K-Solution Consulting Company Ltd.

Default firmware

Compare between PRBMD00 & PRBMD02

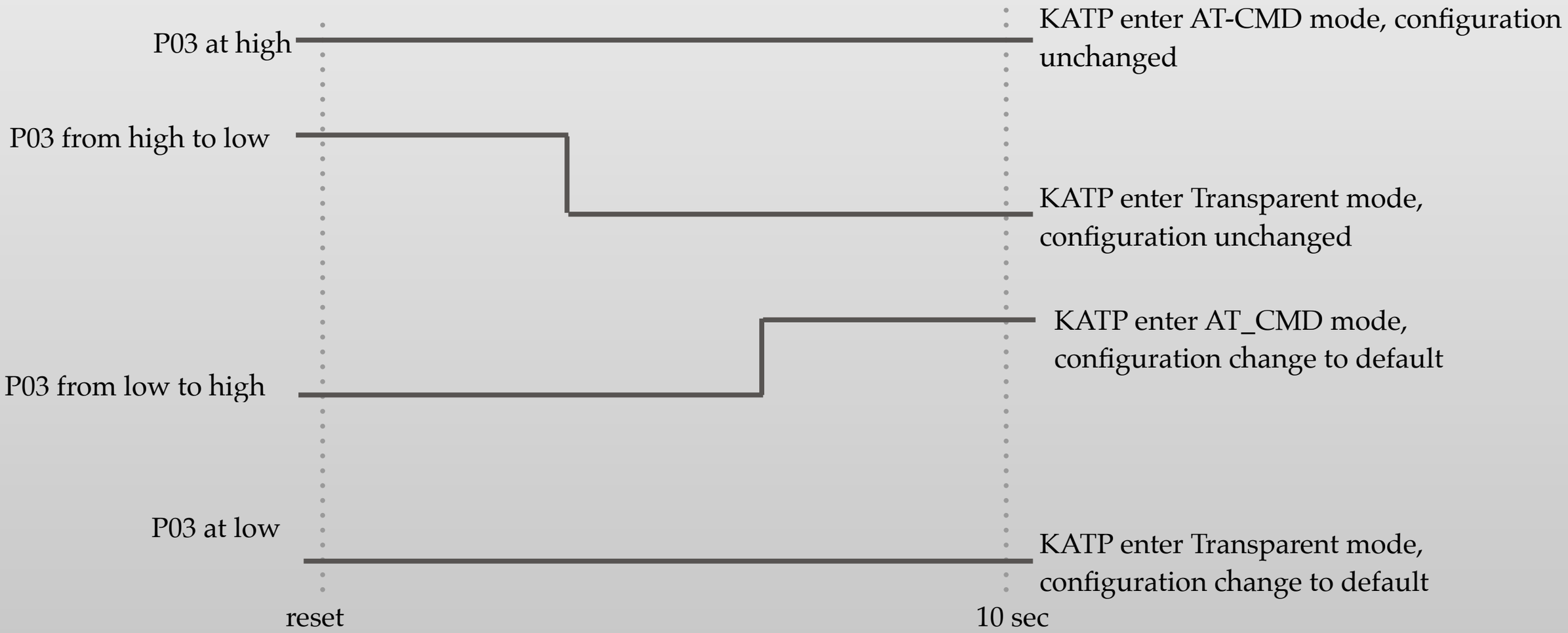
Introduction

- 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.

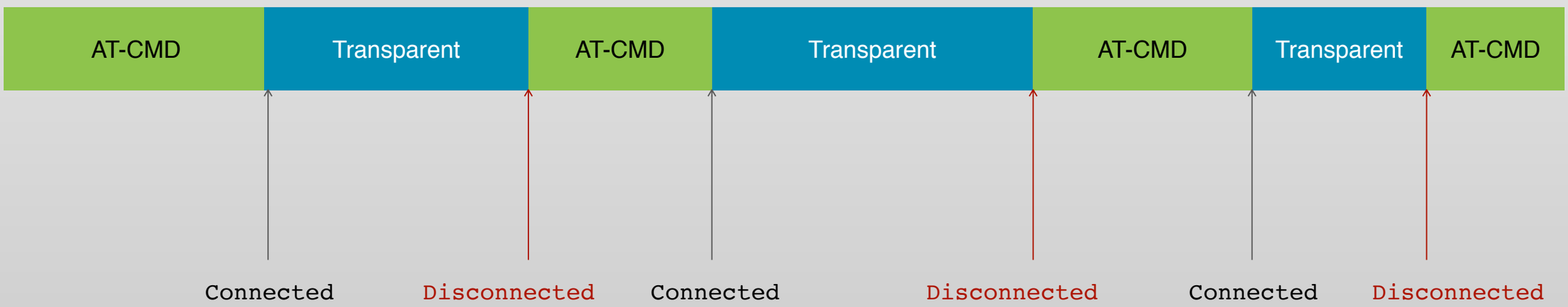
Operation mode

- 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.

Operation mode (PRBMD00)



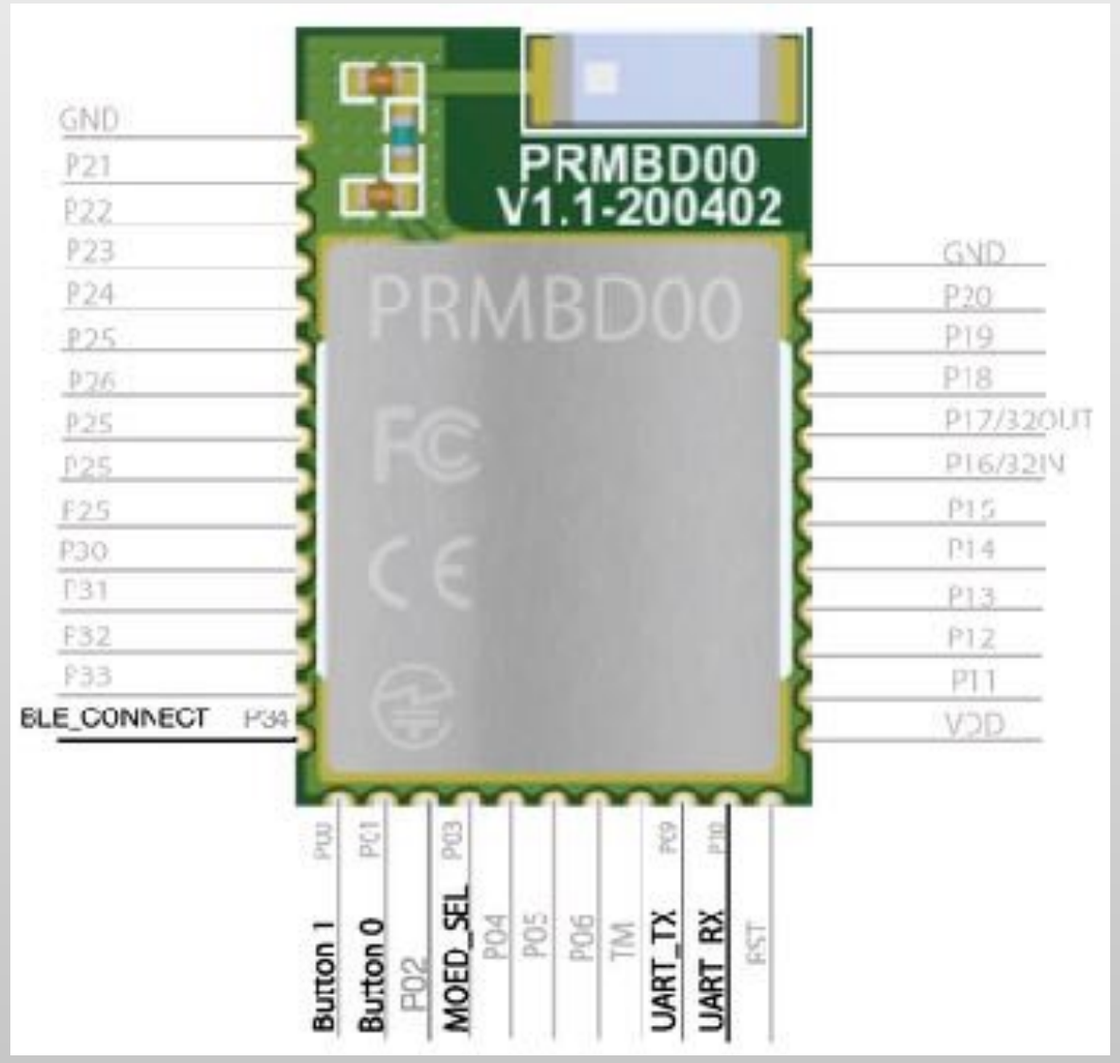
Operation mode (PRBMD02)

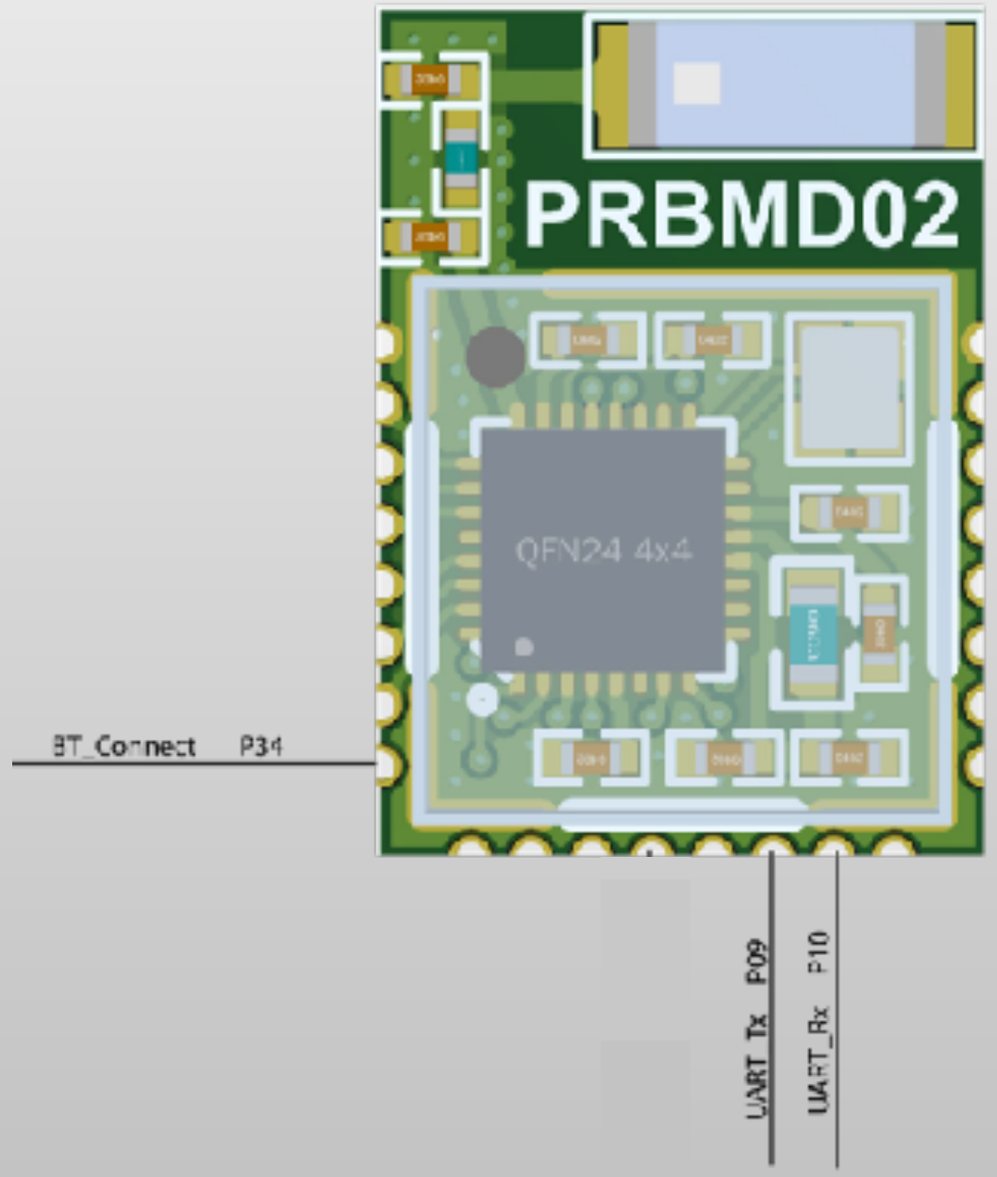


note: the mode switch automatically, no external pin involved

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
RF test	Set all GPIO high			**AT+HIGH**	
	Set all GPIO low			**AT+LOW**	
	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

	Action	enquiry	return value	set	return value
BT related	set/get ID	**AT+ID?**	Current address	**AT+ID=addr** addr format: xx:xx:xx:xx:xx:xx	
	Help	**AT+HELP**	List all AT commands and status		
	Reset			**AT+RESET**	
	Factory Default setting (reset needed)			**AT+DEFAULT**	- BAUD = 115200, TXP = 0, NAME = PRBMD02
	Change name	**AT+NAME?**	- current name Default:PRBMD02	**AT+NAME= New name**	
	Start advertising			**AT+BDCS**	
	Stop advertising			**AT+BDCE**	
	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	
UART and GPIO	BAUD rate	**AT+SPEED?**	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
	Define a pin as BT_Connect LED pin			**AT+LED=xx,** xx=GPIO	
	Enable BT_Connect LED			AT+LEDON	
	Disable BT_Connect LED			AT+LEDOFF	
	Read and set IO pin (except P09 and P10)	**AT+GPIOxx=?** xx:available 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 HIGH			**AT+HIGH**	
	All GPIO LOW			**AT+LOW**	