Rebot		1988 Salita	W Party, U through	
tag out				

DHCP Static Leases settings can set by the host's MAC address.

Figure 9: DHCP Static Leases

DHCP Static Leases
Basic Settings DHCP Static Leaves (Exatle + Aqub Canot
Add DHCP Static Lease IP Address : Image: Canad Mill: Address : Image: Canad
Current DHCP Static Leases No. IP Address MAC Address Selected Edit Later Later Career

2.6.2. WAN Settings

2.6.2.1. NAT Mode

The CPE will be worked at NAT mode, and all 8 APNs can be configured by Default router/Data/Mgmt/Voip bear types.

Figure 10: WAN Settings

A							- 8.4
A 1011 1 1000	0.5.0.0.000	All second and second and				11+1-21	
Status Network	WAN Setting	p.					
Billion Second	Operation \$70	de la cherte de la	(ereal)	2			
	Prottie List						
tt belafy AAT Gyflen Feboet Lagad		Avele April 494 494 495 495 495 495 495 495 495 495	Bar typ Dright Kante Drig Rigen Rigen Rigen Rigen Rigen Rigen				
	Porta Settop	Train Species			-		
	PART BALLA						

2.6.2.2. Router Mode

When selected Router mode, the CPE will worked at router mode, it can dynamic update router tables.

Figure 11: Router Mode

Operation Mode					
	Operation Month	Houser Martin	(a)		
				Ante	(Carling Street, Stree
					-

2.6.2.3. Tunnel Mode

This CPE can support L2TP and GER VPN mode.

Figure 12: Tunnel Mode

	Operation Mode :	Tunnel Mode *
unnel Mode		
	VPN Type :	L2TP •
	NAT Support :	Enable •
	Default Route :	VPN +
	Host name :	
2TP		
	BCP Support :	Disable •
	L2TP Server IP :	
	L2TP User :	admin
	L2TP Password :	

2.6.2.4. Bridge Mode

When the CPE worked at Bridge mode, the WAN ports address will bridge to LAN port, and the LAN port will worked at trunk mode.

Operation Mode				
	Operation Mode :	Bridge Mode		
Profile List				
Index	Profile Name	Vlan Id	Edit	
1	APN1	1121	0	
2	APN2	1122	0	
3	APN3	1123	0	
4	APNA	1124	0	
5	APN5	1125	0	
6	APN6	1126	0	
7	APN7	1127	0	
8	APN8	1128	0	
Profile Setting				
-	Profile Name :			
	Vian ld :		(0-4094)	
			Apply	Cancel

Figure 13: Bridge Mode

2.6.2.5. Mixed Mode

Mixed mode can configured every APN with different mode (e.g. Bridge), this is a professional mode.

Figure 14: Mixed Mode

Operatio	on Mode					
	Operat	ion Mode :	Mixed Mode			
Profile L	ist					
Index	Profile Name	Mode	Vlan Id	Bear Type	Edit	
1	APN1	Bridge	1121	Default Router	0	
2	APN2	Bridge	1122	Data	0	
3	APN3	Bridge	1123	Mgmt	0	
4	APN4	Bridge	1124	Voip	0	
5	APN5	Bridge	1125	Reserve	0	
6	APN6	Bridge	1126	Reserve	0	
7	APN7	Bridge	1127	Reserve	0	
8	APNB	Bridge	1128	Reserve	0	
Profile S	Setting					
	Pro	file Name :				
		Mode :	NAT Mode			
	1	Bear Type :	Default Router	*		
					Αρρίγ	Cancel

2.6.3. Static Routes

Figure 15: Static routes

Set Static routes of the CPE, it can configure LAN or WAN port routes, Gateway, Destination Network and Route Subnet Mask, in Current Settings, show all activated static routes.

Bricells	
Status	
Network	Route Settings
LAN Settings	
WAN Settings	
WLAN Settings	Route Settings
Static Routes	Route Type : LAN +
C4M2	Gateway :
UPeP	Destination Network :
LTE	Route Subnet Mask :
Security	
NAT	Apply Careed
System	
Reboot	
Log out	
	Current Settings
	Route Type Gateway Destination IP(reachable) Route Subnet Mask Selected Edit
	Delete Carcel



2.6.4. DMZ

In technology, the DMZ refers to a firewall between incoming WAN traffic and the LAN to which the CPE is connected. Two basic DMZ methods are (a) using a single firewall, also known as the three-legged model, and (b) using dual firewalls (Figure 36). These architectures can be expanded to create complex architectures depending on the network requirements.

Figure 16: DMZ



When the LAN has a DMZ/firewall server, you can enable DMZ on the CPE so that packets from the WAN are forwarded to the firewall (Figure 37). Alternatively, you can enable Internet Control Message Protocol (ICMP) redirect error messages to support Layer 2 multicast features.

Figure 17: DMZ Settings

DMZ	DMZ Setting : DMZ Address :	Eude	Ŧ		
				Apply	Canol

2.6.5. UPnP

The Universal Plug & Play (UPnP) function provides a set of networking protocols that allows device-to-device networking on a local network. When UPnP is enabled, devices seamlessly and dynamically discover each other's presence on the network and attach to one another and to network services. Often, UPnP is used for streaming media between devices on the network.

Go to Security > UPnP to enable the CPE to be searched by other devices (Figure 38). Once enabled, any redirects of traffic will display in the *Active UPnP Redirects* section of the window.

		-						
UPnP	PoP Setting:	Enable	¥	Auto	Careeri			
Port Mapping List		Protect	4	Extend Port		internal Port	Description	

Figure 18: UPnP Settings

2.7. LTE Menu

2.7.1. Connection Settings

LTE connection settings includes Roaming settings, Default connection settings and Power Scan Option.

Figure 19: Connection Settings

Roaming Settings			
Roam Settings :	# Enable © Disable		
		Apple	Garcel
Default Connection			
Status I	Disconnected		
Commentation Model	Annaly in		
		Acces	Garcel
Power Scan Option			
Power Scan :	First Detected Cell *		
		Auto	Canol

2.7.1.1. Roaming setting

If set Roam enable, the CPE can access to other PLMN network, else the CPE just can access the network PLMN same with the SIM card.

2.7.1.2. Default connection

If set always on, the CPE will automatic access the LTE network after booting, if set manual, the CPE need manual connection to the LTE network.

Figure 20: Default Connection Settings

Statui	Disponented		
Committee Milder:	diverges and		
	Advance on		
		hith	Cases



The CPE support two power scan options, the first is First Detected Cell, and the second is the Strongest Cell.

Figure 21: Scan mode Settings

wet Scatt ;	Feat Detected Lieb		
	First Detected Cell		
	Stringent Cell	 -	-
		ALLAY	Concert 1

2.7.2. Edit APN Profile

An Access Point Name (APN) is the name of a gateway between a 3G/4G mobile network and another computer network, frequently the public Internet. Generally, multiple APNs are used for different business flows such as TR-069 management, voice, data, etc., and may support different services and QoS levels for different subscribers.

Figure 22: APN Profiles

APN Profile	List						
Fratte Name		Marchief.	4444	214 Type:	Tri-ielense.	0.04	
A(Py)			HEULI,	294			
White .			99101	111			
entral (14111	P54			
4754			19133	Pol.		100	
arsi -			MILL.	254			
4796			19111	if yes			
6967			44111	0.44			
det tradi			196316	714		1.0	
APN Profile	Settings	Souther .	W passie				
			146541				
		10.42					
		Auto	16AL T				
		100 million (1997)	Line - The				

The CPE supports 8 APN configurations. At least one APN (TR-069) must be configured when the CPE/eNB connect to the Baicells CloudCore. In the window (Figure 42) you will select the APN number (1-8), enable it, enter an APN Name, select the type of IP addressing (IPv4, IPv6, or IPv4v6), identify if it is the default gateway, and choose which type of protocol will be supported on it.

2.7.3. PIN Management

Use the PIN Management feature if you want to require users to enter a PIN code before they can use the CPE to access the network (Figure 43). Once the PIN is enabled, you will need to remember it if you want to later modify the number. You are limited to 3 tries to enter the correct PIN code before getting locked out. If this happens, contact your service provider (end-users) or Baicells support (service providers).

Figure 23: PIN Management

PIN Management			
USM Card Status : PRV Verification : Input PRI : Research Alforestic	Ph Dubled. # Endle 0 Duble		
	-	Auto	Carol

2.7.4. Cell selection

The Cell selection determines which frequencies the CPE's routine scan of available frequencies will cover. Scanning is a process of tuning to a specific frequency and measuring the simplest signal quality [e.g., Received Signal Strength Indication (RSSI)].

As part of the cell selection and re-selection process, the CPE performs the scan first and then selects a small number of candidate cells to go through the next step of measuring and evaluating signals to select the best eNB that can serve it. The CPE frequently (milliseconds) performs the scan to ensure it has the best possible connection to the network. Refer Figure 44.

Cell Selection				
	Scan Mode :	Full Band		
			Acch	Cancel

Select one of the following options:

Figure 24: Cell selections

- Full Band (default) All channels in the band.
 - The CPE will routinely scan all channels in the band and all EARFCNs, increasing the time it takes to connect compared to the other modes. The band is dependent on the CPE model.
- Dedicated EARFCN Specific EARFCNs or frequencies. (Figure 45)
 - The CPE will scan the dedicated EARFCN or frequency list first when it is powered on.
 - If the CPE cannot connect to the LTE network after scanning the list, it will scan other supported bands and frequencies. You can add up to 10 EARFCNs or frequencies.
- Cell Lock A combination of PCI + EARFCN or frequency. (Figure 46)
 - The CPE is limited to scanning a specific list of eNBs based on both their Physical Cell Identifier (PCI) and EARFCN or frequency. The CPE will scan the list of eNBs with the EARFCN and PCI combination. Using this mode can accelerate network access time.
- PCI Lock Specific PCIs only. Locks the CPE to a designated PCI or PCI range. (Figure 47)

After selecting an option, enter the required information and select ADD.

Figure 25: Dedicated EARFCN

	Super States	unin (APA) Se if fait	3	
EARFCN Settings	dana) (E. Navi - ir gal gallette fotogeney	(N. S. Inconstruct Section 44 (2010) - 100	2 criti to Mea	
EARFON List	x faging	pers) Second		

Figure 26: Cell Lock

	San Made	Torses	+	-	-
Cell Setting				_	
	Basi Lipe Lipe Liperte Mage	42 ★ SANCR © Free	y) hintog (hintog-counts, (hintog-counts, hintog (hintog		
Cell Lot. feet Lotting		- 100 (1) (1) (1)	General		
				20-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	



Figure 27: PCI Only Lock

PCI Setting		3	un Unite	Allee		3	-	-
PC isst	PC: Setting							
PCI List			No Seale		11 SPR 25 SPR	1	nen (
	PCI List							

2.7.5. SIM Lock Settings

This feature may be used to lock the SIM card to the operator's network (Figure 48). Each operator has a unique Public Land Mobile Network (PLMN) number. Locking the SIM prohibits the users from accessing another operator's network.

Figure 28: Throughput Statistics

SM Lorik 1	· UNA Look Churce - Cli Sala Look Unicheren
PUMIK (D)	
	Acces

2.7.6. MTU

Figure 29: MTU Settings

This is for setting the MTU of WAN (LTE) port, the range is from 1280 to 1500 Bytes.

	1. Print	and the second second second		
PRI/A C	1500	(Between 1289 and 1500)		
			100	
			Adde	Genuit

2.8. Security Menu

2.8.1. IP Filtering

When using a firewall server in the local network, invoke this setting to enable or disable the firewall for this CPE (Figure 50).

asic Settings				
	which there a	Dealer -	*	
				-
				200

When enable IP/Port Filtering, then the IP/Port Filter can be set.

24 JD / D J E'IL -

out times semilide			
Deditation of Addition			
tions in which a			
Armenti	34	(H)	
(Institution Pyrt Bacage)			
Reacht Pick Bariger,			
Schwarz and an other of	Room #		
(herear inc.)			

Settings:

_..

- (1) IP/Port Filtering Mode: Blacklist, White list
- (2) IP/Port Filtering Log Dropped: enable / disable
- (3) Destination IP Address: the destination IP Address of the filter
- (4) Source IP Address: the source IP Address of the filter
- (5) Protocol: TCP, UDP, TCP/UDP, ICMP, ALL
- (6) Destination Port Range: the range of port
- (7) Source Port Range: the range of port
- (8) Schedule Index: Select box, if can be schedule by APPs
- (9) Remarks

2.8.2. IPv6 Filtering

When enable IP/Port Filtering, then the IP/Port Filter can be set.

Figure 32: IPv6 Filtering

IPv6/Port filter artting	pa.		
Destination If Address			
Inna P Addres			
Patricial	Al	(*)	
Destination Fort Asings			
Americe Part Advage	12 · 12 ·		
Serverine .			
			Contract of Contra

Settings:

- (1) IPv6 Filtering Mode: Blacklist, White list
- (2) IPv6 Filtering Log Dropped: enable / disable
- (3) Destination IP Address: the destination IP Address of the filter
- (4) Source IP Address: the source IP Address of the filter
- (5) Protocol: TCP, UDP, TCP/UDP, ICMPv6, ALL
- (6) Destination Port Range: the range of port
- (7) Source Port Range: the range of port
- (8) Schedule Index: Select box, if can be schedule by APPs
- (9) Remarks

2.8.3. MAC Filtering

Media Access Control (MAC) Filtering allows you to identify a list of devices either allowed to access or forbidden from accessing the network through the CPE (Figure 53). Select *Enable* to enable MAC filtering, and then determine whether you will allow or forbid the defined MAC addresses to access the network.

Figure 33: MAC Filtering

	MAC Riter (Enable			
NON	Cilibering Mode :	Backlot			
MAC Filteri	ng Log Dropped :	Enable			
				Auto -	Canal
MAC Filter Settings	(m		lmaril NPC Address	*	
				Auto	Cancel
Current Settings					
Current Settings	AC Address	Selected	LR.		

Settings:

(1) MAC Filtering Mode: Blacklist, White list



- (2) MAC Filtering Log Dropped: enable / disable
- (3) MAC Address: the filtering MAC address

2.8.4. URL Filtering

The Uniform Resource Location Filter (*URL Filter*) allows you to define a list of URL addresses users are forbidden from accessing. When you enable the filter, a *Settings* window appears. Enter the specific URL address users cannot access, as shown in Figure 54. To add more URL addresses, click on *ADD*. After entering the addresses and saving, the URL(s) you enter will appear in the URL List.

Figure 34: URL Filtering	

Basic Settings				
LIRL Filter :	Enable			
URL Filtering Mode :	Blacklist	*		
URL Filtering Log Dropped :	Enable	*		
			Apply	Cancel
URL Filter Settings			Away	Canad
Current Settings No. URL	Selected	Edit	Date	Canal

Settings:

- (1) URL Filtering Mode: Blacklist, White list
- (2) URL Filtering Log Dropped: enable / disable
- (3) URL: the filtering URL

2.8.5. System Security

Figure 35: System Security

Faculty 1	and a local	
Security L	and the second	
System Security Settings		
Remote Web Lo	opin : Enable	
Remote Web-Lo Remote Te	ogin : Enable Inet i Disable	
Ramota Web Lo Remote Te Access Control	ogin : Enable Inet i Disable Unt : Disable	
Ramota Web Lo Ramota Tal Access Control Bluck Port S	ogin : Enable Inet i Disable Unt : Disable Gan i Enable	
Ramota Web Lo Remote Tal Access Control Block Port S Block Syn Fh	ogin : Enable inet i Disable List : Disable ican i Enable cod : Enable	

System Security Profiles, include High, Medium, None and Custom, every profiles will corresponding with a set of System Security Settings.

Settings:

- (1) Remote Web Login: enable / disable
- (2) Remote Telnet: enable / disable
- (3) Access Control List: enable / disable
- (4) Block Port Scan: enable / disable
- (5) Block Syn Flood: enable / disable
- (6) SPI Firewall: enable / disable

2.8.6. Connect Limit

Connect Limit feature is used to control the number of connections through the UE to a host device, for example, a peer-to-peer file sharing application such as BitTorrent. Such apps require a large amount of bandwidth. By limiting the number of connections to the host device, you can control how much bandwidth each active connection receives. You can configure a Connect Limit for up to 16 host devices.

Figure 36: Connect Limit

Connect Limit :	Enable	*
Lan IP Address :	-	
Limit Value :		
Schedule Index :	None	*
Remarks :		



2.8.7. Schedule

This feature is set for a group schedule list, like start from 2020.8.18 to 2020.8.20 as a index of the schedule.



	and the second	1000		10.27				
	iner line (1990)		and the second second	10.0				
	Doogue Tree I							
	C.a.							
	116							
						and the second se	100	and the second s
						100		
(therefore 1	La l							
Schedule L	lst.							
ichedale L	het Then - Viset Tree	farmer free	Fairers	mari Day	interest	1.0		
Scheelule L	het Hare Wart New 10.16 60	Tanta Ine 18	lagang tar	mart Day	inerer B	1.00 10		
ichedule L	ht Taro Viet Tree 2.13 Ki	Taratas Son M	lagaris Inte	mari Da	inere A	1.4 9 9		
Schedule L main fran ann	het Then Wart Time 214 00	tione les M	ingang Sar	more free	internet All All	1.4 0 0		
Schedule L	ht Date Wat fine 214 00	Essent from 14	Tanjarinji Sola	Mart Day	1000	1.4 0 0 0		
Schedule L Inter Inter I All	lat Dam Wart New 2014 No	Essent from 14	Tangan sa Kasa	more Day	-	1.0 0 0 0 0		
Schechule L	lat Taro Viset Tase 2.18 00	Tantas Tan M	Trajana Traj	man Da				
Schechule L	lat Dan Wat fina 2.18 00	Taratan Soo M	lasara Ina	mari Da		1.0 0 0 0 0 0		
Schedule L	lat Dan Vart free 1.14 KK	Toopter Tree M	insers int	Mari Da		1.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		

In previous Filter configurations, you can select the schedule index like below figure.

Figure 38: Schedule Settings

IP/Port Filter Settings		
Destination IP Address (1- D-C	
Source IP Address 1		
Protocold a	A8	*
Debbishton Part Narope -		
Swarts-Port Narspe 1		
Schedule Indias :	fices *	
Fill marks	1 martin	

2.9. NAT Menu

2.9.1. Port Forwarding

When NAT mode is enabled as the WAN interface type (section 3.5.2), you can redirect a communication request from one address and port number combination to another. Only the IP address on the WAN side is open to the Internet. If a computer on the LAN is enabled to provide services for the Internet (for example, work as an FTP server), port forwarding is required so that all access requests to the external server port from the Internet are redirected to the server on the LAN.

To add a port forwarding rule, select the *Enable* check box and click on *ADD LIST* (Figure 59). Enter the parameters per the field descriptions in Table 4.

Port Forward					
Port Ferwarding	: Enable				
Wan Port Range					
Lan IP Address					
Lan Por					
Protoco	TCP				
Remark					
				Apple	Canoel
Port Forwarding List					
No. Wan Port Range Lan IP Addres	Lan Port Protocol	Remarks Selected	Edit		
				Delete	Cancel

Figure 39: Port Forwarding settings

Table 4: Port Forwarding

Field Name	Description
WAN Port Range	Enter the port number range for the remote device in the format of 1000 to 1500
LAN IP Address	Enter the local host IP address. The address must be different from the IP address that is set for the LAN Host Settings parameter, but they must be on the same network segment.
LAN Port	Enter the local port number. Range is 1 to 65,535.
Protocol	Select the type of data protocol, either TCP, UDP, or TCP&UDP
Remarks	

2.9.2. Port Triggering

Port Triggering is a configuration option on a router - in this case, the CPE - if it is operating in NAT mode as the WAN interface type (section 3.5.2). When an application uses a trigger port to build a connection, the CPE will forward the data to the forward port.

To configure the feature, click on the check box next to *Enable* and then click on *ADD LIST* to enter the service type, protocol, trigger port, and forward port (Figure 60).

Figure 40: Port Triggering Settings

Port Trigger							
	Port Trigger :	Enable					
	Trigger Port :						
	Protocol :	TOP					
	Open Port :						
	Remarks :						
						Auto	Canoel
Port Trigger List							
No. Trigger Port	Trigger Protocol	Open Port	Remarks	Selected	Edit		
						Dates	Cancel

2.9.3. ALG

The Application Layer Gateway (ALG) function provides a security component that augments a firewall or the NAT used by the CPE (if WAN Network Mode = NAT). It allows customized NAT traversal filters to be plugged into the gateway to support address and port translation for certain application layer control/data protocols such as SIP, TFTP, PPTP, L2TP and IPSeC. You can enable the different types of application protocols by clicking on the check box next to the protocol name (Figure 61).

Figure 41: Throughput Statistics

ALG Settings		
SIP :	Enable	*
TFTP	Enable	٧
PPTP Passthrough :	Enable	
L2TP Passthrough :	Enable	*
IPsec Passthrough :	Enable	*

2.10. System Menu

2.10.1. Account

This menu is used to change the login password for the CPE (Figure 62). The password must be 5 to 12 characters. Baicells recommends using a combination of upper- and lower-case letters and numbers.

Figure	42:	Account
---------------	-----	---------

Online Passeted	
New Personnel :	
Confere Paramont (

2.10.2. WEB Settings

WEB Setting provides the ability to configure and manage the CPE remotely (Figure 63). This is especially helpful when a user calls in for technical assistance. In <u>section 3.3 Login</u>, you used this Web application with the default URL of <u>http://192.168.150.1</u>. Refer to 错误!未找到引用源。 for a description of each field.

Figure 43: WEB Settings				
HTTP Service :	×			
HTTP Port :	80			
HTTPS Service :				
HTTPS Port :	443			

2.10.3. NTP

Figure 44: NTP Settings

The operator's network may may use up to 4 Network Time Protocol (NTP) servers to provide correct time-of-day to network devices. In the CPE GUI you can refresh the local time display using the *SYNC WITH BROWSER* button; select the time zone that the CPE is in; and enable NTP client to use the default or specified NTP servers for synchronization (Figure 64).

NTP Settings						
Current Time :	Thu 01/01	19	70, 00:585	37		
Mode :	 Sync from network Set manually (the time will be reset after the router restarts) 					
Time Zone :	(GMT-05:00) Indiana Eastern Time *					
NTP Server :	time nist gov exe time.nist.gov ntp0.broad.mit.edu time.stdtime.gov.tv					
Enable Daylight Saving Time :						
Start Date :	First	٠	Sunday	٠	of	March •
End Date :	First	٠	Sunday	•	of	Novembe *

2.10.4. TR-069

If your network operates using a TR-069 auto-configuration server (ACS), the ACS will automatically provide the CPE configuration settings. Once you set up both the ACS and the CPE, you do not need to enter any other parameters through the CPE GUI. Use the *TR069* sub-menu to enable the TR-069 function for the CPE (Figure 45).

Figure 45: Throughput Statistics

TR-069 :	8 Enable
ACS Server URL :	http://baiomc.cloudapp.net.48080/smallx
ACS Username :	admin
ACS Password :	
Periodical Notification :	i Enable
Periodical Notification Interval :	3000 seconds (10-2678400)
Connection Request Username :	
Connection Request Password :	
Cloudkey :	
NickName :	

2.10.5. TR-069 Certificate

This feature is used to upload the TR-069 certificate.

Figure 46: TR-069 Certificate

2.10.6. Restore / Update

Use the System > Restore/Update menu to reset the CPE to its factory default settings, to manually update the firmware, or to manually update a module within the firmware - meaning to apply a patch to the current firmware (Figure 67).

Amit



Caution: Performing a restore or update action will disrupt service.

2.10.6.1. Firmware Update

Caution: Do not power off the CPE or disconnect it from the computer during an upgrade.

To update (upgrade) the CPE to a different firmware version (Figure 67):

- 1. Download the image file from the Baicells support website (Baicells > Support > Downloads), and save it to your computer.
- 2. Under *Flash new firmware image*, determine if you want to keep the current configuration settings on the CPE . If you do, select the check box next to *Keep settings*.
- 3. Click on *Choose File* to navigate to the new image file on your computer, and then click on *FLASH IMAGE* to initiate the upgrade.

After the upgrade, the CPE will restart automatically running the newer version of code.



2.10.6.2. Restore Factory Settings

To initiate a restore action, click on the *PERFORM RESET* button. The CPE will automatically reset its configuration to the factory default values.

igure 47: Restore & update			
Firmware Update			
Filename	整理文件 中热神任何文件		
Status :	lease select the update file.		
		Update	
Restore Factory Settings			
Load Default Button :	Restore		

2.10.7. Diagnosis

2.10.7.1. TCPDump

Figure 48: TCPDump Settings

TcpDump		
	PC IP Address :	192.168.150.9
	PC PORT :	1
	Interface :	Al •
Stop		

Settings:

- (1) PC IP Address
- (2) PC PORT
- (3) Interface: ALL, LTEOPDNO (APNO)

2.10.7.2. Ping

Figure 49: Ping Diagnosis Settings

Diagnostics	
Command :	Ping *
IPv4/IPv6 :	(Pv4 +
IP Address/Domain :	
Count :	
Fragment :	Yes *
Packetsize :	66

Settings:



- (1) IPv4/IPv6: Select the protocol
- (2) IP Address/Domain: IP Address or URL
- (3) Count: number of ping count
- (4) Fragment: yes or no
- (5) Packet size: 56~1400 Bytes (non-fragment)

2.10.7.3. Trace

Figure 50: Trace Diagnosis Settings

Diagnostics		
	Command :	Trace •
	IPv4/IPv6 :	IPv4 *
	IP Address/Domain :	

Settings:

- (1) IPv4/IPv6: Select the protocol
- (2) IP Address/Domain: IP Address or URL

2.10.7.4. Result

Figure 51: Diagnosis results





2.10.8. Backup Settings

This feature is used to backup the user settings, from the Web-GUI, you can Import / Export the settings.

Figure 52: Backup Settings

Export Settings Export Setting Barran	Equit
Import Settings must betting future - trates :	(1985) este in zo Seart the setting the
	Aire) Canad

2.10.9. System Log

System log is the debug information of the CPE, when select the Setting, it can Export or Clear Logs.

Figure	53:	System	Log
--------	-----	--------	-----

Select Log					
		Sel	ect Log :	₩ Settings	
		Sh	ow Log :	Operating Log Run-time Log	
Export Log)				
		Export Log	Button :	Export	
Clear Log					
		Clear Log	Button :	Clear	
Filter					
Rinto Rive	mina 🕅 Er	w Rose	al.		
Figure 54: S	ystem	ogs			
Time	Level	Module	Messor		Displayed logs:10
00.0148.01/01/70	Warring	MER.	LOR STORON	THEOUT, REDRECT	
00.24.05 03/01/79	into	WEB	ADMIN LOGIN	SUCCESSFULLY IP-192	
00.20.40 01/01/70	Warning	WEB	KAR SERVICE	TIMEDUT, REDRECT	
00.15.37 01/01/70	140	WEB	ADMIN LOOP	SUCCESSFULLY IP+192	
00/15/33 01/01/79	Warning	WEB	LISE GROUP	TakeDutt, REDALCT	
00.0147.01/01/70	1.4v		100 million 100 million		
00.01.09.01/01/09		WEB	188.158.8	SUCCESSFULLY IF~152	
	Warning	WEB	JALINES, MERSON TO LOOM	I SUCCESSIULT IN~ 152 I THIREDUT, REDIRECT	
00.01/35.01/01/79	Warning	WEB WEB FIREWALL	THE THEN HOLDSHIP	SUCCESSFULLY IP-152 ITMEDUT, REDRECT FLITERING MODE BLAC	
00x0125 01/01/79 00x0125 01/01/79	Warning Info	WEB WEB PREMALL PREMALL	THE REAL PROPERTY AND A DESCRIPTION OF THE REAL PROPERTY	SUCCESSFULLY IV~ 152 19wEOVT, REDRECT TETRING MODE BLAC LETRING BNABLE SU	

2.10.10.System Messages

Use this Web-GUI, you can Export System Message, Collect real-time system information and transfer system message to PC.

Figure 55: System Message Settings

Export System Message	
Papert Surger Message Batter	Eight
Collect System Information	
Collect System (Hermalism)	Collect
Emert Symmet Industriation (Equal
Transfer System Message to PC	
100 10 40	
PS IP Address 1	
	Aug

Figure 56: System Messages



2.11. Reboot

Use the Reboot menu to perform a reboot of the CPE, as shown in Figure 77. It can take several minutes for the reboot to complete. After it reboots, the CPE GUI will display the login screen.

Caution: The reboot action will disrupt service.

Figure 57: Reboot



2.12. Logout

When you click on the Logout menu, you are automatically logged out of the CPE and returned to the login screen (Figure 78).



Figure 58: Throughput Statistics



Appendix: Regulatory Compliance

FCC Compliance

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.

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

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.

Warning:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 45cm between the radiator & your body.

ISED Compliance

This device complies with Innovation, Science, and Economic Development Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.
- Le présent appareil est conforme aux CNR d' Innovation, Science et Développement

économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 45cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter, End-Users must be provided with transmitter operation conditions for satisfying RF exposure compliance.

Les antennes utilisées pour cet émetteur doivent être installées de façon à offrir une distance de séparation d'au moins 45cm entre toutes les personnes et ne doivent pas être colocalisées ou fonctionner conjointement avec d'autres antennes ou transmetteurs. pour satisfaire la conformité à l'exposition RF.