

# **RYRR39U AT COMMAND Guide**



## **APPLY FOR :**

RYRR39U

## **THE SEQUENCE OF USING AT COMMAND**

1. The module can running in two modes “stand-alone mode” and “AT command mode”. The default is “stand-alone mode” and can be changed through AT command.
2. When in stand-alone mode, the module will read TAG repeatedly. Once a valid 96 BITS EPC code is be read, a message starting with “+RCV=” will be output. During this period, except for entering the AT string to enter the Command mode, other command will not be accepted.

## AT Command Set

It is required to key in “enter” or “\r\n” in the end of all AT Commands.

It is required to wait until the module replies +OK so that you can execute the next AT command.

1. AT For enter into Command mode & Test if the module can respond to Commands

Syntax	Response
AT	+OK

2. Software Reset

Syntax	Response
AT+RESET	+RESET +READY

3. AT+MODE Set the work mode

Syntax	Response
AT+MODE=<parameter>  <parameter> range from 0 to 1 0 : Standalone mode(default) 1 : Command mode will stop reading TAG when in this mode  Exampe : Set the Command mode : <a href="#">AT+MODE=1</a>	+OK
AT+MODE?	+MODE=1

4. AT+IPR Set the UART Baud rate

Syntax	Response
AT+IPR=<rate> <rate>is the UART Baud Rate : 57600 115200(default) 921600  Example : Set the Baud Rate as 921600 <a href="#">AT+IPR=921600</a>  <i>*After the setting is completed, it will be +RESET and stored in Flash.</i> <i>*After the setting is completed, It must send the command at the correct Baud rate to avoid unexpected responses.</i> <i>*REMINDER: The module will check pin51 signal, connecting pin 51 to GND will set the baud rate to 115200 after boot-up.</i>	+RESET +READY @new Baud rate
AT+IPR?	+IPR=921600

5. AT+BAND Set RF Frequency

Syntax	Response
<p>AT+BAND= &lt;PARAMETER&gt;</p> <p>&lt;PARAMETER&gt;is the country or area code                      UD Custom Frequency                      US(default) Frequency range from 902~928MHz                      EU Frequency range from 865~868MHz                      JP Frequency range from 920~922.1MHz                      CN Frequency range from 840~845MHz                      CN2 Frequency range from 920~925MHz</p> <p><i>* The settings will be memorized in Flash .</i></p> <p>Example : Set to EU                      AT+BAND=EU</p>	+OK
AT+BAND?	+BAND=EU

6. +RCV Show the received TAG data

Syntax	Response
<p>+RCV=&lt;ANTPORT&gt;,&lt;TAG ID&gt;,&lt;RSSI&gt;</p> <p>&lt;ANTPORT&gt;The antenna port be read,range from 1 to 4                      &lt;TAG ID&gt;96 BITS TAG ID EPC number                      &lt;RSSI&gt;dBm value of the received TAG signal strength</p>	+RCV=2,E20042167D406015009519F4,-90

## 7. AT+ANTPORT Set the use of antenna port

Syntax	Response
<p>AT+ ANTPORT = &lt;PARAMETER&gt;</p> <p>&lt;PARAMETER&gt;is the number of using antenna port</p> <p>&lt;PARAMETER&gt;range from 1 to 4</p> <p>1 : Use ANT1(default)</p> <p>2 : Use ANT1 and take turns with ANT2</p> <p>3 : Use ANT1, ANT2 and take turns with ANT3</p> <p>4 : Use ANT1, ANT2, ANT3 and take turns with ANT4.</p> <p><i>* The settings will be memorized in Flash .</i></p> <p>AT+ANTPORT=3</p>	+OK
AT+ANTPORT?	+ANTPORT=3

## 8. AT+IVPERI Set the period for reading TAG

Syntax	Response
<p>AT+IVPERI= &lt;period&gt;</p> <p>&lt; period &gt;Range from 1 to 100 · Each unit time is 10ms</p> <p>5(default) =50ms</p> <p><i>* The settings will be memorized in Flash .</i></p> <p>Example : Set the period for reading Tag to 20*10ms=200ms</p> <p>If using multiple antenna port, it will pause for 200 ms after read each antenna port and then move to the next. You can use this mode to adjust power consumption and heat generation.</p> <p>AT+IVPERI=20</p>	+OK
AT+IVPERI?	+IVPERI=20

## 9. AT+CRFOP Set the RF output power

Syntax	Response
AT+CRFOP=<power> <power> Can be set to H · M · L H : 27dBm(default) M : 22dBm L : 17dBm  <i>*The settings will be memorized in Flash .</i> Example : Set the RF output power to 22dBm. AT+CRFOP=M	+OK
AT+CRFOP?	+CRFOP=M

## 10. AT+VER? to inquire the firmware version

Syntax	Response
AT+VER?	+VER=RYRR39U_V1.0.0

## 11. AT+UID? to inquire the unique ID number of the module

Syntax	Response
AT+UID? 12 Bytes Unique ID	+UID=4100540011504B4752383620

## 12. AT+FACTORY Set all current parameters to manufacturer defaults

Syntax	Response
AT+FACTORY Manufacturer defaults : MODE=0 IPR=115200 BAND=US ANTPORT=1 IVPERI=5 CRFOP=H	+FACTORY +READY