

Default firmwareCompare between PRBMD00 & PRBMD02

Introduction

- Basic feature of PRBMD00 and PRBMD02 default firmware is the same: Serial tunnelling with AT-CMD.
- However, there are some difference on the operation between these two firmware, and this document is to describe.



Operation mode

- Both PRBMD00 and PRBMD02 firmware contains both Tunnelling and AT-Command modes.
- PRBMD00: It will enters either Tunnelling mode or AT-CMD mode depends on P03 pin at the first 10 sec after reset
- PRBMD02: It will enters Tunnelling mode when there is a BT connection; and AT-mode if there

is no BT connection.

K-Solution Consulting Company Lte

Operation mode (PRBMD00)



Operation mode (PRBMD02)



note: the mode switch automatically, no external pin involved



Pins involve

PRBMD00 firmware engaged more GPIOs



AT-CMD

PRBMD00 AT-CMD list

	Action	enquiry	return value	set	return value
System	MAC addr *	AT+ID?	Current address		
	Help	AT+HELP	All AT commands		
	Reset			AT+RESET	
	Factory Default			AT+DEFAULT	- BAUD = 115200, TXP = 0, NAME = PRBMD00, Flow control disabled
	Exit AT-CMD mode			AT+EXIT - enter transparent mode from AT-CMD	
BLE	Change name	AT+NAME?	- current name Default:PRBMD00	AT+NAME= New name	
	Start advertising			AT+BDCS	
	Stop advertising			AT+BDCE	
UART and GPIO	BAUD rate	AT+SPEED?	Current baud	AT+SPEED=BAUD, BAUD = 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, 115200	- New BAUD if success note: data byte, parity and stop bit are fixed at 8,N,1
	Turn P34 off			AT+LEDOFF - turn P34 off; P34 will turn on once it is connected, use this command to turn it off for saving power	
	Read and set IO pin	AT+GPIOxx=? xx:04-33	level of the GPIO pin	AT+GPIOxx=y xx:04-33	y= 0 or 1, where 0 is low level and 1 is high level
	Set all GPIO high			AT+HIGH	
	Set all GPIO low			AT+LOW	
RF test	Fix a Tx channel #			AT+TXa=b a= modulation data, 0: PRBS9 1: 1111000 2: 10101010 b= 0-39 Tx channel i.e.: AT+TX1=20	
	Fix a Rx channel#			AT+RX=c c=0-39 channel	
	TX power	AT+TXP?	Current TX Power value	AT+TXP= p p: -20, -15, -10, -6, -5, -3, 0, 3, 4, 5	- new value

PRBMD02 AT-CMD list

set/get ID AT+IDP: Current address AT+IDP-addr addr fromat: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx		Action	enquiry	return value	set	return value
Help AT+HELP List all AT commands and status Commands and status Reset AT-RESET Factory Default setting (reset needed) T Factory Default setting (reset needed) T BAUD = 115200, TXP = 0, NAME = PRBMD02 BAUD = 115200, TXP = 0, NAME = PRBMD02 Change name AT+NAME Current name Perfault:PRBMD02 AT+BDCS Image: Commands and status Image: Commands and status Start advertising Image: Commands Perfault:PRBMD02 AT+BDCS Image: Commands and status Image: Commands and status Image: Commands and status Get/Set Tx power level AT+XP? 0-4 0: SdBm : 2: SdB		set/get ID	AT+ID?	Current address	AT+ID=addr addr format: xx:xx:xx:xx:xx:xx	
Reset Image: constraints of the set of the		Help	AT+HELP	List all AT commands and status		
Factory Default setting (reset needed)Image: SettingImage: SettingImage: SettingSettin		Reset			AT+RESET	
AT- related relationAT + NAME P current name Default: PRBMD02AT + NAME = New nameAT + NAME = New nameStart advertisingIIAT+BDCSIStop advertisingIIAT+BDCEIGet/Set Tx power levelAT+TXP? 0.4 0: SdBm 1: 0dBm 3: 20dBm 4: 10dBm 3: 20dBm 3: 20dBm 3: 20dBm 4: 10dBmAT+SPEED=BAUD, BAUD = 4800, 9600, 14400, 19200, 38400,57600, 115200New BAUD if success note: data byte, parity and stop bit are fixed at 8,N,1JART BAUD rateAT+SPEE IConnect LED pinIIIIDefine a pin as BT_Connect LED LEDIIIIIDefine a pin as BT_ConnectIIIIIIDefine a pin as BT_ConnectIIIIIIDefine a pin as BT_ConnectIIIIIIInd GPIO HIGHIIIIIIIAT+LEDIIIIIIII GPIO HIGHIIIIIIIIAI GPIO LOWIIIIIIIIII GPIO LOWIIIIIIIIIII GPIO LOWIIIIIIIIIIIIIIIIIIIIIII <t< td=""><td></td><td>Factory Default setting (reset needed)</td><td></td><td></td><td>AT+DEFAULT</td><td>- BAUD = 115200, TXP = 0, NAME = PRBMD02</td></t<>		Factory Default setting (reset needed)			AT+DEFAULT	- BAUD = 115200, TXP = 0, NAME = PRBMD02
Start advertisingImage: constraint of the start of the sta	BT related	Change name	AT+NAME ?	- current name Default:PRBMD02	AT+NAME= New name	
Stop advertisingImage: constraint of the state of the stat		Start advertising			AT+BDCS	
Get/Set Tx power level CertificationAT+TXP? 0.4 0.5dBm 2.5dBm 3.20dBm 4.10dBmAT+TXP=y y=0.4AT+TXP=y y=0.4BAUD rateAT+SPEE D?Current baud D?AT+SPEED=BAUD, BAUD = 4800,9600, 14400,19200, 38400,57600,115200, and 5000000- New BAUD if success note: data byte, parity and stop bit are fixed at 8,N,1Define a pin as BT_Connect LED pin LEDImage: Connect LED pin Enable BT_Connect LEDImage: Connect LED pin Enable BT_ConnectImage: Connect LED pin Image: Connect LEDImage: Connect LEDImage: Connect LEDDisable BT_Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDDisable BT_Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDDisable BT_Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDAT+GPIOImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDAT+GPIOImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDAT+GPIOImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDImage: Connect LEDAtt-GPIOImage:		Stop advertising			AT+BDCE	
BAUD rateAT+SPEE D?Current baudAT+SPEED=BAUD, BAUD = 4800, 9600, 14400, 19200, 38400,57600, 115200-New BAUD if success note: data byte, parity and stop bit are fixed at 8,N,1Define a pin as BT_connect LED pinIIAT+LED=xx, xx=GPIOIDable BT_Connect LEDIIAT+LEDONIDisable BT_Connect LEDIIAT+LEDONIDisable BT_Connect LEDIIIIDisable BT_Connect LEDIIIIAT+LEDONIIIIAIT+LEDONIIIIBadd and set IO pin (except P09 and P10)AT+GPIO xx=? xx:available e GPIOI or 0AT+GPIO xx=? xx:available e GPIOI or 0AII GPIO HIGH AII GPIO LOWIIIIIAII GPIO LOWII		Get/Set Tx power level	AT+TXP?	0-4 0: 5dBm 1: 0dBm 2: -5dBm 3: -20dBm 4: -10dBm	AT+TXP=y y= 0-4	
Define a pin as BT_Connect LED pinIIAT+LED=xx, xx=GPIOLable BT_Connect LEDIIAT+LEDONDisable BT_Connect LEDIIAT+LEDOFFRead and set IO pin (except P09 and P10)AT+GPIO xx=? x:available e GPIOI or 0AT+GPIOxx=y x:available GPIOy= 0 or 1, where 0 is low level and 1 is high levelAII GPIO HIGH AII GPIO LOWIIIAT+GPIO xAT+HIGHIIIIIIAII GPIO LOWII		BAUD rate	AT+SPEE D?	Current baud	AT+SPEED=BAUD, BAUD = 4800, 9600, 14400, 19200, 38400,57600, 115200 and 5000000	- New BAUD if success note: data byte, parity and stop bit are fixed at 8,N,1
Enable BT_Connect EDIIATATEDONJART Disable BT_Connect LEDDisable BT_Connect LEDIATATATATATIII <td< td=""><td></td><td>Define a pin as BT_Connect LED pin</td><td></td><td></td><td>AT+LED=xx, xx=GPIO</td><td></td></td<>		Define a pin as BT_Connect LED pin			AT+LED=xx , xx=GPIO	
JART GRIODisable BT_Connect LEDAT+GPIO XAT+GPIO XAT+GPIOXX=9 XX:available GPIOY= 0 or 1, where 0 is low level and 1 is high levelRead and set IO pin (except P09 and P10)AT+GPIO XX=? XX:available e GPIO1 or 0 XX=? XX:available e GPIOAT+GPIOXX=9 XX:available GPIOY= 0 or 1, where 0 is low level and 1 is high levelAII GPIO HIGH AII GPIO LOWIIIAT+HIGHIIIIIIAII GPIO LOWIIIII		Enable BT_Connect LED			AT+LEDON	
Read and set IO pin (except P09 and P10)AT+GPIO xx=? xx:available e GPIO1 or 0AT+GPIOxx=y xx:available GPIOy= 0 or 1, where 0 is low level and 1 is high levelAll GPIO HIGH All GPIO LOWImage: Compare the second	JART and GPIO	Disable BT_Connect LED			AT+LEDOFF	
All GPIO HIGH AT+HIGH AT+LOW		Read and set IO pin (except P09 and P10)	AT+GPIO xx=? xx:availabl e GPIO	1 or 0	AT+GPIOxx=y xx:available GPIO	y= 0 or 1, where 0 is low level and 1 is high level
All GPIO LOW AT+LOW		All GPIO HIGH			AT+HIGH	
		All GPIO LOW			AT+LOW	