

2023

AAWS Modem Upgrade



Richard Mangan

U.T.G. Pty Ltd

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InterceI 4G
A.A.W.S.
Modem Upgrade
Instructions

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1.0 Purpose of this document

This document is to show how to

- Remove existing Netcom modem and power supply
- Install new Intercel modem
- Install antennas and connect
- Configure Modem
- Test Connection
- Diagnostics

The upgrade is to convert the AAWS controller from 3G to 4G and also meet the TCN-011 specification requirements.

2.0 Configuring Modem

Suggestion is to configure modems in workshop before attending site.

The easiest and fastest way to configure modem and ensuring all setting are correct is to edit and modify an existing configuration file and only change the Site ID, then download into Modem.

- Open the supplied “Cli” file with notepad
- Scroll down to username and change the site number after the “AAWS”

```
cli-7249 - Copy - Notepad
File Edit Format View Help
!
! CLI configuration saved from vty
! 2022/12/16 13:18:45
!
hostname router
password super
!
!
interface lo
!
interface inter-eth0
!
interface teq10
!
interface tun10
!
interface gre0
!
interface gretap0
!
interface eth1
!
interface eth0.1
!
interface eth0
work mode wan
ip address 192.168.10.1/24
!
interface br0
ip address 192.168.1.1/24
!
interface ppp100
!
interface modem
!
ip route 0.0.0.0/0 modem
!
!
line vty
login-fail-wait 10
!
interface modem trafficnet
access-point-name telstra.corp
username AAWS7249@s1gns.roads.vic.gov.au password VicR@ads
```

- Once number changed save file
- Note file name must remain [cli.conf] to allow program to download

2.1 Downloading Config file

Now login to modem to download config file

- Open Browser on laptop
- Enter IP address 192.168.1.1
- A login page should appear



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Contact Help Logout

Build time: 170426-122127
Time: Wed Apr 26 15:30:39 2017

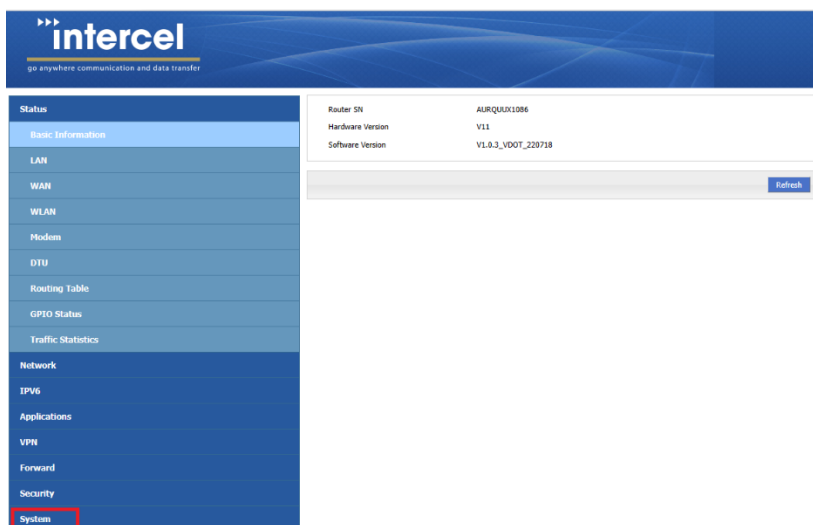
Username

Password

Login

User Name: none Copyright @ 2013 | All Rights Reserved

- Username (admin)
- Password (VicAAWS008\$)
- Click Login
- Scroll down to click on [System]



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Status

Basic Information

LAN

WAN

WLAN

Modem

DTU

Routing Table

GPIO Status

Traffic Statistics

Network

IPv6

Applications

VPN

Forward

Security

System

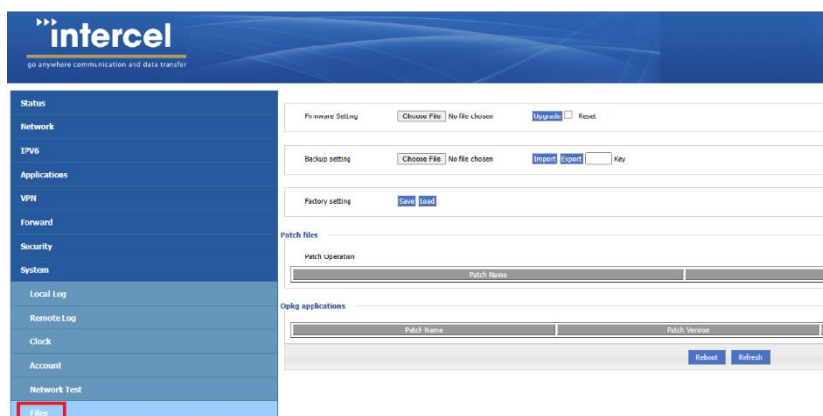
Router SN 4BRQLDX1006

Hardware Version V11

Software Version V1.0-3_V00T_Z20718

Refresh

- Now select [Files]



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Status

Network

IPv6

Applications

VPN

Forward

Security

System

Files

Local Log

Remote Log

Clock

Account

Network Test

Firmware Setting No file chosen

Backup setting No file chosen

Factory setting

Patch files

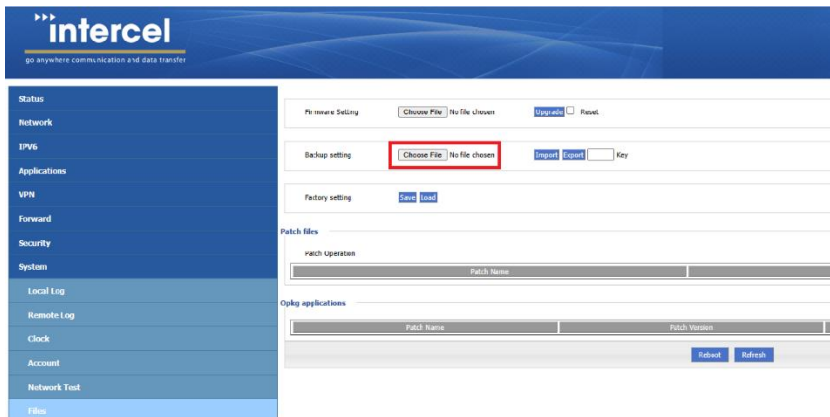
Patch operation

Patch Name	Patch Version
------------	---------------

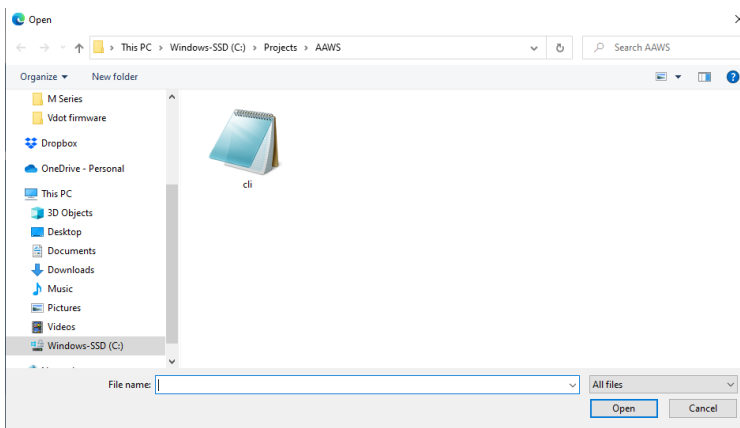
Oplkg applications

Patch Name	Patch Version
------------	---------------

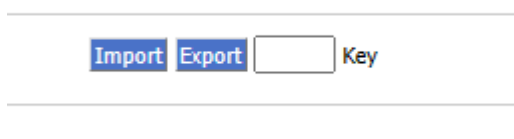
- Click on [Chose file]



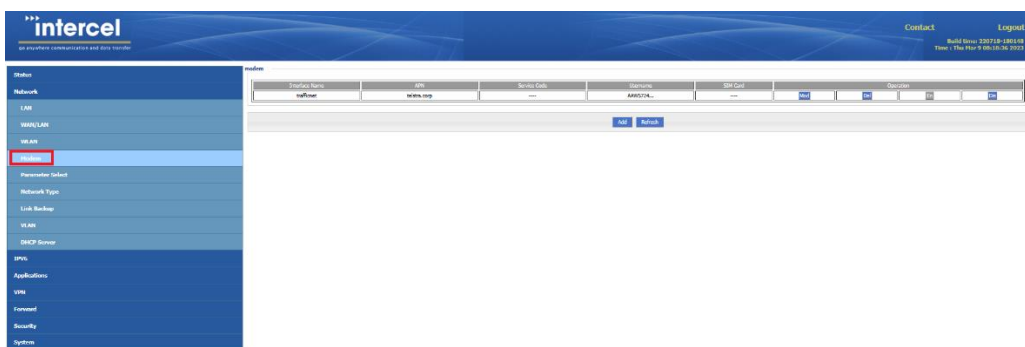
- Select CLI file



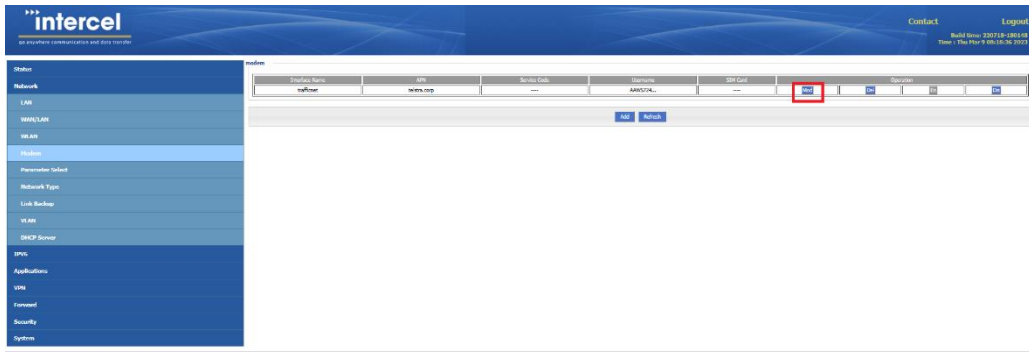
- Now click Import button



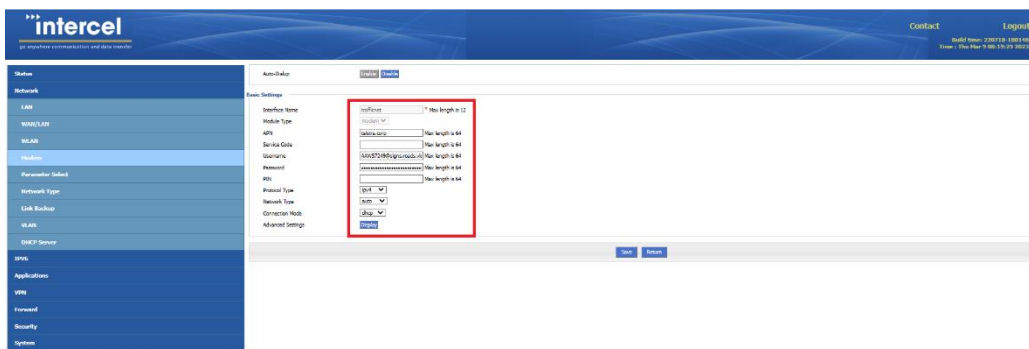
- Wait while file is downloaded and modem will reboot
- Close browser and reopen and re-login to confirm settings
- Once logged back in Select [Network] [Modem]



- Now click on [Mod]



- Information in red box show site settings, confirm site number correct



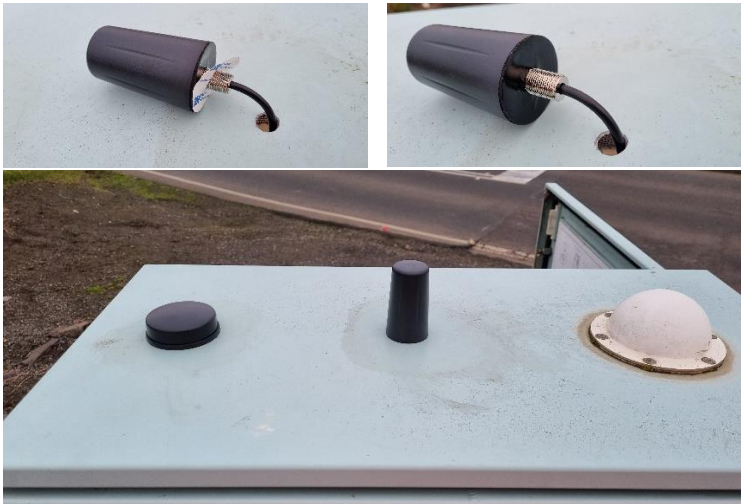
- Browser can now be closed and modem powered down and ready to be installed

3.0 Mounting Antenna's

- Clean top of controller cabinet antenna locations and drill 2 holes as per below image



- Remove Nuts and washers from antenna's then insert cables into holes
- Before installing the stubby antenna remove protective cover from self-adhesive tape on base of antenna



- Insert both antennas into holes and install nuts and washers from inside cabinet
- Cable tie cable together and run-down right side of cabinet internally

4.0 Removing Existing hardware

- Turn off circuit breaker in controller rack that is designated to the modem
- Remove power cables and Meanwell power supply
- Unclip the Netcom modem and disconnect all cables
 - Existing antenna cable not required anymore
- Leave DIN rail to mount new modem onto



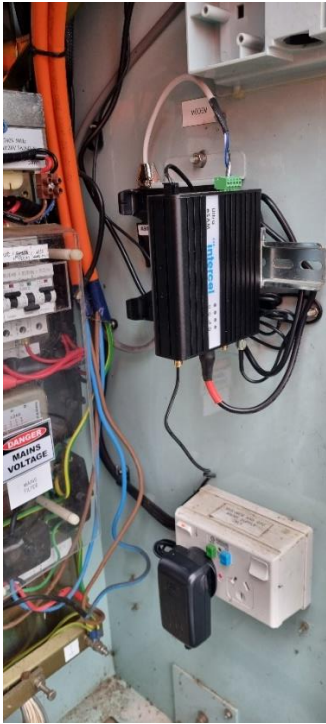
5.0 Connecting Antenna's

- Connect the 2 new antenna cables as per image below with the Stubby antenna connected to the 3G/4G 1 SMA connector and the low-profile Puck to the 3G/4G 2 SMA connector.



6.0 Mounting Modem

- Using the supplied DIN rail mounting kit install the bracket to side of the modem with supplied screw, See below
- Now you can clip onto DIN rail where power supply was originally mounted



7.0 Connecting data cable

- Using supplied data cable connect the D9 connector to the existing D9 connector in cabinet
- Connect the other end of the data cable with green plug into new modem



8.0 Connecting Power supply

- Insert micro connect plug into modem socket and insert plug pack into GPO

9.0 Testing Connection

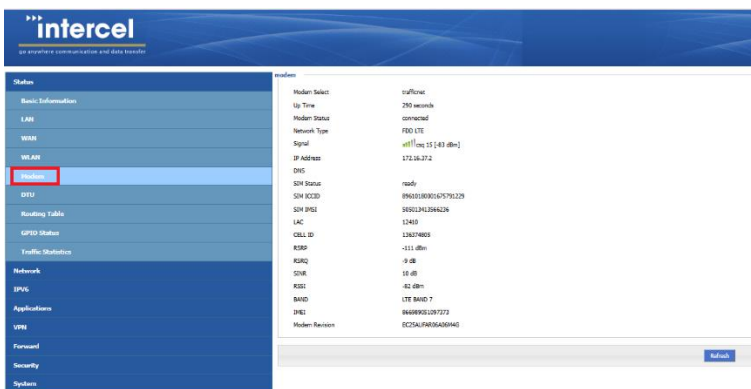
- After powering up modem wait 1 minute while modem connects to network
The bottom 3 LEDs should be hard on.
- Insert network cable into LAN port on modem and connect to Laptop



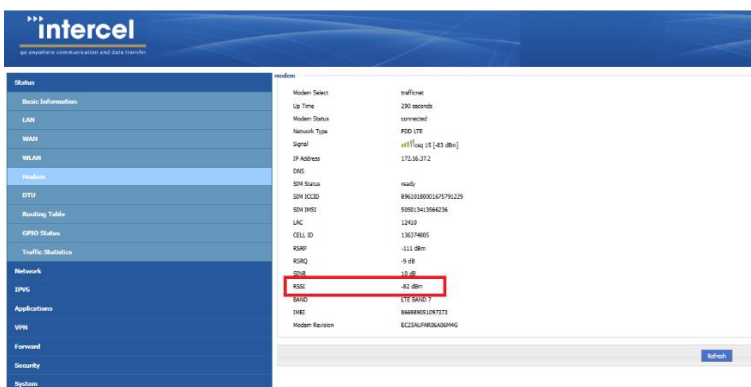
- Open Browser on laptop
- Enter IP address 192.168.1.1
- A login page should appear



- Username (admin)
- Password (VicAAWS008\$)
- Click Login
- Select [Status] [Modem]



- Items to Check
 - Modem Status – connected
 - IP Address - if no IP address, then Credentials incorrect
 - SIM Status - Sim Card ready
 - Network type - FDD LTE indicates connected to 4G network
 - RSSI - in below image (this indicates antenna signal strength)
 - Should be below -100 dBm



10. Fault diagnostics

10.1 All LED's Blank

Issue

None of the LED's on the router are flashing or illuminated.

Possible reason

- Power supply is not suitable, it should be 5 ~ 36 VDC
- Power supply off or faulty

Solution

- Check voltage
- Check the power adaptor and cable connection
- Checked switched on at GPO

10.2 SIM Slot

Issue

Cannot insert SIM card

Possible reason

- SIM slot or carriage damaged

- SIM card inserted in wrong direction

Solution

- Please contact UTG Pty Ltd or intercel for support
- Check SIM card direction, please make sure gold side facing up.

10.3 Ethernet Connection

Issue

LAN LED is not illuminating and cannot visit router WEB GUI

Possible reason

- Ethernet cable damaged or wrong
- PC network card faulty

Solution

- Re-connect ethernet cable
- Change ethernet cable
- Check network card settings on PC

10.4 No Signal

Issue

eSAM 3G/4G Router status shows no signal

Possible reason

- Antenna connected wrong
- Modem incorrectly configured
- Modem Damaged

Solution

- Connect suitable antenna
- Check SIM and modem settings
- Check ICMP and other router settings
- Reload config file

10.5 Cannot find SIM card

Issue

eSAM 3G/4G Router cannot find SIM card

Possible reason

- SIM Card damaged
- SIM card has poor contact

Solution

- Replace SIM card
- Re-install SIM card

10.6 Poor Signal

Issue

eSAM 3G/4G Router has no signal or poor signal

Possible reason

- Antenna connected to the wrong connector
- Signals are weak in the area

Solution

- Check antenna, cable and reconnect, make sure SMA nut firm
- Try different antenna configuration (high gain)
- Replace antenna if possible faulty
- Antenna location (relocate if possible)

11. Document Version table

Version	Notes	By	Date
1.0	First version of document	R.J.M.	28/4/23