

Regression Test Report:

Test with Quectel EM05-CE USB Modem

Focal (20.04 OEM)

Tested Platform: Lenovo T14s (Tiger-2)

Tested Platform: Lenovo X13 AMD (Serval-AMD-1)

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Focal (20.04 OEM)

Tested Platform: Lenovo T14s (Tiger-2)

- Environment

- Modem : 2c7c:0127 Quectel Wireless Solutions Co., Ltd. Quectel EM05-CE
- Kernel is 5.10.0-1026-oem
- ModemManager suite is updated from Focal
- Modemmanager (1.16.6-2~20.04.1) is updated from PPA

```
u@Tiger-2:~$ sudo apt-cache policy modemmanager
modemmanager:
  Installed: 1.16.6-2~20.04.1
  Candidate: 1.16.6-2~20.04.1
  Version table:
*** 1.16.6-2~20.04.1 500
     500 http://ppa.launchpad.net/jerry-lee-tpe/packages/ubuntu
focal/main amd64 Packages
     100 /var/lib/dpkg/status
     1.16.6-2~20.04 500
     500 http://archive.ubuntu.com/ubuntu focal-updates/main
amd64 Packages
     1.12.8-1 500
     500 http://archive.ubuntu.com/ubuntu focal/main amd64
Packages
u@Tiger-2:~$ sudo apt-get install modemmanager
Reading package lists... Done
Building dependency tree
Reading state information... Done
modemmanager is already the newest version (1.16.6-2~20.04.1).
The following packages were automatically installed and are no longer
required:
```

```
apt-clone archdetect-deb dmraid gir1.2-timezonemap-1.0
gir1.2-xkl-1.0 kpartx
kpartx-boot libdebian-installer4 libdmraid1.0.0.rc16
libtimezonemap-data
libtimezonemap1 python3-icu python3-pam rdate
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 368 not upgraded.
```

- Test and Log

```
u@Tiger-2:~$ uname -ar
Linux Tiger-2 5.10.0-1026-oem #27-Ubuntu SMP Thu May 6 07:19:13 UTC 2021
x86_64 x86_64 x86_64 GNU/Linux

u@Tiger-2:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description: Ubuntu 20.04.2 LTS
Release: 20.04
Codename: focal

u@Tiger-2:~$ mmcli -V
mmcli 1.16.6
Copyright (2011 - 2021) Aleksander Morgado
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This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

u@Tiger-2:~$ qmcli -V
qmcli 1.28.6
Copyright (C) 2012-2021 Aleksander Morgado
License GPLv2+: GNU GPL version 2 or later <http://gnu.org/licenses/gpl-2.0.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

u@Tiger-2:~$ sudo systemctl status ModemManager.service
● ModemManager.service - Modem Manager
   Loaded: loaded (/lib/systemd/system/ModemManager.service; enabled; vendor
  preset: enabled)
   Active: active (running) since Tue 2021-11-30 03:03:42 EST; 8min ago
     Main PID: 11328 (ModemManager)
        Tasks: 5 (limit: 18766)
       Memory: 3.6M
      CGroup: /system.slice/ModemManager.service
```

```
└─11328 /usr/sbin/ModemManager
└─12195 /usr/libexec/mbim-proxy
```

```
Nov 30 03:11:16 Tiger-2 ModemManager[11328]: <warn> [modem0] could not get
service status: No AT port available to run command
Nov 30 03:11:46 Tiger-2 ModemManager[11328]: <warn> [modem0] could not get
service status: No AT port available to run command
Nov 30 03:11:51 Tiger-2 ModemManager[11328]: <info> [modem0] simple connect
started...
Nov 30 03:11:51 Tiger-2 ModemManager[11328]: <info> [modem0] simple connect
state (4/8): wait to get fully enabled
Nov 30 03:11:51 Tiger-2 ModemManager[11328]: <info> [modem0] simple connect
state (5/8): register
Nov 30 03:11:51 Tiger-2 ModemManager[11328]: <info> [modem0] simple connect
state (6/8): bearer
Nov 30 03:11:51 Tiger-2 ModemManager[11328]: <info> [modem0] simple connect
state (7/8): connect
Nov 30 03:11:51 Tiger-2 ModemManager[11328]: <info> [modem0] state changed
(registered -> connecting)
Nov 30 03:11:51 Tiger-2 ModemManager[11328]: <info> [modem0] state changed
(connecting -> connected)
Nov 30 03:11:51 Tiger-2 ModemManager[11328]: <info> [modem0] simple connect
state (8/8): all done
```

```
u@Tiger-2:~$ mmcli --modem 0
```

```
-----
General |           path: /org/freedesktop/ModemManager1/Modem/0
         |           device id: b9203730239b94decfe806132459f4e905ddf905
-----
```

```
Hardware |           manufacturer: Quectel
         |           model: Quectel EM05-CE
         |           firmware revision: EM05CEFCR08A04M1G_LNV
         |           carrier config: OpenMkt-Commercial-CU
         | carrier config revision: 05011505
         |           h/w revision: QUECTEL Mobile Broadband Modul
         |           supported: gsm-umts, lte
         |           cdma-evdo, lte
         |           lte
         |           cdma-evdo, gsm-umts, lte
         |           current: cdma-evdo, gsm-umts, lte
         |           equipment id: 867144031217373
-----
```

```
System |           device: /sys/devices/pci0000:00/0000:00:14.0/usb3/3-2
         |           drivers: cdc_mbim
         |           plugin: quectel
         |           primary port: cdc-wdm0
         |           ports: cdc-wdm0 (mbim), wwan0 (net)
-----
```

```
Numbers |           own: +8618600618044
-----
```

```
Status | unlock retries: sim-pin2 (3)
      | state: connected
      | power state: on
      | access tech: lte
      | signal quality: 51% (cached)
-----
Modes  | supported: allowed: 2g; preferred: none
      | allowed: 3g; preferred: none
      | allowed: 2g, 3g; preferred: 3g
      | allowed: 2g, 3g; preferred: 2g
      | allowed: 2g, 4g; preferred: 4g
      | allowed: 2g, 4g; preferred: 2g
      | allowed: 3g, 4g; preferred: 4g
      | allowed: 3g, 4g; preferred: 3g
      | allowed: 2g, 3g, 4g; preferred: 4g
      | allowed: 2g, 3g, 4g; preferred: 3g
      | allowed: 2g, 3g, 4g; preferred: 2g
      | current: allowed: 2g, 3g, 4g; preferred: 4g
-----
Bands  | supported: utran-1, utran-8, eutran-1, eutran-3, eutran-5,
eutran-8,
      | eutran-38, eutran-39, eutran-40, eutran-41, cdma-bc0
      | current: utran-1, utran-8, eutran-1, eutran-3, eutran-5, eutran-8,
      | eutran-38, eutran-39, eutran-40, eutran-41, cdma-bc0
-----
IP     | supported: ipv4, ipv6, ipv4v6
-----
3GPP  | imei: 867144031217373
      | enabled locks: fixed-dialing
      | operator id: 46001
      | operator name: CHN-UNICOM
      | registration: home
-----
SIM   | primary sim path: /org/freedesktop/ModemManager1/SIM/0
-----
Bearer | paths: /org/freedesktop/ModemManager1/Bearer/0

u@Tiger-2:~$ sudo mmcli --modem 0 --enable
successfully enabled the modem

u@Tiger-2:~$ mmcli --modem 0
-----
General | path: /org/freedesktop/ModemManager1/Modem/0
      | device id: b9203730239b94decfe806132459f4e905ddf905
-----
Hardware | manufacturer: Quectel
      | model: Quectel EM05-CE
      | firmware revision: EM05CEFCR08A04M1G_LNV
```

carrier config: OpenMkt-Commercial-CU
carrier config revision: 05011505
h/w revision: QUECTEL Mobile Broadband Modul
supported: gsm-umts, lte
cdma-evdo, lte
lte
cdma-evdo, gsm-umts, lte
current: cdma-evdo, gsm-umts, lte
equipment id: 867144031217373

System | device: /sys/devices/pci0000:00/0000:00:14.0/usb3/3-2
| drivers: cdc_mbim
| plugin: quectel
| primary port: cdc-wdm0
| ports: cdc-wdm0 (mbim), wwan0 (net)

Numbers | own: +8618600618044

Status | unlock retries: sim-pin2 (3)
| state: connected
| power state: on
| access tech: lte
| signal quality: 51% (cached)

Modes | supported: allowed: 2g; preferred: none
| allowed: 3g; preferred: none
| allowed: 2g, 3g; preferred: 3g
| allowed: 2g, 3g; preferred: 2g
| allowed: 2g, 4g; preferred: 4g
| allowed: 2g, 4g; preferred: 2g
| allowed: 3g, 4g; preferred: 4g
| allowed: 3g, 4g; preferred: 3g
| allowed: 2g, 3g, 4g; preferred: 4g
| allowed: 2g, 3g, 4g; preferred: 3g
| allowed: 2g, 3g, 4g; preferred: 2g
| current: allowed: 2g, 3g, 4g; preferred: 4g

Bands | supported: utran-1, utran-8, eutran-1, eutran-3, eutran-5,
eutran-8,
| eutran-38, eutran-39, eutran-40, eutran-41, cdma-bc0
| current: utran-1, utran-8, eutran-1, eutran-3, eutran-5, eutran-8,
| eutran-38, eutran-39, eutran-40, eutran-41, cdma-bc0

IP | supported: ipv4, ipv6, ipv4v6

3GPP | imei: 867144031217373
| enabled locks: fixed-dialing
| operator id: 46001
| operator name: CHN-UNICOM
| registration: home

```
-----  
SIM | primary sim path: /org/freedesktop/ModemManager1/SIM/0  
-----  
Bearer | paths: /org/freedesktop/ModemManager1/Bearer/0
```

- Result: **Pass**
 - The Modemmanager.service was active(**running**), the packages are working.
 - The modem was detected and listed.
 - The modem can be enabled successfully.
 - The modem can connect to the network

Tested Platform: Lenovo X13 AMD (Serval-AMD-1)

- Environment
 - Modem : 2c7c:0127 Quectel Wireless Solutions Co., Ltd. Quectel EM05-CE
 - Kernel is 5.10.0-1030-oem
 - ModemManager suite is updated from Focal
 - Modemmanager (1.16.6-2~20.04.1) is updated from PPA

```
■  
u@u-ThinkPad-X13-Gen-2a:~$ sudo apt-cache policy modemmanager  
[sudo] password for u:  
modemmanager:  
  Installed: 1.16.6-2~20.04.1  
  Candidate: 1.16.6-2~20.04.1  
Version table:  
*** 1.16.6-2~20.04.1 500  
    500 http://ppa.launchpad.net/jerry-lee-tpc/packages/ubuntu  
focal/main amd64 Packages  
    100 /var/lib/dpkg/status  
    1.16.6-2~20.04.1 500  
    500 http://us.archive.ubuntu.com/ubuntu focal-updates/main  
amd64 Packages  
    1.12.8-1 500  
    500 http://us.archive.ubuntu.com/ubuntu focal/main amd64  
Packages  
  
u@u-ThinkPad-X13-Gen-2a:~$ sudo apt-get install modemmanager  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done
```

```
modemmanager is already the newest version (1.16.6-2~20.04.1).
The following packages were automatically installed and are no longer
required:
  apt-clone archdetect-deb bridge-utils dmraid gir1.2-timezonemap-1.0
  gir1.2-xkl-1.0 kpartx kpartx-boot libboost-log1.71.0
  libboost-program-options1.71.0 libboost-regex1.71.0
  libdebian-installer4
  libdmraid1.0.0.rc16 liblxc-common liblxc1 libpam-cgfs
  libprotobuf-lite17
  libSDL2-2.0-0 libSDL2-image-2.0-0 libtimezonemap-data
  libtimezonemap1 lxc
  lxc-utils lxcfs python3-icu python3-pam rdate uidmap
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 215 not upgraded.
```

- Test and Log

```
u@u-ThinkPad-X13-Gen-2a:~$ uname -ar
Linux u-ThinkPad-X13-Gen-2a 5.10.0-1051-oem #53-Ubuntu SMP Thu Oct 28
08:11:53 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux

u@u-ThinkPad-X13-Gen-2a:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description: Ubuntu 20.04.2 LTS
Release: 20.04
Codename: focal

u@u-ThinkPad-X13-Gen-2a:~$ mmcli -V
mmcli 1.16.6
Copyright (2011 - 2021) Aleksander Morgado
License GPLv2+: GNU GPL version 2 or later <http://gnu.org/licenses/gpl-2.0.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

u@u-ThinkPad-X13-Gen-2a:~$ qmicli -V
qmicli 1.28.6
Copyright (C) 2012-2021 Aleksander Morgado
License GPLv2+: GNU GPL version 2 or later <http://gnu.org/licenses/gpl-2.0.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

u@u-ThinkPad-X13-Gen-2a:~$ sudo systemctl status ModemManager.service
```

- ModemManager.service - Modem Manager
 - Loaded: loaded (/lib/systemd/system/ModemManager.service; enabled; vendor preset: enabled)
 - Active: active (running) since Tue 2021-11-30 03:31:42 EST; 5min ago
 - Main PID: 13258 (ModemManager)
 - Tasks: 5 (limit: 17665)
 - Memory: 3.5M
 - CGroup: /system.slice/ModemManager.service
 - └─13258 /usr/sbin/ModemManager
 - └─13736 /usr/libexec/mbim-proxy

```

Nov 30 03:36:17 u-ThinkPad-X13-Gen-2a ModemManager[13258]: <warn> [modem0]
could not get service status: No AT port available to>
Nov 30 03:36:47 u-ThinkPad-X13-Gen-2a ModemManager[13258]: <warn> [modem0]
could not get service status: No AT port available to>
Nov 30 03:36:55 u-ThinkPad-X13-Gen-2a ModemManager[13258]: <info> [modem0]
simple connect started...
Nov 30 03:36:55 u-ThinkPad-X13-Gen-2a ModemManager[13258]: <info> [modem0]
simple connect state (4/8): wait to get fully enabled
Nov 30 03:36:55 u-ThinkPad-X13-Gen-2a ModemManager[13258]: <info> [modem0]
simple connect state (5/8): register
Nov 30 03:36:55 u-ThinkPad-X13-Gen-2a ModemManager[13258]: <info> [modem0]
simple connect state (6/8): bearer
Nov 30 03:36:55 u-ThinkPad-X13-Gen-2a ModemManager[13258]: <info> [modem0]
simple connect state (7/8): connect
Nov 30 03:36:55 u-ThinkPad-X13-Gen-2a ModemManager[13258]: <info> [modem0]
state changed (registered -> connecting)
Nov 30 03:36:55 u-ThinkPad-X13-Gen-2a ModemManager[13258]: <info> [modem0]
state changed (connecting -> connected)
Nov 30 03:36:55 u-ThinkPad-X13-Gen-2a ModemManager[13258]: <info> [modem0]
simple connect state (8/8): all done

```

u@u-ThinkPad-X13-Gen-2a:~\$ **mmcli --modem 0**

```

-----
General |           path: /org/freedesktop/ModemManager1/Modem/0
        |           device id: 9fd3a325d84b5a94c197865480b6f805793e3546
-----

```

```

Hardware |           manufacturer: Quectel
        |           model: Quectel EM05-CE
        |           firmware revision: EM05CEFCR08A04M1G_LNV
        |           carrier config: OpenMkt-Commercial-CU
        | carrier config revision: 05011505
        |           h/w revision: QUECTEL Mobile Broadband Modul
        |           supported: gsm-umts, lte
        |           cdma-evdo, lte
        |           lte
        |           cdma-evdo, gsm-umts, lte

```



```

|
|           current: cdma-evdo, gsm-umts, lte
|           equipment id: 867144031168261
-----
System |           device:
/sys/devices/pci0000:00/0000:00:08.1/0000:05:00.3/usb3/3-4
|           drivers: cdc_mbim
|           plugin: quectel
|           primary port: cdc-wdm0
|           ports: cdc-wdm0 (mbim), wwan0 (net)
-----
Numbers |           own: +8618600618044
-----
Status |           unlock retries: sim-pin2 (3)
|           state: connected
|           power state: on
|           access tech: lte
|           signal quality: 51% (recent)
-----
Modes   |           supported: allowed: 2g; preferred: none
|           allowed: 3g; preferred: none
|           allowed: 2g, 3g; preferred: 3g
|           allowed: 2g, 3g; preferred: 2g
|           allowed: 2g, 4g; preferred: 4g
|           allowed: 2g, 4g; preferred: 2g
|           allowed: 3g, 4g; preferred: 4g
|           allowed: 3g, 4g; preferred: 3g
|           allowed: 2g, 3g, 4g; preferred: 4g
|           allowed: 2g, 3g, 4g; preferred: 3g
|           allowed: 2g, 3g, 4g; preferred: 2g
|           current: allowed: 2g, 3g, 4g; preferred: 4g
-----
Bands   |           supported: utran-1, utran-8, eutran-1, eutran-3, eutran-5,
eutran-8,
|           eutran-38, eutran-39, eutran-40, eutran-41, cdma-bc0
|           current: utran-1, utran-8, eutran-1, eutran-3, eutran-5, eutran-8,
|           eutran-38, eutran-39, eutran-40, eutran-41, cdma-bc0
-----
IP      |           supported: ipv4, ipv6, ipv4v6
-----
3GPP   |           imei: 867144031168261
|           enabled locks: fixed-dialing
|           operator id: 46001
|           operator name: CHN-UNICOM
|           registration: home
-----
SIM    |           primary sim path: /org/freedesktop/ModemManager1/SIM/0
-----
Bearer |           paths: /org/freedesktop/ModemManager1/Bearer/0

u@u-ThinkPad-X13-Gen-2a:~$ sudo mmcli --modem 0 --enable
```

successfully enabled the modem

u@u-ThinkPad-X13-Gen-2a:~\$ **mmcli --modem 0**

General | path: /org/freedesktop/ModemManager1/Modem/0
| device id: 9fd3a325d84b5a94c197865480b6f805793e3546

Hardware | manufacturer: Quectel
| model: Quectel EM05-CE
| firmware revision: EM05CEFCR08A04M1G_LNV
| carrier config: OpenMkt-Commercial-CU
| carrier config revision: 05011505
| h/w revision: QUECTEL Mobile Broadband Modul
| supported: gsm-umts, lte
| cdma-evdo, lte
| lte
| cdma-evdo, gsm-umts, lte
| current: cdma-evdo, gsm-umts, lte
| equipment id: 867144031168261

System | device:
/sys/devices/pci0000:00/0000:00:08.1/0000:05:00.3/usb3/3-4
| drivers: cdc_mbim
| plugin: quectel
| primary port: cdc-wdm0
| ports: cdc-wdm0 (mbim), wwan0 (net)

Numbers | own: +8618600618044

Status | unlock retries: sim-pin2 (3)
| state: connected
| power state: on
| access tech: lte
| signal quality: 64% (recent)

Modes | supported: allowed: 2g; preferred: none
| allowed: 3g; preferred: none
| allowed: 2g, 3g; preferred: 3g
| allowed: 2g, 3g; preferred: 2g
| allowed: 2g, 4g; preferred: 4g
| allowed: 2g, 4g; preferred: 2g
| allowed: 3g, 4g; preferred: 4g
| allowed: 3g, 4g; preferred: 3g
| allowed: 2g, 3g, 4g; preferred: 4g
| allowed: 2g, 3g, 4g; preferred: 3g
| allowed: 2g, 3g, 4g; preferred: 2g
| current: allowed: 2g, 3g, 4g; preferred: 4g

Bands | supported: utran-1, utran-8, eutran-1, eutran-3, eutran-5,
eutran-8,

```
      | eutran-38, eutran-39, eutran-40, eutran-41, cdma-bc0
      | current: utran-1, utran-8, eutran-1, eutran-3, eutran-5, eutran-8,
      | eutran-38, eutran-39, eutran-40, eutran-41, cdma-bc0
-----
IP    | supported: ipv4, ipv6, ipv4v6
-----
3GPP  | imei: 867144031168261
      | enabled locks: fixed-dialing
      | operator id: 46001
      | operator name: CHN-UNICOM
      | registration: home
-----
SIM   | primary sim path: /org/freedesktop/ModemManager1/SIM/0
-----
Bearer | paths: /org/freedesktop/ModemManager1/Bearer/0
```

- Result: **Pass**
 - The Modemmanager.service was active(**running**), the packages are working.
 - The modem was detected and listed.
 - The modem can be enabled successfully.