CR-U2S1 USB to RS485 device 검증

Revision 1.0 2020. 06. 12

CRZ Technology http://www.crz-tech.com http://www.mangoboard.com/

Document History

Revision	Date	Change note
1.0	2020.06.12	Initital by 이재민

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1. 환경 설정

1.1. 설치하기

<u>https://www.silabs.com/search#q=USBXpressHostSDK&t=All&sort=relevancy</u> USBXpressDevices 설치하시고

Silicon Labs 회원가입은 반드시 해야 한다. <u>https://www.silabs.com/products/development-tools/software/simplicity-studio</u>

설치 후 라이선스 Management 창에서 Accept한다.

로그인 창이 나온다.

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SDK 설정이 끝낫으면 Compatible Tools 탭에 들어가서 Add/Remove Tools를 클릭

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1.2. 설정하기

or	t Configuration: GPIO							
	□Use Suspend V	alues ©	Clo	ck Output	Divider 256	Frequency 93.75 kHz		
	Signal	Reset o Mode	Reset o Latch	Suspend Mode	o Su La	spend _o tch	Alternate o Function	
	GPIO0 O	Open Drain $\ \lor$	High \vee	Open Drain	∼ Hi	gh 🗸 🗸	Clock Output	\sim
	GPIO1 O	Open Drain $\ \ \lor$	Low ~	Open Drain	∼ Hi	gh 🗸 🗸	RS485, Active High	\sim
	GPIO2 O	Open Drain $\ \sim$	High \sim	Open Drain	×	gh 🗸 🗸	TX Toggle	\sim
	GPIO3 O	Open Drain V	High \sim	Open Drain	∼ Hi	gh 🗸 🗸	RX Toggle	\sim
	WAKEUP 🛛	Open Drain 🗸	High \sim	Open Drain	← Hi	gh 🗸	None	\sim
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Port Configuration: GPIO에서 GPIO 0를 Clock Output GPIO 1를 RS485 ActiveHigh, GPIO2를 TX Toggle GPIO3 은 RX Toggle 로 설정

2. 테스트하기

2.1. 준비하기



다음과 같이 회로를 연결



전원 연결후에 POWER 램프에 불이 정상적으로 ON 된것을 확인

	SW1 DIP Switch							
	SW1_#1	FWD	N	(ON: DownLoad, OFF: Normal			
SW1_#2		RS48	RS485_232		ON: RS485, OFF: RS23	2		
	SW1_#3 ~ #5		DIP1 ~ DIP3		Baud Rate			
SW1_#6		DIP4	DIP4		Not Used			
	SW1_#7, #8	DIP5	DIP5, DIP6		Stop Bits			
	SW1_#9, #10	DIP7	DIP7, DIP8		Parity			
Stop	Bits	DIP6	DIP5		Parity	DIP8	DIP	
Stop	o Bit 1	OFF	OFF		Parity No	OFF	OFF	
Stop Bits 2		OFF	ON		Parity Even	OFF	ON	
Stop Bits 1.5		ON	OFF		Parity Odd	ON	OFF	
Stop	Bit 1 (default)	ON	ON		Parity No (default)	ON	ON	

Baud Rate	DIP3	DIP2	DIP1
115200 bps	OFF	OFF	OFF
4800 bps	OFF	OFF	ON
9600 bps	OFF	ON	OFF
19200 bps	OFF	ON	ON
38400 bps	ON	OFF	OFF
57600 bps	ON	OFF	ON
230400 bps	ON	ON	OFF
460800 bps	ON	ON	ON

위 표를 참고하여 DIP 1,2,3 번을 원하는 Baud Rate에 맞게 설정합니다 예시에서는 BaudRate 115200bps 로 설정

자세한 내용은 아래 링크 참조

http://mangoboard.com/main/view.asp?idx=1073&pageNo=1&cate1=9&cate2=25&cate3=

2.2. 테스트하기

Tera Term: 시리얼포트 설정			×		
포트(<u>P</u>):	COM16	\sim	확인		
속도(<u>E</u>):	115200	~			
데이터(<u>D</u>):	8 bit	\sim	취소		
패리티(<u>A</u>):	none	\sim			
스탑비트(<u>S</u>):	1 bit	\sim	도움말(<u>H</u>)		
흐름제어(<u>F</u>):	none	\sim			
전송지연 0 msec/ <u>c</u> har 0 msec/ <u>l</u> ine					

터미널에서 DIP 스위치에 따라 BaudRate를 설정하고 통신이 제대로 이루어지는지 확인 예시에서는 BaudRate를 115200bps 로 설정하였기 때문에 115200으로 설정



각각 ABC 와 123을 전송 값이 제대로 송수신 됬음을 확인



송수신 시 에는 TX, RX 램프에 불이 들어오는 것을 확인 램프에 제대로 켜졌는대 값이 재대로 송수신 되지 않는다면 DIP 스위치 설정을 다시 확인