Connect to the Internet via PPP with LTE EC25 Using HAT on Raspberry Pi

Disable Linux serial console

By default, the primary UART is assigned to the Linux console. If you wish to use the primary UART for other purposes, you must reconfigure Raspberry Pi OS. This can be done by using raspi-config:

- Start raspi-config: sudo raspi-config.
- Select option 5 - interfacing options.
- Select option P6 - serial.
- At the prompt Would you like a login shell to be accessible over serial? answer 'No'
- At the prompt Would you like the serial port hardware to be enabled? answer 'Yes'
- Exit raspi-config and reboot the Pi for changes to take effect.

Minicom for UART debugging on Raspberry Pi:

- Inserting the Hat to Raspberry Pi and plug the jumpers SJ1 and SJ2
- Install minicom, minicom is a text-based modem control and terminal emulation program for Linux : sudo apt-get install minicom
- Execute command: minicom -D/dev/serial0 （serial0 is the UART of Raspberry Pi 4）Baud rate is 115200 by default.

Install the ppp package:

```
#apt-get update

#apt-get install -y ppp
```

Create /etc/chatscripts/quectel-chat-connect file:

```
ABORT "BUSY"
ABORT "NO CARRIER"
ABORT "NO DIALTONE"
ABORT "ERROR"
ABORT "NO ANSWER"
TIMEOUT 120
"" AT
OK ATE0
OK ATI
OK AT+CSQ
OK AT+CPIN?
OK AT+COPS?
OK AT+CGREG?
OK ATZ
# Connection to the network
# Set LTE_APN variable before executing chat -E ...
# Check with service provider for required details
OK AT+CGDCONT=1,"IP","$LTE_APN",,0,0
# Dial the number
OK ATDT*99#
CONNECT
```

Create /etc/chatscripts/quectel-chat-disconnect file:

```
ABORT "ERROR"
ABORT "NO DIALTONE"
SAY "\NSending break to the modem\n"
"" +++ATH
SAY "\nGood bye\n"
```

Create /etc/ppp/peers/quectel-ppp

```
#/etc/ppp/peers/quectel-ppp
# Usage:root>pppd call quectel-ppp
# Hide password in debug messages
hide-password
# The phone is not required to authenticate
noauth
# The chat script
connect '/usr/sbin/chat -E -s -v -f /etc/ppp/peers/quectel-chat-connect'
# The close script
disconnect '/usr/sbin/chat -E -s -v -f /etc/ppp/peers/quectel-chat-disconnect'
# Debug info from pppd
debug
# Serial Device to which the HSPDA phone is connected
# Modem path, like /dev/ttyUSB3,/dev/ttyACM0, it depends on your module.
# Exmaple given is with the modem mounted at /dev/ttyUSB3
```

```
/dev/serial0
# Serial port line speed
115200
# If you want to use the HSDPA link as your gateway
defaultroute
replacedefaultroute
# pppd must not propose any IP address to the peer
noipdefault
# No ppp compression
novj
novjccomp
noccp
ipcp-accept-local
ipcp-accept-remote
local
# For sanity, keep a lock on the serial line
lock
dump
# Keep pppd attached to the terminal
# Comment this to get daemon mode pppd
nodetach
# Network access credenatials.
# Set LTE_USERNAME and LTE_PASSWORD before executing pppd -C call
# Check with service provider for required details
user $LTE_USERNAME
password $LTE_PASSWORD
# Hardware flow control
crtscts
remotename 3gppp
ipparam 3gppp
# Ask the peer for up to 2 DNS server addresses
usepeerdns
```

Define LTE variables:

```
#export LTE_APN=m2mNB16.com.attz

#export LTE_USERNAME=

#export LTE_PASSWORD=
```

Run pppd:

```
#pppd call quectel-ppp
```

Check IP/DNS/Route:

```
# ifconfig ppp0

# route -n

#ping www.google.com
```

Terminate PPPD process to disconnect a PPP call:

```
# killall pppd
```