Getting Started With APIs

API GUIDE

Version 1.0 ● 28th June 2020

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1. Delay Library APIs

1.1 DelayMS

API	DelayMS (Delay_ms)	
Description	This API shall create a delay in the system in milliseconds	
Parameters	Delay_ms	Required delay in milliseconds
Returns	None	

2. GPIO APIs

2.1 GPIO_SetMode

API	GPIO_SetMode (GPIO_PinNumber,GPIO_Mode)	
Description	This API shall configure the mode of the GPIO pin	
Parameters	GPIO_PinNumber	Number of the GPIO pin on the target Test Bench board
	GPIO_Mode	Range : INPUT, OUTPUT, ALT0, ALT1, ALT2, ALT3, ALT4, ALT5
Returns	None	

2.2 GPIO_Write

API	GPIO_Write (GPIO_PinNumber,GPIO_Level)	
Description	This API shall set the value of the desired GPIO pin	
Parameters	GPIO_PinNumber	Number of the GPIO pin on the target Test Bench board
	GPIO_Level	Range : HIGH , LOW
Returns	None	

2.3 GPIO_Read

API	GPIO_Read (GPIO_PinNumber)	
Description	This API shall read the value of the desired GPIO pin	
Parameters	GPIO_PinNumber	Number of the GPIO pin on the target Test Bench board
Returns	Return the GPIO pin value of the Pin : gpio_pin_level	

2.4 GPIO_SetPullUpDown

API	GPIO_SetPullUpDown (GPIO_PinNumber,GPIO_PullUpDown)	
Description	This API shall enable the Pull up or Pull down internal resistors	
Parameters	GPIO_PinNumber	Number of the GPIO pin on the target Test Bench board
Returns	None	

3. PWM APIs

3.1 PWM_Configure

API	PWM_Configure (GPIO_PinNumber,PWM_Freq ,PWM_Duty)	
Description	This API shall configure the hardware PWM output pins	
Parameters	GPIO_PinNumber	Number of the GPIO pin on the target Test Bench board
	PWM_Freq	PWM desired frequency Range : 1Hz – 50KHz
	PWM_Duty	PWM desired duty cycle
Returns	None	

3.2 PWM_InputInit

API	PWM_InputInit (PWM_InputPin)	
Description	This API shall initialize one of the GPIO pins as PWM input pin	
Parameters	PWM_InputPin	Number of the GPIO pin on the target Test Bench board to be configured as PWM input
Returns	None	

3.3 PWM_GetDutyCycle

API	PWM_GetDutyCycle (PWM_InputPin)	
Description	This API shall read the PWM Duty cycle on one of the PWM input pins	
Parameters	PWM_InputPin	Number of the PWM input pin on the target Test Bench board
Returns	Return the Duty cycle of the PWM wave	

3.4 PWM_GetFrequency

API	PWM_GetFrequency (PWM_InputPin)	
Description	This API shall read the PWM frequency on one of the PWM input pins	
Parameters	PWM_InputPin	Number of the PWM input pin on the target Test Bench board
Returns	Return the frequency of the PWM wave	

4. Serial Communication APIs

4.1 Serial_Open

API	Serial_Open (TTY_Name, BaudRate ,SerialFlags)	
Description	This API shall open a serial port on the target Test Bench board and return a handle for the serial tty device opened at baud bits per second. The device name must start with /dev/tty or /dev/serial.	
Parameters	TTY_Name	Name of the TTY device on the Pi board
	BaudRate	Baud rate of the serial port Ranges : 50, 75, 110, 134, 150, 200, 300, 600, 1200, 1800, 2400, 4800, 9600, 19200, 38400, 57600, 115200, or 230400
	SerialFlags	0, no flags are currently defined
Returns	Return a handle for the serial tty device opened at baud bits per second.	

4.2 Serial_Close

API	Serial_Close (Handle)	
Description	This API shall close a serial port on the target Test Bench board	
Parameters	Handle	Handle to the opened serial port on the target Test Bench board
Returns	None	

4.3 Serial_Readbyte

API	Serial_Readbyte (Handle)	
Description	This API shall read a single byte from the desired serial port	
Parameters	Handle	Handle to the opened serial port on the target Test Bench board
Returns	Return the read serial byte	

4.4 Serial_WriteByte

API	Serial_WriteByte (Handle, ByteVal)	
Description	This API shall write a single byte on the desired serial port	
Parameters	Handle	Handle to the opened serial port on the target Test Bench board
	ByteVal	Value of the data byte to be written on the serial port
Returns	None	

4.5 Serial_Write

API	Serial_Write (Handle, Data)	
Description	This API shall write an array of bytes on the desired serial port	
Parameters	Handle	Handle to the opened serial port on the target Test Bench board
	Data	Array of data bytes to be written on the serial port
Returns	None	

4.6 Serial_DataAvailable

API	Serial_DataAvailable (Handle, Data)	
Description	This API shall write a single byte on the desired serial port	
Parameters	Handle	Handle to the opened serial port on the target Test Bench board
Returns	Return the number of data bytes available to be read on the serial port	