Cavli C10QM/C20QM

SDK API Manual

External Release Version 1.4

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VERSION HISTORY

Version	Edit	Date
1.0	Initial Pre-Release Version	03/07/2023
1.1	Added deep sleep mode and mobile control APIs	06/09/2023
1.2	Added RTC and GNSS commands	14/11/2023
1.3	Added Packet Domain, TCP, Network Service and Call Control Commands	14/02/2024
1.4	Added SIM, General and Hubble DM Commands	20/02/2024

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1 Introduction

1.1 Overview

This document aims to familiarize the reader on the Cavli C10QM SDK API commands and its associated functions.

1.2 References

The present document is based on the following document:

C10QM AT COMMAND MANUAL

NOTE

In the Syntax:

- Typedef sections are presented in a colored format: Color and `Color`
- The *italicized* sections refer to the parameters that need to be entered
- All the API functions given in the document are included in the ***cavli_apis.h*** library. To call the needed function, you need to add this library into the code for the program to work

2 Basic Definitions

2.1 Basic Definitions

- eCavRet

eCAV_RET_OK = 0	No Error
eCAV_RET_ERROR	Error Occurred

- sCavString

char *str	Pointer to string data
int len	Length of string data

2.2 cavAllocString

Description:

This command is used to allocate the cavli string structure.

Syntax:

Command	AT Command
sCavString ***cavAllocString**(char ***str**, int **len**)	*Not Available

2.3 cavFreeString

Description:

This command is used to free the cavli string structure.

Syntax:

Command	AT Command
void **cavFreeString**(sCavString ***str**)	*Not Available

2.4 cavInit

Description:

This command is used to initialize Cavli APIs.

Syntax:

Command	AT Command
eCavRet **cavInit(**`void`**)**	***Not Available**

2.5 cavExit

Description:

This command is used to De-initialize Cavli APIs.

Syntax:

Command	AT Command
eCavRet **cavExit(**`void`**)**	***Not Available**

3 General Commands

3.1 Definitions

- eCavCmeeMode

eCAV_CMEE_MOD_DISABLE=0	Disable
eCAV_CRC_MOD_ENABLE_NUMERIC=1	Enable numeric
eCAV_CRC_MOD_ENABLE_VERBOSE=2	Enable Verbose

- eCavCrtcMode

eCAV_CRTC_TIME_STAMP=1	Time Stamp
eCAV_CRTC_EPOCH=2	Epoch time

3.2 cavATI

Description:

This command is used to get the ATI info.

Syntax:

Command	AT Command
eCavRet **cavATIGet(**`sCavString` ***info*)**	**ATI**

3.3 cavGPIO

Description:

This command is used to set/get the status of a pin. Used for setting the direction to a specific pin.

Syntax:

Command	AT Command
eCavRet **cavGpioGet(**const `uinit16_t` ***gpio*,** `uinit8_t` ***value*)**	*Not Available

eCavRet **cavGpioSet**(const uinit16_t *gpio*, uinit8_t *value*)	*Not Available
eCavRet **cavGpioSetDir**(const uinit16_t *gpio*, uinit8_t *direction*)	*Not Available

3.4 cavATE

Description:

This command is used to set character echoing mode (OFF/ON).

Syntax:

Command	AT Command
eCavRet **cavATE0Get**(void)	**ATE0**
eCavRet **cavATE1Get**(void)	**ATE1**

3.5 cavATZ

Description:

This command is used to restore the configuration profile.

Syntax:

Command	AT Command
eCavRet **cavATZGet**(void)	**ATZ**

3.6 cavATF

Description:

This command is used to reloads the factory-stored default configuration into active memory.

Syntax:

Command	AT Command
eCavRet **cavATFGet**(void)	**ATF**

3.7 cavCMEE

Description:

This command is used to set/get the use of result code.

Syntax:

Command	AT Command
eCavRet **cavCmeeSet(**`eCavCmeeMod` ***mod*)**	**AT+CMEE=<mode>**
eCavRet **cavCmeeGet(**`eCavCmeeMod` ****mod*)**	**AT+CMEE?**

3.8 cavCGMI

Description:

This command is used to get the manufacturer info.

Syntax:

Command	AT Command
eCavRet **cavCgmiGet(**`sCavString` *****inf*)**	**AT+CGMI**

3.9 cavCGMM

Description:

This command is used to get the information regarding the model.

Syntax:

Command	AT Command
eCavRet **cavCgmmGet(**`sCavString` *****cgmm*)**	**AT+CGMM**

3.10 cavCGMR

Description:

This command is used to get the information regarding the revision.

Syntax:

Command	AT Command
eCavRet **cavCgmrGet(**`sCavString` ***cgmr**)	**AT+CGMR**

3.11 cavCGSN

Description:

This command is used to get the information regarding the Serial Number.

Syntax:

Command	AT Command
eCavRet **cavCgsnGet(**`sCavString` ***cgsn**)	**AT+CGSN**

3.12 cavCSCS

Description:

This command is used to inform TA that which character set is used by the TE.

Syntax:

Command	AT Command
eCavRet **cavCscsGet(**`void`**)**	**AT+CSCS**

3.13 cavCIMI

Description:

This command is used to get the information regarding the <IMSI>.

Syntax:

Command	AT Command
eCavRet **cavCimiGet(**`sCavstring` ***imsi**)	**AT+CIMI**

3.14 cavCCLK

Description:

This command is used to get the Real-Time-Clock of the MT.

Syntax:

Command	AT Command
eCavRet **cavGetCCLK(**sCavstring ***time*)	**AT+CCLK?**

3.15 cavGMI

Description:

This command is used to get the manufacturer info. Same use as **cavCGMI.**

Syntax:

Command	AT Command
eCavRet **cavGmiGet(**sCavString ***gmi*)	**AT+GMI**

3.16 cavGMM

Description:

This command is used to get the info regarding the model. Same use as **cavCGMM.**

Syntax:

Command	AT Command
eCavRet **cavGmmGet(**sCavString ***gmm*)	**AT+GMM**

3.17 cavGMR

Description:

This command is used to get the info regarding revision. Same use as **cavCGMR.**

Syntax:

Command	AT Command
eCavRet **cavGmrGet(**sCavString ***gmr*)	**AT+GMR**

3.18 cavGCAP

Description:

This command is used to get information text in a specific format.

Syntax:

Command	AT Command
eCavRet **cavGetGcap(**sCavString ***data**)	**AT+GCAP**

3.19 cavGSN

Description:

This command is used to get information regarding the Serial Number.

Syntax:

Command	AT Command
eCavRet **cavGsnGet(**sCavString ***gsn**)	**AT+GSN**

3.20 cavCRTC

Description:

This command is used to get the Real-Time-Clock information.

Syntax:

Command	AT Command
eCavRet **cavCRTCGet(**eCavCrtcMode ***crtc**, sCavString ***sys_tym**)	**AT+CRTC**

4 Hubble Commands

4.1 Definitions

- eCavSimMode

eCAV_HUBBLE_REG_STT_UNREGISTERED	**Unregistered**
eCAV_HUBBLE_REG_STT_REGISTERING	**Registering**
eCAV_HUBBLE_REG_STT_REGISTERED	**Registered**

4.2 cavHubbleReg

Description:

To set parameters for Hubble Registration using *cavHubbleReg*. To get status of Hubble Registration using *cavHubbleRegStatus*

Syntax:

Command	AT Command
eCavRet **cavHubbleReg(**const `sCavString` ***accId**, const `sCavString` ***planId**, const `sCavString` ***grpId**)	**AT+HUBBLEREG**
eCavHubbleStatus **cavHubbleRegStatus(**`void`**)**	

5 Hubble DM Commands

5.1 Definitions

- eCavHubbDMCommand

eCAV_HUBBLEDM_STOP=0	Stop
eCAV_HUBBLEDM_START=1	Start
eCAV_HUBBLEDM_UNKNOWN=2	Unknown

- eCavHubbDMCientSts

eCAV_HUBBLEDM_DISCONNECTED=0	Disconnect
eCAV_HUBBLEDM_CONNECTED=1	Connect

- eCavHubbDMNetType

eCAV_HUBBLEDM_NET_TYPE_PRIVATE=1	Private Net type
eCAV_HUBBLEDM_NET_TYPE_PUBLIC=2	Public Net type

5.2 cavHubbDMStart

Description:

This Command is used to start/stop HubbleDM.

Syntax:

Command	AT Command
eCavRet **cavHubbDMStart** (eCavHubbDMCommand ***cmdType***, eCavHubbDMNetType ***netType***, sCavString ****retInfo***)	AT+HUBBDMSTART=<cmd_type><net_type><ret_info>

5.3 cavHubbDMTaskStatus

Description:

This Command is used to check HubbleDM's task status whether it has been started or not.

Syntax:

Command	AT Command
eCavRet **cavHubbDMTaskStatus** (eCavHubbDMCommand ***ret_task_sts***)	

5.4 cavHubbDMClientStatus

Description:

This Command is used to Get status of HubbleDM client status whether it is Connected or Disconnected state.

Syntax:

Command	AT Command
eCavRet **cavHubbDMClientStatus** (eCavHubbDMCientSts ***ret_client_sts***)	

6 Mobile Control and Status Commands

6.1 Definitions

- eCavSimMode

eCAV_SIM_MODE_EXTERNAL = 0	External SIM mode
eCAV_SIM_MODE_ESIM	eSIM mode

- eCavCfun

eCAV_CFUN_MINIMUM_FUNCTIONALITY = 0	Minimum functionality
eCAV_CFUN_FULL_FUNCTIONALITY = 1	Full functionality
eCAV_CFUN_RF_OFF=4	RF off
eCAV_CFUN_FACTORY_TEST_MODE=5	Factory test mode
eCAV_CFUN_RESET=6	Reset
eCAV_CFUN_OFFLINE=7	Offline

- eCavCfunRst

eCAV_CFUN_RST_DO_NOT_REST = 0	Do not reset
eCAV_CFUN_RST_RESET_THE_MT = 1	Reset the MT
eCAV_CFUN_RST_NO_VALUE	No value. Does not specify a reset option when setting the functionality level.

- eCavCSIMSUPPMode

eCAV_CSIMSUPP_MODE_DISABLE = 0	Disable
eCAV_CSIMSUPP_MODE_ENABLE = 1	Enable

- eCavClipMode

eCAV_CLIP_STATE_DISABLE = 0	Disable calling line identification presentation
eCAV_CLIP_STATE_ENABLE = 1	Enable calling line identification presentation

- eCavCrsmMode

eCAV_CRSM_READ_BINARY= 176	Read binary
eCAV_CRSM_READ_RECORD= 178	Read record
eCAV_CRSM_GET_RESPONSE= 192	Get response
eCAV_CRSM_UPDATE_BINARY= 214	Update binary
eCAV_CRSM_UPDATE_RECORD= 220	Update record
eCAV_CRSM_STATUS = 242	Status

- eCavCrlpMode

eCAV_CRLP_CID_RESPONSE_0 = 0	cid 0
eCAV_CRLP_CID_RESPONSE_1 = 1	cid 1
eCAV_CRLP_CID_RESPONSE_2 = 2	cid 2

6.2 cavSimSwap

Description:

To set/get the Backspace character

Syntax:

Command	AT Command
eCavRet **cavSimSwap(**eCavSimMode ***mode*)**	**AT^SIMSWAP=<n>**
eCavRet **cavSimModeGet(**eCavSimMode ****mode*)**	**AT^SIMSWAP?**

6.3 cavCfun

Description

This command sets functionality in the MT.

Syntax

Command	AT Command
eCavRet **cavCfunSet (**eCavCfun ***fun***, eCavCfunRst ***rst*)**	**AT+CFUN=<fun>,<rst>**
eCavRet **cavCfunGet(**eCavCfun ****fun*)**	**AT+CFUN?**

6.4 cavGetICCID

Description

This command is to return the ICCID of the device.

Syntax

Command	AT Command
eCavRet **cavGetICCID (**sCavString ****iccid*)**	**AT+ICCID**

6.5 cavCPIN

Description

This command is a set command that sends a password to the MT before it can be operated.

Syntax

Command	AT Command
eCavRet **cavCPINGet (**sCavString ***cpin**)	**AT+CPIN?**
eCavRet **cavCPINSet(**const char* ***c_pswd**, const char* ***c_npswd***)	**AT+CPIN = <pin>,[,<newpin>]**

6.6 cavCPAS

Description

This command returns the activity status <pas> of the MT.

Syntax

Command	AT Command
eCavRet **cavCPASGet (**sCavString ***cpas**)	**AT+CPAS**

6.7 cavCPBS

Description

This command sets the phonebook memory storage.

Syntax

Command	AT Command
eCavRet **cavCPBSGet (**sCavString ***cpbs**)	**AT+CPBS?**
eCavRet **cavCpbsSet (**const char* ***strge**)	**AT+CPBS= <storage>**

6.8 cavCEN

Description

This command allows for reading and dynamical reporting of emergency numbers as received from the network.

Syntax

Command	AT Command
eCavRet **cavCENGet (**sCavString ****cen**)	**AT+CEN?**
eCavRet **cavCENSet (**eCavCenMode **cen**)	**AT+CEN= [<reporting>]**

6.9 cavGetIMEI

Description

This command is used to get the IMEI of current SIM.

Syntax

Command	AT Command
eCavRet **cavGetIMEI (**sCavString ****imei**)	**AT+ICCID**

6.10 cavTRB

Description

This command is used for reboot function.

Syntax

Command	AT Command
eCavRet **cavTRBGet (**void**)**	**AT+TRB**

6.11 cavCEMODE

Description

This command is used to get the status of CEMODE.

Syntax

Command	AT Command
eCavRet **cavCEMODEGet (**sCavString ****cemode**)	**AT+CEMODE**

6.12 cavCSIMSUPP

Description

This command is used to set cSIM support enable.

Syntax

Command	AT Command
eCavRet **cavCSIMSUPPSet** (`sCavCSIMSUPPMode` ***csimsupp***)	**AT+CSIM=<mode>**
eCavRet **cavCSIMSUPPGet** (`sCavCSIMSUPPMode` ****csimsupp***)	**AT+CSIM?**

6.13 cavCSIM

Description

This command is used to set cSIM.

Syntax

Command	AT Command
eCavRet **cavCSIMSet** (const char* ***length***, const char* ***command***)	**AT+CSIM=<length>,<command>**

6.14 cavCLIP

Description

This command is used to get the CLIP state.

Syntax

Command	AT Command
eCavRet **cavCLIPGet** (`sCavString` ***getClipinfo***)	**AT+CLIP?**
eCavRet **cavCLIPSet** (`eCavClipMode` ***state***)	**AT+CLIP=<n>,<m>**

6.15 cavWS46

Description

This command is used to set/get the cellular network.

Syntax

Command	AT Command
eCavRet **cavWs46Set** (`eCavWs46Mode` ***ws46***)	**AT+WS46=<n>**
eCavRet **cavWs46Get** (`eCavWs46Mode` ****ws46***)	**AT+WS46?**

6.16 cavPINGSTOP

Description

This command is used to kill ongoing ping process.

Syntax

Command	AT Command
eCavRet **cavPINGSTOP** (`void`)	**AT+PINGSTOP**

6.17 cavCGCONTRDP

Description

This command is used to get the information about PDP context.

Syntax

Command	AT Command
eCavRet **cavCGCONTRDPGet** (const `uint16_t` ***cid***, `sCavString` ****cgcont***)	**AT+CGCONTRDP?**

6.18 cavCGSCONTRDP

Description

This command is used to get the information about secondary PDP context.

Syntax

Command	AT Command
eCavRet **cavCGSCONTRDPGet** (const `uint16_t` ***cid_2***, `sCavString` ****cgscont***)	**AT+CGSCONTRDP?**

6.19 cavCGTFTRDP

Description

This command is used to get the information about the PDP context.

Syntax

Command	AT Command
eCavRet **cavCGTFTRDPGet (**const uint16_t ***cid_3*, sCavString ****cgtft*)**	**AT+CGTFTRDP?**

6.20 cavCRSM

Description

This command is used to set data transmit from MT to SIM command.

Syntax

Command	AT Command
eCavRet **cavCRSMSet (**eCavCrsmMode ***cmnds*, const uint32_t ***fileid*, const uint32_t ***p1*, const uint32_t ***p2*, const uint32_t ***p3*, const char* ***data*, sCavString ****crsm*)**	**AT+CRSM=<command>, [fileid],[p1].....**

6.21 cavCRLP

Description

This command is used to set/get radio link parameters (RLP).

Syntax

Command	AT Command
eCavRet **cavCRLPSet (**const uint32_t ***iws*, const uint32_t ***mws*, const uint32_t ***t1*, const uint32_t ***n2*, eCavCrlpMode ***c_id*, sCavString ****crlp*)**	**AT+CRLP=<iws>,[mws],[t1],[n2].....**
eCavRet **cavGetCRLP (**sCavString ****crlp*)**	**AT+CRLP?**

6.22 cavCGEQOS

Description

This command is used to set/get EPS quality of service parameter.

Syntax

Command	AT Command
eCavRet **cavCGEQOSSet(**const `uint32_t` ***cid*,** const `uint32_t` ***qci*,** const `uint32_t` ***dl_gbr*,** const `uint32_t` ***ul_gbr*,** const `uint32_t` ***dl_mbr*,** const `uint32_t` ***ul_mbr*,** `sCavString` ****cgeqos*)**	**AT+CGEQOS=<cid>,[qci],[dl_gbr]…..**
eCavRet **cavGetCGEQOS(**`sCavString` ****cgeqos*)**	**AT+CGEQOS?**

7 GNSS Commands

7.1 Definitions

- eCavGnssState

eCAV_GNSS_DISABLE = 0	GNSS Disabled
eCAV_GNSS_ENABLE	GNSS Enabled

- eCavGnssNMEAOutPort

eCAV_GNSS_OUTPUT_NONE = 0	No Output
eCAV_GNSS_OUTPUT_TO_USB	Output to USB
eCAV_GNSS_OUTPUT_TO_UART	Output to UART
eCAV_GNSS_OUTPUT_TO_USB_UART	Output to UART and USB

- eCavGnssNMEASenceId

eCAV_GNSS_NMEA_GPGGA = 0
eCAV_GNSS_NMEA_GPRMC = 1
eCAV_GNSS_NMEA_GPGSV = 2
eCAV_GNSS_NMEA_GPGSA = 3
eCAV_GNSS_NMEA_GAVTG = 4
eCAV_GNSS_NMEA_GLGSV = 5
eCAV_GNSS_NMEA_GNGSA = 6
eCAV_GNSS_NMEA_GNGNS = 7

eCAV_GNSS_NMEA_GARMC = 8
eCAV_GNSS_NMEA_GAGSV = 9
eCAV_GNSS_NMEA_GAGSA = 10
eCAV_GNSS_NMEA_GAVTG = 11
eCAV_GNSS_NMEA_GAGGA = 12
eCAV_GNSS_NMEA_GPGSA = 13
eCAV_GNSS_NMEA_GPGSA = 14
eCAV_GNSS_NMEA_PQGSV = 15

7.2 cavGnssSetEnGps

Description:

To start/stop GPS session

Syntax:

Command	AT Command
eCavRet **cavGnssSetEnGps(**eCavGnssState *gpsEnable***)**	**AT+CGPS=<mode>**
eCavRet **cavGnssGetEnGps(**eCavGnssState **gpsEnable***)	**AT+CGPS?**

7.3 cavGnssResetGps

Description:

To reset the GPS function of the module.

Syntax:

Command	AT Command
eCavRet **cavGnssResetGps (**void**)**	**AT+CGPSRST**

7.4 cavGnssPort

Description:

To choose the output port for NMEA sentence.

Syntax:

Command	AT Command
eCavRet **cavGnssSetOutPort** (eCavGnssNMEAOutPort ***port***)	**AT+GPSPORT=<port>**
eCavRet **cavGnssGetOutPort** (eCavGnssNMEAOutPort ****port***)	**AT+GPSPORT?**

7.5 cavGnssGetPos

Description:

To get response associated with the needed Positional Parameter.

Syntax:

Command	AT Command
eCavRet **cavGnssGetPos(**eCavGnssNMEASenceId ***sentenId*, sCavString *res)**	**AT+CGPSGPOS=<mode>**

7.6 cavGetCGPSGLAT

Description:

To get the information related to latitude.

Syntax:

Command	AT Command
eCavRet **cavGetCGPSGLAT(**sCavString *lat)	**AT+CGPSGLAT**

7.7 cavGetCGPSGLON

Description:

To get the information related to longitude.

Syntax:

Command	AT Command
eCavRet **cavGetCGPSGLON(**sCavString ***lon)**	**AT+ CGPSGLON**

7.8 cavGetCGPSGALT

Description:

To get the information related to altitude.

Syntax:

Command	AT Command
eCavRet **cavGetCGPSGALT(**sCavString ***alt)**	**AT+CGPSGALT**

7.9 cavCGPSHOTGet

Description:

To get a hot start.

Syntax:

Command	AT Command
eCavRet **cavGetCGPSHOTGet(**void**)**	**AT+CGPSHOT**

7.10 cavCGPSWARMGet

Description:

To get a warm start.

Syntax:

Command	AT Command
eCavRet **cavGetCGPSWARMGet(**`void`**)**	**AT+CGPSWARM**

7.11 cavCGPSCOLDGet

Description:

To get a cold start.

Syntax:

Command	AT Command
eCavRet **cavGetCGPSCOLDGet(**`void`**)**	**AT+CGPSCOLD**

7.12 cavGetCGPSNSATGet

Description:

To get the number of used satellites.

Syntax:

Command	AT Command
eCavRet **cavGetCGPSNSATGet(**`eCavGnssNumbr` ***sat*****,** `sCavString` ***read)**	**AT+CGPSNSAT**

8 Deep Sleep Mode Command

8.1 Definitions

- eCavWakeUpReason

eCAV_WAKEUP_REASON_RTC = 0	**Wakeup using RTC**
eCAV_WAKEUP_REASON_GPIO	**Wakeup using GPIO**
eCAV_WAKEUP_REASON_TIMER	**Wakeup using Timer**
eCAV_WAKEUP_REASON_UNKNOWN	**Wakeup using any other methods defined**

8.2 cavEnterDeepSleep

Description

To enter into deep sleep mode

Syntax

Command	AT Command
eCavRet **cavEnterDeepSleep (**`int` ***wakeup_time_in_sec*, `eCavWakeUpReason` *reason)**	*Under implementation*

9 RTC Command

9.1 Definitions

- eCavCrtcMode

eCAV_CRTC_TIME_STAMP = 1	Time Stamp
eCAV_CRTC_EPOCH = 2	Epoch time

9.2 cavCRTCGet

Description

To get RTC time stamp in format "%a %b %d %H:%M:%S %Z %Y

Syntax

Command	AT Command
eCavRet **cavCrtcMode (**eCavCrtcMode *crtc*, sCavString *sys_tym)	**AT+CRTC=<mode>**

10 Packet Domain Commands

10.1 Definitions

- eCavCgregMode

eCAV_CGREG_MODE_DISABLE_REG = 0	Disable network registration unsolicited result code
eCAV_CGREG_MODE_ENABLE_REG = 1	Enable network registration unsolicited result code
eCAV_CGREG_MODE_ENABLE_REG_AND_LOC_INF=2	Enable network registration and location information unsolicited result code.

- eCavCeregMode

eCAV_CEREG_MODE_DISABLE_REG = 0	Disable network registration unsolicited result code
eCAV_CEREG_MODE_ENABLE_REG = 1	Enable network registration unsolicited result code
eCAV_CGREG_MODE_ENABLE_REG_AND_LOC_INF=2	Enable network registration and location information unsolicited result code

- eCavCgattMode

eCAV_CGATT_MODE_DETACH = 0	Detached
eCAV_CGATT_MODE_ATTACH=1	Attach

10.2 cavCGREG

Description

The set command controls the presentation of an unsolicited result for package network registration status. The read command returns the status of result code presentation and an integer which shows whether the network has currently indicated the registration of the MT.

Syntax

Command	AT Command
eCavRet **cavCGREGGet (**`sCavString` **cgreg)**	**AT+CGREG?**
eCavRet **cavCGREGSet (**`eCavCgregMode` ***mode*)**	**AT+CGREG=<n>**

10.3 cavCEREG

Description

The set command controls the presentation of an unsolicited result code +CEREG. The read command returns the status of result code presentation and an integer which shows whether the network has currently indicated the registration of the MT.

Syntax

Command	AT Command
eCavRet **cavCEREGGet (**`sCavString` **cereg)**	**AT+CEREG?**
eCavRet **cavCEREGSet (**`eCavCeregMode` ***mode*)**	**AT+CEREG=<n>**

10.4 cavCGATT

Description

The execution command is used to attach the MT to, or detach the MT from, the Packet Domain service. The read command returns the current Packet Domain service state.

Syntax

Command	AT Command
eCavRet **cavCGATTGet (**eCavCgattMode **cgatt)**	**AT+CGATT?**
eCavRet **cavCGATTSet (**eCavCgattMode ***cgatt*)**	**AT+CGATT=<state>**

10.5 cavCGACT

Description

The read command returns the current activation states for all the defined PDP contexts.

Syntax

Command	AT Command
eCavRet **cavCGACTGet (**sCavString **cgatt)**	**AT+CGACT?**

10.6 cavCGDCONT

Description

The set command specifies PDP context parameter values for a PDP context identified by the (local) context identification parameter, <cid>.

Syntax

Command	AT Command
eCavRet **cavCGDCONTSet (**eCavCidMode **cid ,** const char* **pdp ,** const char* **apn)**	**AT+CGDCONT= <cid>[,<PDP_type> [,<APN>[,<PDP_addr>]]**

10.7 cavCGDATA

Description

The execution command causes the MT to perform whatever actions are necessary to establish communication between the TE and the network using one or more Packet Domain PDP types.

Syntax

Command	AT Command
eCavRet **cavCGDATASet (**const char* **l2p,** eCavCdMode **cd)**	**AT+CGDATA= <L2P>, <cid>**

10.8 cavCGPADDR

Description

The execution command returns a list of PDP addresses for the specified context identifiers.

Syntax

Command	AT Command
eCavRet **cavCGPADDRGet (**sCavString ****cgaddr)**	**AT+CGPADDR**

11 TCP Commands

11.1 Definitions

- eCavCmuxMode

eCAV_CIPMUX_MODE_SINGLE_IP=0	Single IP connection
eCAV_CIPMUX_MODE_MULTI_IP=1	Multi IP connection

- eCavCipMode

eCAV_CIPMODE_NORMAL_MODE=0	Normal Mode
eCAV_CIPMODE_TRANS_MODE=1	Transparent Mode

- eCavCsripMode

eCAV_CIPSRIP_NO_PROMPT=0	Do not show the prompt
eCAV_CIPSRIP_PROMPT_1=1	Show the prompt1

- eCavCsMode

eCAV_CIPSHOWTP_HIDE_TP =0	Not display transfer protocol
eCAV_CIPSHOWTP_DISPLAY_TP=1	Display transfer protocol

- eCavCipserMode

eCAV_SERVER_DISABLE = 0	Disable
eCAV_SERVER_ENABLE = 1	Enable

- eCavCsprtMode

eCAV_CIPSPRT_NO_PROMPT_ECHO= 0	It shows send ok but does not prompt echo when sending is successful.
eCAV_CIPSPRT_PROMPT_AND_SEND_OK= 1	It prompts echo and shows send ok when sending is successful.
eCAV_CIPSPRT_NEITHER_PROMPT_NOR_SEND_OK= 2	It neither prompts echo nor shows when sending is successful.

- eCavRXMode

eCAV_CIPRXMODE_DEFAULT_STREAM= 0	Default stream to AT port
eCAV_CIPRXMODE_SAVE_FILE= 1	Save as file

11.2 cavCIPMUX

Description

This command is used to start Up Multi-IP Connection.

Syntax

Command	AT Command
eCavRet **cavCIPMUXSet (**`eCavCmuxMode` **cmux)**	**AT+CIPMUX=<connection_mode>**
eCavRet **cavCIPMUXGet (**`eCavCmuxMode` ***cmux)**	**AT+CIPMUX?**

11.3 cavCIPTKA

Description

This command is used to set TCP Keep-alive Parameters.

Syntax

Command	AT Command
eCavRet **cavCIPTKASet (**`eCavCtkaMode` **mode,**	**AT+CIPTKA=<tcp_keepalive_mode>[<idle**

eCavkeepidle keepidle , eCavKintrvalFormat keepinterval, eCavkeepCountAcT keepCount)	_time> [<interval_time>[<max_count >]]]
eCavRet cavCIPTKAGet (sCavString **ctka)	AT+CIPTKA?

11.4 cavCIPSTATUS

Description

This command is used to query Current Connection Status.

Syntax

Command	AT Command
eCavRet cavCIPSTATUSGet (sCavString **cststus)	AT+CIPSTATUS

11.5 cavGetCIPSHUT

Description

This command is used to Disconnect Wireless Connection.

Syntax

Command	AT Command
eCavRet cavGetCIPSHUT (sCavString **cshut)	AT+CIPSHUT

11.6 cavCIPMODE

Description

This command is used to select TCP Application Mode.

Syntax

Command	AT Command
eCavRet cavCIPMODEGet (eCavCipMode **cipmod)	AT+CIPMODE?

eCavRet **cavCIPMODESet (**eCavCipMode **cipmod)**	**AT+CIPMODE=<mode>**

11.7 cavCIPSRIP

Description

This command is used to show Remote IP Address and Port When Received Data.

Syntax

Command	AT Command
eCavRet **cavCIPSRIPGet (**eCavCsripMode ***csrip)**	**AT+CIPSRIP?**
eCavRet **cavCIPSRIPSet (**eCavCsripMode **csrip)**	**AT+CIPSRIP=<mode>**

11.8 cavCIPSHOWTP

Description

This command is used to display Transfer Protocol in IP Head.

Syntax

Command	AT Command
eCavRet **cavCIPSHOWTPGet (**eCavCsMode ***cstp)**	**AT+CIPSHOWTP?**
eCavRet **cavCIPSHOWTPSet (**eCavCsMode **cstp)**	**AT+CIPSHOWTP=<mode>**

11.9 cavCIPSPRT

Description

This command is used to Set Prompt Of '>' When Module Sends Data.

Syntax

Command	AT Command
eCavRet **cavCIPSPRTSet (**eCavCsprtMode **csprt)**	**AT+CIPSPRT=<sending_prompt_mode>**

eCavRet **cavCIPSPRTGet (**eCavCsprtMode **csprt)**	**AT+CIPSPRT?**

11.10 cavCIPRXMOD

Description

This command is used to Enable Reception Mode.

Syntax

Command	AT Command
eCavRet **cavCIPRXMODSet (**eCavRXMode **rxmod)**	**AT+CIPRXMODE=<mode>**
eCavRet **cavCIPRXMODGet (**eCavRXMode ***rxmod)**	**AT+CIPRXMODE?**

11.11 cavCIPSERVER

Description

This command is used configure the module as a local TCP server.

Syntax

Command	AT Command
eCavRet **cavCIPSERVERSet (**eCavCipserMode **s servr ,** const char* **port)**	**AT+CIPSERVER=<server_mode>, [port], [ipv6_priority], [ssl_flag], [ca-cert_id], [client_cert_id], [prv_key_id]**
eCavRet **cavCIPSERVERGet (**sCavString ***getServerinfo)**	**AT+CIPSERVER=?**

12 Network Service Commands

12.1 Definitions

- eCavCregMode

eCAV_CREG_MODE_DISABLE=0	Disable network registration
eCAV_CREG_MODE_ENABLE=1	Enable network registration unsolicited result code
eCAV_CREG_MODE_ENABLE_LOC_INFO = 2	Enable network registration and location information unsolicited result code
eCAV_CREG_MODE_ENABLE_CAUSE_INFO = 3	Enable network registration and location information and cause value information unsolicited result code

- eCavCplsMode

eCAV_CPLS_MODE_USER = 0	User controlled PLMN selector
eCAV_CPLS_MODE_OPERATOR = 1	Operator controlled PLMN selector
eCAV_CPLS_MODE_HPLMN = 2	HPLMN selector

- eCavCtzrMode

eCAV_CTZR_MODE_DISABLE = 0	Disable
eCAV_CTZR_MODE_ENABLE = 1	Enable

- eCavCtzuMode

eCAV_CTZU_MODE_DISABLE = 0	Disable
eCAV_CTZU_MODE_ENABLE = 1	Enable

- eCavClckMode

eCAV_CLCK_UNLOCK= 0	Unlock
eCAV_CLCK_LOCK = 1	Lock
eCAV_CLCK_QUERY_STATUS = 2	Query Status

- eCavClckClass

eCAV_VOICE= 1	Voice
eCAV_DATA = 2	Data
eCAV_FAX_SERVICE = 4	Fax Service
eCAV_SHORT_MSG_SERVICE = 8	Short Message
eCAV_DATA_CIRCUIT_ASYNC = 32	Data Circuit
eCAV_DED_PACKET_ACCESS = 64	Packet Access
eCAV_DED_PAD_ACCESS = 128	Pad Access

12.2 cavCOPS

Description

Set command forces an attempt to select and register the UMTS network operator. Read command returns the current mode, the currently selected operator and the current Access Technology, if both CS/PS have operator info, CS is preferred.

Syntax

Command	AT Command
eCavRet **cavCopsSet(**eCavCopsMode **mode,** eCavCopsFormat **format,** const char* **c_oper,** eCavCopsAcT **act)**	**AT+COPS= <mode>[,<format>[,<oper>[,< AcT>]]]**
eCavRet **cavCopsGet(**sCavString ****getCopsInfo)**	**AT+COPS?**

12.3 cavCREG

Description

The set command controls the presentation of an unsolicited result code +CEREG: when =1 and there is a change in the MT's EPS network registration status, or code. The read command returns the status of result code presentation and an integer which shows whether the network has currently indicated the registration of the MT.

Syntax

Command	AT Command
eCavRet **cavCregSet(**eCavCregMode **mode)**	**AT+CREG= <mode>**
eCavRet **cavCregGet(**sCavString ****getCregInfo)**	**AT+CREG?**

12.4 cavCSQ

Description

This command is used to display the network strength. csq A pointer to a variable of type sCavString*, where a pointer to a string containing the CSQ value will be stored.

Syntax

Command	AT Command
eCavRet **cavGetCSQ(**sCavString ****csq)**	**AT+CSQ**

12.5 cavCIND

Description

This command is used to get the CIND. Returns the CIND's info, the returned value indicates whether operation was successful or not.

Syntax

Command	AT Command
eCavRet **cavGetCIND(**sCavString ****cind)**	**AT+CIND**

12.6 cavCPLS

Description

This command is used to Set/Get the PLMN selector.

Syntax

Command	AT Command
eCavRet **cavCPLSSet(**eCavCplsMode **cpls)**	**AT+CPLS=<mode>**
eCavRet **cavCPLSGet(**eCavCplsMode ***cpls)**	**AT+CPLS?**

12.7 cavCTZR

Description

This command is used to Set/Get the PLMN selector.

Syntax

Command	AT Command
eCavRet **cavCTZRSet(**eCavCtzrMode **ctzr)**	**AT+CTZR=<mode>**
eCavRet **cavCTZRGet(**eCavCtzrMode ***ctzr)**	**AT+CTZR?**

12.8 cavCTZU

Description

This command is used to Set/Get the current setting in the MT.

Syntax

Command	AT Command
eCavRet **cavCTZUSet(**eCavCtzuMode **ctzu)**	**AT+CTZU=<mode>**
eCavRet **cavCTZRGet(**eCavCtzuMode ***ctzu)**	**AT+CTZU?**

12.9 cavCOPN

Description

This command is used to get the COPN.

Syntax

Command	AT Command
eCavRet **cavCOPNGet(**sCavString **inf)**	**AT+COPN**

12.10 cavCNUM

Description

This command is used to get the MSISDN.

Syntax

Command	AT Command
eCavRet **cavCNUMGet(**void**)**	**AT+CNUM**

12.11 cavCCLCK

Description

This command is used to set the CCLCK Mode.

Syntax

Command	AT Command
eCavRet **cavClckSet(**const char* **fac,** eCavClckMode **mode,** const char* **c_pwd,** eCavClckClass **class)**	**AT+CCLCK=<fac>,<mode>,<c_pwd>,<class>**

12.12 cavCPWD

Description

This command is used to set the CPWD Mode.

Syntax

Command	AT Command
eCavRet **cavCpwdSet(**const char* **fc,** const char* **c_pswd,** const char* **c_newpwd)**	**AT+CPWD=<fac>,<c_pswd>,<c_newpwd>**

13 Call Control Commands

13.1 Definitions

- eCavCrcMode

eCAV_CRC_MODE_DISABLE=0	Disables extended format
eCAV_CRC_MODE_ENABLE=1	Enables extended format

- eCavCstaMode

eCAV_CSTA_MODE_DEFAULT=145	Default 145 when dialling string includes international access code character "+"
eCAV_CSTA_MODE=129	Otherwise 129

- eCavCvhuMode

eCAV_CVHU_MODE_DTR=0	Drop DTR ignored but OK response ATH disconnects
eCAV_CVHU_MODE_DTR_ATH=1	Drop DTR and ATH ignored but OK response given

13.2 cavATD

Description

This command is used for dialing.

Syntax

Command	AT Command
eCavRet **cavATDGet(**void**)**	**AT+ATD**

13.3 cavATA

Description

This command is used to answer the call.

Syntax

Command	AT Command
eCavRet **cavATAGet(**void**)**	**AT+ATA**

13.4 cavATH

Description

This command is used to hang up the call.

Syntax

Command	AT Command
eCavRet **cavATHGet(**void**)**	**AT+ATH**

13.5 cavCHUP

Description

This command is used to hang up the call.

Syntax

Command	AT Command
eCavRet **cavCHUPGet(**void**)**	**AT+CHUP**

13.6 cavCRC

Description

This command is used to Set command controls whether or not the extended format of incoming call indication or GPRS network request for PDP context activation or notification for VBS/VGCS calls is used.

Syntax

Command	AT Command
eCavRet **cavCRCSet(**eCavCrcMode **crc)**	**AT+CRC=<mode>**
eCavRet **cavCRCGet(**eCavCrcMode ***crc)**	**AT+CRC?**

13.7 cavCSTA

Description

This command is used to select the type of number for further dialling commands according to UMTS specifications.

Syntax

Command	AT Command
eCavRet **cavCSTASet(**eCavCstaMode **csta)**	**AT+CSTA=<mode>**
eCavRet **cavCSTAGet(**eCavCrcMode ***csta)**	**AT+CSTA?**

13.8 cavCVHU

Description

This command is used to select whether ATH or drop DTR shall cause a voice connection to be disconnected or not.

Syntax

Command	AT Command
eCavRet **cavCVHUSet(**eCavCvhuMode **cvhu)**	**AT+CVHU=<mode>**
eCavRet **cavCVHUGet(**eCavCvhuMode ***cvhu)**	**AT+CVHU?**

13.9 cavCEER

Description

This command is used to get the CEER status.

Syntax

Command	AT Command
eCavRet **cavCEERGet(**eCavString ****ceer)**	**AT+CEER**