

RTOS Functional Test Procedure
Bench Top Only
Revision 1
PCA 1261320

Revision Table

Revision	Changes	Engineer	Date
1	Initial Document	BAP	20022-10-11

Setup:

This is a temporary test to verify programming and basic functionality with a minimum number of tests. It does not replace the original FCT document as called out in the drawing of 1261320 and is only allowed to be until a pogo pin fixture testing the entire FCT is completed.

Test commands are sent to the board using the serial debug interface. This is a logic level UART with the baud rate set to 115200. The board executes the commands and returns status over the same interface.

Test Sequence and programming:

1. Turn power on. Power supply is set to 24.0V and should be capable of driving a 1A load. Power is applied as indicated: COM goes to J7-8. +24V goes to J7-10.
2. Connect a Segger debugger to J12. Equipment list:
 - Tag-Connect TC2030-FTDI-TTL-232RG-VSW3V3 USB to TC2030 Serial Cable
 - Segger 8.19.28 J-LINK PLUS COMPACT
 - Olimex ARM-JTAG-20-10
 - Tag-Connect TC2050-IDC-050-ALL
 - J-Link Software version 6.50b
3. Open J-flash
4. Open the existing project chui_download.jflash and click "Start J-Flash"
5. Select File -> Open data file and browse to the software file called out in the drawing for 1261320
6. Select Target -> Connect
7. Once connected to the target micro, select Target -> Production Programming
8. The process should take less than 20s
9. Power cycle the DUT
10. Connect a UART to USB cable to J18 of the DUT
11. Open a terminal program like Tera Term or puTTY
12. Set to functional test mode by sending the following command over the debug interface:
"machine t=1".

Firmware Rev Check:

1. Read the firmware revision by sending the following command over the debug interface:

“system ?” UUT will return a response similar to the following:

```
>system ?
```

```
sysmgr_Software_Version(cM_USER_INTERFACE) = 1.2.0.221.FCT
```

```
sysmgr_Hardware_Version(cM_USER_INTERFACE) = 1.00
```

```
sysmgr_Software_Version(cM_SCRUB_CONTROLLER) = N/A
```

```
sysmgr_Hardware_Version(cM_SCRUB_CONTROLLER) = N/A
```

```
sysmgr_Software_Version(cM_LION_PACK_BMS) = N/A
```

```
sysmgr_Hardware_Version(cM_LION_PACK_BMS) = N/A
```

```
sysmgr_Software_Version(cM_SPE_CHARGER) = N/A
```

```
sysmgr_Software_Version(cM_ECH2O) = N/A
```

```
sysmgr_Hardware_Version(cM_ECH2O) = N/A
```

```
sysmgr_Software_Version(cM_BATTERY_WATERING) = N/A
```

```
sysmgr_Hardware_Version(cM_BATTERY_WATERING) = N/A
```

2. The User Interface Hardware Version shall match the revision number listed in the released drawing of 1261320.
3. Verify that the User Interface software version matches the drawing for 1261320

EEPROM Test:

1. Write board serial number (where **[SN]** is the serial number on the board) to EEPROM by sending the following command over THE DEBUG INTERFACE: **config p=499,[SN]**
Response must include:
Write Complete.
2. Wait 5 seconds and cycle power to board.
3. Read the board serial number from flash by sending the following command over THE DEBUG INTERFACE: **“config r=499”**
4. Response must include the serial number written to the board.
5. Set to functional test mode by sending the following command over THE DEBUG INTERFACE: **“machine t=1”**