intercel

SAMXT User Guide

Artificial intelligence

Chatbot

Machine Learning

Cloud computing

Cryptocurrency

Robot Assistants

Block chain

Deep learning

Cyber security

Big Data
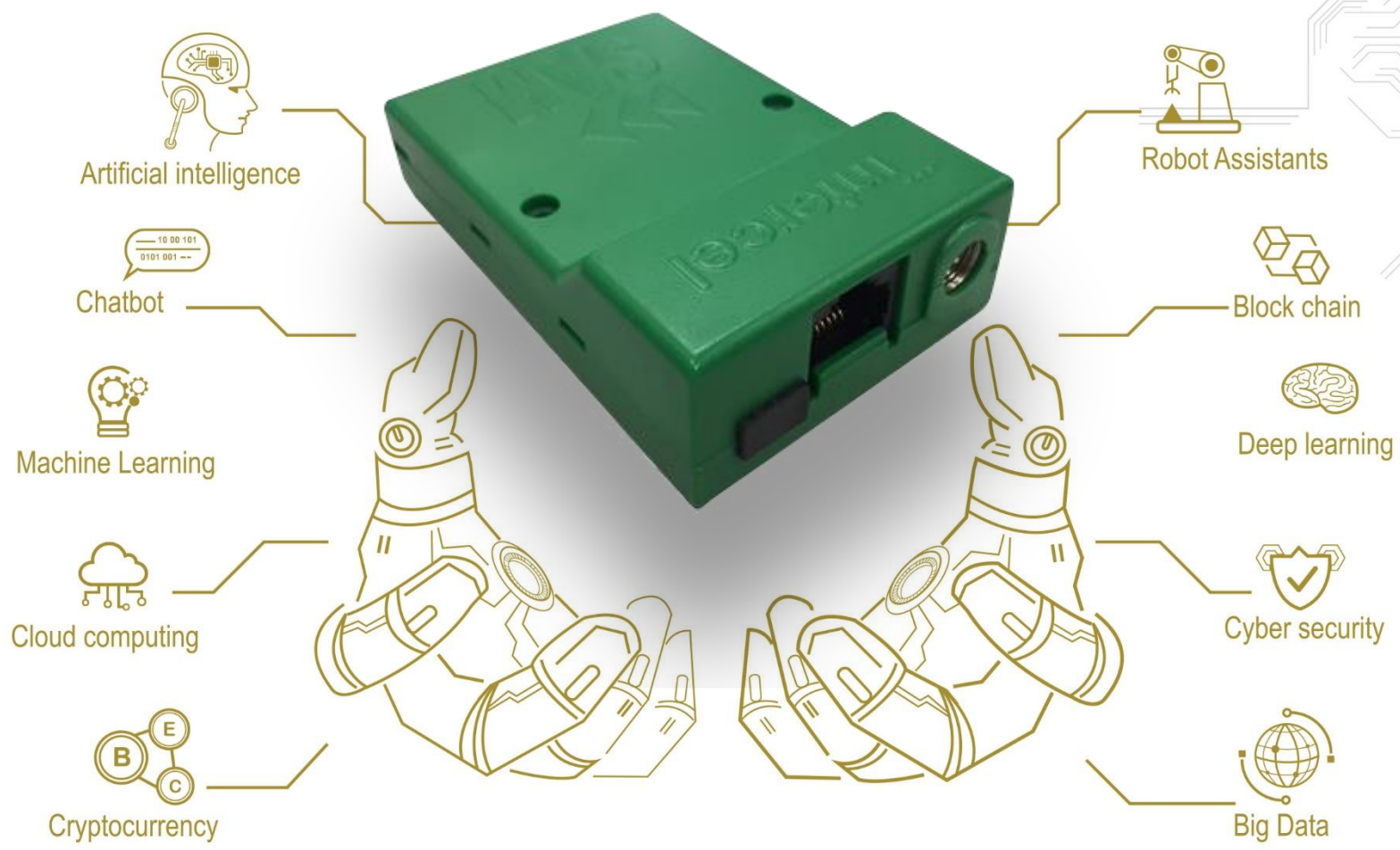
Revision History

| Version	Modified By	Date	Description
1.0		29/10/2018	Initial version
1.1	Van Pham	30/11/2018	Minor adjustments and name update
1.2	Sang Vu	19/02/2019	Modem enclosure photo updated
1.3	Moe Chaudhry	02/09/2019	New format
1.4	Moe Chaudhry	12/09/2019	Production label change
1.5	Van Pham	16/09/2019	Updated AT commands & module reference

Contents

1 Introduction

The SAMXT is a compact, light-weight, LTE based modem. It provides CATM1, 3GPP Release 13 compliant with the uplink speed of (up to) 375Kbps and downlink speed of (up to) 300Kbps in Cat M1 Mode.

The SAMXT is designed for both mobile and fixed M2M applications. It has an RJ45 socket for input voltage and the serial RS232 signals, one FME-male for main antenna connection, a SIM holder and an LED indicator.

The SAMXT is controlled by a set of AT commands.

USB port   Main Antenna   LED   Mini-SIM compartment

RJ45 socket for input power and serial RS232
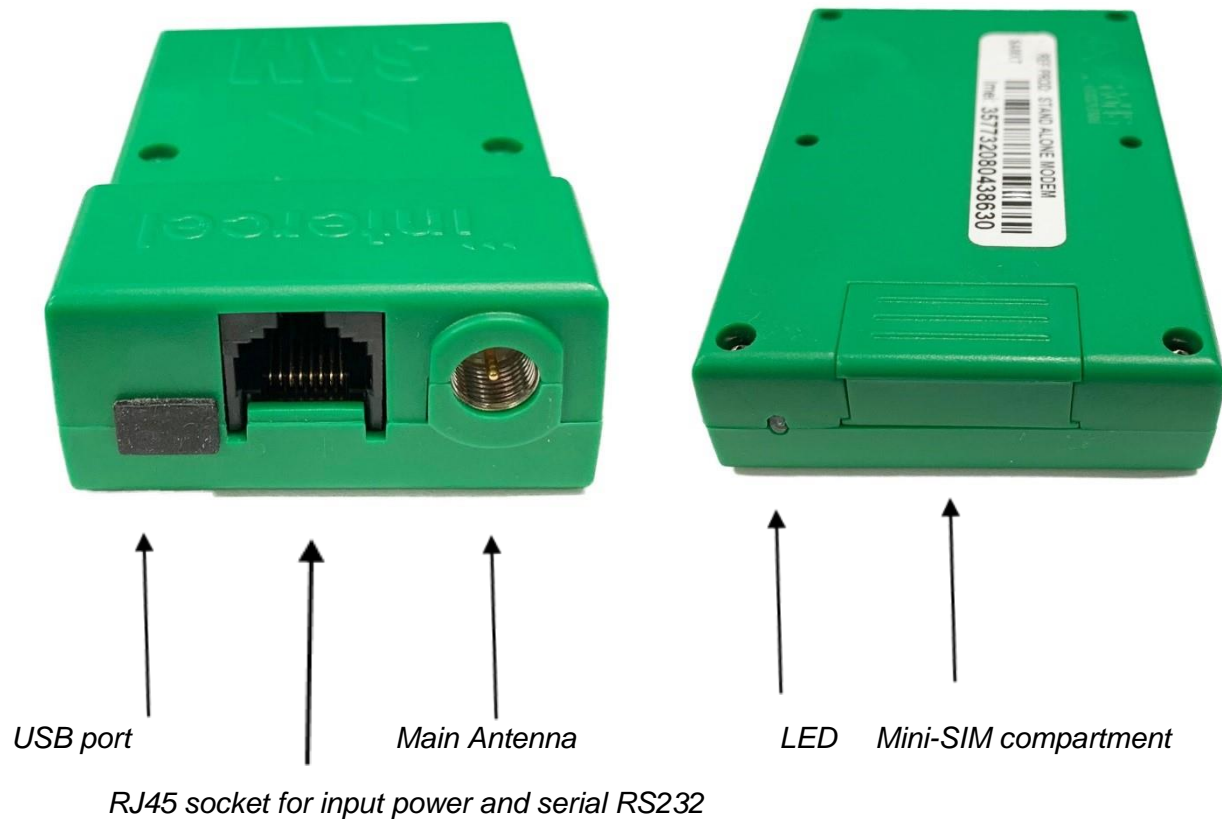
Mobile station engine   ME910C1-AU

EU approval   CE-1909

3GPP   Release 13 (CAT M1)

RCM tick mark

2 Safety Precautions

The following safety precautions must be observed whenever the SAMXT modem is in operation or in service. Failure to comply with these precautions violates the safety standards of the design, manufacture and intended use of the product

- Switch off the SAMXT modem:
- In hospitals or places where medical equipment may be in use
- In an aircraft
- Refueling points
- Explosive areas

- Restricted use of the SAMXT modem:
- Near any chemical plant
- Near any fuel depot
- Areas with mobile phone warning signs

Respect national regulations on the use of cellular devices.

The SAMXT modem receives and transmits radio frequency energy while switched on, therefore interference can occur if the SAMXT is near TVs, radios, PCs or any inadequately shielded equipment.

3 Radio Frequency Exposure - SAR

The SAMXT modem is a low-power transceiver, similar to a typical handheld 3G/LTE mobile phone. When it is turned on, it will emit low-level radio frequency energy.

There are different guidelines and standards around the world that govern the permitted levels of radio frequency exposure for general population. The levels include a safety margin to a human body.

The Specific Absorption rate (SAR) is a measure of the rate at which radio frequency energy is absorbed by the body when exposed to radio frequency electromagnetic field. The SAR value is determined at the highest certified power level in the laboratory conditions, but the actual SAR level of the transceiver while operating can be well below this value. This is because the transceiver is designed to use minimum power to connect to the network.

The SAMXT modem is approved to use in applications where the *antenna is placed more than 21cm from the body.*

For other applications, the integrator is responsible for the local SAR requirements.

4 WEEE Directive 2002/96/EC, Disposal of old Electronic Equipment

This symbol   on the product indicates that this product shall not be treated as household waste. It must be placed at an appropriate collection point for the recycling of electrical and electronic equipment.

By ensuring the correct disposal of this equipment, it will help the environment and human health. Recycling will also help to conserve natural resources.

The SAMXT product is RoHS compliant

5 Packing

5.1 Content

The SAMXT package consists of:

- SAMXT Modem
- Data Cable

The SAMXT User Guide is available at www.intercel.com.au

5.2 Packaging Box

The carton box diameter is 120mm x 95mm x 60mm

The data cable is 2m long

The label diameter is 50mm x 33mm

A suitable power supply is available on request. The SAMXT must be powered using a limited power source of 12V/1A power supply according to the clause 2.5 of AS/NZS 60950.1.

A suitable antenna is also available on request. Please make sure the correct antenna is used to get optimized performance from the SAMXT.

5.3 Production Label

The production part number is located at the back of the SAMXT, which includes:

- Product Model
- Software Version
- Hardware Version
- IMEI Number
- Manufacturer
- Part Number

6 Functionality

6.1 General

The SAMXT modem consists of an RJ45 socket for serial port and input power, a SIM holder and an FME male connector for main antenna. The LED indicator, located next to the SIM holder, indicates the SAMXT operating status.

Main antenna

```
Telit ME910C1-AU
LTE ENGINE

Switching Power Supply

RJ45 Socket

ARM Cortex M3

SIM Interface

Serial Data switches

RS232 Serial Data Interface

LED Indicator
```
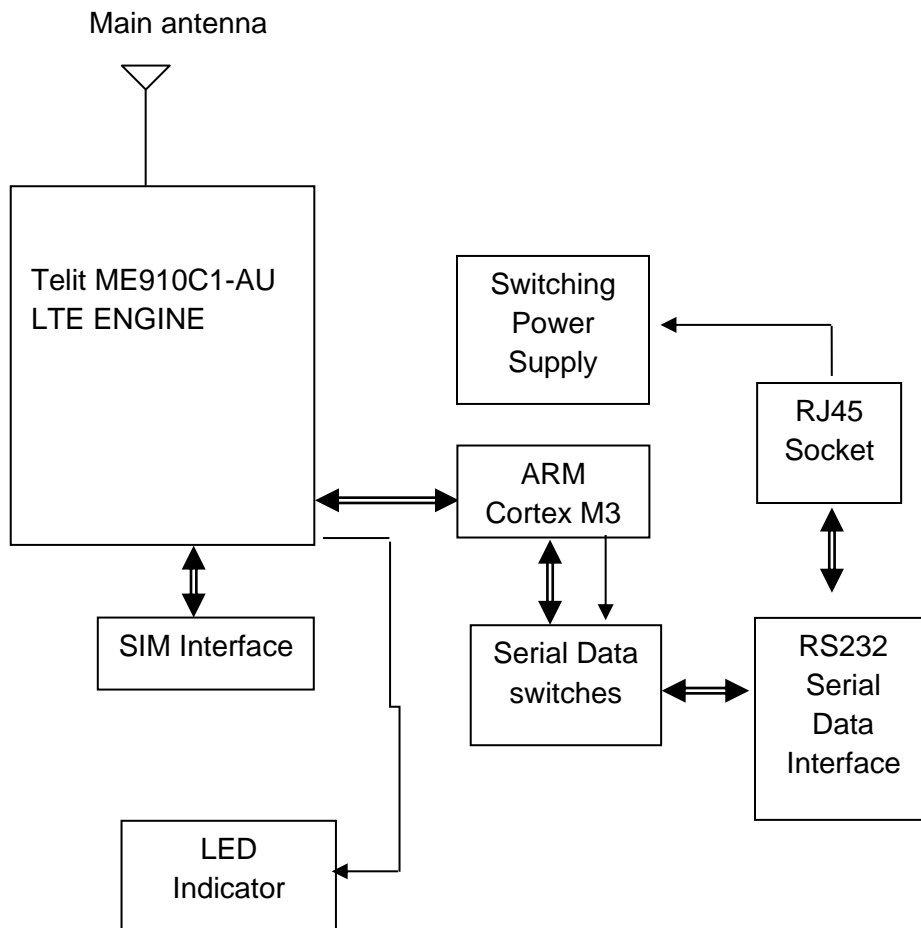
The SAMXT Functional Block Diagram

6.2 RJ45 Socket

Pin	Signals	Description
1	VIN	Input voltage 5Vdc - 32Vdc
2	DCD	Data Carrier Detect
3	DTR/RI	Data terminal Ready/Ring Indicator
4	GND	Common Ground
5	RXD	Serial Data out of the SAMXT
6	TXD	Serial Data into the SAMX3
7	CTS	Clear to Send
8	RTS	Ready to Send

6.3 FME-Male 50Ω Antenna Connectors

The FME male antenna connector is a 50Ω impedance antenna connector. The antenna used for the SAMXT must have 50Ω impedance.

6.4 SIM Holder

The SIM holder is designed to accommodate a mini-SIM card. The SIM card can either be 3V or 1V8 SIM. To insert the SIM card, remove the door by sliding it back towards the end. Make sure the SIM card faces the right way as indicated on the box. Voltage levels over this SIM interface complies with 3GPP standards.

6.5 LED Status

The LED indicator has the following status for different SAMMODE:

SAMMODE=0

LED behaviour can be set by AT#SLED=<mode> [,<on_duration>[,<off_duration>]]

Default is <mode> = 2 with the following timings:

• Not registered: always on

• registered in idle: blinking 1s on and 2s off

• registered in idle with power saving: blinking time depends on network condition in order to minimize power consumption

SAMMODE=1

Modem power on until SIM ready: Red LED On

Modem initialize on NB1: Red LED 1s On/Off

Modem initialize on M1: Red LED 500ms On/Off

Remote socket connection on NB1:   Orange LED 500ms On/Off

Remote socket connection on M1: Green LED 500ms On/Off

Modem failed to connect to IP: Red LED 100ms On/Off

Modem connected to IP: Green LED flashing on M1, Orange LED flashing on NB1, LED timing patterns are explained below.

On M1 RSRP Signal Strength

> -90 dBm	4 pulses of Green LED (100ms On 300ms Off) then 3s Off
-90 dBm to -105 dBm	3 pulses of Green LED (100ms On 300ms Off) then 3s Off
-106 dBm to -120 dBm	2 pulses of Green LED (100ms On 300ms Off) then 3s Off
< -120 dBm	1 pulse of Green LED (100ms On 300ms Off) then 3s Off

On NB1 RSRP Signal Strength

> -90 dBm	4 pulses of Orange LED (100ms On 300ms Off) then 3s Off
-90 dBm to -105 dBm	3 pulses of Orange LED (100ms On 300ms Off) then 3s Off

-106 dBm to -120 dBm   2 pulses of Orange LED (100ms On 300ms Off) then 3s Off

< -120 dBm   1 pulse of Orange LED (100ms On 300ms Off) then 3s Off

If modem is IP connected in idle state but is searching for network or is of limited service: Red LED flashing, LED timing patterns are explained below.

RSRP Signal Strength

> -90 dBm   4 pulses of Red LED (100ms On 300ms Off) then 3s Off

-90 dBm to -105 dBm   3 pulses of Red LED (100ms On 300ms Off) then 3s Off

-106 dBm to -120 dBm   2 pulses of Red LED (100ms On 300ms Off) then 3s Off

< -120 dBm   1 pulse of Red LED (100ms On 300ms Off) then 3s Off

FOTA (M1/NB1 module Firmware Over The Air upgrade) or DOTA (Modem software Download Over the Air upgrade):
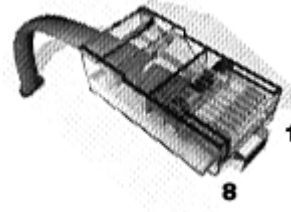

Process run on NB1:   Orange LED 100ms On/Off

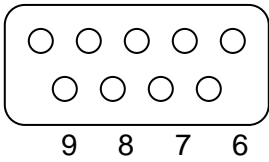Process run on M1:   Green LED 100ms On/Off

6.6 Data Cable

The data cable is 2m long. It consists of an RJ45 plug, a DB9-female connector and a 4 pin micro-fit termination.


```
  5   4   3   2   1

   ○  ○  ○  ○  ○
    ○  ○  ○  ○
    9   8   7   6
```

DB9	Signals		RJ45	Description
1	DCD	◄──►	2	Data Carrier Detect
2	RXD	◄──►	5	Serial Data out of the SAMXT
3	TXD	◄──►	6	Serial Data into the SAMXT
4	DTR		3	Not used
5	GND	◄──►	4	Common Ground
6	DSR			
7	RTS	◄──►	8	Ready to Send
8	CTS	◄──►	7	Clear to Send
9	RI	Not used		
			1	RED wire : Input voltage from 5Vdc to 32Vdc
			4	BLACK wire : Power Ground

7 Electrical Characters

7.1 Power Consumption

Idle mode   30mA @12V

Average in-use mode   80mA@12V

Full Tx power   90mA@12V

Peak current requirement   0.3A@12V

7.2 Receive Sensitivity

Measurement setup:

(LTE) CAT M1   Throughput >95% According to 3GPP 36.521-1

(LTE) CAT NB1   Throughput >95% According to 3GPP 36.521-1

MODE/BAND	REF Sensitivity (dBm)	3GPP REFSens (dBm)
CAT M1 / Band 3	-108 dBm	-99.3 dBm
CAT M1 / Band 5	-108.8 dBm	-100.8 dBm
CAT M1 / Band 8	-108.4 dBm	-99.8 dBm
CAT M1 / Band 28	-108 dBm	-100.8 dBm
CAT NB1 / Band 3	-115.6 dBm	-107.5 dBm
CAT NB1 / Band 5	-114.6 dBm	-107.5 dBm
CAT NB1 / Band 8	-113.8 dBm	-107.5 dBm
CAT NB1 / Band 28	-115.2 dBm	-107.5 dBm

7.3 Conducted Transmit Power

Band	Mode	Class	RF power (dBm)
All Bands	(LTE) CAT-M1	3	23 (±2 dB)
All Bands	(LTE) CAT-NB1	3	23 (±2 dB)

7.4 Antenna Specifications

Max cable loss   0.5dBm

Impedance   50Ω

VSWR recommended   2:1

VSWR absolute maximum   10:1

7.5 Environmental Characteristics

Operating temperature   -30°C to +85°C

Storage temperature   -40°C to +95°C

Humidity   90% relative humidity (non-condensing)

8 The SAMXT TCP/IP Operation

The SAMXT has an MCU (Microcontroller) to control the LTE module ME910C1-AU. The SAMXT can be operating in three different modes, defined by the parameter SAMMODE:

-SAMMODE=0. The modem is in standard mode. When powered on, the MCU turns on the LTE module, checks its baud rate, turns on the LED and releases control of the LTE module to the connecting device. AT commands can be sent from the serial port here after, the MCU will keep monitoring the LTE module Rx pin for AT$ commands and checks time in the RESETPERIOD parameter to reset itself and the LTE module.

-SAMMODE=1. The modem is in PSD (Packet Switch Data) smart mode. The MCU is in total control of the LTE module. When powered on the software reads all parameters from flash and activates a PSD connection, it then creates a UDP and a TCP socket to listen for data transfer connection, opens a UDP and a TCP socket to listen for remote AT commands connection. If programmed as a TCP client it will try to connect to a remote TCP server, the modem then stays in PSD online idle state waiting for SMS, UDP or TCP connection. The software maintains PSD connectivity by means of PING using POLLPERIOD parameter stored in flash.

8.1 Communication Sockets

TCP Data: The socket connection allows transparent data (excluded IP header) to pass through from the remote host to the modem serial port and vice versa. In TCP server mode, the socket will be disconnected after 5 minutes of no data transfer.

UDP Data: The socket connection allows transparent data to pass through from the remote host to the modem serial port and vice versa. A block of data received from a remote UDP server will open a 2 minutes window for data to be transferred from the serial port.

TCP AT Command: The socket connection allows a user from the host computer to send AT commands to the modem and receive its responses. The socket will be disconnected after 5 minutes of no activity. The socket can also be used for remote firmware update.

UDP AT Command: The socket connection allows a user from the host computer to send AT commands to the modem and receive its responses. The socket can also be used for remote firmware update.

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8.2 TCP/IP AT$ Commands

Communications parameters are stored in Flash using AT$PARAMETERS.

Parameters are defined as:

APN=Access Point Name

USERNAME=Username that may be required with GPRS login

PASSWORD=Password that may be required with GPRS login

LTCPPORT=Local TCP listening port

RTCPIP=Remote TCP server IP

RTCPPORT= Remote TCP server port

TCPMODE=0 or 1 (0 to disable the modem TCP client, 1 to enable the modem TCP client)

LUDPPORT=Local binding UDP port (modem listens for UDP data on this port)

RUDPIP=Remote binding UDP IP (modem only accepts data from this IP)

RUDPPORT=Remote binding UDP port (modem sends UDP data to this port)

PINGIP=If set, the modem will send PING packet to this IP to check for PSD connectivity.

POLLPERIOD=Modem uses this time to send TRACE or PING packet to check for PSD connectivity.

RESETPERIOD=Set time to reset modem periodically.

SBREAKTIME=Serial port break time, modem will wait for this break in serial port transmission before it packetizes the data and sends.

MBREAKTIME=Modem or GSM module serial break time, use to adjust the way the modem rebuilds long IP packets from fragments of CMUX frames.

BAUDRATE=Serial port baud rate.

DATALEN=Serial port data bits 7 or 8

PARITY= NONE or ODD or EVEN

SAMMODE=0 for standard modem, 1 for PSD mode.

SERIALLOCK= When modem access is safeguarded by username and password, 0=serial port access is not lock, 1=serial port access is locked

LOGINTIMEOUT=Timeout (in seconds) after repeated failed login attempts (set at 5 failed attempts).

SESSIONIDLETIME=Set the time interval (in seconds) the login session could stay idle before it is closed

PPPAUTH=PAP or CHAP for PPP authentication, PAP is the default value.

All parameters can be programmed all at once.

AT$PARAMETERS=APN=telstra.extranet,USERNAME=intercel,PASSWORD=mach,LTCPPORT=10000,RTCPIP=203.45.1.236,RTCPPORT=10000,TCPMODE=,LUDPPORT=20000,RUDPIP=203.45.1.236,RUDPPORT=20000,POLLPERIOD=60,SBREAKTIME=100,MBREAKTIME=5,BAUDRATE=115200,DATALEN=8,PARITY=NONE,SAMMODE=0,SERIALLOCK=0,LOGINTIMEOUT=300,SESSIONIDLETIME=120,

PPPAUTH=PAP

Saved parameters to flash...

OK

Or a few parameters or one at a time.

AT$PARAMETERS=APN=telstra.extranet,USERNAME=intercel,PASSWORD=mach

Saved parameters to flash...

OK

AT$PARAMETERS=LTCPPORT=10000,RTCPIP=203.45.1.236,RTCPPORT=10000,TCPMODE=,LUDPPORT=20000,RUDPIP=203.45.1.236,RUDPPORT=20000

Saved parameters to flash...

OK

AT$PARAMETERS=POLLPERIOD=60,SBREAKTIME=100,MBREAKTIME=5,BAUDRATE=115200,DATALEN=8,PARITY=NONE

Saved parameters to flash...

OK

AT$PARAMETERS=SAMMODE=0

Saved parameters to flash...

OK

AT$PARAMETERS?

$PARAMETERS:

APN: telstra.extranet

USERNAME: intercel

PASSWORD: mach

LTCPPORT: 10000

RTCPIP: 203.45.1.236

RTCPPORT: 10000

TCPMODE: 0

LUDPPORT: 20000

RUDPIP: 203.45.1.236

RUDPPORT: 20000

BAUDRATE: 115200

DATALEN: 8

PARITY: NONE

POLLPERIOD: 60

RESETPERIOD: 1440

SBREAKTIME: 100

MBREAKTIME: 5

SERIALLOCK: 0

LOGINTIMEOUT: 300

SESSIONIDLETIME: 120

PPPAUTH: CHAP

SAMMODE: 0

OK

AT$UDPCONNECT

If the modem is already allocated an IP address, this command will put the modem in UDP data mode, the modem DCD pin goes high, data from serial will be packetized into UDP packets and sent to remote UDP server (UDP settings must be set prior), modem will return to AT Command mode if it receives no UDP data in 30 seconds.

AT$TCPCONNECT

If the modem is already allocated an IP address, this command will make a TCP client connection to the remote TCP server, the modem will return to AT Command mode if it receives no TCP ACK in 30 seconds.

AT$DDNS

Use to setup parameters required for Dynamic DNS updating.

Parameters are defined as:

DDNSENABLE= 0 or 1 (0 disable, 1 enable)

DDNSHOST=Host name

DDNSUSERNAME=DNNS account name

DDNSPASSWORD=DDNS account password

DDNSSERVER=DDNS server

DDNSSTRING: Only need to change from default in some circumstances with Intercel support

DDNSAUTH: Only need to change from default in some circumstances with Intercel support

DDNSAGENT: Only need to change from default in some circumstances with Intercel support

PDNSIP=Primary DNS, leave blank if not using your own DNS server, not a requirement for DDNS.

SDNSIP=Secondary DNS, leave blank if not using your own DNS server, not a requirement for DDNS

DNSTTL= DNS Time To Live in minutes before updating of DNS entries, not a requirement for DDNS.

AT$DDNS=PDNSIP=8.8.8.8,SDNSIP=8.8.4.4,DNSTTL=240,DDNSENABLE=0,DDNSHOST=intercelau.ddns.net,DDNSUSERNAME=intercelau,DDNSPASSWORD=123456789,DDNSSERVER=dynupdate.noip.com,DDNSSTRING=GET/nic/update?hostname=%s&myip=%sHTTP/1.0,DD

NSAUTH=Authorization: Basic%s,DDNSAGENT=User-Agent:SAMXT/1.0 intercel@intercel.com.au

Saved parameters to flash...

OK

AT$DDNS?

$DDNS:

DDNSENABLE: 0

DDNSHOST: intercelau.ddns.net

DDNSUSERNAME: van.phamus@yahoo.com

DDNSPASSWORD: 123456789

DDNSSERVER: dynupdate.no-ip.com

DDNSSTRING: GET /nic/update?hostname=%s&myip=%s HTTP/1.0

DDNSAUTH: Authorization: Basic %s

DDNSAGENT: User-Agent: SAMXT/1.0 intercel@intercel.com.au

PDNSIP: 8.8.8.8

SDNSIP: 8.8.4.4

DNSTTL: 240

OK

AT$DDNSTEST

Use to force a manual updating of IP to the DDNS server, all required parameters must be set beforehand.

AT$DDNSTEST

$DDNSTEST: Starting....

$DDNSTEST: Resolving dynupdate.no-ip.com....

Connecting to DDNS dynupdate.no-ip.com ....

Connected to DDNS dynupdate.no-ip.com

HTTP/1.1 200 OK

Date: Mon, 02 Sep 2019 00:33:32 GMT

Server: Apache/2

Content-Location: update.php

Vary: negotiate

TCN: choice

Content-Length: 19

Connection: close

Content-Type: text/plain; charset=UTF-8

good 123.209.169.62

DDNS host intercelau.ddns.net updated with 123.209.169.62

OK

AT$ACCESS

Use to setup parameters required for remote access.

Parameters are defined as:

IPBLOCK=0 or 1 (0 disable, 1 enable remote IP access from REMOTEIP1-REMOTEIP4)

REMOTEIP1= nnn.nnn.nnn.nnn

REMOTEIP2= nnn.nnn.nnn.nnn

REMOTEIP3= nnn.nnn.nnn.nnn

REMOTEIP4= nnn.nnn.nnn.nnn

SMSBLOCK=0 or 1 (0 disable, 1 enable remote SMS access from REMOTESMS1-REMOTESMS4)

REMOTESMS1= ccnnnnnnnnn cc for country code

REMOTESMS2= ccnnnnnnnnn

REMOTESMS3= ccnnnnnnnnn

REMOTESMS4= ccnnnnnnnnn

AT$ACCESS=IPBLOCK=1,REMOTEIP1=10.64.24.2,REMOTEIP2=,REMOTEIP3=,REMOTEIP4=,SMSBLOCK=1,REMOTESMS1=0413586218,REMOTESMS2=,REMOTESMS3=,REMOTESMS4=

Saved parameters to flash...

OK

AT$ACCESS?

$ACCESS:

IPBLOCK: 1

REMOTEIP1: 10.64.24.2

REMOTEIP2:

REMOTEIP3:

REMOTEIP4:

SMSBLOCK: 1

REMOTESMS1: 0413586218

REMOTESMS2:

REMOTESMS3:

REMOTESMS4:

OK

AT$LGSMS

Use to program parameters for last gasp SMS.

Parameters are defined as:

LGSMSMSG=SMS message text, default is "SAMXT low power detected..."

LGSMSDELAY= Time delay to make sure supply power is down for this long before sending last gasp SMS

LGSMSNO=SMS phone number

AT$LGSMS= LGSMSMSG= SAMXT power supply is low....,60,LGSMSNO=+61418505361

Saved parameters to flash...

OK

AT$LGSMS?

$LGSMS:

LGSMSMSG: SAMXT power supply is low....

LGSMSDELAY: 60

LGSMSNO: +61418505361

OK

AT$LOGIN

Use to setup login details for remote sending of AT commands, parameters and software updating; password is encrypted so remote login required PC software SAMXT Terminal.

AT$LOGOFF

Use to log off remote access instantly.

AT$IP

Use to return the allocated IP addresses of the current GPRS connection

AT$IP

$IP: 120.157.107.60

$DNS Primary: 10.4.182.20

$DNS Secondary: 10.4.81.103

OK

AT$VERSION

This command returns the TCP/IP software version.

AT$VERSION

SAMXT V1.631 26/07/19 09:25

OK

AT$RESET

Use to remotely reset the modem, normally after sending of new parameters

AT$RESET

SAM Reset...

OK

AT$SMSTOSERIALON

This command allows the connecting device to receive SMS notification for 300s: e.g. "+CMTI: "SM",1", the connecting device must send AT+CMGR to read SMS and AT+CMGD to delete it, during this 300s period, the modem will not be able to decode AT$ commands sending to it over SMS.

AT$FOTA

Use to start FOTA (LTE module Firmware Download Over The Air).

AT$FOTA=FTP_Server,FTP_Username,FTP_Password,FTP_Path,FTP_Filename

FTP_Server: FTP server in dot format nnn.nnn.nnn.nnn

FTP_Username: Maximum length 100

FTP_Password: Maximum length 100

FTP_Path: Maximum length 50

FTP_Filename: Maximum length 50

AT$FOTA=120.157.48.51,vp,test,., outUpdPkg_30.00.003_M0B.000003_to_30.00.003-B999_M0B.000003_ME910C1_AU.bin

OK

AT$DOTA

Use to start DOTA (Modem software Download Over The Air).

AT$DOTA=FTP_Server,FTP_Username,FTP_Password,FTP_Path,FTP_Filename

FTP_Server: FTP server in dot format nnn.nnn.nnn.nnn

FTP_Username: Maximum length 100

FTP_Password: Maximum length 100

FTP_Path: Maximum length 50

FTP_Filename: Maximum length 50

AT$DOTA=120.157.48.51,vp,test,.,SAMXT V1631 260719 0957.bin

OK

AT$GETLOG

Use to check read logged events from flash.

Read all logged events:

AT$GETLOG

$GETLOG:

1 2019/04/08 13:08:25+40 257 Software start

2 2019/04/08 13:08:30+40 259 ME910_OFF

3 2019/04/08 13:08:36+40 258 ME910_ON

4 2019/04/08 13:08:42+40 288 NW registered…..

249 2019/04/09 10:52:19+40 320 $version.

250 2019/04/09 11:17:10+40 320 $getlog.

OK

Read last 5 events:

 AT$GETLOG=5

$GETLOG:

246 2019/04/09 10:26:15+40 288 NW registered

247 2019/04/09 10:26:16+40 262 /04/09,10:26:16

248 2019/04/09 10:52:19+40 320 $version.

249 2019/04/09 11:17:10+40 320 $getlog.

250 2019/04/09 11:21:13+40 320 $getlog=5.

OK

AT$CLEARLOG

Use to clear logged events from flash.

AT$CLEARLOG

OK

AT$MODEMLOG

Use to enable and disable events logging,

AT$MODEMLOG=1 enable logging

AT$MODEMLOG=0 disable logging

AT$MODEMLOG?

$MODEMLOG: 1

OK

AT$DEFAULT

Use to restore modem's parameters to default settings.

AT$DEFAULT

OK

9 Firmware Upgrade

9.1 The LTE Module Firmware

The module firmware can be upgraded via the modem's USB port, or can be upgraded over-the-air (FOTA) by instructing it to download from a FTP server.

9.2 The Modem's Controller Software

The modem's software can be upgraded over the serial port using the SAM-BA software tool from ATMEL.

The modem software and parameters can be upgraded over the serial port, PSD, or SMS (parameters only) using SAM Terminal Program running on PC.

For mass upgrade of modem's software, the new software can be loaded onto a FTP server and the modem instructed to download the new software from this FTP server.

Note

-In SAMMODE=0, after power on the MCU turns on the LTE module, checks its baud rate, turns on LED before releasing control of the LTE module to the connecting device. All this takes between 15 to 20 seconds, so the modem is only ready for AT commands here after.

-In SAMMODE=1, the modem takes 30 to 60 seconds to connect to PSD, the modem only responds to AT commands from serial port once it is connected to PSD or after it has failed. If it failed to connect it will reset after 120 seconds.

-In SAMMODE 1 if the SAMXT modem is powered up without a SIM card it will go into AT command mode after 20 seconds.

intercel

go anywhere communication and data transfer

Intercel is an Australian designer and manufacturer of modems and mobile equipment for use with GSM, 3G and 4G telecommunication networks. Our products provide remote connectivity for Serial and Ethernet devices in critical industrial applications. We are located in Melbourne, Australia and our head office is in Mulgrave.