Feb. 09

Castra Embedded Development Kit User Guide

80-A6517-1 Rev B

QUALCOMM CDMA Technologies

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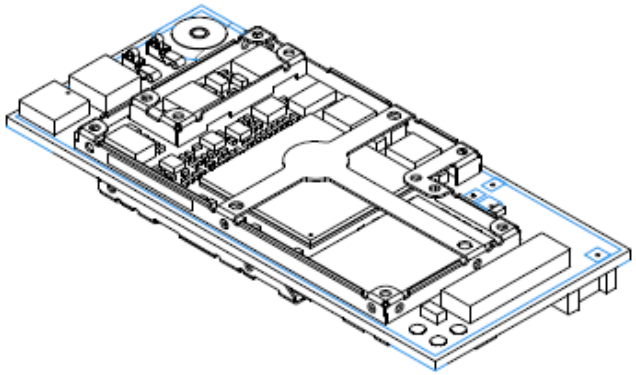
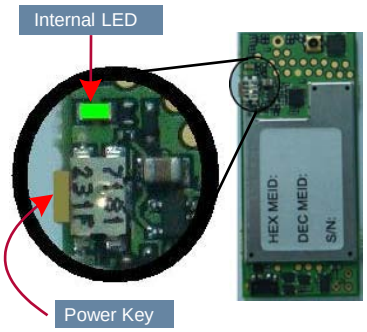


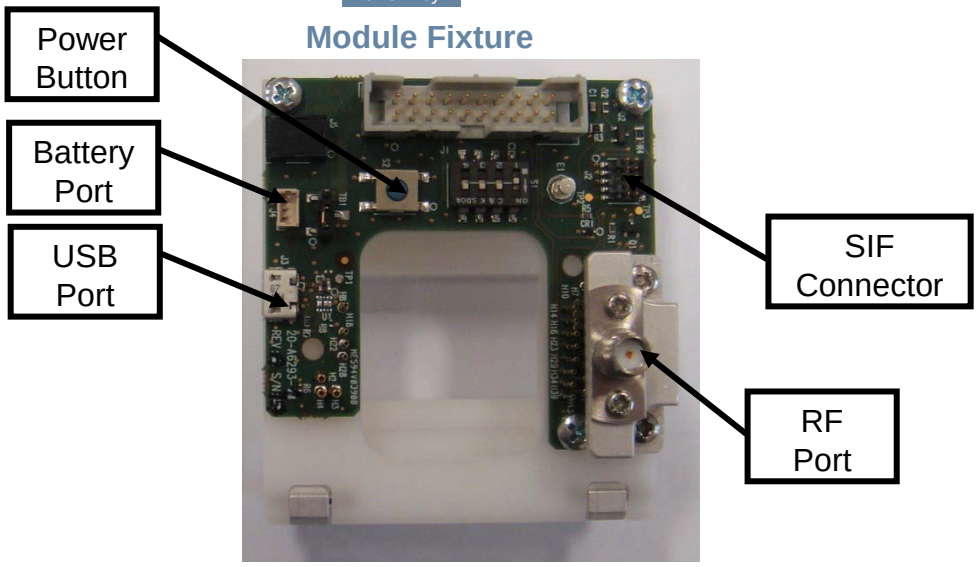
Introduction

- Castra EDK enables 3rd party users to build and perform on-target development and testing
- The EDK kit includes:
  - Castra module
  - Module fixture
  - Accessories
    - µUSB cable
    - Battery emulator cable

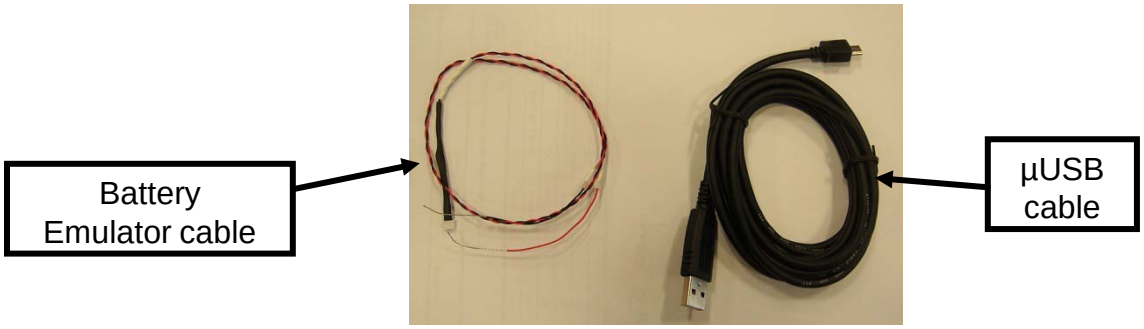
Castra Module



Module Fixture

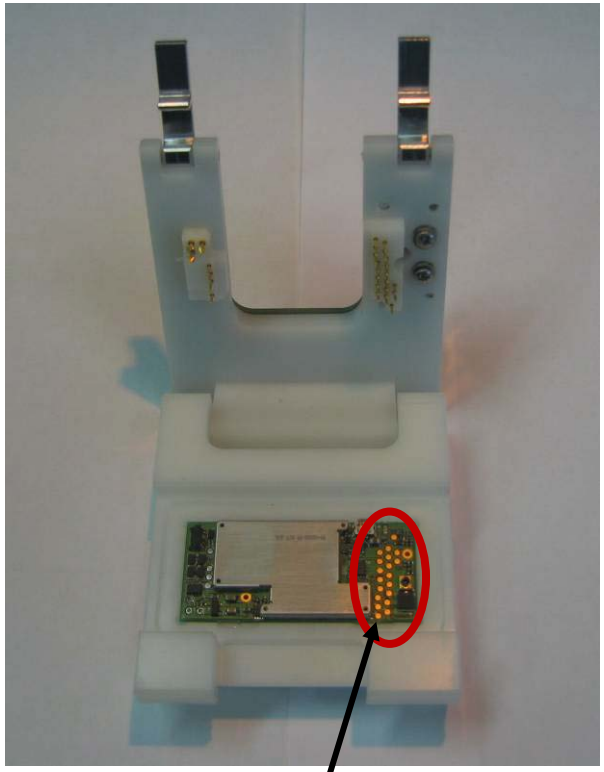


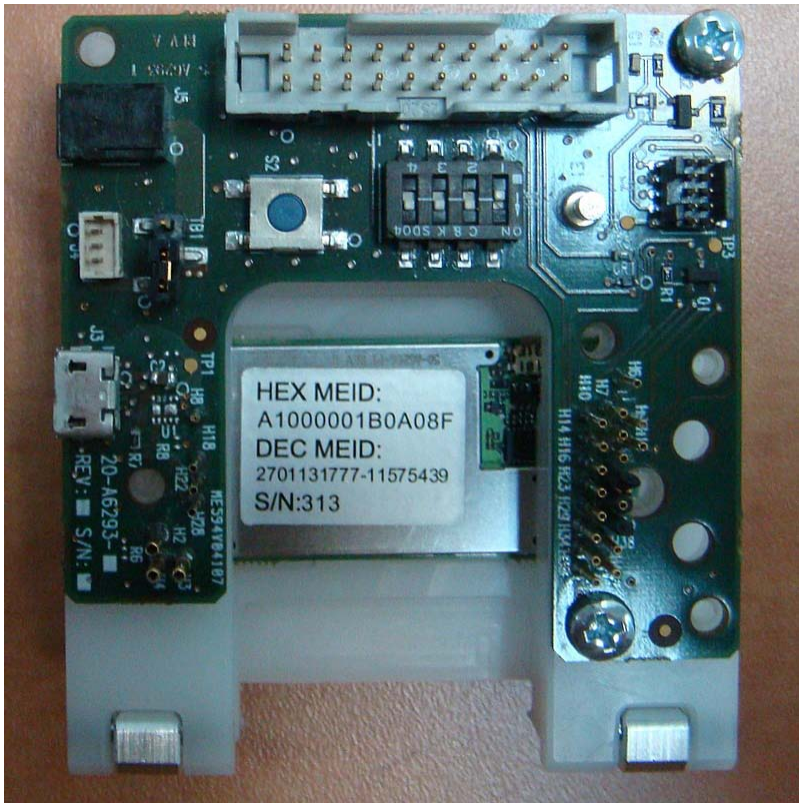
Accessories



Getting Started

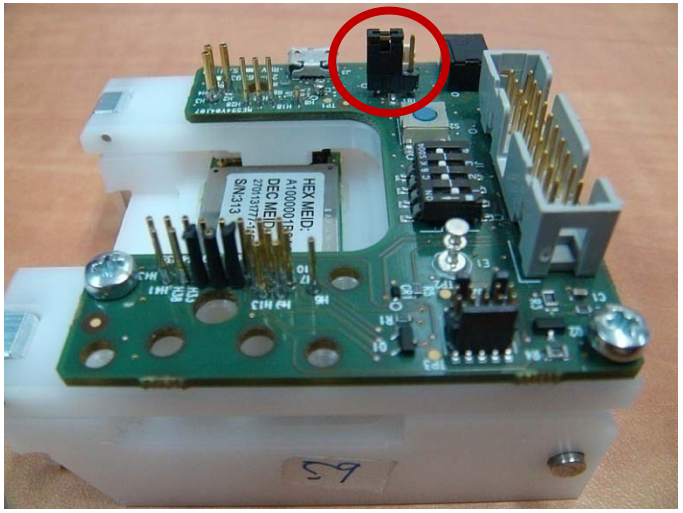
1. Insert the module to the fixture with the JTAG test points pointing upward (as seen in the pictures below)
2. Close the fixture and secure the top cover with the two hinges

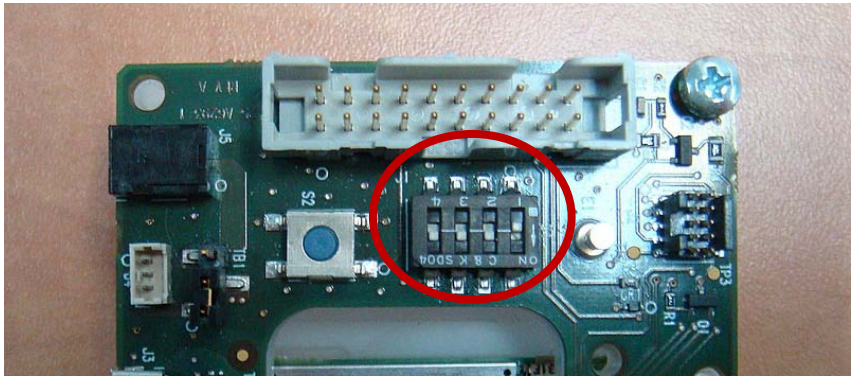




Jumpers and Switches

3. Make sure the jumper is connected and the dipswitch is positioned as seen at the picture below





Jumper position:

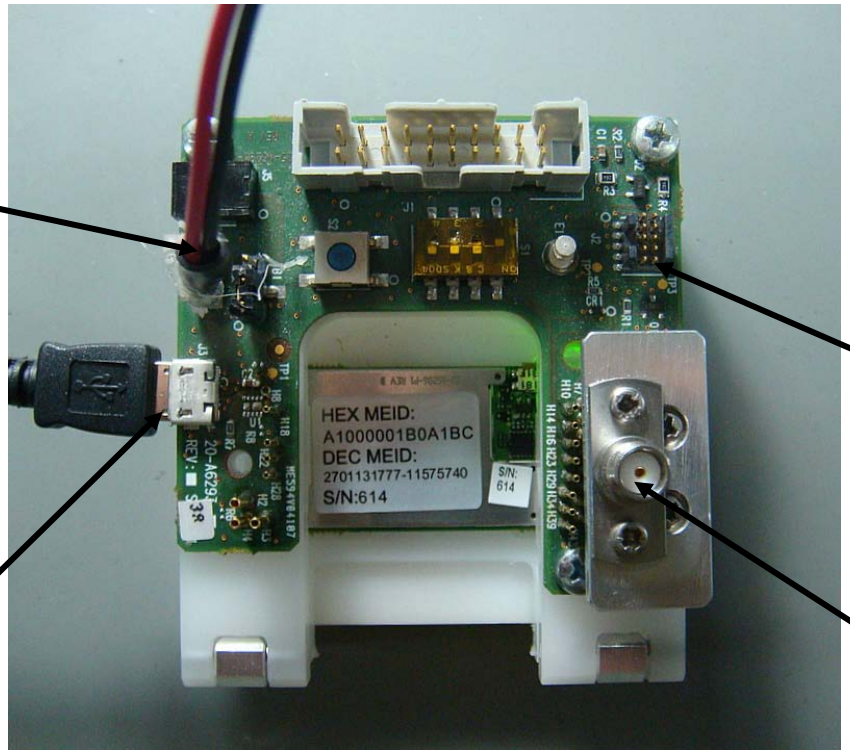
Pins 1 and 2 are shorted

Dip switch position:

1 – OFF, 2,3,4 – ON

Cables Connections

4. Connect the external interfaces according to the following picture



Battery emulator cable (required)

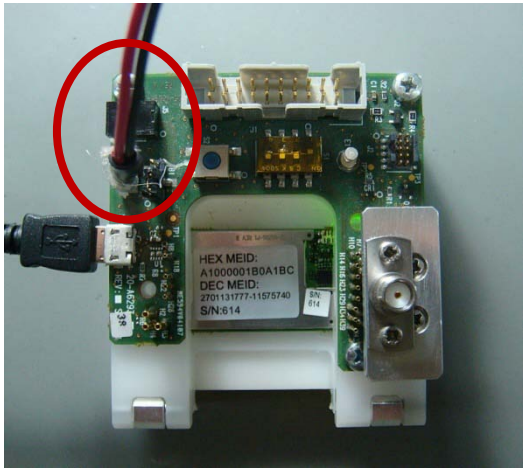
SIF connector (optional, for ZigBee debugging

µUSB cable (optional, for charging /configuration)

RF antenna / Coax cable (required)

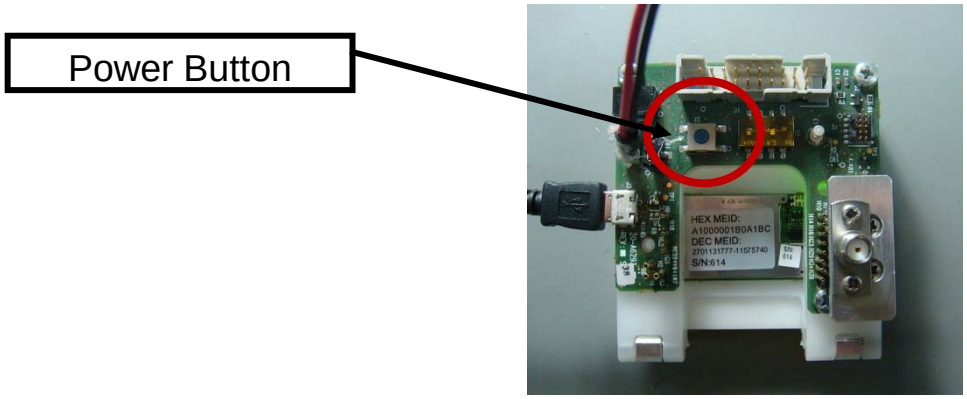
Power Supply Connection

5. Battery Emulator Cable (MCN: 45-A6453-C50) (connected to a power supply)
   - Allows reproducible testing results (since the voltage doesn't change)
   - Allows endless operation for long tests
   - When a battery cable is used set the power supply for 3.75V / 1A for typical operation
   - Use a power supply with reverse current abilities to support charging operation when the USB cable is connected



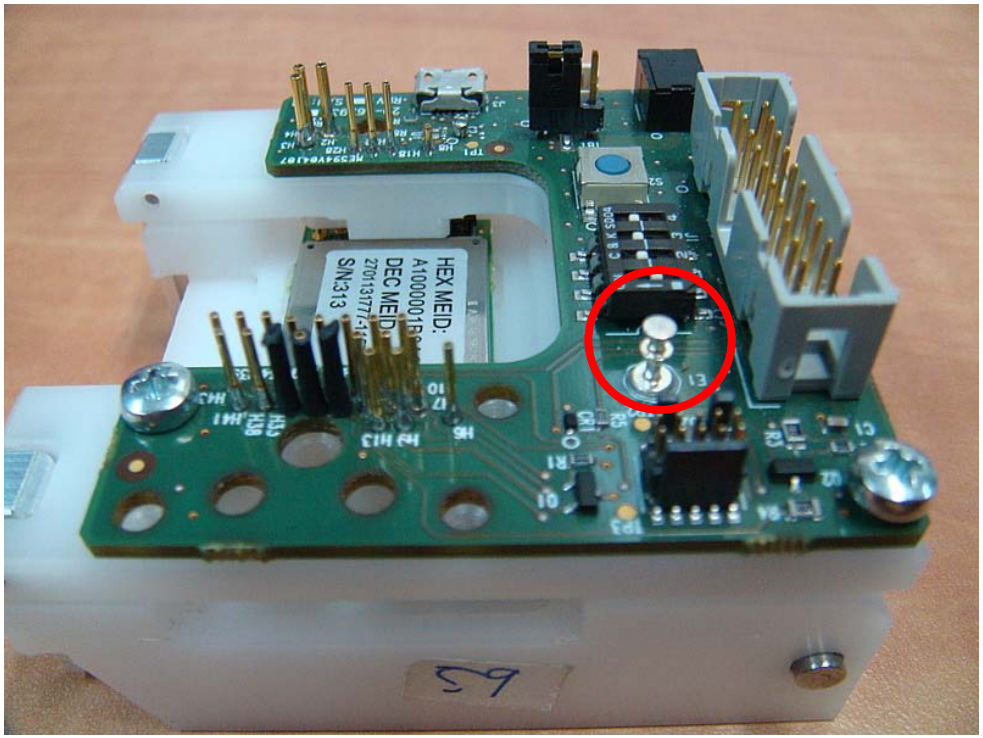
Module Powering Up/Down

6. In order to power up the module:
   - Connect the battery emulator cable to the fixture battery port
   - Connect the µUSB cable to the fixture USB port
     - » The module shall be powered on and the internal LED light shall be constantly GREEN
   - If the µUSB cable is not connected, press the Power Button for 3 seconds until the LED blinks shortly in GREEN. From that point the LED should blink periodically every 5 seconds
7. In order to power down the module:
   - Disconnect the uUSB cable
   - Press the Power Button for 3 seconds until the LED blinks shortly in GREEN
   - Disconnect the battery emulator cable from the fixture



Ground Pin

8. When external test equipment requires ground connection (e.g., oscilloscope) the GND pin can be used for such purpose



Standards and Certification

The Castra module conforms to the following standards and certification requirements:

- CDMA
  - TIA/EIA IS-98E (CDMA2000 1x)
- FCC
  - 47 CFR Part 1 – RF radiation exposure limits
  - 47 CFR Part 2 – Equipment authorization
  - 47 CFR Part 15 – Intentional and unintentional radiators
  - 47 CFR Part 22 – Cellular
  - 47 CFR Part 24 - PCS

Regulatory Compliance

Safety Warnings

Do not operate the Castra module in the following environments:

- In active blasting areas.
- In potentially explosive environments such as refueling points, fuel depots or chemical plants.
- Near medical equipment, especially life support equipment that might be susceptible to radio interference.
- In an aircraft.
  - The Castra module transmissions could interfere with aircraft electrical and communication systems. Like cell phones, using the Castra module in an aircraft is illegal in some jurisdictions.
  - If cell phone usage is permitted while the aircraft is on the ground, normal Castra module operation is permitted as well.

Regulatory Compliance

The Castra module has been approved for mobile applications in the United States. Additional FCC certification is not required by host devices as long as the following conditions are met:

- Maintain at least 20 cm separation between the antennas and the user's body.
- Maximum antenna gain (including cable loss):
  - Cellular band < 7 dBi
  - PCS band < 4 dBi
- Independent Castra module operation. The Castra module must not be co-located or jointly operated with any other transmitter or antenna within the host device.
- A label with the following (or similar) statement must be attached to the host end product: This device contains Tx FCC ID:J9CCASTRA.

Thank you!

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