CLI Commands for Barracuda 3G USB Modems

https://campus.barracuda.com/doc/96026688/

You can manually interact with the Barracuda 3G USB modems on the command line with the *AT* commands. To connect to the modem, use the *ttyUSB0* USB serial port. This serial port is accessible via minicom, a terminal program.

In this article:

Configure Minicom

Before connecting to the Barracuda 3G USB modem, configure minicom.

1. Start the configuration mode of minicom. At the command line, enter:
   `minicom -s`
2. Enter the **Serial port setup** menu and specify the following settings:

```
A - Serial Device : /dev/ttyUSB0
B - Lockfile Location : /var/lock
C - Callin Program :
D - Callout Program :
E - Bps/Par/Bits : 9600 8N1
F - Hardware Flow Control : No
G - Software Flow Control : No
```

3. Save your changes.

Connect to the Barracuda 3G USB Modem

After configuring minicom, you can use it to connect to the Barracuda 3G USB modem. To start minicom, enter:

`minicom`

List of AT Commands

The following list displays all available AT commands that you can use to gather information about the Barracuda 3G USB modem.

Not every command is supported by the modem.

PIN Commands

Command	Response	Description
AT+CPIN?	*+CPIN: <code>*	Check the PIN status. The most common codes include the following: • *READY* — Not waiting for PIN (no PIN, or PIN already entered). • *SIM PIN* — Waiting for SIM PIN code. • *SIM PUK* — Waiting for SIM PUK code.
AT+CPIN=<pin>[,<newpin>]	*OK* | *+CME ERROR: <error>*	Enter or change the PIN.

Example

```
>AT+CPIN?
+CPIN: SIM PIN
 OK
>AT+CPIN=1234?
OK
>AT+CPIN?
+CPIN: READY
OK
```

Network Registration Commands

Command	Response	Description

AT+CREG?, *AT+CREG=? ,* *AT+CREG=<n>*	*+CREG:* *<n>,<stat>,[,<lac>,<ci>[,<AcT>]] |* *+CME ERROR*	Get the network registration status and control unsolicited status callback, which, when turned on, will send a +CREG message with the new network status when something changes. **<*n*>** • *0* — Disable unsolicited status callback. • *1* — Enable unsolicited status callback, +CREG: <stat> • *2* — Enable unsolicited status callback, +CREG: <stat>,[,<lac>,<ci>[,<AcT>]] **<*stat*>** • *0* — Not registered, not searching. • *1* — Registered to home network. • *2* — Not registered, searching for network. • *3* — Registration denied. • *4* • *5* — Registered, roaming. **<*lac*>** Location area code **<*ci*>** UTRAN/GERAN cell ID **<*AcT*>** Network access type • *0* — GSM • *1* — Compact GSM • *2* — UTRAN • *3* — GSM with EGPRS • *4* — UTRAN with HSDPA • *5* — UTRAN with HSUPA • *6* — UTRAN with HSDPA and HSUPA UTRAN is short for UMTS Terrestrial Radio Access Network.

Example

The following example shows the following:

- Full unsolicited status callback is enabled.
- The device is registered to its home network.
- The location area code is 048A.
- The UTRAN cell ID is 58B2.

Unfortunately, this device does not show the access type with this command.

```
>AT+CREG=2
OK
>AT+CREG?
```

```
+CREG: 2,1,048A,58B2
```

Command	Response	Description
AT+COPS?,	+COPS: (<mode>,[<format>,<oper>[,<AcT>]]),, (<modeN>,[<formatN>,<operN>[,<AcTN>]])	-
AT+COPS=?	+COPS: <stat>, long <oper>, short <oper>, numeric <oper>, <AcT>	-
	+CME ERROR:	-
AT+COPS=<mode>,[<format>,<oper>[,<AcT>]]	OK | +CME ERROR	Get and set the current GSM/UMTS network operator. List available operators. For example, this command can be used to change access type and switch network. ***<mode>*** • *0* — Automatic network selection (<*oper*> ignored). • *1* — Manual network selection, <*oper*> must be present, <*AcT*> is optional. • *2* — Deregister from network. • *3* — Set <*format*> only, no registration or deregistration. • *4* — Manual selection with automatic fallback (enters Automatic mode if manual selection fails). ***<format>*** • *0* — Long alphanumeric string • *1* — Short alphanumeric string • *2* — Numeric ID ***<oper>*** String (based on <*format*>) that identifies the operator. ***<stat>*** • *0* — Unknown • *1* — Available • *2* — Current • *3* — Forbidden ***<AcT>*** Network access type • *0* — GSM • *1* — Compact GSM • *2* — UTRAN • *3* — GSM with EGPRS • *4* — UTRAN with HSDPA • *5* — UTRAN with HSUPA • *6* — UTRAN with HSDPA and HSUPA

Example

The following example shows that the device is connected to the operator called 3? using UTRAN (which is UMTS, also called 3G). Listing available networks shows the current network, an additional UTMS network called Sweden3G that is forbidden, and a GSM network called 3? that is available.

```
>AT+COPS?
+COPS:
0,0,3?,2
AT+COPS=?
+COPS:
(2,3?,3?,24004?,2),(1,3?,3?,24008?,0),(3,Sweden 3G,Sweden3G,2)
```

Command	Response	Description
AT+COPN	*+COPN: <numeric1>,<alpha1>, , +COPN: <numericN>,<alphaN>*	Read operator names stored in device memory.

Example

```
+COPN: 20408?,NL KPN
+COPN: 20412?,NL Telfort
+COPN: 20416?,T-Mobile NL
+COPN: 20420?,Orange NL
+COPN: 24002?,3 SE
+COPN: 24004?,SWEDEN
+COPN: 24005?,Sweden 3G
+COPN: 24008?,Telenor SE
+COPN: 24010?,S COMVIQ
```

Define Packet Data Protocol (PDP) Context

Command	Response	Description
AT+CGDCONT=<cid> [,<pdptype> [,<apn>[,<pdpaddr> [,<dcomp>[,<hcomp]]]]]	*OK | ERROR*	-
AT+CGDCONT?	*+CGDCONT: <cid1>,<pdptype1>,<apn1>,<pdpaddr1><dcomp1>,<hcomp1>, , <cidN>,<pdptypeN>, <apnN>,<pdpaddrN><dcompN>*	-

AT+CGDCONT=?	*+CGDCONT: (<cid_range>),<pdptype>,,,(<dcomp_range>),(<hcomp_range>)*	Allows configuration of one or several packet data protocol contexts, which form the base of a data connection. • ***<cid>*** — PDP context ID. Minimum value is 1. Maximum value depends on device and can be found with the *=?* command. • ***<pdptype>*** — String parameter identifying the protocol type: ◦ *IP* — Internet Protocol ◦ *IPV6* — Internet Protocol version 6 ◦ *PPP* — Point-to-Point Protocol • ***<apn>*** — String that identifies the Access Point Name in the packet data network. • ***<pdpaddr>*** — Requested address. If null (0.0.0.0), an address is requested dynamically. • ***<dcomp>*** — PDP data compression control, off by default. • ***<hcomp>*** — PDP header compression control, off by default.

Example

```
> AT+CGDCONT=1,IP,bredband.tre.se
OK

>AT+CGDCONT?
+CGDCONT: 1,IP,bredband.tre.se,0.0.0.0?,0,0

>AT+CGDCONT=?
+CGDCONT: (1-16),IP,,,(0-2),(0-4)
+CGDCONT: (1-16),PPP,,,(0-2),(0-4)
+CGDCONT: (1-16),IPV6?,,,(0-2),(0-4)
```

PDP Authentication

Command	Response	Description
AT$QCPDPP=<cid>,<auth_type>,<auth_name>,<auth_pwd>	*OK* | *ERROR*	A Qualcomm command. Defines authentication parameters for the PDP context id *<cid>*. ***<auth_type>*** • *0* — None • *1* — PAP • *2* — CHAP ***<auth_name>*** and ***<auth_pwd>*** are strings with the authentication information.

Signal Quality

Command	Response	Description

AT+CSQ	*+CSQ: <rssi>,<ber>*	Returns signal quality. **<*rssi*>** Received Signal Strength Indicator • *0*: -113 dBm or less • *1*: -111 dBm • *2* to *30:* -109 to -53 dBm • *31*: 51dBm or greater • *99*: not known or not detectable **<*ber*>** Bit Error Rate, in percent 0..7. 99 not known or not detectable. dBm is a decibel (logarithmic) scale with a reference of 1 milliwatt, thus 0 dBm equals a received signal of 1 mW. Signal strength is usually lower than 1 mW and therefore below 0. The larger (closer to 0), the greater signal strength. You can convert the RSSI to dBM with the following formula: **dBm = (rssi * 2) - 113**

Example

```
>AT+CSQ=?
+CSQ: (0-31,99),(99)
OK

>AT+CSQ
+CSQ: 14,99
```

Manufacturer/Model/Revision Identification

Command	Response
AT+GMI	Manufacturer Identification string
AT+GMM	Model Identification string
AT+GMR	Revision Identification string

Example

```
>AT+GMI
Option N.V.
OK

>AT+GMM
GTM378
OK

>AT+GMR
2.4.6Hd (Date: Oct 04 2007, Time: 11:59:08)
```

Option N.V. Proprietary AT-Style Commands

Command	Response	Description
AT_OWANCALL=<pdp context>,<enabled>[,<callback enabled>]	*OK*	Used to initiate UMTS/HSDPA connections. • ***<pdp context>*** — Existing, valid, PDP context that specifies the intended APN to connect to. • ***<enabled>*** ◦ *1* — Enable connection. ◦ 0 — Disable connection (disconnect). • ***<callback enabled>*** ◦ *1* — Asynchronous callback when connection is established. ◦ *0* — Silent.

Example

```
>AT_OWANCALL=1,1,1
OK
_OWANCALL: 1, 1

>AT_OWANCALL=1,0
OK
_OWANCALL: 1, 0
```

Command	Response	Description
AT_OWANDATA=<pdp context>	*OWANDATA: <pdp context>, <ip address>, <route?>, <nameserver 1>, <nameserver 2>, <unknown>, <unknown>, <speed>*	Retrieve IP configuration from an established connection previously created with AT_OWANCALL.

Example

```
>AT_OWANDATA=1
_OWANDATA: 1, 79.138.181.171, 0.0.0.0, 80.251.192.244, 80.251.192.245,
0.0.0.0,
72000
```