

1 Description of AT Commands

1.1. AT+QCSQ Query and Report Signal Strength

AT+QCSQ query and report the signal strength of the current service network. If the MT is registered with multiple networks in different service modes, you can query the signal strength of networks in each mode. No matter whether the MT is registered with a network or not, you can run this command to query the signal strength or allow the MT to unsolicitedly report the detected signal strength if the MT camps on the network. If the MT is not using any service network or the service mode is uncertain, "NOSERVICE" will be returned as the query result.

AT+QCSQ Query and Report Signal Strength	
Test Command AT+QCSQ=?	Response +QCSQ: (list of supported <sysmode>s) OK
Write Command AT+QCSQ=<enable>	Response OK
Read Command AT+QCSQ?	Response +QCSQ: <enable> OK
Execution Command AT+QCSQ	Response +QCSQ: <sysmode>[,<value1>[,<value2>[,<value3>[,<value4>[,<value>]]]]] OK
Maximum Response Time	300ms

Parameter

<sysmode>	a string type value indicating the service mode in which the MT will unsolicitedly report the signal strength "NOSERVICE" NOSERVICE mode
------------------------	---

“GSM”	GSM/GPRS/EDGE mode
“WCDMA”	WCDMA/HSDPA/HSPA mode
“TDSCDMA”	TDSCDMA mode
“LTE”	LTE mode
“CDMA”	CDMA mode
“EVDO”	EV-DO/eHRPD mode
“CDMA-EVDO”	CDMA/EV-DO(eHRPD) mode

<value1>, <value2>, <value3>, <value4>, <value5>: the following table lists the signal strength type corresponding to each service mode.

<sysmode>	<value1>	<value2>	<value3>	<value4>	<value5>
“NOSERVICE”					
“GSM”	gsm_rssi				
“WCDMA”	wcdma_rssi	wcdma_rscp	wcdma_ecio		
“TDSCDMA”	tdscdma_rssi	tdscdma_rscp	tdscdma_ecio		
“LTE”	lte_rssi	lte_rsrp	lte_sinr	lte_rsrq	
“CDMA”	cdma_rssi	cdma_ecio			
“EVDO”	evdo_rssi	evdo_ecio	evdo_sinr		
“CDMA-EVDO”	cdma_rssi	cdma_ecio	evdo_ecio	evdo_ecio	evdo_sinr

<gsm_rssi>,<wcdma_rssi>,<lte_rssi>,<cdma_rssi>,<evdo_rssi>: an integer indicating the received signal strength. These parameters are available for GSM, WCDMA, LTE, CDMA, and EV-DO mode respectively.

<wcdma_rscp> an integer indicating the received signal code power. This parameter is available for WCDMA mode.

<wcdma_ecio>,<cdma_ecio>,<evdo_ecio> an integer indicating the downlink carrier-to-interference ratio. These parameters are available for WCDMA, CDMA, and EV-DO mode respectively.

<lte_rsrp> an integer indicating the reference signal received power (RSRP). This parameter is available for LTE mode.

<lte_sinr> an integer indicating the signal to interference plus noise ratio (SINR). This parameter is available for LTE mode.

<lte_rsrq> an integer indicating the reference signal received quality (RSRQ) in dB.

<evdo_sinr> an integer indicating the signal to interference plus noise ratio. This parameter is available for EV-DO mode.

<enable>
 0 disable report URC
 1 enable report URC

NOTES

URC command:

+QCSQ: <sysmode>[,<value1>[,<value2>[,<value3>[,<value4>[,<value5>]]]]]

The URC command allows the MT to unsolicitedly report the current signal strength when the strength changes.

The write Command is used to control URC indication, Default is off(**enable = 0**). If **enable = 1**,then the

MT can unsolicitedly report the current signal strength when the strength changes.

Example

```

AT+QCSQ //excute command to query signal
+QCSQ: "LTE",-52,-81,195,-10

OK
AT+QCSQ? //query urc configuration
+QCSQ: 0

OK
AT+QCSQ=? //list of supported <sysmode>s
+QCSQ: "NOSERVICE","GSM","WCDMA","TDSCDMA","LTE","CDMA","EVDO","CDMA-EVDO"

OK
    
```

1.2. AT+QTEMP Read Temperature

This command is used to read the temperature of the PMIC, XO and PA.

AT+QTEMP Read Temperature	
Test Command AT+ QTEMP=?	Response OK
Read Command AT+ QTEMP	Response +QADC: <pmic_temp>,<xo_temp>,<pa_temp> OK
Maximum Response Time	300ms

Parameter

- <pmic_temp>** pmic temperature
 - <xo_temp>** xo temperature
 - <pa_temp>** pa temperature
- units are in degrees C.