TCC892X BLUETOOTH(CSR) USER GUIDE

TCC892xBLUETOOTH_USER_GUIDE

Rev. 0.20

Jan. 27. 2012

Telechips

DISCLAIMER

All information and data contained in this material are without any commitment, are not to be considered as an offer for conclusion of a contract, nor shall they be construed as to create any liability. Any new issue of this material invalidates previous issues. Product availability and delivery are exclusively subject to our respective order confirmation form; the same applies to orders based on development samples delivered. By this publication, Telechips, Inc. does not assume responsibility for patent infringements or other rights of third parties that may result from its use.

Further, Telechips, Inc. reserves the right to revise this publication and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes.
No part of this publication may be reproduced, photocopied, stored on a retrieval system, or transmitted without the express written consent of Telechips, Inc.
This product is designed for general purpose, and accordingly customer be responsible for all or any of intellectual property licenses required for actual application. Telechips, Inc. does not provide any indemnification for any intellectual properties owned by third party.
Telechips, Inc. can not ensure that this application is the proper and sufficient one for any other purposes but the one explicitly expressed herein. Telechips, Inc. is not responsible for any special, indirect, incidental or consequential damage or loss whatsoever resulting from the use of this application for other purposes.

COPYRIGHT STATEMENT

Important Notice

This product may include technology owned by Microsoft Corporation and in this case it cannot be used or distributed without a license from Microsoft Licensing, GP.

For customers who use licensed Codec ICs and/or licensed codec firmware of mp3:
"Supply of this product does not convey a license nor imply any right to distribute content created with this product in revenue-generating broadcast systems (terrestrial. Satellite, cable and/or other distribution channels), streaming applications(via internet, intranets and/or other networks), other content distribution systems(pay-audio or audio-on-demand applications and the like) or on physical media(compact discs, digital versatile discs, semiconductor chips, hard drives, memory cards and the like). An independent license for such use is required. For details, please visit http://mp3licensing.com".

For customers who use other firmware of mp3:
"Supply of this product does not convey a license under the relevant intellectual property of Thomson and/or Fraunhofer Gesellschaft nor imply any right to use this product in any finished end user or ready-to-use final product. An independent license for such use is required. For details, please visit http://mp3licensing.com".

For customers who use Digital Wave DRA solution:
"Supply of this implementation of DRA technology does not convey a license nor imply any right to this implementation in any finished end-user or ready-to-use terminal product. An independent license for such use is required."

For customers who use DTS technology:
"Supply of this implementation of DTS technology does not convey a license, exhaust DTS' rights in the implementation, or imply a right under any patent, or any other industrial or intellectual property right of DTS to use, offer for sale, sell, or import such implementation in any finished end-user or ready-to-use final product. Notice is hereby provided that a license from DTS is required prior to such use."

"This product made under license to U.S. Patents 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,487,535; 6,226,616 and/or foreign counterparts."

"© 1996 – 2010 DTS, Inc."

Revision History

Date	Version	Description
2012-01-27	0.10	This document is a guide to the Bluetooth with CSR. Initial release
2012-04-20	0.20	Driver of power control is changed from ‘tcc_bt_dev.c’ to ‘board-tcc8920-bluetooth.c’ using rfkill

TABLE OF CONTENTS

Contents

1 Introduction

This document is to describe method which make user to quickly start Android portable project with Bluetooth(CSR) for TCC892x(or M805).

2 Bluetooth control driver

2.1 Bluetooth power On/Off

In kernel, you can turn on or off the Bluetooth module with Bluetooth power control driver.

That's source file is "**arch/arm/mach-tcc892x/board-tcc8920-bluetooth.c**".

And this driver uses rfkill of linux.

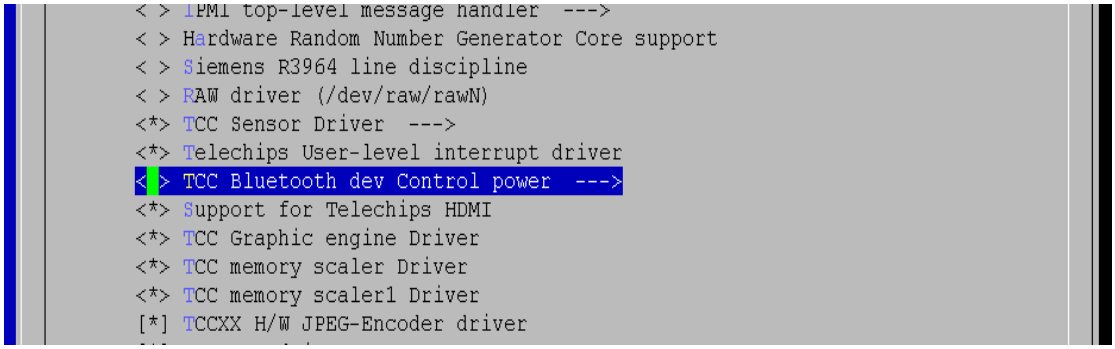
You can change power and reset port of Bluetooth module according to your system to modify the driver file.

2.2 Setting Bluetooth power control driver

If you check that you set Bluetooth power contro driver, you should execute "make menuconfig" in kernel folder.
This option is not default. You should check this option before using Bluetooth.

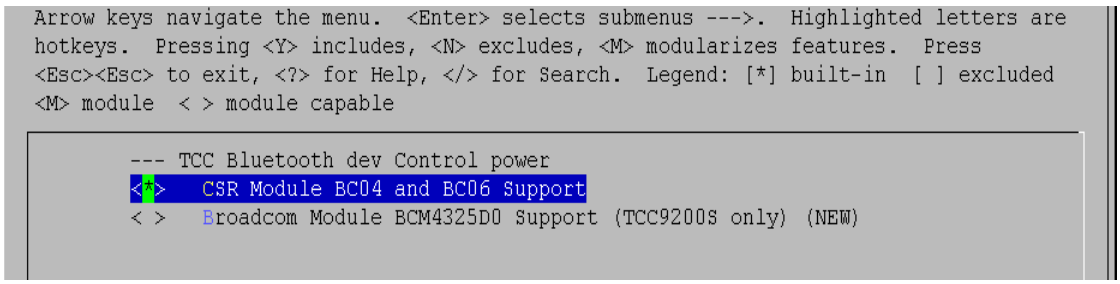
$make menuconfig
➔ Device Drivers -> charater devices->

Then




```
< > Hardware Random Number Generator Core support
< > Siemens R3964 line discipline
< > RAW driver (/dev/raw/rawN)
<*> TCC Sensor Driver  --->
<*> Telechips User-level interrupt driver
< > TCC Bluetooth dev Control power  --->
<*> Support for Telechips HDMI
<*> TCC Graphic engine Driver
<*> TCC memory scaler Driver
<*> TCC memory scaler1 Driver
[*] TCCXX H/W JPEG-Encoder driver
```

If "TCC Bluetooth dev Control power" is not chosen , you should check this option to use Bluetooth.
And select it then also check CSR module BC04 and BC06 Support like below picture.

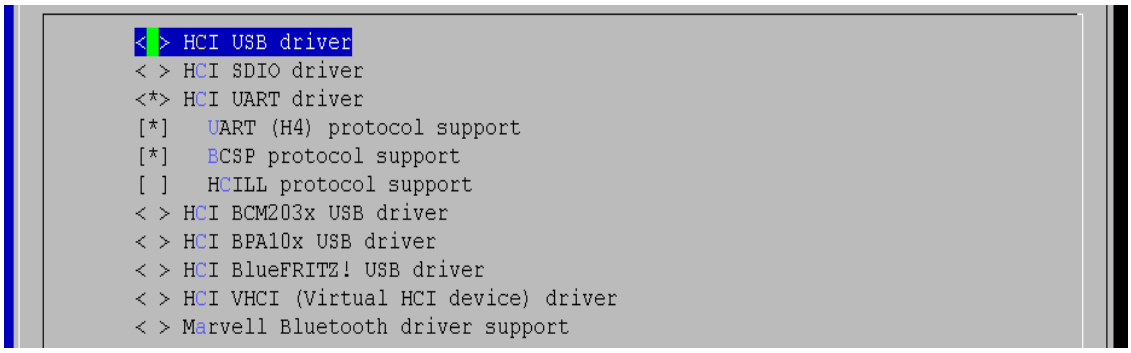


```
Arrow keys navigate the menu.  <Enter> selects submenus --->.  Highlighted letters are
hotkeys.  Pressing <Y> includes, <N> excludes, <M> modularizes features.  Press
<Esc><Esc> to exit, <?> for Help, </> for Search.  Legend: [*] built-in  [ ] excluded
<M> module  < > module capable

        --- TCC Bluetooth dev Control power
        <*>   CSR Module BC04 and BC06 Support
        < >   Broadcom Module BCM4325D0 Support (TCC9200S only) (NEW)
```

2.3 Check list

In menuconfig, you can check below list
- Networking support -> Bluetooth subsystem support -> Bluetooth device drivers ->



HCI UART driver -> UART (H4) protocol support ← this must be checked.
-> BCSP protocol support <- this must be checked.

3 Build Android to use Bluetooth

If you want to use your specific Bluetooth module, below list may be checked.

3.1 BoardConfigBase.mk

This file is in “device/telechips/tcc8920/” or “device/telechips/m805_892x/” folder.
You should check csr option in it.

```
# Bluetooth defines
#
BOARD_HAVE_BLUETOOTH := true
CUSTOM_BLUETOOTH_VENDOR := csr
#CUSTOM_BLUETOOTH_VENDOR := bcm
```

If you open it, you can find this.
You should check that “CUSTOM_BLUETOOTH_VENDER := csr” is opened.
(this is default option)

3.2 Init.tcc8920.rc or init.m805_892x.rc

This file is in “device/telechips/tcc8920/” or “device/telechips/m805_892x/” folder.
You should check csr option in it.

```
# for CSR Module
#service bccmd /system/bin/bccmd -t bcsp -d /dev/tcc-uart1 psload /system/key_921600.psr
service bccmd /system/bin/bccmd -t bcsp -d /dev/tcc-uart1 psload /system/key_3000000.psr
        disabled
        oneshot

# for BRCM Module
#service bcmtool /system/xbin/bcmtool /dev/tcc-uart1 -FILE=/system/BCM4325D0.hcd -ADDR=/system/s
ample.bdaddr -BAUD=921600
#service bcmtool /system/xbin/bcmtool /dev/tcc-uart1 -FILE=/system/BCM4325D0.hcd -ADDR=/system/s
ample.bdaddr -BAUD=3000000 -SCO -SETSCO=0,1,0,1,1,0,0,3,3,0 -LP
#       disabled
#       oneshot

#service hciattach /system/bin/hciattach -n -s 3000000 /dev/tcc-uart1 any 3000000 flow
#service hciattach /system/bin/hciattach -n -s 921600 /dev/tcc-uart1 bcsp 921600
service hciattach /system/bin/hciattach -n -s 3000000 /dev/tcc-uart1 bcsp 3000000
#       user bluetooth
#       group bluetooth net_bt_admin
        disabled
#       oneshot
```

If you open it , you can find this.
You should check that bccmd service for CSR module and hciattach service for HCI protocol are opened.

3.3 Psr file

This file is in “device/telechips/tcc892x-common/bluetooth” folder.
You should check that it is in that folder.

For CSR module , you should use “key_3000000.psr” file.
In case of A31 module, you should use “A31_3Mbps.psr” file