

密级:公开资料

TTC SDK 开发环境安装说明

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1.2	2017-01-17	郭高亮/ 邱博通	张眼	1. 使用 SDK 安装包,简化开发环境搭建步骤
1.3	2017-02-13	郭高亮/ 邱博通	张眼	1. 增加常见问题说明 2. 增加 IAR 注册方法说明
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1.5	2017-03-29	郭高亮	张眼	1. 完善 IAR 安装、启动权限说明



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1. Windows 环境下搭建 TTC SDK (CC2640) 开发环境

开发环境搭建分为两部分: CC2640 SDK 安装包及 IAR Embedded Workbench. 按照以下步骤分别安装,即可开始基于 TTC SDK (CC2640)的 BLE 项目开发。 注: WindowsXP/7/10 均已通过验证。

1.1.CC2640 SDK 安装包

CC2640 SDK 安装包,将 BLE 协议栈、SDK 说明文档、开发所需相关工具及驱动等集成在一起,并完成环境变量等相关配置,便于快速搭建 TTC SDK 的开发环境。其中涉及的小工具,如: FlashProgrammer/Boundary/Python/ OAD bin 文件转换工具等。

例如 TTC_BLE_CC2640_SDK V1.0.6.exe 在 Windows7 32bit 系统的安装过程 及相关注意事项如下:

右键以管理员身份运行、或双击 TTC_BLE_CC2640_SDK V1.0.6.exe, 开始安装:

〒 TTC_BLE_CC2640_SDK V1.0.6.exe 2017/1/13 15:13 应用程序 256,475 KB

点击下一步



WindowsXP及Windows7 会提示安装".NET Framework 4.0",按以下步骤安装即可。如下图,点击"下一步"

Windows10 系统已经预装,不会出现".NET Framework 4.0"的安装提示。



π	▷ TTC_BLE_CC2640_SDK 安装
	运行环境 要运行应用程序需要这些程序。单击复选框选择要安装或跳过的运行环 境。
	名称 版本 操作 ▼.NET Framework 4.0 需要: 任意。查找: 没有东西。 安装
	按 [下一步] 按钮安装运行环境。
	上一步 (B) 下一步 (X) 完成 (P) 取消
	如下图,接受许可条款,点击"安装":
π	Microsoft .NET Framework 4 安装程序
	- NET Framework 4 安装程序 请接受许可条款,以便继续。
	MICROSOFT 软件补充程序许可条款 用于 MICROSOFT WINDOWS 操作系统的 MICROSOFT .NET 図 我已阅读并接受许可条款 (A)。
	估计下载用时: 0 MB 估计下载用时: 拨号连接:0分钟 宽带:0分钟



".NET Framework 4.0"安装需要较长时间,如下图,点击"完成":



如下图,点击"下一步":





建议使用默认路径如下。若需修改路径,路径请勿包含中文及空格。

岃 TTC_BLE_CC2640_SDK 安装	- • •
选择安装文件夹 这是将被安装 TTC_BLE_CC2640_SDK 的文件夹。	2
要安装到此文件夹,请单击 "下一步(N)",要安装到不同文件夹, 单击 "浏览" 按钮。	请在下面输入或
文件夹(E): C:\TTC_BLE_CC2640_SDK\	浏览(0)
Advanced Installer (<上一歩(B) 下一歩(N)> 取消

如下图,点击"安装":

BUTTC_BLE_CC2640_SDK 安装
准备安装 安装向导准备开始 TTC_BLE_CC2640_SDK 安装
单击 "安装" 开始安装。如果您想复查或更改您的安装设置,单击 "上一步"。单击 "取消" 退出向导。
Advanced Installer



 安裝完毕,点击"完成",如下图:

 ITTC_BLE_CC2640_SDK 安装

 Image: CC2640_SDK 安装

如下图提示,点击"是",则立即重启电脑。

岁 安装程	序信息	×
1	您必须重新启动系统 做出的配置修改生效 击 "否" 在以后以手动	才能使对
		(m)

电脑重启后,TTC SDK (CC2640) 安装包完成安装。 安装完成之后,Windows 开始菜单中会有相应的快捷方式。



1.2. 安装 IAR Embedded Workbench

1.2.1.注意事项

(1) 安装路径

特别注意:

任何版本 Windows, 需要修改 IAR 安装路径!路径不可包含空格、中文!统一修改安装路径,以减少不必要的麻烦。

(2) 权限问题

IAR 安装完毕后, 启动 IAR 仍需要管理员权限!

1.2.2. 安装步骤

以安装 IAR 7.7 为例,说明安装步骤。若需使用其他版本 IAR,如 IAR 7.8, 安装及注册方法与 7.7 版本一致。

右键以管理员身份运行 EWARM-CD-7701-11486.exe, 开始安装 IAR Embedded Workbench, IAR 版本为 7.7。

🖲 EWARM-CD-7701-11486.exe	2016/12/1 19:05	应用程序	1,048,175
---------------------------	-----------------	------	-----------

如下图, 点击"Install IAR Embedded Workbench"





如下图,点击"Next"



如下图,选择"I accept…",再点击"Next":

IAR Embedded Workbench for ARM 7.70.1	×
License Agreement Please read the following license agreement carefully.	AR EMS
SOFTWARE LICENSE AGREEMENT Concerning the Products: IAR Embedded Workbench?and visualSTATE?from IAR Systems AB	^
PREAMBLE THIS SOFTWARE LICENSE AGREEMENT ("THE AGREEMENT") APPLIES TO PRODUCTS LICENSED BY IAR SYSTEMS AB INCLUDING ANY OF ITS SUBSIDIARIES ("IAR SYSTEMS") OR DISTRIBUTORS ("IAR DISTRIBUTORS"), TO YOU ("THE LICENSEE").	
I do not accept the terms of the license agreement	-
InstallShield	əl



IAR 安装路径不可包含空格(不同系统有所差异)!所以不论 Windows 系统 是什么版本,安装 IAR 时必须修改路径,删除默认路径中的所有空格。

建议统一修改安装路径,不使用默认路径。可以使用如下路径:

 $C: \verb|IARSystems\EmbeddedWorkbench7.5|| \\$

默认安装路径如下图,点击"Change":

IA	R Embedded Workbench®	Japanese
for	Choose Destination Location Select folder where setup will install files.	OIAR SYSTEMS
	Install IAR Embedded Workbench for ARM to: C:\\IAR Systems\Embedded Workbench 7.5	Change
	需要删除所有空格!	
	InstallShield	
		www.iar.com

修改路径如 C:\IARSystems\EmbeddedWorkbench7.5, 点击"Next":

IA for	REmbedded Workbench® Japanese IAR Embedded Workbench for ARM 7.70.1 Choose Destination Location Select folder where setup will install files.	
	Install IAB Embedded Workbench for ABM to: C:\IARSystems\EmbeddedWorkbench7.5 Change	
	InstallShield Cancel Cancel Concel	

"Debug probe drivers" 仅需勾选"TI XDS",也可默认全部勾选(安装驱动多会增加安装时间),如下图,点击"Next":



IAR Embedded Workbench for ARM 7.70 IAR Embedded Workbench for ARM 7.70 USB Driver installation Select the USB drivers to install for your debug	rkbench [®] Japanese 0.1 EX g probes SYSTEMS
Select the USB drivers you want to install on y	Description Driver installers for debug probes
4.69 GB of space required on the C drive 13.33 GB of space available on the C drive InstallShield	<pre></pre>

如下图, 点击"Next":

for	Select Program Folder Please select a program folder.	
	Setup will add program icons to the Program Folder listed below. You may type a new folder name, or select one from the Existing Folders list. Click Next to continue.	
	Program Folder: IAR Embedded Workbench for ARM 7.70 Existing Folders:	
	2345王牌软件 ▲ 360安全中心 ■ Accessories ■ Administrative Tools ■ Games ■	
	Maintenance NetSurveillance PPLive Startup	



如下图,点击"Install":

OI Rea	Indy to Install the Program
Cli	ick Install to begin the installation.
lf :	you want to review or change any of your installation settings, click Back. Click Cancel to exit
InstallS	hield





IAR 安装完毕,点击"Finish"



同意安装相关驱动,信任并安装:





点击"I Agree":

IA	P&E Device Driv	vers Setup		se
for		License Agreement Please review the license terms before installing P&E De Drivers.	evice	
	Press Page Down t	to see the rest of the agreement.		
	Software Licens This software an Copyright law a software in viola prosecuted.	e nd accompanying documentation are protected by United St nd also by International Treaty provisions. Any use of this ation of copyright law or the terms of this agreement will be	ates	
	Systems, Inc. Co	in this envelope is copyrighted by P&E Microcomputer opyright notices have been included in the software.	Ŧ	
	If you accept the t agreement to insta	terms of the agreement, click I Agree to continue. You must accept all P&E Device Drivers.	t the	
	P&E Microcomputer S	I Agree	Cancel	AR
			SYSI www.ia	EMS <u>ar.com</u>

使用默认路径,点击"Install":

r, click
r, dick
r, dick



点击"Close":

for	niero	Setup was	completed succes	sfully.		
	Completed					-
	Show details]				
P8	E Microcomputer St	vstems Inc				
1.0	e merocompacer o	y 50011157 21101			-	$- \Lambda$

继续同意安装相关驱动,点击"下一步":





点击"完成":

Device Driver Installation Wizard			
	Completing the De Installation Wizard	vice Driver 1	
	The drivers were successfully in:	stalled on this computer.	
	You can now connect your devi came with instructions, please re	ce to this computer. If your device ad them first.	
	Driver Name	Status	
	 STMicroelectronics (Win STMicroelectronics (usb STMicroelectronics USB 	Ready to use Ready to use Ready to use	
	〈上一歩 (B)	完成 取消	

点击"Next":

🥶 Setup	
	Setup - TI Emulators
	Welcome to the TI Emulators Setup Wizard.
	< Back Next > Cancel



选择"I Accept…",点击"Next":

🤨 Setup		- • -		
License Agreement				
Please read the following Lic continuing with the installatio	ense Agreement. You must accept the terms of this agr n.	eement before		
Texas Instruments Incorpo	prated			
License Agreement				
(Version 1 as of March 11th, 2004) IMPORTANT PLEASE READ THE FOLLOWING LICENSE AGREEMENT CAREFULLY. THIS IS A LEGALLY BINDING AGREEMENT. AFTER YOU READ THIS LICENSE AGREEMENT, YOU WILL BE ASKED WHETHER YOU ACCEPT AND AGREE TO THE TERMS OF THIS LICENSE AGREEMENT. DO NOT CLICK I HAVE READ AND AGREE UNLESS: (1) YOU ARE AUTHORIZED TO ACCEPT AND				
	Laccept the agreement			
Do you accept this license?				
	I do not accept the agreement			
InstallBuilder				
	< Back Next >	Cancel		

使用默认路径,点击"Next":

🥶 Setup	- • •
Code Composer Studio Installation Directory	
Setup will install Texas Instruments Emulation in the following folder. If installing al Composer Studio, navigate to the CCS Installation Directory and select the "ccsv5" folder.	ongside Code or "ccsv6"
Where should Texas Instruments Emulation be installed?	ſ
InstallBuilder < Back Next >	Cancel



点击"Typical":

😴 Setup			- • •
Setup Type			
Click the type of Setup you prefer.			
Typical			
Use typical installation components			
Custom			
Select custom components for installation			
InstallBuilder			
	< Back	Next >	Cancel

点击"Next":

📲 Setup	- • •
Ready to Install	
Setup is now ready to begin installing TI Emulators on your computer.	
InstallBuilder	
< Back Next >	Cancel



点击"Finish",完成安装

🤨 Setup	
	Completing the TI Emulators Setup Wizard
	Setup has finished installing TI Emulators on your computer.
	< Back Finish Cancel



IAR 安装完成后,需要注册才能使用。正版软件授权,请与 IAR 官方联系。 声明:以下注册工具及注册方法均来源于网络,仅供个人学习使用,不可用 于任何商业用途。

使用注册机给 IAR 编译器注册,注册步骤如下:















x Tan Tafanakan Carlan far Anna	8 7 另存为	×
Save activation information	· · · · · · · · · · · · · · · · · · ·	4y 複素 Embedded Workbenc ♀ 目 マ ⑧
Choose where to save the activation information file.	■ 桌面 A 名称 型 最近访问的位置 A arm ↓ common ↓ install-info	修改日期 类型 2014/7/5 17:33 文件夹 2014/7/5 15:54 文件夹 2014/7/5 15:59 文件夹
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	文件名(N): ActivationInfo.txt 保存类型(T): Text Files (*.txt)	•
< 上一步 00) 下一步 00 > 】 取消		保存(S) 取消



* B P P P P P P P	👸 IAR Offline Activator by unis v1.3 (1 May 2014)
	Offline License Activation Coded By: unis e-mail: iarkyen@gmail.com SYSTEMS
Use the response file to activate the license	[Product] [AR Embedded Workbench for ARM, Standard
Browse to the activation response file from the previous step and click Next.	Note: Complete license (with library sources)! Thanks to: 照朔一位叫 雷锋"
	[License Number] 0130-982-090-6995 Generate
	[Activate license] Use the Browse button below to navigate to the Activation Information file. Then dick Activate license. Browse
OIAR	Activate license No file chosen
SYSTEMS	Download IAR Embedded Workbench IAR Systems website This release is intended for educational purpose only, and must
<u><上一步(B)</u> 下一步(B) > □ 取消	not be used for product development or any other kind of commercial use !!!



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	A .		8 • LI 🔮					
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🏭 OS (C:)								
👝 新加卷 (D:)								
👝 Work (E:)								
👝 SoftWare (F:)								
DVD RW 驱动 *	·							
文件名	(N): ActivationInfo.txt	✓ Text File (*.tx	•					
			取消					
STATEMS	Special Thanks to:	雷锋 , B****P*	***					
[Product]								
IAR Embedded Workben	ch for ARM, Standard		-					
Note: Complete license (Thanks to: 感谢一位叫"	with library sources)! 雷锋=							
[License Number]								
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Activate license 1								
Use the Browse button I	pelow to navigate to the Activation Infor	mation file.						
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Activate license	D							
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组织 🔻 新建文件夹			}≡ • 🔞	IAR Offline License Activation
☆ 收藏夹	名称	修改日期	类型	Coded By: unis e-mail: iarkgen@gmail.com SYSTEMS Special Thanks to: 雷锋, B****P****
🚺 下載 🗉	퉬 arm	2014/7/5 17:33	文件夹	
📃 桌面	퉬 common	2014/7/5 15:54	文件夹	[Product]
3 最近访问的位置	퉬 install-info	2014/7/5 15:59	文件夹	IAR Embedded Workbench for ARM, Standard
■ 卓面	ActivationInfo.txt	2014/7/5 17:38	TXT 文件	Note: Complete license (vith library sources)! Thanks to: 感謝一位叫"雷锋"
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1 计管机				0130-962-090-6995
				C Activate license]
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文件名(N): Actival	tionResponse.txt		•	C:\Program Files\IAR Systems\Embedded Workbench 7.0\ActivationInfo.txt Browse
保存类型(T): Text Fi	ile (*.bxt)		•	Activate lcense
(▲) 隐藏文件夹		(朱仔(S)		Download IAR Embedded Workbench IAR Systems websit
A		_< 上一步 (8) 下-	-步(8)〉 取消	This release is intended for educational purpose only, and must not be used for product development or any other kind of commercial use !!!

		р. (°) Т. П. (°) (°) (°) (°) (°) (°) (°) (°) (°) (°)	IAR Office	License Activat	×
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		组织 ▼ 新建文件夹]E 🔹	
Ave a	Use the response file to activate the licens	☆ 收藏夹	名称	修改日期	类型
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	Browse to the activation response file from the previous step and	三 桌面	📔 common	2014/7/5 15:54	文件夹
		🔄 最近访问的位置	🌡 install-info	2014/7/5 15:59	文件夹
			ActivationInfo.txt	2014/7/5 17:38	TXT 文件
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		篇库			
		A 蓝曙光			
		15 计算机			5
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3		🕞 新加卷 (D:) 👻			
1		文件	名(N): ActivationResponse.txt	✓ Text Files (*.txt)	-
100	51			打开(0)	図消
٩.					
	<上一步(B) 下一步(D) ()	取消	commer	cial use !!!	King Of



2. 程序烧写

2.1. IAR 环境下烧写

①打开 IAR->File->Open->Workspace



②选择工程文件

Copen Workspace										
② ③ ▼ ↓ « TTC_CC2640_SDK_V1.0.0 → Projects → ble → SimpleBLEPeripheral → CC26xx → IAR → v 4→ 複素 IAR P										
组织▼ 新建文件夹 11 00									(?)	
🚺 下载	*	名称 ^	修改日期	类型	大小					
■ 桌面		Application	2016/6/7 17:43	文件夹						
30 最近访问的位置		퉬 Config	2016/6/7 17:43	文件夹						
		鷆 Lib	2016/6/7 17:43	文件夹						
🧊 库		퉬 settings	2016/6/7 17:43	文件夹						
🛃 视频		Stack	2016/6/7 17:43	文件夹						
≥ 图片	E	SimpleBLEPeripheral.eww	2015/6/19 16:0	07 IAR IDE Works	ip 1	<b< th=""><th></th><th></th><th></th><th></th></b<>				
🖹 文档										
小 音乐										
🜉 计算机										
🏭 本地磁盘 (C:)										
👝 软件 (D:)										
👝 文档 (E:)										
總 BD-ROM 驱动器	ş 👻									
4	7件字	(N : SimpleBLEPeripheral eww					Workspace	Files (*.ev	ww)	•
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							打开(0)		取消	
										t



③编译文件

编译 CC2640Stack

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	- 🗸 🏷 🗽 🖾 🖾 🧼 🦇 👘 🕼 🙀 🙀 🧏 🖉 🖉
Workspace	board_lcd.h mb_PATCH.c gap.h util.h ext_flash.c TTCBleProfile.h TTCBleDevInfo
FlashROM -	
Files 🕅 🛱	2 2 2 工文 件】 TTCBlePeripheralTask.c 2 工工 (文 件】 TTCBLePeripheralTask.c
□ CC2640Stack - FlashROM ✓ □ HAL ✓ □ CallBLE ✓ □ ICallBLE ✓ □ MCLUDE ✓ □ NPI ✓ □ PROFILES ✓ □ Output ✓ □ Output ✓ □ Overview CC2640Stack	3 【機 注】 TIC SDK 从机线程示例 4 [編 写] 廖健焜 5 [修 订]期 2016/06/07 7 [版 本] V1.0.0 8 [说 明] 本软件著作权归属"昇润科技发展系 9 [记 ***********************************

×

编译 CC2640App

Image: Second	A B
Workspace × board Icd b mb PATCH c load b lutil b lext flash c LTCBleProfile b LTCB	
podra_cam imp_rriterine [gapin] damin [exc_idamic] in object one in [in object one in	eDevInfoSe
FlashR0M 1 ⊡ /***********************************	***
Files 能 國 2 【文 件】 TTCBlePeripheralTask.c	
日司 CC2640App - FlashROM イ 4 福 写 酸使用	
│ └── ── ── ── ──	
│ └── C TTCBlePeripheralTask.c	
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I I I I I I I I I I I I I I I I I I I	
PBOFILES	
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④修改仿真器配置

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关于"Interface"选择的说明,"JTAG(4-pin)" 模式仿真时,速度较快 但需要额外占用 2 个 IO 口(TDO、TDI)。若硬件设计已经使用了 TDO、TDI,则可 以选择"cJTAG(2-pin)"模式仿真。

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以上步骤在 CC2640App 部分也再修改一次即可。



⑤烧写程序



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再烧写 CC2640App 部分

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如上图点击1可调试程序。

点击2退出调试, CC2640 会重新运行程序。



2.2. Flash Programmer 2 工具烧写



①刷新设备

②点击选择 CC2640

③选择要烧写的程序(注意协议栈和应用程序的 HEX 文件都要选择)

④勾选擦除、烧写、验证

⑤开始烧写

⑥烧写成功



3. 常见问题(Q&A)

3.1. 无法自动修改环境变量

【问】安装 TTC_BLE_CC2640_SDK 时,提示无法更新环境变量。该如何操作? 【答】按照以下步骤手动设置环境变量。

在系统变量中添加 Python27, 具体的操作流程如下:右键电脑→属性→高级 系统设置→高级→环境变量→Path→编辑,在这行语句的最后添加 C:\Python27,注意与前面语句之前用分号隔开。



然后在下面一行添加新的环境变量,步骤如下图所示,在语句最后添加:.PYM;.PY这两个变量,注意前面语句用分号隔开,字母前面有一个小点。

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控制面板主页	查看有关计算机的基本信息	
💡 设备管理器	Windows 版本	
😽 远程设置	Windows 7 旋舰版	
😽 系统保护	系统属性 つ	
💡 高级系统设置	计算机名 硬件 高级 系统保护 运程	
		环境变量
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	上作组: WORKGROUP	7

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3.2.IAR 成功注册与否

- 【问】如何确认是否注册成功?
- 【答】IAR中,如下图,点击Help -> Liscense Manger:

Simple_peripheral - IAR Embedded Workber File Edit View Project TI XDS Tools W	nch IDE indow	- ARM 7.70.1
isimple_peripheral - IAR Embedded Workbench I File Edit View Project TI XDS Tools Windc Image: Startup Image: Startup <td< td=""><td>ARM 7.70.1 Help Content Index Search Product updates Release Notes Getting Started with IAR Embedded Workbench IDE Project Management and Building Guide C/C++ Development Guide Assembler User Guide MISRA-C:1998 Reference Guide (Non-C-STAT) MISRA-C:2004 Reference Guide (Non-C-STAT) C-SPY Debugging Guide C-STAT Static Analysis Guide I-jet User Guide JTAGjet-Trace User Guide Misration</td></td<>		ARM 7.70.1 Help Content Index Search Product updates Release Notes Getting Started with IAR Embedded Workbench IDE Project Management and Building Guide C/C++ Development Guide Assembler User Guide MISRA-C:1998 Reference Guide (Non-C-STAT) MISRA-C:2004 Reference Guide (Non-C-STAT) C-SPY Debugging Guide C-STAT Static Analysis Guide I-jet User Guide JTAGjet-Trace User Guide Misration
		IAR on the Web Information Center License Manager About

出现如下提示则成功注册。

IAR License Manager 2.14.2			_	\times				
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【问】若未成功注册,会导致什么结果?

【答】IAR 功能受限。应用程序 CC2640App 工程、协议栈 CC2640Stack 工程 编译时分别报错如下:





3.3.开发环境卸载

【问】开发环境卸载需要注意什么?遇到问题怎么办?

【答】(1)卸载开发环境会删除安装目录下的所有文件,所以卸载前务必备份程 序至其他路径,以防资料丢失!

(2)若在"控制面板"中卸载开发环境失败,可尝试使用管理员权限卸载。 操作如下,在windows开始菜单 → TTC_BLE_CC2640_SDK → 右键"卸载
TTC_BLE_CC2640_SDK" → 更多 → 以管理员身份运行。如下图:

L.	of 卸载TTC_BLE_CC2640_SDF			
		-□ 固定到"开始"屏幕	以管理员身份运行	
¢	UltraEdit	更多	打开文件所在的位置	
Φ	w			

3.4. SDK 版本与 IAR 版本说明

【问】SDK版本与 IAR版本如何对应?

【答】sdk版本不同,对应的IAR、蓝牙协议栈及对应的芯片型号也有所不同, 具体对应如下:

SDK 版本	IAR 版本	TI BLE-Stack版本	芯片型号
TTC_BLE_CC2640_SDK V1. x. x	EWARM-CD-7701	2.1	CC2640
TTC_BLE_CC2640_SDK V2. x. x	EWARM-CD-7804	2.2	CC2640
TTC_BLE_CC2640_SDK V3. x. x	EWARM-CD-7804	3.0	CC2640R2F



4. 联系我们

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E-mail: marketing@tuner168.com

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