

WT5105-M1-DK QUICK START

Version 1.1.0

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Wireless-Tag Technology Co., Ltd.

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			Revision Histo	bry
Version	Author	Reviewer	Date	Notes
1.0.0	Brussin		Mar.25, 2020	First release
1.1.0	LIYAN		Jun.17, 2020	Hardware version updating

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1. Environmental preparation

- Software environment
 Platform: Windows10
 SDK: WT51XX_SDK_2.1.0
 Compilation tool: keil5
 Burning tool: WT51-RFtools.exe

 (Download URL: http://doc.8ms.xyz/docs/wt5105/wt5105-1bv84c2qhb0pe)
- Hardware environment WT5105-M1 module WT5105-M1-DK Type-c cable As shown below: wireless-tag.com 20 16 13 IP38 P31 P34 PM P00/T00 GND - SV3 319282A-Y207-200420 GND

2. Hardware description

The front view and back view of wt5105-m1-dk are shown in the figures below. The self-locking switch SW1 is used to switch the power supply of the module: when SW1 is pressed, the module is powered by the USB interface; when SW1 is released, the module is powered by the button battery on the back of the development board. The touch buttons S1 and S2 are used to control the level status of the TM pin and RST pin of the module: RST is connected to GND when S1 is pressed (RST is high level by default); TM is connected to VCC when S2 is pressed (low level by default). The J5 pin header is connected to RST and TM respectively.



The front view of WT5105-M1-DK



The back view of WT5105-M1-DK

3. Hardware connection

Connect the computer and the development board with the type-C data cable. If the red power indicator D1 is on, it indicates the power supply is normal. Then press the power switch SW1 to complete the power supply of the development board.

As shown below:



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• Check the PC port. If a new port appears, it indicates the serial port connection is normal.

As shown below:

X1+(Γ) 探TF(A) 旦目(V) 带助(Π)	
Intel(P) Dynamic Platform and Thermal Framework	
> D 处理器	
> 磁盘驱动器	
> 🍇 存储控制器	
> 一打印队列	
> 🥪 电池 	
Silicon Labs CP210x USB to UART Bridge (COM63)	
> 📓 固件	
> 🛄 溢機器	
> 8 蓝牙	
> ▶ ↓ 其他设备	
▷ 圖 生物识别设备	
声音、视频和游戏控制器	
> 🍢 系统设备	

4. Software Burning preparation

Open the sample project in the SDK, select "build" and wait for the compilation to complete.



• The compiled hex file is saved in the bin directory of the current directory.

5. Burning

• Open the burning tool WT51- RFtools.exe. Check the "UART setting" option. Select the correct port and the appropriate baud rate, 115200 by default. Then select "connect" to connect to the DK.

_Writer	RF_CMD RF	QuickSet M	ulti_FW			UART Setting	
nfiq		~ Tim	eout 4000	Save	Clear	Port COM63 - Baud Rate 115200 - Stop Bits 1	* Parity No
Mode	Erase Size	512k ~ Add	Iress	Erase	Write	Disconnect AutoCheck	Update
	HEY Merge	\				Log	
BOOT .		1		Dual No ECT	HovE		
				Duarivo i ci	Encount	Name: COM63	
AFF ·				ELA ADDD	Eliciype	Description:Silicon Labs CP210x USB to UART Bridge	
				FLA_ADDR		***************************************	
				FLA_ADDR		Current port: COM63 Current baudrate: 115200	
•				FLA_ADDR		Current stopBits: 1	
•				FLA_ADDR		Current parity: No Serial opened!!	
•				FLA_ADDR		*****	
PID[16] W	T51050000000000	LID[10] 00000	00000 TID[1	4] 20200324110918	CheckID		
MID[16] 0	0000000000000000	SID[08] 25885	f7f IV[1	31	WriteID		
MAC[6] F	C-78-65-32-FB-D9		Hex[)	(x-xx-xx-xx-xx-xx]	WriteMAC		
			-				
Single \/ E	Batch \						
ТҮРЕ	E PATH	SIZE	ADDRESS	VALUE	^		
1	•						
2	•						
3	-						
4	-				~		
	123456			HEX Send	ClearBuf	TimeTic Mode ASCII Save	Clear

After pressing the TM button on the DK and then pressing the RST button, the module will enter the burning mode. Before burning, erase the chip by "Erase".

Flas	sh_Write	er RF	_CMD RF_	_QuickSet M	lulti_FW			✓ UART Setting
C	Config			~ Tin	neout 4000	Save	Clear	Port COM63 Baud Rate 115200 Stop Bits 1 Parity
f	ct_Mode		Erase Size	$512k \sim Ad$	dress	Erase	Write	Disconnect AutoCheck Update
(IMG \/	HEX V	HEX Merge	\				Log
	BOOT	•				Dual No FCT •	HexF	
	APP	•				•	Encrypt	Name: COM63
		•				FLA_ADDR		Manufacturer: Silicon Labs
		•				FLA_ADDR		Current port: COM63
		•				FLA_ADDR		Current baudrate: 115200
		•				FLA_ADDR		Current parity: No
		•				FLA_ADDR		Serial opened!!
	ChipID,	/IV						UART RX : cmd>>:
	PID[16]	1 000000	00000000000	CID[10] 0000	000000 TID	14] 20200324110918	CheckID	Receive #OK!
	MACIA	FC-78-	.65-32-FR-D9	310[06] 2300	Hev	137 [vv-vv-vv-vv-vv-vv]	WriteMAC	Erase successfully!
	macto:	10.10	05 52 10 05		iica		THICKNEY	
(Single	V Batch	7					
	1	YPE	PATH	SIZE	ADDRESS	VALUE	^	
	1	•						
	2	•						
	3	•						
	4	•					~	

• After erasing, select "HEX Merge", and double-click the blank space behind the APP to load the hex file to be burned.

an_white	er RF_CMD	RF_QuickSe	et Mul	lti_FW			UART Setting	_		_	_	
onfig			∼ Time	out 4000	Save	Clear	Port COM63 - B	aud Rate 1	15200 ~ Sto	p Bits 1	 Parity 	No
t_Mode	Eras	e Size 512k	→ Addre	ess	Erase	Write	Disconnect		AutoCheck		Update	
IMG \/	HEX HEX	Merge					Log					
BOOT	۲ •				Dual No FCT 🔹	HexF						
APP	 ple/ble_ 	peripheral/iBeaco	:on/bin/iB	Beacon.hex	•	Encrypt	Name: COM63	een Labe C	210 UEP + UAPT	T. Paidas		
	-				FLA_ADDR		Manufacturer: Si	licon Labs	2107 030 00 0411	i pi tuge		
	•				FLA_ADDR		Current port: CO		****			
								445000				
	-				FLA_ADDR		Current baudrate	115200				
	•				FLA_ADDR FLA_ADDR		Current baudrate Current stopBits Current parity:	: 115200 : 1 No				
 ChinID/	•				FLA_ADDR FLA_ADDR FLA_ADDR		Current baudrate Current stopBits Current parity: Serial opened!!	:: 115200 :: 1 No	****			
 ChipID/ PID[16] MID[16] MAC[6]		00000 LID[10] 00000 SID[08] -FB-D9	0000000 25885f7	0000 TID[7f IV[1 Hex[FLA_ADDR FLA_ADDR FLA_ADDR 14] 20200324110918 13] XX-XX-XX-XX-XX-XX-XX]	CheckID WriteID WriteMAC	Current baudrate Current stopBits Current parity: Serial opened! UART RX : cmd>: Send erase succe Receive #OK! Erase successful	:: 115200 :: 1 No :ssfully! ly!	****			
 ChipID/ PID[16] MID[16] MAC[6] Single)/IV)/IV)WT510500000)00000000000)FC-78-65-32 >WBatch 	00000 LID[10] 00000 SID[08] -FB-D9	0000000 25885f7	0000 TID[7f IV[1 Hex[FLA_ADDR FLA_ADDR FLA_ADDR 14] 20200324110918 13] xx-xx-xx-xx-xx-xx]	CheckID WriteID WriteMAC	Current baudrate Current stopBits Current parity: Serial opened! UART RX : cmd>: Send erase succe Receive #OKI Erase successful	: 115200 :: 1 No :ssfully! ly!				
 ChipID/ PID[16] MID[16] MAC[6] Single	v v	00000 LID[10] 00000 SID[08] -FB-D9 PATH 5	0000000 25885f7 SIZE	2000 TID[7f IV[1 Hex[ADDRESS	FLA_ADDR FLA_ADDR FLA_ADDR 14] 20200324110918 13] XX-XX-XX-XX-XX-XX-XX] VALUE	CheckID WriteID WriteMAC	Current baudnate Current stopBits Current party: Serial poend I UMAT EX : cmd>: Send erase succe Receive #OKI Erase successful	: 115200 :: 1 No :::ssfully! ly!	****			
 ChipID/ PID[16] MID[16] MAC[6] Single	 V V VT518588888 V VT518588888 V FC-78-65-32 V Batch TYPE V 	00000 LID[10] 000000 SID[08] -FB-D9 PATH 5	0000000 25885f7 SIZE	ADDRESS	FLA_ADDR FLA_ADDR FLA_ADDR FLA_ADDR 33 34 XX-XX-XX-XX-XX-XX VALUE	CheckID WriteID WriteMAC	Current baudnate Current stopBits Current party: Serial goned I UMAT EX : cmd>: Send erase succe Receive #OKI Erase successful	: 115200 :: 1 No :::ssfully! ly!				
 ChipID/ PID[16] MID[16] MAC[6] Single T 1 2		00000 LID[10] 000000 SID[08] -FB-D9 PATH \$	0000000 25885f7 SIZE	2000 TID[7f Jv[J Hex[ADDRESS	FLA_ADDR FLA_ADDR FLA_ADDR (14) 20200324110918 (3) (3) (3) (3) (3) (3) (3) (3) (3) (3)	CheckID WriteID WriteMAC	Current baudnate Current stopBits Current party: Serial poend I UMRT RX : cmd>: Send erase succe Receive #OKI Ernse successful	: 11200 :1 No :ssfully! ly!				
 ChipID/ PID[16] MID[16] MAC[6] Single T 1 2 3		00000 LID[10] 90000 SID[08] 90000 SID[08] 9000 SID[08] 90	0000000 25885f7 SIZE	0000 TID[7f V{J Hex[ADDRESS	FLA_ADDR FLA_ADDR FLA_ADDR 14] 20200324110918 33] XXX-XX-XX-XX-XX-XX-XX VALUE	CheckID WriteID WriteMAC	Current baudnate Current stopBits Current party: Serial goned I UART RX : cmd>: Send erase succe Receive #OKI Erase successful	: 11200 :1 No :ssfully! ly!				
 ChipID/ PID[16] MID[16] MAC[6] Single T 1 2 3 4		00000 LID[10] SID[08] -FB-D9 PATH S	0000000 25885f7 SIZE	ADDRESS	FLA_ADDR FLA_ADDR FLA_ADDR 14] 20200324110918 33] XX-XX-XX-XX-XX-XX VALUE	CheckID WriteID WriteMAC	Current baudnate Current stopBits Current party: Serial poend I UMRT RX : cmd>: Send erase succe Receive #OKI Erase successful	: 11200 :1 No :ssfully! ly!				

• After loading, select "Write" and wait for the burning to complete.

		→ Tim	eout 4000	Save	Clear	Port COM63 7 Baud R	ate 115200 V Stop Bits	1 🔹 Parity
fct Mode	Erase Size	512k ~ Add	ress	Erase	Write	Disconnect	AutoCheck	Update
/ IMG \/	HEX \/ HEX Merge	\				THEXE Generation L Suc	Cess: U:/Work/Wireless-Tag/bl	P/W151057508
ROOI	•			No OIA 👻	Hext	WT51XX_SDK_2.1.0/exam	ple/ble_peripheral/iBeacon/bi	in/
APP	 ple/ble_periph 	eral/iBeacon/bin/	Beacon.hex	•	Encrypt	iBeacon.hexf !!! Send conum successful	11v1	
	•			FLA_ADDR		Receive #OK!		
	•			FLA_ADDR		Receive >>: successfu	11	
	•			FLA_ADDR		Write hex	f File [01/02]	
	•			FLA_ADDR		Send cpbin successful	lly! (mode:	
	•			FLA_ADDR		Receive image request	:1	
ChipID/I	/					Send image successful Send checksum success	I! Waiting to receive checksum fully!	n
PID[16]	WT51050000000000	LID[10] 00000	00000 TID	14] 20200324110918	CheckID	UART RX ASCII: checks	sum is: 0x000005a0	
MID[16]	000000000000000000000000000000000000000	SID[08] 25885	F7f IV[13]	WriteID	#OK>>: Receive #OK!		
MAC[6]	FC-78-65-32-FB-D9		Hex	[xx-xx-xx-xx-xx]	WriteMAC	Receive >>: successfu	i1!	
Single	Batch					Write hex	(f File [02/02]=======	
, enigie (Butten (Send cpbin successful	lly! / mode:	
TY	PE PATH	SIZE	ADDRESS	VALUE	^	Receive image request	:1	
1	•					Send image successful Send checksum success	I! Waiting to receive checksum fully!	n
2	•					UART RX ASCII: checks	sum is: 0x00255549	
	•					#OK>>: Receive #OK!		
3					V			

• After the burning is completed, press the RST button on the DK again. The chip will enter the normal working mode.

6. DK Schematic diagram

