GPS Receiver Set up and Procedure on OpenBoard-AM335x

Figure:1

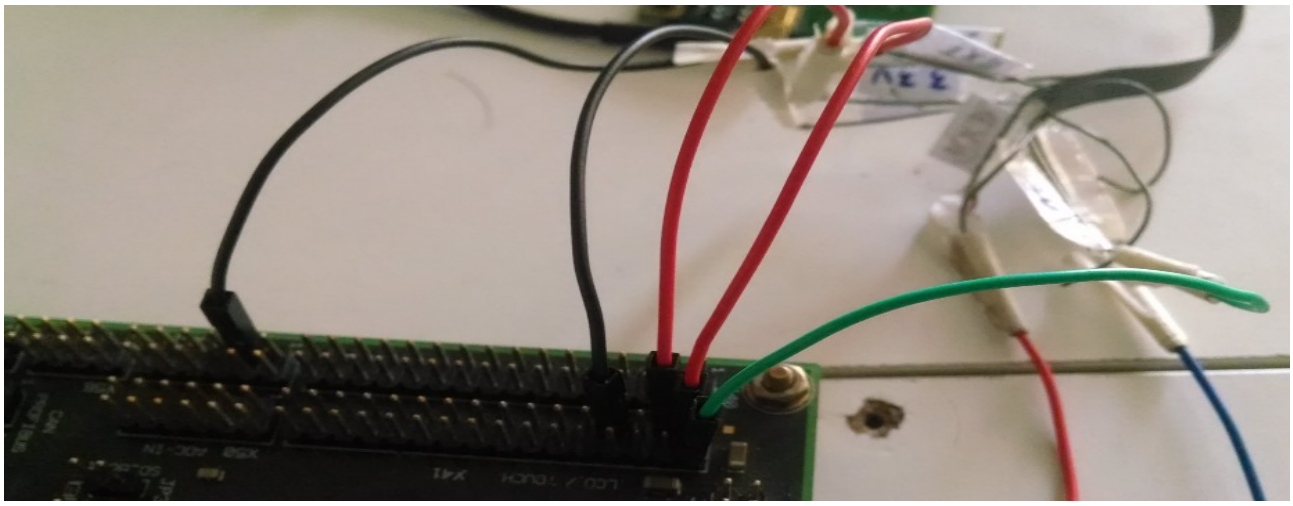

Figure:2

The above pictures (Figure 1 and 2) shows the connections of GPS Receiver to the OpenBoard-AM335x.

We have made connections from GPS receiver to OpenBoard-AM33x as following:

→ 5V of GPS receiver to pin no.2 on X41 connector on OpenBoard.
→ 3.3 v of GPS receiver to pin no.1 of X 41 connector on OpenBoard.
→ 3.3 v of GPS receiver to pin no.3 of X 41 connector on OpenBoard.
→ GND of GPS receiver to pin no.7 of X 41 connector on OpenBoard.
→ PPS of GPS receiver to pin no.13 of X 27 connector on OpenBoard.
→ Tx of GPS receiver to pin no.3 of X 51 connector on OpenBoard.

Note: We have enabled GPIO3_19 pin as PPS on pin no.13 of X 27 connector.

Boot the OpenBoard-AM33x with kernel Image and root file system which we shared in this mail.

Then give the following commands in order to check the required peripherals are enabled:

$ dmesg | grep Machine
$ dmesg | grep pps
$ dmesg | grep rtc
$ uname -r
$ dmesg | grep eth

Also refer Figure:3

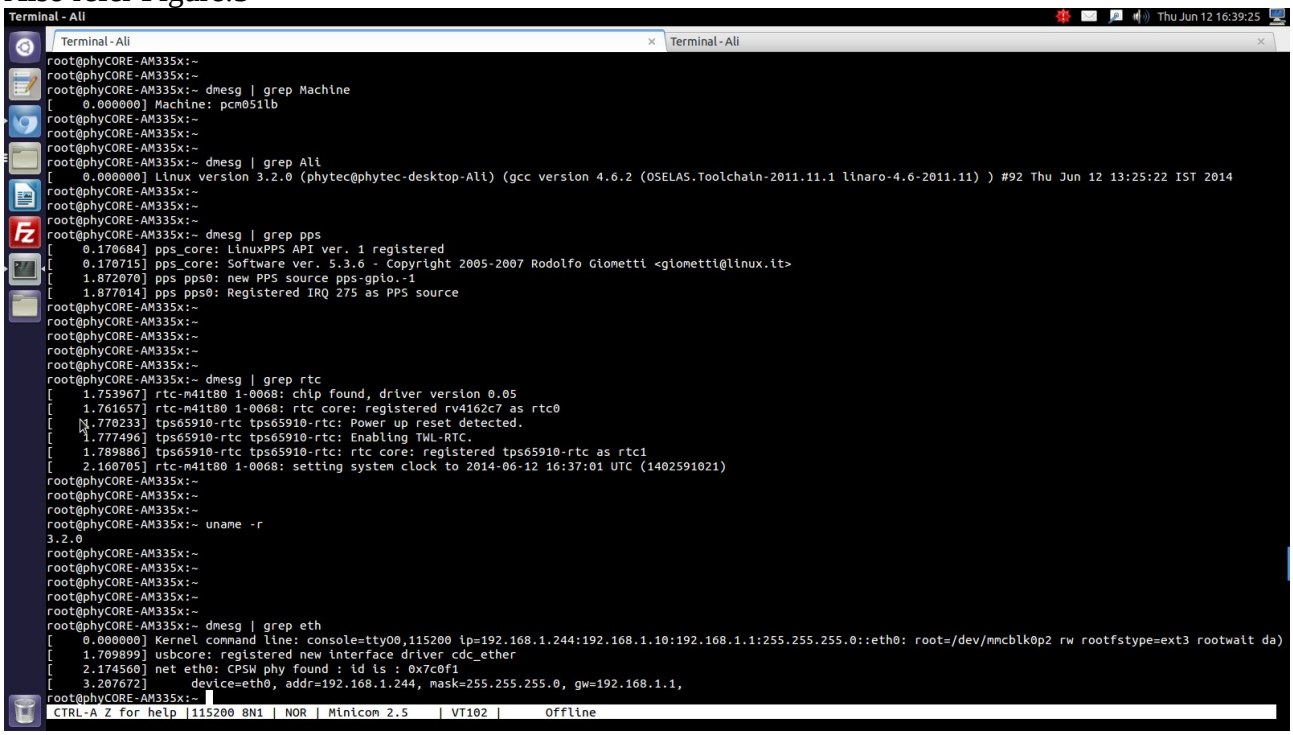

Figure:3

RTC settings:
Now in order to set the date for External RTC, give the below commands:

$ date <Month:Date:Hour:Minute:Year>

$ hwclock -w -f /dev/rtc0
$ hwclock -r -f /dev/rtc0

$ date

Ethernet Settings:
Now for the ethernet connections give the following commands:

$ ifconfig -a
$ ifconfig eth0 <target ip> up
$ ifconfig -a
$ ping <host ip>

$ ping 192.168.1.1
$ ping www.google.com
$ route
$ route add default gw 192.168.1.1
$ route
$ echo "nameserver 192.168.1.1" > /etc/resolv.conf
$ ping www.google.com

NTP settings:

In order to check the NTP values please give the below commands:

$ ntpdate pool.ntp.org
$ ntpd
$ ntpq -p or ntpq -pn
$ ntpdc -c kerninfo

Also please refer the below screen shots which we kept in testing for three days continuously.

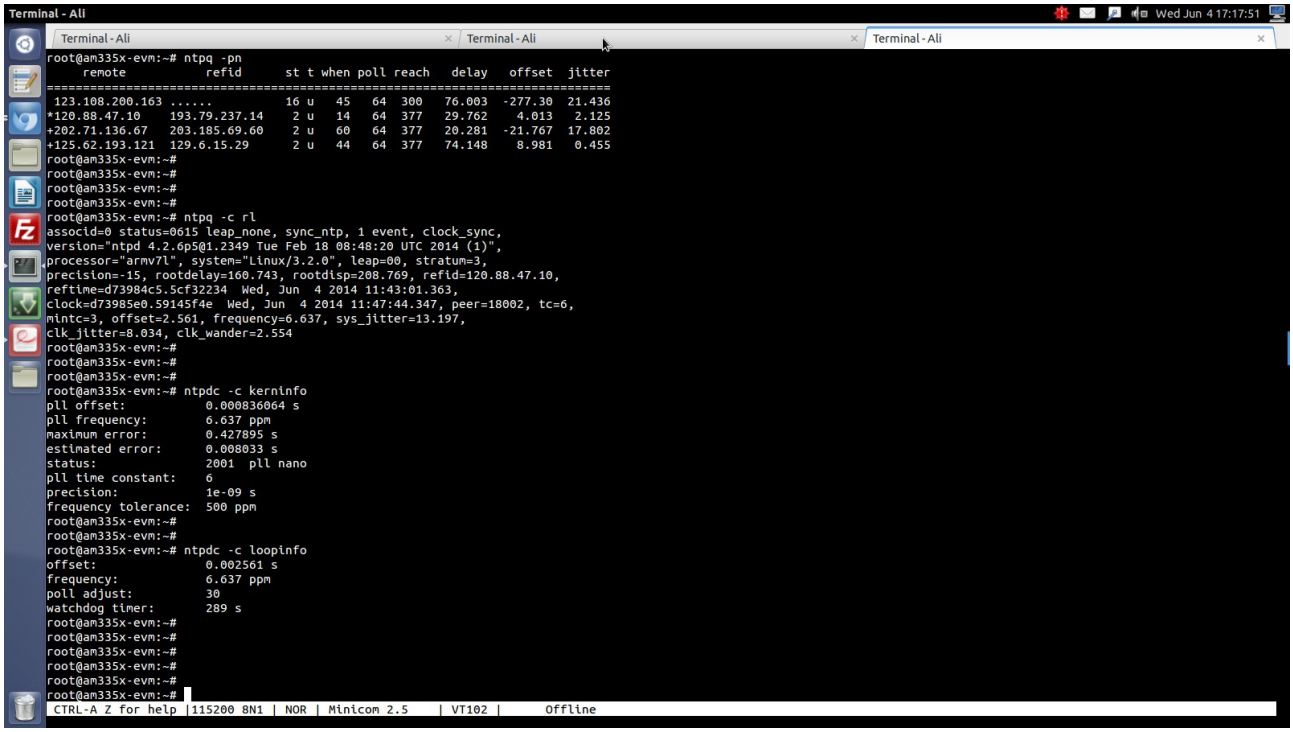

Figure:4

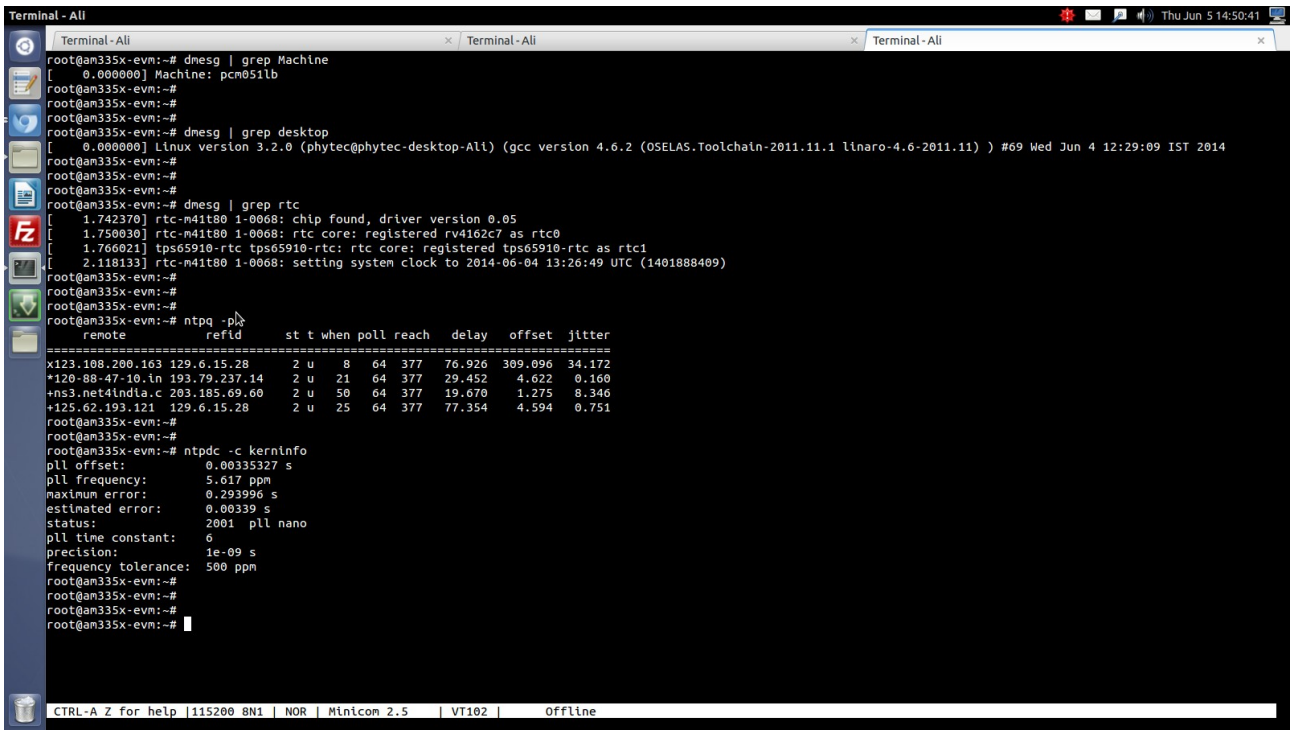

Figure:5

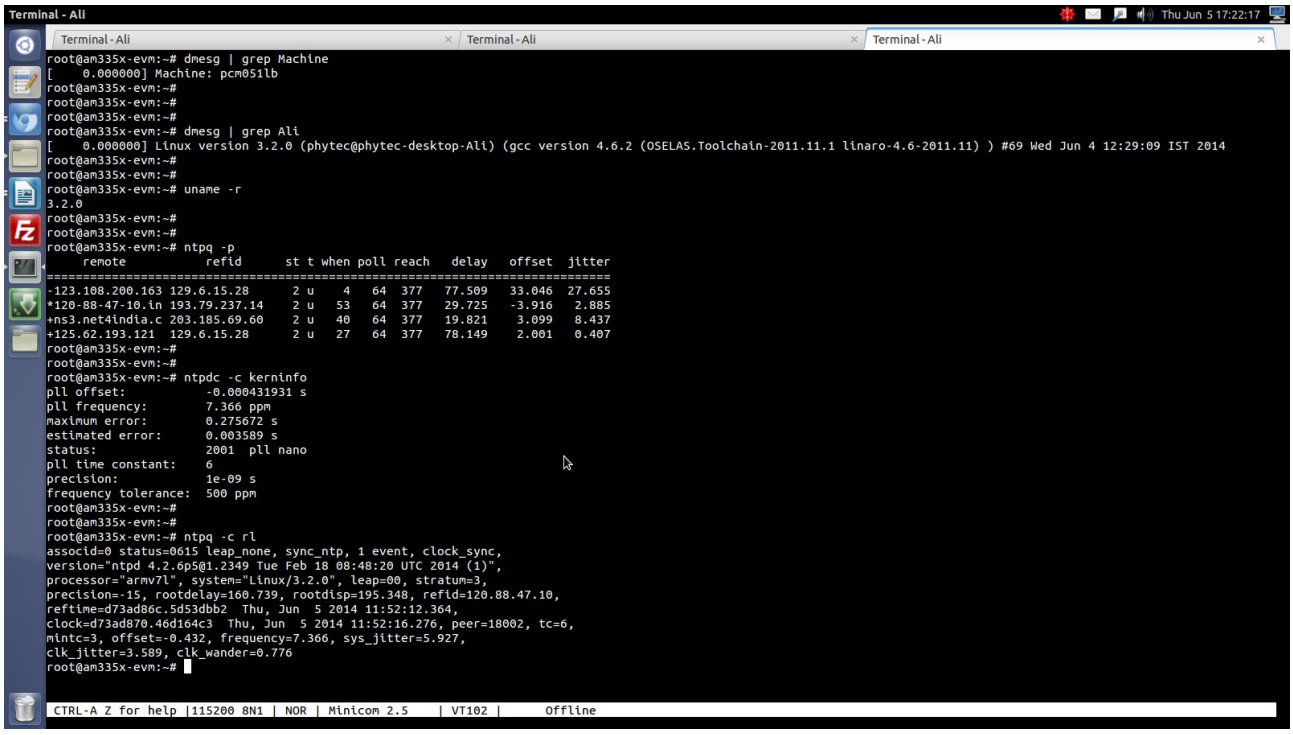

Figure:6