

SPP Module AT Commands

For the exchange of the commands and unsolicited result codes, the format, syntax and procedures of 3GPP 27.007 should be taken as reference. The following rules specifically apply for this document:

- Only one command (or unsolicited result code) per command line need to be expected.
- The SPP module, by default, should not echo the command characters.
- The characters below should be used for AT commands and result codes formatting:
<CR> corresponds to the *carriage return* character
<LF> corresponds to the *line feed* character
- The format of an AT command from the host to the SPP module should be:
<AT command><CR><LF>
- The format of the OK code from the SPP module to the host should be:
OK<CR><LF>
- The format of the ERROR code from the SPP module to the host should be:
ERROR<errno><CR><LF>
- The format of an unsolicited result code from the SPP module to the host should be:
<result code><CR><LF>

Commands

- **AT#SIQ** Inquiry devices
Description:
This command should be issue only in ready state. Start to inquiry devices for about 10 seconds. The found device information will be returned by RIR unsolicited result code.
Response:
OK
ERROR
- **AT#EIQ** Stop inquiry devices
Description:
This command should be issue only in inquiring state. It would stop inquiring and back to ready state.
Response:
OK
ERROR
- **AT#PAR** Enter pairing state
Description:
This command should be issue only in ready state. The SPP module would be discoverable and pairable in pairing state.
Response:
OK
ERROR
- **AT#CNP** Cancel pairing
Description:
This command should be issue only in pairing state. The SPP module

would back to ready state.

Response:

OK

ERROR

- **AT#PNU** Response PIN code

Description:

This command is used to response PIN code to SPP module after received a RQP unsolicited result code.

Response:

OK

ERROR

Command:

AT#PNU<pin>

Parameter:

<pin>: The 4-digit PIN code string.

- **AT#CON** Establish SPP connection

Description:

Establish SLC connection to last used headset.

Command:

AT#CON<bdaddr>

Response:

OK

ERROR

Parameter:

<bdaddr>: This must be a 12-digit Bluetooth address using upper case hex digit.

- **AT#DSC** Disconnect SPP connection.

Description:

Disconnect the SPP connection.

Response:

OK

ERROR

- **AT#RST** Reset

Description:

Disconnect any connection and start a warm reboot. It would take about one second to reboot. After reboot, host will get an unsolicited result code PON.

Response:

OK

- **AT#RPT** Report current state

Description:

Report current state to host by RHS command.

Response:

RPT<state>

OK

Parameter:

<state>

<state>	Description
1	Initializing
2	Ready
3	Pairable
4	Connecting
5	Connected
6	Inquiring

- **AT#SND** Start to send data

Description:

This command should be issue only in connected state. Every byte received from host would be send to connected remote device after this command. The only exception is “AT#END” command.

If the host want to send “AT#END” to terminate sending data, please stop sending any data and wait for about 50ms before sending out “AT#END” command. Or the “AT#END” command would be sent to remote device as normal data.

Response:

OK

- **AT#END** Stop sending data

Description:

Stop sending data that received from host to connected remote device.

Response:

OK

- **AT#BAU** Change baud rate

Description:

Change the UART baud rate.

Command:

AT#BAU<baudrate>

Response:

OK

ERROR

Parameter:

<baudrate>

<baudrate>	Description
1	9600bps
2	19200bps
3	38400bps
4	57600bps
5	115200bps

- **AT#NAM** Change local device name

Description:

Change the local device name.

Command:

AT#NAM<name>

Response:

OK

ERROR

Parameter:

<name>: The device name length can not longer than 31 characters.

- **AT#GRN** Read remote device name

Description:

Read the device name of specified remote device.

Command:

AT#GRN<bdaddr>

Response:

RRN<name>

OK

ERROR

Parameter:

<bdaddr>: 12-digit Bluetooth address using upper case hex digit.

<name>: The remote device name.

- **AT#RLA** Read local address

Description:

Read the local Bluetooth address.

Response:

RLA<bdaddr>

OK

ERROR

Parameter:

<bdaddr>: 12-digit Bluetooth address.

- **AT#RLN** Read local name

Description:

Read the local device name.

Response:

RLN<name>

OK

ERROR

Parameter:

<name>: The local device name.

Result Codes

- **ERROR** AT command error

Description:

This result code issued when command is not accepted or unrecognized.

Result code:

ERROR<errno>

Parameter:

<errno>

<errno>	Description
1	Command can not be recognized
2	Command can not be accepted in current state
3	The parameter with command can not be accepted
4	Fail to connect to remote device
5	Unspecified error

Unsolicited Result Codes

- **PON** SPP module is powered on

Description:

Unsolicited result code issued when the SPP module is powered on and ready to received command.

- **RIR** Inquiry result.

Description:

Unsolicited result code used to notify the host when when SPP module found any remote device. The RIR without <bdaddr> means end of inquiry. The state would change to ready state.

Unsolicited result code:

RIR[<bdaddr>]

Parameter:

<bdaddr>: The Bluetooth address in 12-digit hex.

- **RQP** Request a pairing PIN code

Description:

Unsolicited result code issued if SPP is connecting to an unpaired device or paired from a remote device. Host has to send a PIN code by “AT#PNU” command.

- **PRD** A device is paired successfully

Description:

Unsolicited result code used to notify host a remote device is paired successfully.

- **REP** A pairing request is reject/fail

Description:

Unsolicited result code issued if a pairing request is reject or fail.

Unsolicited result code:

REP<reason>

Parameter:

<reason>

<reason>	Description
1	Pairing timeout

2	Pairing failed
3	Pairing failed due to too many repeat attempts
4	Pairing failed as remote device is not allowing pairing
5	Pairing failed as unit keys are not supported
6	Pairing failed as simple pairing is not supported
7	Pairing failed as module is already busy pairing

- **CON** SPP is connected
Description:
Unsolicited result code used to notify host that the SPP module is connected.

- **DSC** SPP is disconnected
Description:
Unsolicited result code used to notify host that the SPP module is disconnected.