

AT command	Status query	Type query	Description	Note
+++ \r\n			Enter AT command mode	
AT+EXIT \r\n			Exit AT command mode	
ATE \r\n			Enable/disable AT command echo	
AT+VER \r\n			Check the software version number	
AT+HELP \r\n			View AT help	
AT+REBOOT \r\n			Reboot	
<b>After all parameter changing use AT+EXIT to save the parameters!</b>				
AT+SF=7 \r\n	AT+SF?	AT+SF=?	Set the spreading factor, the value range is 7~12  SF7: Highest data rate, shortest range, and lowest power consumption per packet. SF12: Lowest data rate, longest range, and highest sensitivity for penetrating obstacles.  Default value: 7	
AT+BW=0 \r\n	AT+BW?	AT+BW=?	Set bandwidth, 0 means 125KHz, 1 means 250KHz, 2 means 500KHz	
AT+CR=1 \r\n	AT+CR?	AT+CR=?	Set the encoding rate to 1, 1 represents 4/5, 2 represents 4/6, 3 represents 4/7, 4 represents 4/8	
AT+PWR=22 \r\n	AT+PWR?	AT+PWR=?	Set the RF power, the value range is 10~22dBm  Selectable Values: 10, 13, 17, or 22  Higher power levels (e.g., 22 dBm) provide the longest communication range but consume more power. At maximum power (22 dBm), the module's transient transmit current can reach approximately 100 mA to 107 mA. Default: 22	
AT+NETID=0 \r\n	AT+NETID?	AT+NETID=?	Network ID assignment, the value range is 0~65535  Only modules with the same <b>Network ID</b> , <b>Frequency</b> , and <b>Air Speed</b> can communicate with each other.  Default: 0	

AT command	Status query	Type query	Description	Note
<b>AT+LBT=0</b>	AT+LBT?	AT+LBT=?	<p>Enable/disable LBT (<i>Listen Before Talk</i>) function, 0: disable, 1: enable</p> <p>module enables or disables the Listen Before Talk (LBT) function. This feature is designed to prevent data collisions by ensuring the radio channel is clear before the module begins its own transmission.</p> <p>In some regions (such as parts of Europe for the 868MHz band), LBT is a required alternative to strict "Duty Cycle" limitations to ensure fair access to the spectrum.</p> <p>Default: 0</p>	
<b>AT+MODE=1</b>	AT+MODE?	AT+MODE=?	<p>DTU working mode, 1: <i>stream mode</i>, 2: <i>packet mode</i>, 3: <i>relay mode</i></p> <p><b>Stream Mode (AT+MODE=1):</b> The factory default mode. It functions as a "virtual cable," where data sent to the serial port is transmitted immediately in plaintext to all other modules on the same channel.</p> <p><b>Packet Mode (AT+MODE=2):</b> Used for targeted point-to-point or point-to-multipoint communication. In this mode, you must prefix your data with the target device's Address and Channel (e.g., FF FE 12 + data).</p> <p><b>Relay Mode (AT+MODE=3):</b> Configures the module to act as a repeater node to extend the transmission range. In this mode, the device only forwards packets and does not output data to its own serial interface.</p>	

AT command	Status query	Type query	Description	Note
<b>AT+TXCH=18\r\n</b>	AT+TXCH?	AT+TXCH=?	<p>Transmit channel, value range 0~80, corresponding frequency point is 850~930MHz or 410~490MHz</p> <p><b>LF Version</b> (usually labeled “LF” or marked with a 433MHz sticker)                      Formula: Frequency (MHz) = 410 + Channel Range: Channel 0: 410 MHz, Channel 23: 433 MHz (Default), Channel 80: 490 MHz                      Default: 23 (corresponding to 433 MHz).                      - Example: <i>AT+TXCH=23</i> sets the frequency to 433 MHz (410 + 23).                      - Example: <i>AT+TXCH=80</i> sets the frequency to 490 MHz (410 + 80).</p> <p><b>HF Version</b> (usually labeled “HF” or marked with an 868/915MHz sticker)                      Formula: Frequency (MHz) = 850 + Channel Range: 850 MHz (Channel 0) to 930 MHz (Channel 80)                      Default Value: 18 (corresponding to 868 MHz)                      - Example: 868 MHz: <i>AT+TXCH=18\r\n</i> (Standard for Europe)                      - Example: 915 MHz: <i>AT+TXCH=65\r\n</i> (Standard for North America/Australia)                      - Example: 923 MHz: <i>AT+TXCH=73\r\n</i> (Common in Asia)</p>	
<b>AT+RXCH=18\r\n</b>	AT+RXCH?	AT+RXCH=?	<p>Receive channel, value range 0~80, corresponding frequency point is 850~930MHz or 410~490MHz</p> <p><b>LF Version</b> (usually labeled “LF” or marked with a 433MHz sticker)                      Formula: Frequency (MHz) = 410 + Channel Range: Channel 0: 410 MHz, Channel 23: 433 MHz (Default), Channel 80: 490 MHz                      Default: 23 (corresponding to 433 MHz).                      - Example: <i>AT+TXCH=23</i> sets the frequency to 433 MHz (410 + 23).                      - Example: <i>AT+TXCH=80</i> sets the frequency to 490 MHz (410 + 80).</p> <p><b>HF Version</b> (usually labeled “HF” or marked with an 868/915MHz sticker)                      Formula: Frequency (MHz) = 850 + Channel Range: 850 MHz (Channel 0) to 930 MHz (Channel 80)                      Default Value: 18 (corresponding to 868 MHz)                      - Example: 868 MHz: <i>AT+TXCH=18\r\n</i> (Standard for Europe)                      - Example: 915 MHz: <i>AT+TXCH=65\r\n</i> (Standard for North America/Australia)                      - Example: 923 MHz: <i>AT+TXCH=73\r\n</i> (Common in Asia)</p>	

AT command	Status query	Type query	Description	Note
<b>AT+RSSI=0\r\n</b>	AT+RSSI?	AT+RSSI=?	<p>Enable/disable RSSI (<i>Received Signal Strength Indicator</i>) signal value output, 0: disable, 1: enable.</p> <p>When enabled, the module appends a hexadecimal RSSI value to the end of every received data packet. Signal Quality: Typical LoRa RSSI values range from -30 dBm (very strong) to -120 dBm (very weak).</p> <p>Default:0</p>	
<b>AT+ADDR=0\r\n</b>	AT+ADDR?	AT+ADDR=?	<p>Set DTU (<i>Data Transfer Unit</i>) address, value range 0~65535</p> <p>This address acts as the device's identity within a network. <i>Broadcast Address: 65535 (Hex 0xFFFF).</i></p> <p>Setting a module to this address allows it to receive data from any other module on the same channel, regardless of the sender's target address.</p> <p>Default:0</p>	
<b>AT+PORT=0\r\n</b>	AT+PORT?	AT+PORT=?	<p>The command is used to select the active hardware interface mode on the module.</p> <p>Values: 1: RS485 2: RS232 3: USB (Typically the default for this specific dongle)</p> <p>Typically, you do not need to change it unless you are using the same firmware on a different DTU hardware variant.</p>	
<b>AT+KEY=0\r\n</b>	AT+KEY?	AT+KEY=?	<p>Used to configure AES encryption for wireless data transmission, value range:</p> <p>0: Disables encryption (<i>factory default</i>) 1 to 65535: Sets the specific key value for AES encryption</p>	
<b>AT+BAUD=115200\r\n</b>	AT+BAUD?	AT+BAUD=?	<p>Set COMx port baud rate, value range 1200~115200, 1200, 2400, ....., 57600,</p> <p>Common Values: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200.</p> <p>Default: 115200</p>	
<b>AT+COMM="8N1"\r\n</b>	AT+COMM?	AT+COMM=?	<p>Set COM port parameters, data bits: 8 or 9, parity: N, O, E, stop bits: 0, 1, 2,</p> <p>Default: 8N1</p>	

AT command	Status query	Type query	Description	Note
<b>AT+AIIP=xx\r\n</b>	AT+ALLP?		Set the spreading factor to key multi-parameter  [spreading factor 7..12],[bandwidth 125/250/500],[encoding rate 1..4],[RF power 10/13/17/22],[Network ID 0..65535],[LBT function 0/1],[DTU Mode 1/2/3],[Transmit channel 0..80],[Receive channel 0..80],[RSSI signal 0/1],[DTU address 0..65535],[Application Port 1..223],[Baud rate 1200..115200],[COM port "8N1"],[AES Key 0..65535]  <i>Example:</i> AT+AIIP=7,125,1,22,0,0,1,18,18,0,0,3,115200,"8N1",0	
<b>AT+RESTORE=0\r\n</b>	AT+RESTORE?		resets all configuration parameters to their factory default settings.  0: disabled, 1: enabled	

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Last update: **2026/04/21 20:46**

