



# **FSC-BT1026 General Audio AT**

## **Command Set**

Release 3.0.0

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# Chapter 1

## Introduction

### 1.1 Description

This design guide is suitable for engineers to develop FSC-BT1026 series Bluetooth modules, also suitable for BT806、BT802、BT1006 series modules

### 1.2 Module Default Settings

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Name</b>                       | FSC-BT1026-XXXX    |
| <b>LE-Name</b>                    | FSC-BT1026-LE-XXXX |
| <b>Pin Code</b>                   | 0000               |
| <b>Secure Simple Pairing Mode</b> | ON                 |
| <b>UART Baudrate</b>              | 115200/8/N/1       |

# Chapter 2

## Command Description

### 2.1 Terms

- Throughout this specification:
- Content between { } is optional
- Content behind << represents a COMMAND from Host
- Content behind >> represents a RESPONSE/EVENT to Host

### 2.2 Command Format

**AT+Command{=Param1{,Param2{,Param3...}}}<CR><LF>**

- All commands start with “AT” , end with <CR><LF>
- <CR> means “carriage return” , corresponds to hex value 0x0D
- <LF> means “line feed” , corresponds to hex value 0x0A
- If Command has Parameter, Parameter follows behind ‘=’
- If Command has multiple Parameters, Parameter must be separated by ‘,’
- If Command has Response, Response starts with <CR><LF>, ends with <CR><LF>
- Module will always report command’ s execution result by using “OK” for success or “ERROR” for failure

Example: Read module's BR/EDR local name

<< AT+NAME

>> +NAME=FSC-BT1026-XXXX

>> OK

Example: Pick up an incoming call when no call incoming actually

<< AT+HFPANSW

>> ERROR

## 2.3 Event Format

**<CR><LF>+Indication{=Param1{,Param2{,Param3...}}}<CR><LF>**

- All Events start with <CR><LF>, end with <CR><LF>
- If Event has Parameter, Parameter follow behind '='
- If Event has multiple Parameters, Parameter must be separated by ','

Example: Received "1234567890" from mobile phone via SPP profile

>> +SPPDATA=10,1234567890

Example: Dial number "10086" using a mobile phone when HFP connected

>> +HFPSTAT=4

>> +HFPAUDIO=1

>> +HFPCID=10086

>> +HFPSTAT=6

# Chapter 3

## Commands Table

### 3.1 General Commands

#### 3.1.1 AT+HELP - Firmware Function/Command Summary

| Command     | AT+HELP                                                                                                                                                                                                                                                                                    |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Response    | <p>&lt;FIRMWARE FUNCTION: appropriate working scenario &gt;</p> <p>&lt;OTA PATH: latest suitable firmware path on server for upgrade On-The-Air&gt;</p> <p>&lt;ENABLED PROFILES: LINKS: ON/OFF&gt;</p> <p>...</p> <p>...</p> <p>&lt;COMMAND SUMMARY: DESCRIPTION: PROFILE CATEGORY&gt;</p> |
| Description | Using help command to get the basic summary information                                                                                                                                                                                                                                    |

### 3.1.2 AT+VER - Get Firmware Version

|                 |                                  |
|-----------------|----------------------------------|
| <b>Command</b>  | <b>AT+VER</b>                    |
| <b>Response</b> | <b>+VER=Param1,Param2,Param3</b> |
| Param1          | Module type                      |
| Param2          | Firmware version                 |
| Param3          | Firmware Compile time            |

Example:

<< AT+VER

>> +VER=BT1036,V2.6.1,20220922

>> OK

### 3.1.3 AT+BAUD - Get/Set Uart Baudrate

|                    |                                                                                               |
|--------------------|-----------------------------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+BAUD{=Param}</b>                                                                        |
| Param              | 9600/19200/38400/57600/115200(default)/230400/460800/921600                                   |
| <b>Response</b>    | <b>+BAUD=Param</b>                                                                            |
| <b>Description</b> | Module will change baudrate to target value immediately or after reboot depending on firmware |

Example:Read module' s baudrate

<< AT+BAUD

>> +BAUD=115200

>> OK

<< AT+BAUD=921600

>> OK

Module switch baudrate to 921600 immediately, host change baudrate as well, query module' s

name at new baudrate

<< AT+NAME

>> +NAME=FSC-BT1036-1F26

>> OK

### 3.1.4 AT+I2SCFG - Get/Set I2S Settings

| Command  | AT+I2SCFG{=Param}                                                    |
|----------|----------------------------------------------------------------------|
| Param    | A base-10 representation of a bit field, default:0, for each bit     |
| BIT[0]   | 0:disable; 1:enable                                                  |
| BIT[1]   | 0:master; 1:slave                                                    |
| BIT[2]   | 0:FS=48000Hz; 1:FS=44100Hz                                           |
| BIT[3]   | 0:left justified; 1:right justified                                  |
| BIT[4]   | 0:data 1 bit delay; 1:data no delay                                  |
| BIT[5-6] | 00: bit depth=16bits<br>01: bit depth=24bits<br>10: bit depth=32bits |
| Response | +I2SCFG=Param                                                        |

Example:usual configuration and description

|    |                                                                                         |
|----|-----------------------------------------------------------------------------------------|
| 1  | I2S Master; Sample rate=48000Hz; Resolution=16bits; Bit clock=<br>48000*16*2ch=1.536Mhz |
| 3  | I2S Slave; Sample rate=48000Hz; Resolution=16bits; Bit clock=<br>48000*16*2ch=1.536Mhz  |
| 65 | I2S Master; Sample rate=48000Hz; Resolution=32bits; Bit clock=<br>48000*32*2ch=3.072Mhz |
| 67 | I2S Slave; Sample rate=48000Hz; Resolution=32bits; Bit clock=<br>48000*32*2ch=3.072Mhz  |

### 3.1.5 AT+SPDIFCFG - SPDIF Format Configuration

|                    |                                                                                                                                              |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+SPDIFCFG{=Param}</b>                                                                                                                   |
| Param              | 0-Disable SPDIF for audio output 1-Enable SPDIF for audio output                                                                             |
| <b>Description</b> | <p>SPDIF output only support: BT802、BT806、BT1026A、BT1026C、BT1026E</p> <p>If the audio output is spdif, the I2S configuration is invalid.</p> |

### 3.1.6 AT+MICGAIN - Get/Set Analog Input Gain

|                    |                           |
|--------------------|---------------------------|
| <b>Command</b>     | <b>AT+MICGAIN{=Param}</b> |
| Param              | Gain ( '+' / '-' )        |
| <b>Description</b> | Adjust input gain         |

### 3.1.7 AT+SPKVOL - Get/Set Analog Output Volume

|                    |                                                                                         |
|--------------------|-----------------------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+SPKVOL{=Param}</b>                                                                |
| Param              | Volume ( '+' / '-' , default:15)                                                        |
| <b>Description</b> | Adjust Output volume, Adjust A2DP volume when play music,adjust HFP volume when talking |

### 3.1.8 AT+REBOOT - Soft Reboot

|                    |                                                                          |
|--------------------|--------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+REBOOT</b>                                                         |
| <b>Response</b>    | <b>OK</b>                                                                |
| <b>Description</b> | Module release all Bluetooth connections with remote device then re-boot |

### 3.1.9 AT+RESTORE - Restore Factory Settings

|                    |                                                 |
|--------------------|-------------------------------------------------|
| <b>Command</b>     | <b>AT+RESTORE</b>                               |
| <b>Response</b>    | <b>OK</b>                                       |
| <b>Description</b> | Module restore all factory settings then reboot |

### 3.1.10 AT+BTEN - Bluetooth On/Off

|                |                        |
|----------------|------------------------|
| <b>Command</b> | <b>AT+BTEN{=Param}</b> |
| Param          | 0-Power off 1-Power on |

### 3.1.11 AT+PROFILE - Bluetooth Profile Selection

|                    |                                                                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+PROFILE{=Param}</b>                                                                                                                                           |
| Param              | A base-10 representation of a bit field, for each bit:                                                                                                              |
| BIT[0]             | SPP (Serial Port Profile)                                                                                                                                           |
| BIT[1]             | GATT Server (Generic Attribute Profile)                                                                                                                             |
| BIT[2]             | GATT Client (Generic Attribute Profile)                                                                                                                             |
| BIT[3]             | HFP-HF (Hands-Free Profile Handsfree)                                                                                                                               |
| BIT[4]             | HFP-AG (Hands-Free Profile Audio Gateway)                                                                                                                           |
| BIT[5]             | A2DP Sink (Advanced Audio Distribution Profile)                                                                                                                     |
| BIT[6]             | A2DP Source (Advanced Audio Distribution Profile)                                                                                                                   |
| BIT[7]             | AVRCP Controller (Audio/Video remote controller Profile)                                                                                                            |
| BIT[8]             | AVRCP Target (Audio/Video remote controller Profile)                                                                                                                |
| BIT[9]             | HID Keyboard (Human Interface Profile)                                                                                                                              |
| BIT[10]            | PBAP Server (Phonebook Access Profile)                                                                                                                              |
| <b>Response</b>    | <b>+PROFILE=Param</b>                                                                                                                                               |
| <b>Description</b> | <p>GATT Server and Client, HFP Sink and Source, A2DP Sink and Source, AVRCP Controller and Target cannot be enabled simultaneously because of mutual exclusion.</p> |

Example:Read current profile selection

<< AT+PROFILE

>> +PROFILE=1195

Example:Enable SPP, GATT Server, HFP Source, A2DP Source profile, disable the others

<< AT+PROFILE=83

>> OK

Example:Enable SPP, A2DP Sink, disable the others

<< AT+PROFILE=33

>> OK

### 3.1.12 AT+AUTOCONN - Turn On/Off Power On Auto Reconnect

| Command     | AT+AUTOCONN{=Param}                                                     |
|-------------|-------------------------------------------------------------------------|
| Param       | (0~15, default:3)<br>(0) Turn Off<br>(1-15) Turn on and reconnect times |
| Response    | +AUTOCONN=Param                                                         |
| Description | Module will attempt to connect last device after power on if set.       |

### 3.1.13 AT+STAT - Get All Profile State

| Command  | AT+STAT                         |
|----------|---------------------------------|
| Response | +STAT=Param1, Param2, Param3... |
| Param1   | DEVSTAT                         |
| Param2   | SPPSTAT                         |
| Param3   | GATTSTAT                        |
| Param4   | HFPSTAT                         |
| Param5   | A2DPSTAT                        |
| Param6   | AVRCPSTAT                       |
| Param7   | HIDSTAT                         |
| Param8   | PBSTAT                          |

### 3.1.14 AT+DEVSTAT - Read Device State

|                 |                                                        |
|-----------------|--------------------------------------------------------|
| <b>Command</b>  | <b>AT+DEVSTAT</b>                                      |
| <b>Response</b> | <b>+DEVSTAT=Param</b>                                  |
| Param           | A base-10 representation of a bit field, for each bit: |
| BIT[0]          | 0: Power Off; 1: Power On                              |
| BIT[1]          | 0: BR/EDR Not Discoverable; 1: BR/EDR Discoverable     |
| BIT[2]          | 0: BLE Not Advertising; 1: BLE Advertising             |
| BIT[3]          | 0: BR/EDR Not Scanning; 1: BR/EDR Scanning             |
| BIT[4]          | 0: BLE Not Scanning; 1: BLE Scanning                   |

Example:usual combination and description

|    |                                                                                              |
|----|----------------------------------------------------------------------------------------------|
| 0  | Device power off                                                                             |
| 1  | Device power on                                                                              |
| 3  | Device power on, BR/EDR Discoverable                                                         |
| 5  | Device power on, BR/EDR Not Discoverable, BLE Advertising                                    |
| 7  | Device power on, BR/EDR Discoverable, BLE Advertising                                        |
| 13 | Device power on, BR/EDR Not Discoverable, BLE Advertising, Scanning nearby<br>BR/EDR devices |

### 3.1.15 AT+ADDR - Get BR/EDR MAC Address

|                 |                                               |
|-----------------|-----------------------------------------------|
| <b>Command</b>  | <b>AT+ADDR</b>                                |
| <b>Response</b> | <b>+ADDR=Param</b>                            |
| Param           | Module' s BR/EDR MAC address (12 Bytes ASCII) |

Example:

<< AT+ADDR

>> +ADDR=DC0D30010203

>> OK

### 3.1.16 AT+LEADDR - Get BLE MAC Address

|                 |                                           |
|-----------------|-------------------------------------------|
| <b>Command</b>  | <b>AT+LEADDR</b>                          |
| <b>Response</b> | <b>+LEADDR=Param</b>                      |
| Param           | Module' s LE MAC address (12 Bytes ASCII) |

### 3.1.17 AT+NAME - Get/Set BR/EDR Local Name

|                    |                                                                                                                                    |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+NAME{=Param1{,Param2}}</b>                                                                                                   |
| Param1             | BR/EDR local name(1~31 Bytes ASCII)                                                                                                |
| Param2             | MAC address suffix(0/1,default:1)<br>0: Disable suffix<br>1: Enable suffix “-XXXX” (lower 4 bytes of MAC address) after local name |
| <b>Response</b>    | <b>+NAME=Param</b>                                                                                                                 |
| <b>Description</b> | Write local name if parameter exist, otherwise read current local name                                                             |

Example:Read current BR/EDR local name

<< AT+NAME

>> +NAME=FSC-BT1036-XXXX

>> OK

Example:Change module' s BR/EDR local name to “ABC” ,and disable suffix

<< AT+NAME=ABC,0

>> OK

Example:Change module' s BR/EDR local name to “ABC” and enable suffix

<< AT+NAME=ABC,1

>> OK

### 3.1.18 AT+LENAM - Get/Set BLE Local Name

| Command  | AT+LENAM{=Param1{,Param2}}                                                                                                       |
|----------|----------------------------------------------------------------------------------------------------------------------------------|
| Param1   | BLE local name(1~25 Bytes ASCII)                                                                                                 |
| Param2   | MAC address suffix(0/1,default:1)<br>0-Disable suffix<br>1-Enable suffix “-XXXX” (lower 4 bytes of MAC address) after local name |
| Response | +LENAM=Param                                                                                                                     |

### 3.1.19 AT+SSP - Get/Set BR/EDR Pairing Mode

| Command  | AT+SSP{=Param}                                                                                                                                                                   |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Param    | Pairing mode (0~3, default:2)<br>(0) Legacy pairing, use pin code for pairing<br>(1) Secure simple pairing, auto pairing<br>(2) Secure simple pairing, display yes/no in pairing |
| Response | +SSP=Param                                                                                                                                                                       |
| Note     | need reboot                                                                                                                                                                      |

### 3.1.20 AT+PIN - Get/Set BR/EDR Pin Code

| Command     | AT+PIN{=Param}                                        |
|-------------|-------------------------------------------------------|
| Param       | Pin code(4~15 Bytes ASCII, default:0000)              |
| Response    | +PIN=Param                                            |
| Description | Pin code only work in legacy pairing mode, see AT+SSP |

Example:Read module' s pin code

```
<< AT+PIN
>> +PIN=0000
>> OK
```

Example: Change module's pin code to "1234"

```
<< AT+PIN=1234
>> OK
```

### 3.1.21 AT+COD: Get/Set Device Class

| Command  | AT+COD=Param                                                    |
|----------|-----------------------------------------------------------------|
| Param    | Class of device(6 bytes ASCII, default:240408 Handsfree device) |
| Response | +COD=Param                                                      |

Related configuration reference: [COD](#).

### 3.1.22 AT+PAIR: Get/Set BR/EDR/BLE Visibility

| Command     | AT+PAIR=Param                                                                                                                                                         |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Param       | Mode(0-1)<br><br>0: Leave BR/EDR/BLE discoverable mode (stop advertising/broadcasting)<br><br>1: Enter BR/EDR/BLE discoverable mode (start advertising/broadcasting)  |
| Description | Module will always be discoverable if no device connected (BR/EDR or BLE),<br><br>and be undiscoverable if connected with remote device, unless received this command |

### 3.1.23 AT+SCAN - Scan Nearby Devices

| Command     | AT+SCAN=Param                                                     |
|-------------|-------------------------------------------------------------------|
| Param       | scan type(0~1)<br>0: Stop scan<br>1: Scan nearby BR/EDR devices   |
| Description | Format description reference: <a href="#">+SCAN - Scan Result</a> |

### 3.1.24 AT+PLIST - Get/Delete Paired List

| Command   | AT+PLIST{=Param}                                                                                                                                                    |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Param     | (0/1~8/12 Bytes MAC address)<br>(0) Clear all paired record<br>(1~8) Clear specific paired record with index<br>(MAC) Clear specific paired record with MAC address |
| Response1 | <b>+PLIST=Param1, Param2, Param3{,Param4}</b>                                                                                                                       |
| Param1    | (1~8) Paired device' s index                                                                                                                                        |
| Param2    | (MAC) Paired device' s MAC address                                                                                                                                  |
| Param3    | (UTF8) Paired device' s name                                                                                                                                        |
| Response2 | <b>+PLIST=E</b> End of the paired record                                                                                                                            |

Example:Read module' s paired record

```
<< AT+PLIST
```

```
>> +PLIST=1,1C5CF226D773, iPhone12
```

```
+PLIST=2, A0BC30075421, Samsung S8
```

```
+PLIST=E
```

```
>> OK
```

Example: Clear module's paired record

<< AT+PLIST=0

>> OK

### 3.1.25 AT+DSCA - Release All Connections

|                    |                                                             |
|--------------------|-------------------------------------------------------------|
| <b>Command</b>     | <b>AT+DSCA</b>                                              |
| <b>Description</b> | Module release all Bluetooth connections with remote device |

### 3.1.26 AT+TPMODE - Turn On/Off Throughput Mode

|                    |                                                                                                                                                                   |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+TPMODE{=Param}</b>                                                                                                                                          |
| Param              | Throughput mode(0~1, default:0) 0: Turn Off 1: Turn On                                                                                                            |
| <b>Response</b>    | <b>+TPMODE=Param</b>                                                                                                                                              |
| <b>Description</b> | When SPP/GATT profile connected and throughput mode is on, the AT command will be de-active, every byte received via physical UART will be sent to air, vice visa |

### 3.1.27 AT+AUXCFG - Audio Input Mode Configuration

| Command     | AT+AUXCFG=Param1                                                                                                                                                                                        |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Param1      | mode(0-3,default:)<br>0: BT Mode<br>1: LineIn Mode<br>2: Spdif Mode<br>3: I2S Mode                                                                                                                      |
| Description | This command is used to configure the input mode of the module,<br>BT1006A, BT1026C, BT1026D do not support spdif<br>After BT1026A, BT1026B,are set to spdif, PA_MUTE pin will be<br>modified to 20 pin |

Example:Set LineIn mode input

<< AT+AUXCFG=1

>> OK

Some old firmware use AT+LINECFG=1 command to set

### 3.1.28 AT+PRINT - Turn on/off reporting data

| Command | AT+PRINT{=Param}                       |
|---------|----------------------------------------|
| Param   | 0-off 1-on 。 default: Open report data |

### 3.1.29 AT+TONEPLAY - play tone

| Command | AT+TONEPLAY{=Param} |
|---------|---------------------|
| Param   | tone(0-94)          |

### 3.1.30 AT+MUTEPIO - Set PA\_MUTE pin

|                |                                |
|----------------|--------------------------------|
| <b>Command</b> | <b>AT+MUTEPIO{=Param}</b>      |
| Param          | PIO(0-63, 1026C default:PIO23) |

### 3.1.31 AT+MICMUTE - mute MIC

|                    |                           |
|--------------------|---------------------------|
| <b>Command</b>     | <b>AT+MICMUTE=Param</b>   |
| Param              | 0-unmute 1-mute           |
| <b>Description</b> | mute mic when call active |

### 3.1.32 AT+SPKMUTE - mute Speaker

|                |                         |
|----------------|-------------------------|
| <b>Command</b> | <b>AT+MICMUTE=Param</b> |
| Param          | 0-unmute 1-mute         |

## 3.2 HFP Commands

### 3.2.1 AT+HFPSTAT - Read HFP State

|                    |                                                                    |
|--------------------|--------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+HFPSTAT</b>                                                  |
| <b>Response</b>    | <b>+HFPSTAT=Param</b>                                              |
| <b>Description</b> | Format description reference: <a href="#">+HFPSTAT - HFP State</a> |

### 3.2.2 AT+HFPRES - Get/Set HFP Sample Rate

|                 |                                                  |
|-----------------|--------------------------------------------------|
| <b>Command</b>  | <b>AT+HFPRES{=Param}</b>                         |
| Param           | Sample rate (Hz) for HFP voice call, 0:16k 1-48K |
| <b>Response</b> | <b>+HFPRES=Param</b>                             |

### 3.2.3 AT+HFPCONN - Establish HFP Connection

|                    |                                                     |
|--------------------|-----------------------------------------------------|
| <b>Command</b>     | <b>AT+HFPCONN{=Param}</b>                           |
| Param              | MAC address of target device (12 Bytes ASCII)       |
| <b>Description</b> | Reconnect to last HFP device if parameter not exist |

Example:Connect to last HFP device

<< AT+HFPCONN

>> OK

Example:Connect to specific HFP device with MAC address

<< AT+HFPCONN=1C5CF226D773

>> OK

### 3.2.4 AT+HFPDISC - Release HFP Connection

|                    |                                                   |
|--------------------|---------------------------------------------------|
| <b>Command</b>     | <b>AT+HFPDISC</b>                                 |
| <b>Description</b> | Release current HFP connection with remote device |

### 3.2.5 AT+HFPDIAL - Dial/Redial Phone Number

|                    |                                                           |
|--------------------|-----------------------------------------------------------|
| <b>Command</b>     | <b>AT+HFPDIAL{=Param}</b>                                 |
| Param              | Phone number (1~25 Bytes ASCII)                           |
| <b>Description</b> | Dial specific number if parameter exist, otherwise redial |

Example:Redial

<< AT+HFPDIAL

>> OK

Example:Dial number “075527924639”

<< AT+HFPDIAL=075527924639

>> OK

### 3.2.6 AT+HFPDTMF - Send DTMF code

|                |                           |
|----------------|---------------------------|
| <b>Command</b> | <b>AT+HFPDTMF{=Param}</b> |
| Param          | <b>DTMF (0~9/#/*)</b>     |

Example: Send DTMF code “#” while talking

```
<< AT+HFPDTMF=#
```

```
>> OK
```

### 3.2.7 AT+HFPANSW - Pick Up Incoming Call

|                    |                          |
|--------------------|--------------------------|
| <b>Command</b>     | <b>AT+HFPANSW</b>        |
| <b>Description</b> | Pick up an incoming call |

### 3.2.8 AT+HFPCHUP - Reject/Hung up Call

|                    |                                                      |
|--------------------|------------------------------------------------------|
| <b>Command</b>     | <b>AT+HFPCHUP</b>                                    |
| <b>Description</b> | Reject incoming call or hung up outgoing/active call |

### 3.2.9 AT+HFPADTS - Transfer Voice Audio Between Local and Remote Device

|                    |                                                                                                              |
|--------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+HFPADTS=Param</b>                                                                                      |
| Param              | 0: Transfer voice audio from module to remote device<br>1: Transfer voice audio from remote device to module |
| <b>Description</b> | Transfer voice audio between module and remote device by default if no parameter set                         |

### 3.2.10 AT+HFPVR - Start/Stop Voice Recognition of Remote Device

|                    |                                                                              |
|--------------------|------------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+HFPVR=Param</b>                                                        |
| Param              | 0-Stop 1-Start                                                               |
| <b>Description</b> | Start/Stop Voice Recognition of Remote Device (such as Siri for iOS devices) |

### 3.2.11 AT+HFPSCO - HFP SCO Configuration

|                |                                         |
|----------------|-----------------------------------------|
| <b>Command</b> | <b>AT+HFPSCO=Param</b>                  |
| Param          | 0-default 1-always to HF 2-always to AG |

### 3.2.12 AT+HFPBATT - Send device battery level

|                |                         |
|----------------|-------------------------|
| <b>Command</b> | <b>AT+HFPBATT=Param</b> |
| Param          | level(0-9)              |

## 3.3 A2DP/AVRCP Commands

### 3.3.1 AT+A2DPSTAT - Read A2DP State

|                    |                                                                      |
|--------------------|----------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+A2DPSTAT</b>                                                   |
| <b>Response</b>    | +A2DPSTAT=Param                                                      |
| <b>Description</b> | Format description reference: <a href="#">+A2DPSTAT - A2DP State</a> |

### 3.3.2 AT+A2DPCONN - Establish A2DP Connection

|                    |                                                      |
|--------------------|------------------------------------------------------|
| <b>Command</b>     | <b>AT+A2DPCONN{=Param}</b>                           |
| Param              | MAC address of target device (12 Bytes ASCII)        |
| <b>Description</b> | Reconnect to last A2DP device if parameter not exist |

### 3.3.3 AT+A2DPDISC - Release A2DP Connection

|                    |                                                    |
|--------------------|----------------------------------------------------|
| <b>Command</b>     | <b>AT+A2DPDISC</b>                                 |
| <b>Description</b> | Release current A2DP connection with remote device |

### 3.3.4 AT+A2DPCFG - Read/Write A2DP Configuration

|                |                                                       |
|----------------|-------------------------------------------------------|
| <b>Command</b> | <b>AT+A2DPCFG=Param</b>                               |
| Param          | A base-10 representation of a bit field, for each bit |
| BIT[0]         | 0: Disable AAC Codec 1: Enable AAC Codec              |
| BIT[1]         | 0: Disable APTX Codec 1: Enable APTX Codec            |
| BIT[2]         | 0: Disable APTX-LL Codec 1: Enable APTX-LL Codec      |
| BIT[3]         | 0: Disable APTX-HD Codec 1: Enable APTX-HD Codec      |
| BIT[4]         | 0: Disable APTX-AD Codec 1: Enable APTX-AD Codec      |
| BIT[5]         | 0: Disable LDAC Codec 1: Enable LDAC Codec            |

Example:Read current A2DP configuration

```
<< AT+A2DPCFG
```

```
>> +A2DPCFG=0
```

```
>> OK
```

Example::Set A2DP configuration to: Only enable AAC Codec

```
<< AT+A2DPCFG=1
```

```
>> OK
```

### 3.3.5 AT+A2DPDEC - Read A2DP Decoder

|                 |                                                             |
|-----------------|-------------------------------------------------------------|
| <b>Command</b>  | <b>AT+A2DPDEC</b>                                           |
| <b>Response</b> | <b>+A2DPDEC=Param</b>                                       |
| Param           | 1:SBC 3:AAC 5:APTX 7:APTX-HD 8:APTX-LL 9:APTX-AD<br>10:LDAC |

### 3.3.6 AT+A2DPENC - Read A2DP Encoder

|                 |                                                                 |
|-----------------|-----------------------------------------------------------------|
| <b>Command</b>  | <b>AT+A2DPENC</b>                                               |
| <b>Response</b> | +A2DPENC=Param                                                  |
| Param           | 1:SBC 3:AAC 5:APTIX 7:APTIX-HD 8:APTIX-LL 9:APTIX-AD<br>10:LDAC |

### 3.3.7 AT+A2DPAUDIO - Establish/Release A2DP Audio Connection

|                |                                                                                                                                |
|----------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Command</b> | <b>AT+A2DPAUDIO{=Param}</b>                                                                                                    |
| Param          | 0-Release A2DP audio connection with remote a2dp sink device<br>1-Establish A2DP audio connection with remote a2dp sink device |
| <b>Note</b>    | A2DP SOURCE only supported                                                                                                     |

### 3.3.8 AT+AVRCPSTAT - Read AVRCP State

|                    |                                                                        |
|--------------------|------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+AVRCPSTAT</b>                                                    |
| <b>Response</b>    | +AVRCPSTAT=Param                                                       |
| <b>Description</b> | Format description reference: <a href="#">+AVRCPSTAT - AVRCP State</a> |

### 3.3.9 AT+AVRCPCFG - Get/Set AVRCP Configuration

|                |                                                                                  |
|----------------|----------------------------------------------------------------------------------|
| <b>Command</b> | <b>AT+AVRCPCFG{=Param}</b>                                                       |
| Param          | A base-10 representation of a bit field, default:3, for each bit:                |
| BIT[0]         | Auto get track ID3 information (title, artist, album) on track changed.default:1 |
| BIT[1-3]       | Auto get track play progress if value > 0. default:5 second                      |

Example: Read AVRCP configuration

```
<< AT+AVRCPCFG
```

>> +AVRCPCFG=1

OK

Example: Get track play progress every 1 second

<< AT+AVRCPCFG=3

>> OK

### 3.3.10 AT+PLAYPAUSE - Track Play/Pause

|                    |                                                                                    |
|--------------------|------------------------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+PLAYPAUSE</b>                                                                |
| <b>Description</b> | Send play or pause command to remote media player according to current play status |

### 3.3.11 AT+PLAY - Track Play

|                    |                                          |
|--------------------|------------------------------------------|
| <b>Command</b>     | <b>AT+PLAY</b>                           |
| <b>Description</b> | Send play command to remote media player |

### 3.3.12 AT+PAUSE - Track Pause

|                    |                                           |
|--------------------|-------------------------------------------|
| <b>Command</b>     | <b>AT+PAUSE</b>                           |
| <b>Description</b> | Send pause command to remote media player |

### 3.3.13 AT+STOP - Track Stop

|                    |                                          |
|--------------------|------------------------------------------|
| <b>Command</b>     | <b>AT+STOP</b>                           |
| <b>Description</b> | Send stop command to remote media player |

### 3.3.14 AT+FORWARD - Track Forward

|                    |                                             |
|--------------------|---------------------------------------------|
| <b>Command</b>     | <b>AT+FORWARD</b>                           |
| <b>Description</b> | Send forward command to remote media player |

### 3.3.15 AT+BACKWARD - Track Backward

|                    |                                              |
|--------------------|----------------------------------------------|
| <b>Command</b>     | <b>AT+BACKWARD</b>                           |
| <b>Description</b> | Send backward command to remote media player |

### 3.3.16 AT+FFWD - Track FastForward

|                    |                                                  |
|--------------------|--------------------------------------------------|
| <b>Command</b>     | <b>AT+FFWD=Param</b>                             |
| Param              | 0-Fast Forward Release, 1-Fast Forward Press     |
| <b>Description</b> | Send fast forward command to remote media player |

### 3.3.17 AT+RWD - Track Rewind

|                    |                                            |
|--------------------|--------------------------------------------|
| <b>Command</b>     | <b>AT+RWD=Param</b>                        |
| Param              | 0-Rewind Release, 1-Rewind Press           |
| <b>Description</b> | Send rewind command to remote media player |

## 3.4 PBAP Commands

### 3.4.1 AT+PBSTAT - Read PBAP state

|                    |                                                                    |
|--------------------|--------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+PBSTAT</b>                                                   |
| <b>Response</b>    | +PBATAT=Param                                                      |
| <b>Description</b> | Format description reference: <a href="#">+PBSTAT - PBAP State</a> |

### 3.4.2 AT+PBCONN - Establish PBAP Connection

| Command     | AT+PBCONN{=Param}                                                                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Param       | MAC address of target device (12 Bytes ASCII)                                                                                                                                                     |
| Description | <p>Module will use current HFP device' MAC address if parameter not exist</p> <p>For some firmware release, module will establish PBAP connection automatically on received command AT+PBDOWN</p> |

### 3.4.3 AT+PBDISC - Release PBAP Connection

| Command     | AT+PBDISC                                          |
|-------------|----------------------------------------------------|
| Description | Release current PBAP connection with remote device |

### 3.4.4 AT+PBDOWN - Download Phonebook

| Command     | Param1{,Param2}                                                                                                                                                                       |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Param1      | Phonebook type(0-5)<br>(0) Phonebook (SIM Storage)<br>(1) Phonebook (Phone Storage)<br>(2) Received call log<br>(3) Dialed call log<br>(4) Missed call log<br>(5) All call log        |
| Param2      | Max items (1~65535, default:3000 for phonebook; 50 for call log)                                                                                                                      |
| Description | For some phones (e.g. iPhone), the contact download permission must be turned on in phone' s Bluetooth settting<br>for more description, refer to: <a href="#">Phonebook Download</a> |

## 3.5 SPP Commands

### 3.5.1 AT+SPPSTAT - Read SPP State

|             |                                                                    |
|-------------|--------------------------------------------------------------------|
| Command     | AT+SPPSTAT                                                         |
| Response    | +SPPSTAT=Param                                                     |
| Description | Format description reference: <a href="#">+SPPSTAT - SPP State</a> |

### 3.5.2 AT+SPPCONN - Establish SPP Connection

|         |                                               |
|---------|-----------------------------------------------|
| Command | AT+SPPCONN{=Param}                            |
| Param   | MAC address of target device (12 Bytes ASCII) |

### 3.5.3 AT+SPPDISC - Release SPP Connection

|                    |                                                   |
|--------------------|---------------------------------------------------|
| <b>Command</b>     | <b>AT+SPPDISC</b>                                 |
| <b>Description</b> | Release current SPP connection with remote device |

### 3.5.4 AT+SPPSEND - Send Data Via SPP

|                    |                                                     |
|--------------------|-----------------------------------------------------|
| <b>Command</b>     | <b>AT+SPPSEND=Param1,Param2</b>                     |
| Param1             | Payload length (1~492)                              |
| Param2             | Payload (1~492 Bytes UTF8)                          |
| <b>Description</b> | If throughput mode is on, this command is de-active |

Example: Send data “1234567890” to remote device via SPP

<< AT+SPPSEND=10,1234567890

>> OK

## 3.6 GATT Commands

### 3.6.1 AT+GATTSTAT - Read GATT State

|                    |                                                                      |
|--------------------|----------------------------------------------------------------------|
| <b>Command</b>     | <b>AT+GATTSTAT</b>                                                   |
| <b>Response</b>    | +GATTATAT=Param                                                      |
| <b>Description</b> | Format description reference: <a href="#">+GATTSTAT - GATT State</a> |

### 3.6.2 AT+GATTDISC - Release GATT Connection

|                    |                                                    |
|--------------------|----------------------------------------------------|
| <b>Command</b>     | <b>AT+GATTDISC</b>                                 |
| <b>Description</b> | Release current GATT connection with remote device |

### 3.6.3 AT+GATTSEND - Send Data Via GATT

| Command     | AT+GATTSEND=Param1,Param2                           |
|-------------|-----------------------------------------------------|
| Param1      | Payload length (1~492)                              |
| Param2      | Payload (1~492 Bytes UTF8)                          |
| Description | If throughput mode is on, this command is de-active |

Example: Send data “1234567890” to remote device via GATT

```
<< AT+SPPSEND=10,1234567890
```

```
>> OK
```

## 3.7 HID Commands

### 3.7.1 AT+HIDSTAT - Read HID State

| Command     | AT+HIDSTAT                                                         |
|-------------|--------------------------------------------------------------------|
| Response    | +HIDATAT=Param                                                     |
| Description | Format description reference: <a href="#">+HIDSTAT - HID State</a> |

### 3.7.2 AT+HIDCONN - Establish HID Connection

| Command | AT+HIDCONN{=Param}                            |
|---------|-----------------------------------------------|
| Param   | MAC address of target device (12 Bytes ASCII) |

### 3.7.3 AT+HIDDISC - Release HID Connection

| Command     | AT+HIDDISC                                        |
|-------------|---------------------------------------------------|
| Description | Release current HID connection with remote device |

### 3.7.4 AT+HIDMODE - Get/Set HID Input Mode

| Command | AT+HIDMODE{=Param}                                                                                                                         |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Param   | <p>HID keyboard input mode (0~1), default 1</p> <p>(0) Hex key code</p> <p>(1) Ascii key code (English)</p>                                |
| Note    | <p>Module can support various keyboard language with specify firmware, such as: TURKEY SPAIN PORTUGAL FRANCE GERMANY ITALY CZECH JAPAN</p> |

### 3.7.5 AT+HIDREL - Read/write HID key value auto release

| Command | AT+HIDREL{=Param}                                                                                   |
|---------|-----------------------------------------------------------------------------------------------------|
| Param   | <p>HID Key value auto release(0~1), default 1</p> <p>(0) manual release</p> <p>(1) auto release</p> |
| Note    | <p>If HIDREL=0, the user needs to send \x00 \x00 to manually send the bounce key</p>                |

### 3.7.6 AT+HIDDLTY - Get/Set HID Report Period

| Command | AT+HIDDLTY{=Param}                              |
|---------|-------------------------------------------------|
| Param   | HID report period in millisecond, default 10 ms |

### 3.7.7 AT+HIDSEND - Send HID Keyboard Report

| Command     | AT+HIDSEND=Param1,Param2                                                                                                       |
|-------------|--------------------------------------------------------------------------------------------------------------------------------|
| Param1      | Report length                                                                                                                  |
| Param2      | Report payload                                                                                                                 |
| <b>Note</b> | <p>For special key code:</p> <p>0x0D -&gt; ENTER</p> <p>0x08 -&gt; BACKSPACE</p> <p>0x09 -&gt; TAB</p> <p>0x20 -&gt; SPACE</p> |

Example: Send key code 'A' to remote device (on AT+HIDMODE=1)

>> AT+HIDSEND=1,A

<< OK

Example: Send key code 'A' to remote device (on AT+HIDMODE=0)

<< AT+HIDSEND=4, x00 x04

>> OK

Note: As payload is hex value, hence actual command is:

41 54 2B 48 49 44 53 45 4E 44 3D 34 2C 00 04 0d 0a

Where:

00 : modifier

04 : key code

Module will auto send debounce key code by itself

### 3.7.8 AT+HIDCMD - Send HID User Report

| Command | AT+HIDCMD=Param                                                                                                                                                                                                                                                                                                          |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Param   | <p>2 bytes hid user report</p> <p>e.g., for iPhone:</p> <p>Play/Pause: 00 CD</p> <p>Stop: 00 B7</p> <p>Forward: 00 B5</p> <p>Backward: 00 B6</p> <p>Fast Forward: 00 B3</p> <p>Rewind:00 B4</p> <p>Record:00 B2</p> <p>VolumpUp:00 E9</p> <p>VolumpDn:00 EA</p> <p>Mute:00 E2</p> <p>On screen keyboard Toggle:01 AE</p> |

Example: Send Volume Up to iPhone

<< AT+HIDCMD= x00 xE9

>> OK

Note: As the payload is hex value, hence actual command is:

41 54 2B 48 49 44 43 4D 44 3D 00 E9 0D 0A

# Chapter 4

## Events Table

### 4.1 General Events

#### 4.1.1 +SCAN - Scan Result

| Format1 | +SCAN =Param1,Param2,Param3, Param4,Param5,Param6                                                 |
|---------|---------------------------------------------------------------------------------------------------|
| Param1  | Index                                                                                             |
| Param2  | Device address type (0~2)<br>(0) LE public address<br>(1) LE random address<br>(2) BR/EDR address |
| Param3  | MAC address (12 Bytes ASCII)                                                                      |
| Param4  | RSSI (-127 ~ -1)                                                                                  |
| Param5  | Size of Param6 if exist                                                                           |
| Param6  | Device Name for BR/EDR devices or advertising data for LE devices                                 |
| Format2 | +SCAN=E: Scan stopped                                                                             |

Example: Scan BR/EDR nearby devices

<< AT+SCAN=1

>> OK

>> +SCAN=1,-32,3,B019C66209FA,wt-iphone,7A020C

```
>> +SCAN=2,-74,0,DC0D30000053,BW226,040680
>> +SCAN=3,-43,0,00158354F994,LAPTOP-3L,120104
>> +SCAN=E
```

### 4.1.2 +PAIRED - Pair Result

| Format | +PAIRED=Param                                          |
|--------|--------------------------------------------------------|
| Param  | MAC address (12 Bytes ASCII) of current pairing device |

## 4.2 HFP Events

### 4.2.1 +HFPSTAT - HFP State

| Format | +HFPSTAT=Param                                                                                                                          |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Param1 | (0~6)<br>(0) Unsupported<br>(1) Standby<br>(2) Connecting<br>(3) Connected<br>(4) Outgoing call<br>(5) Incoming call<br>(6) Active call |

### 4.2.2 +HFPDEV - HFP Remote Device Information

| Format | +HFPDEV=Param1{,Param2}                                        |
|--------|----------------------------------------------------------------|
| Param1 | (12 Bytes ASCII), Remote MAC address of current HFP connection |
| Param2 | (UTF8), Remote device name of current HFP connection           |

Example: HFP connect success with device

>> +HFPDEV=1C5CF226D774, iPhone

### 4.2.3 +HFPCID - Incoming/Outgoing Call Number

| Format | +HFPCID=Param                   |
|--------|---------------------------------|
| Param  | (1~25 Bytes ASCII), Call number |

Example: Dial number 10086

<< AT+HFPDIAL=10086

>> +HFPSTAT=4

>> +HFPCID=10086

>> +HFPCIE=China Mobile

>> +HFPAUDIO=1

Example: Incoming call with number 13265463800

>> +HFPSTAT=5

>> +HFPCID=13265463800

>> +HFPCIE=Jerry

>> +HFPAUDIO=1

### 4.2.4 +HFPCIE - Incoming/Outgoing Call Name

| Format      | +HFPCIE=Param                                                                          |
|-------------|----------------------------------------------------------------------------------------|
| Param       | (UTF8), Call name                                                                      |
| <b>Note</b> | This event is supported by IOS mobile phones, but not supported by most Android phones |

#### 4.2.5 +HFPAUDIO - HFP Voice Audio State

| Format | +HFPAUDIO=Param                                                                                                                                               |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Param  | <p>(0) HFP voice audio disconnected, audio input/output routed to remote device</p> <p>(1) HFP voice audio connected, audio input/output routed to module</p> |

#### 4.2.6 +HFPSIG - HFP Remote Device Network Signal Strength

| Format | +HFPSIG=Param                                  |
|--------|------------------------------------------------|
| Param  | (0~5) Network signal strength of remote device |

#### 4.2.7 +HFPROAM - HFP Remote Device Roaming State

| Format | +HFPROAM=Param                       |
|--------|--------------------------------------|
| Param  | (0/1) Roaming state of remote device |

#### 4.2.8 +HFPBATT - HFP Remote Device Battery Level

| Format | +HFPBATT=Param                       |
|--------|--------------------------------------|
| Param  | (0~5) Battery level of remote device |

#### 4.2.9 +HFPNET - HFP Remote Device Network Operator Selection

| Format | +HFPNET=Param                                      |
|--------|----------------------------------------------------|
| Param  | (UTF8) Network operator selection of remote device |

#### 4.2.10 +HFPMANU - HFP Remote Device Manufacture

| Format | +HFPMANU=Param                           |
|--------|------------------------------------------|
| Param  | (UTF8) Manufacture name of remote device |

#### 4.2.11 +HFPNUM - HFP Remote Device Phone Subscriber Number

| Format | +HFPNUM=Param                                   |
|--------|-------------------------------------------------|
| Param  | (ASCII)Phone subscriber number of remote device |

#### 4.2.12 +HFPIBR - HFP Remote Device In-band-ring Support

| Format      | +HFPIBR=Param                                                   |
|-------------|-----------------------------------------------------------------|
| Param       | (0/1) In-band-ring support                                      |
| Description | Report whether the current connected phone support in-band-ring |

### 4.3 A2DP/AVRCP Events

#### 4.3.1 +A2DPSTAT - A2DP State

| Format | +A2DPSTAT=Param                                                                    |
|--------|------------------------------------------------------------------------------------|
| Param  | (0) Unsupported<br>(1) Standby<br>(2) Connecting<br>(3) Connected<br>(4) Streaming |

### 4.3.2 +A2DPDEV - A2DP Remote Device Information

| Format | +A2DPDEV=Param1{,Param2}                                                  |
|--------|---------------------------------------------------------------------------|
| Param1 | (12 Bytes ASCII), Remote device' s MAC address of current A2DP connection |
| Param2 | (UTF8), Remote device' s name of current A2DP connection                  |

### 4.3.3 +AVRCPSTAT - AVRCP State

| Format | +AVRCPSTAT=Param                                                  |
|--------|-------------------------------------------------------------------|
| Param  | (0) Unsupported<br>(1) Standby<br>(2) Connecting<br>(3) Connected |

### 4.3.4 +PLAYSTAT - Media Player State

| Format | +PLAYSTAT=Param                                                                       |
|--------|---------------------------------------------------------------------------------------|
| Param  | (0) Stopped<br>(1) Playing<br>(2) Paused<br>(3) Fast Forwarding<br>(4) Fast Rewinding |

### 4.3.5 +TRACKSTAT - Media Player Play Progress

| Format | +TRACKSTAT=Param1,Param2,Param3                              |
|--------|--------------------------------------------------------------|
| Param1 | (0~4), Media Player State, see +PLAYSTAT                     |
| Param2 | (Decimal ASCII),Elapsed time of current track in millisecond |
| Param3 | (Decimal ASCII),Total time of current track in millisecond   |

Example: Read media player play progress every 1s

>> +TRACKSTAT=1,54000,322000

>> +TRACKSTAT=1,55000,322000

>> +TRACKSTAT=1,56000,322000

### 4.3.6 +TRACKINFO - Media Track Information

| Format | +TRACKINFO=Param1,Param2,Param3 |
|--------|---------------------------------|
| Param1 | title                           |
| Param2 | artist                          |
| Param3 | album                           |

Example: Phone playing song “Creep-Radio Head”

>> +TRACKINFO=Creep , Radiohead , Pablo Honey

## 4.4 Phonebook Access Events

#### 4.4.1 +PBSTAT - PBAP State

| Format | +PBSTAT=Param                                                                        |
|--------|--------------------------------------------------------------------------------------|
| Param  | (0) Unsupported<br>(1) Standby<br>(2) Connecting<br>(3) Connected<br>(4) Downloading |

#### 4.4.2 +PBCNT - Phonebook Entries of Remote Device

| Format | +PBCNT=Param                       |
|--------|------------------------------------|
| Param  | Phonebook entries of remote device |

### 4.4.3 +PBDATA - Phonebook Data

| Format1     | +PBDATA=Param1<FF>Param2<FF>Param3{<FF>Param4}                                                                                                                                                                                             |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Param1      | Type<br>(0) Phonebook (SIM Storage)<br>(1) Phonebook (Phone Storage)<br>(2) Received call log<br>(3) Dialed call log<br>(4) Missed call log                                                                                                |
| Param2      | Name                                                                                                                                                                                                                                       |
| Param3      | Number                                                                                                                                                                                                                                     |
| Param4      | (15 Bytes ASCII), Call time if current download type is call log<br>Format:<br>Year(4Bytes) Month(2Bytes) Day(2Bytes) T(1Byte)<br>Hour(2Bytes)<br>Minute(2Bytes) Second(2Bytes). e.g. 20161012T152826<br>represents<br>2016/10/12/15/28/26 |
| Format2     | +PBDATA=E: Download complete                                                                                                                                                                                                               |
| Description | Call time may not exist for some mobile phones                                                                                                                                                                                             |

Example: Download all phonebook

```
<< AT+PBDOWN=1
```

```
>> +PBCNT=234
```

```
+PBDATA=1<FF>Jack<FF>18219146201
```

```
+PBDATA=1<FF>kenan<FF>8613771972680
```

```
.....
```

```
+PBDATA=E
```

Example: Download 10 dialed call log

<< AT+PBDOWN=3,10

>> +PBDATA=3<FF>China Mobile<FF>10086<FF>20171013T103516

+PBDATA=3<FF>Jerry<FF>18688967507<FF>20171012T152826

.....

+PBDATA=E

## 4.5 SPP Events

### 4.5.1 +SPPSTAT - SPP State

| Format | +SPPSTAT=Param                                                    |
|--------|-------------------------------------------------------------------|
| Param  | (0) Unsupported<br>(1) Standby<br>(2) Connecting<br>(3) Connected |

### 4.5.2 +SPPDATA - SPP Received Incoming Data

| Format | +SPPDATA=Param1,Param2 |
|--------|------------------------|
| Param1 | Payload length         |
| Param2 | Payload                |

Example: Received data “1234567890” from remote device via SPP

<< +SPPDATA=10,1234567890

## 4.6 GATT Events

### 4.6.1 +GATTSTAT - GATT State

| Format | +GATTSTAT=Param                                                   |
|--------|-------------------------------------------------------------------|
| Param  | (0) Unsupported<br>(1) Standby<br>(2) Connecting<br>(3) Connected |

### 4.6.2 +GATTDATA - GATT Received Incoming Data

| Format | +SPPDATA=Param1,Param2 |
|--------|------------------------|
| Param1 | Payload length         |
| Param2 | Payload                |

Example: Received data “1234567890” from remote device via GATT

<< +GATTDATA=10,1234567890

## 4.7 HID Events

### 4.7.1 +HIDSTAT - HID State

| Format | +HIDSTAT=Param                                                    |
|--------|-------------------------------------------------------------------|
| Param  | (0) Unsupported<br>(1) Standby<br>(2) Connecting<br>(3) Connected |

## Chapter 5

# Development and Application

Please refer to [FSC-BT1026x User Guide](#)

This guide details the hardware design description, functional description, rapid development kit, quick testing, typical application development examples, firmware update methods, and FAQs of the FSC-BT1026x Series modules.

# Chapter 6

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## Chapter 7

## Appendix

### 7.1 PDF Download

PDF Download

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