Overview – This document will show how to program firmware onto 20730 development board. This document will also show how to recover the board NVRAM gets corrupted.

Requirements

Hardware:
20730 development board

Software:
Bluetool 1.3.6.9 or later

How to program firmware to 20730 development board

1) Make sure Bluetool has the correct Configuration Definition. The ADK contains the corresponding Configuration Definition for the firmware package.

   i.e.
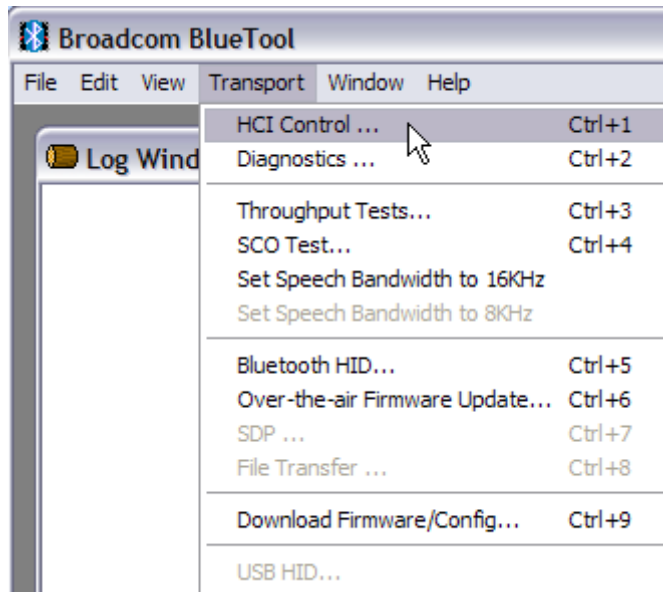   Grab the .hdf file from the ADK:

   C:\adk-A_20730A1-001.002.027\hidd\config\ConfigDef20730_ad.hdf
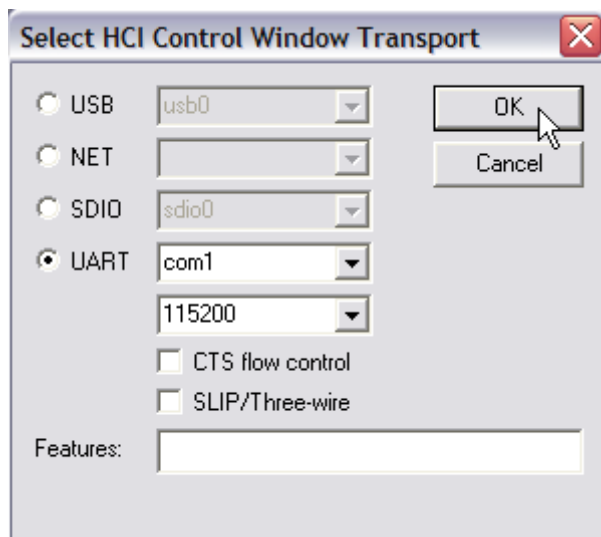
   Place it in Bluetool directory:

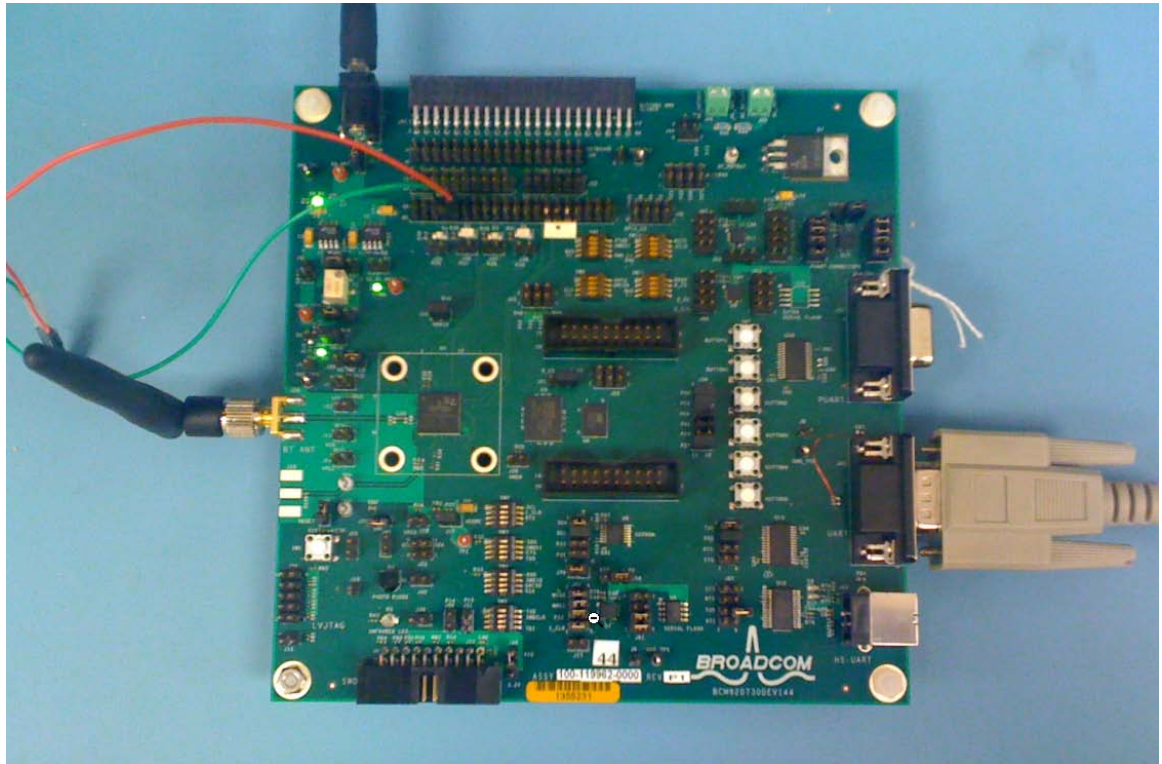   C:\Program Files\BROADCOM\BlueTool\ConfigDefs

2) Open Bluetool

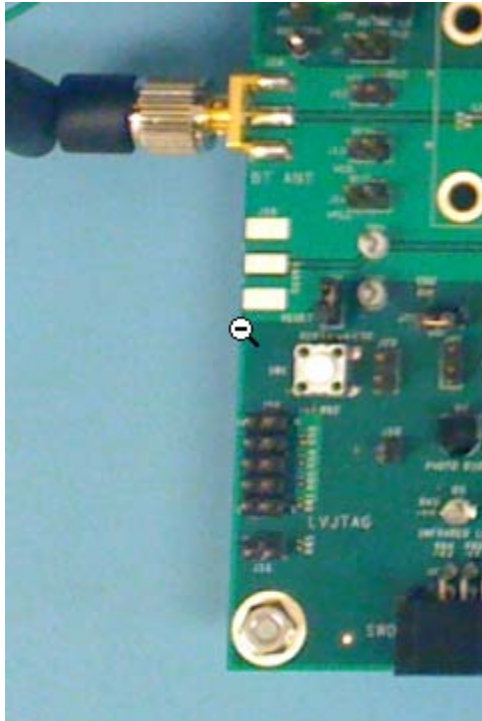3) Select Transport -> HCI Control

4) Configure settings as below:

5) Connect serial cable and 5v power supply to 20730 development board as shown below:

To enable Flash make sure J21 is set to F_CS
To enable EEPROM make sure J57 SDA and SCL
To enable UART TXD and RXD make sure J70 TXD and RXD jumpers are set

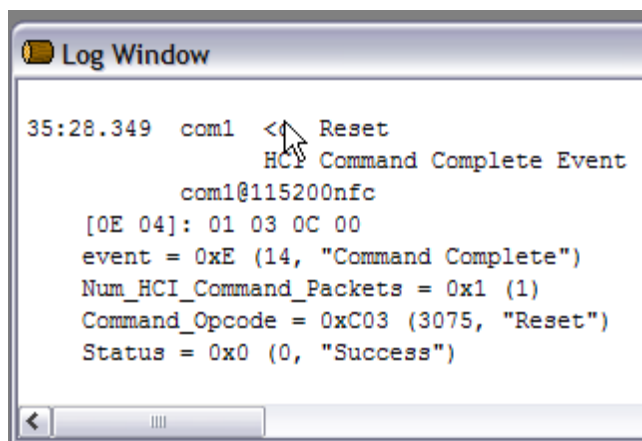**Please make sure Flash, EEPROM, and UART TXD and RXD are set.**

6) Press reset button (SW1) on development board
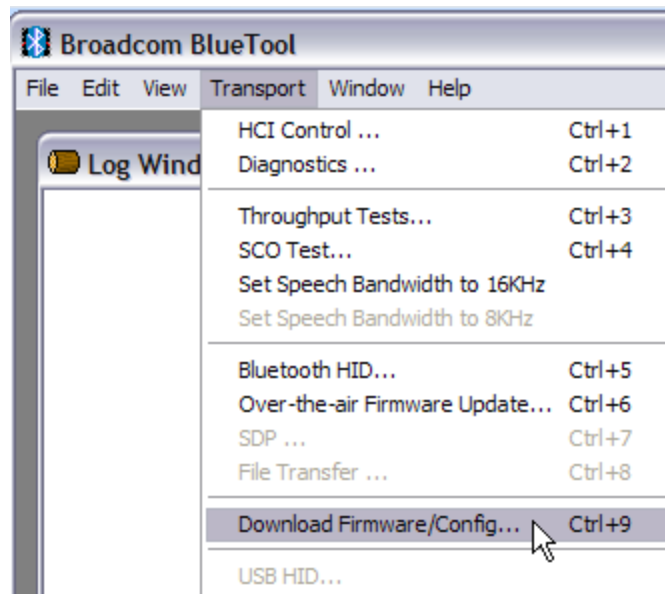
7) Issue a Reset from Bluetool:

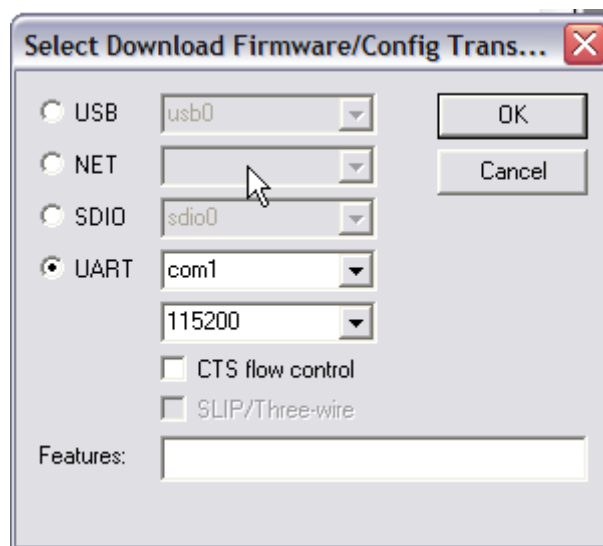The log window will show success if board is operational:

If not, try to uncheck the HCI protocol active box, hit reset again on 20730 dev board and issue Reset again.

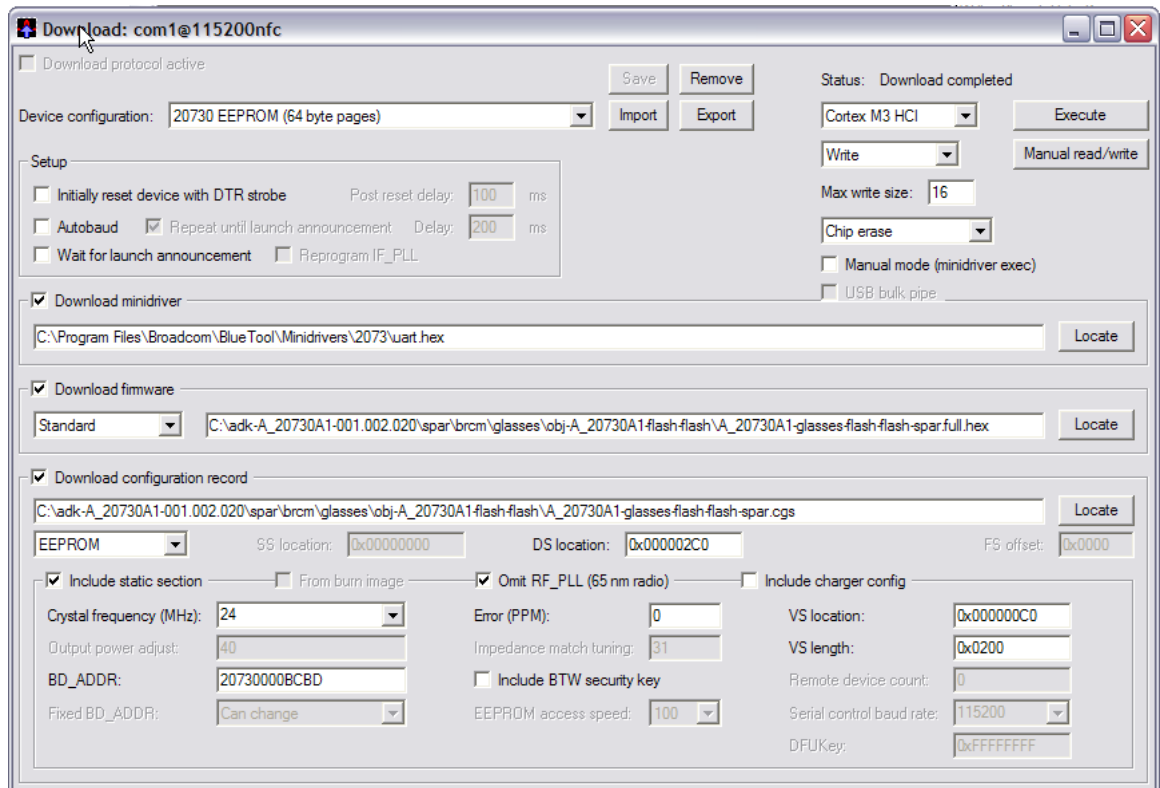8) Select Transport -> Download Firmware/Config

9) Configure settings as below:

10) The following setting has the firmware stored in flash and the configuration record stored in EEPROM. Please make sure Max write size is set to 16!

11) Please use the uart.hex that has been sent to you via email. The 20730 EEPROM (64 byte pages) is not operational at this time.

Make sure the "write" setting is set as opposed to "write and verify". This will make your download time considerably longer

Replace firmware with your firmware and configuration record with your configuration record and select Execute.

i.e. A_20730A1-glasses-flash-flash-spar.full.hex
A_20730A1-glasses-flash-flash-spar.cgs

12) Be sure to remove jumpers from J70 TXD and RXD or else your application will NOT run!

13) Please connect J31 - P37 for KB or J31- P16 for mouse to a high voltage pin (like J71 - any pin) when using 20730 dev board. Otherwise, battery monitor will think the battery is low and then shutdown the app and go to HIDOff.

14) To make your device discoverable on power up, make sure the following entries are set to true:
   a. "becomeDiscoverableWhenNotConnected" = "TRUE"
   b. "becomeDiscoverableOnPowerUp" = "TRUE"

How to recover development board

1) Follow steps 1 – 4 on how to program development board.
2) On step 5, Remove flash jumper (F_CS pin from J21) and eeprom jumper (SDA and SCL pin from J57)
3) Issue an HCI reset
4) If HCI reset is successful, you can now put the flash and eeprom jumpers back on and program the board as described in how to program development board