

Mango IoT 보드 테스트 -3

<http://www.mangoboard.com/>

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Crazy Embedded Laboratory

Document History

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1. 테스트 하기

1.1. 조도센서 테스트 (CR-BH17)

하드웨어 매뉴얼은

<https://docs.google.com/document/d/1nDuxdSO-MQRTgsgDjmaH0zCr2ChEhBt9g2hyPcq-9Lc/edit?usp=sharing>

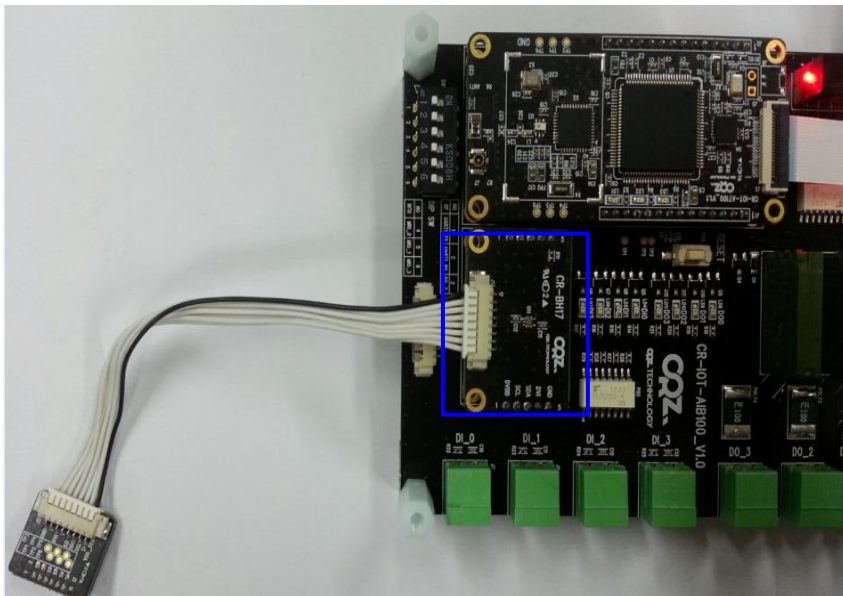
와

https://docs.google.com/document/d/1ZJ9poms6gb18BeDnrLZ2h_v4kkAMfGDyyYqSH6PfdNA/edit?usp=sharing

참조 바랍니다.



CR-BH17를 아래와 같이 장착합니다.



디버깅 터미널 창에서

```
IoT AnyThing AT100 Test ... Aug 21 2014 19:26:20
SYSCLK_Frequency = 32000000
HCLK_Frequency   = 32000000
PCLK1_Frequency  = 32000000
PCLK2_Frequency  = 32000000
TIM_Configuration() done
I2C_LowLevel_Init() done

-----
Press menu key
-----
0> System Information
-----
1> LED Test
2> MPU 9150 9 Axis Sensor Test
-----
3> Ambient LightL (BH17) Sensor Test
4> Temp & Humidity (HTU21) Sensor Test
-----
5> Actuator Test
6> Actuator Test - ZigBee Comm
-----
x> quit
```

3번을 입력합니다.

```
3 is selected

Test_Sensor_AL_BH17() S

-----
Press menu key
-----
1> Get Data
-----
x> quit
```

1번 입력

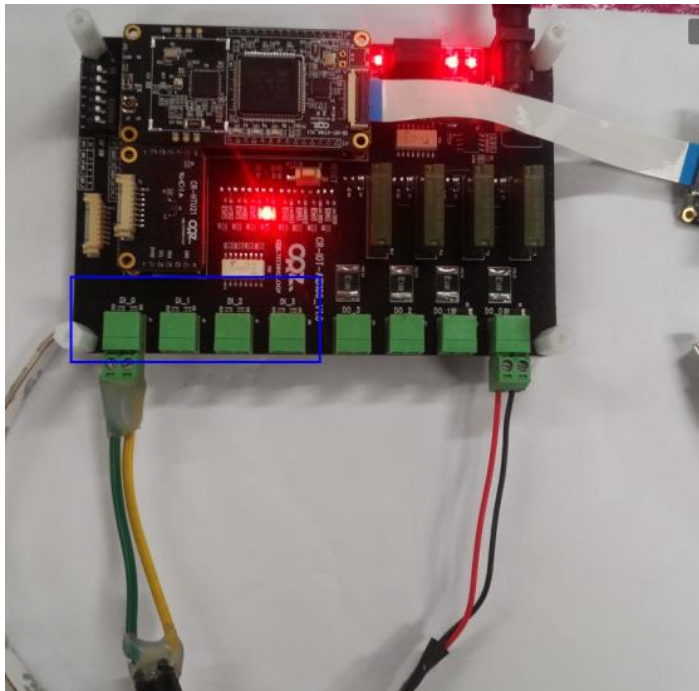
LUX 값을 리턴합니다.

```
Data Val: 0x00B5  
Lux: 0x150.833328
```

1.2. Digital Input 테스트

CR-AIB100 보드에 5V이상 input 전압을 인가

아래 처럼 연결 시 DI 0번에 연결



좌측부터 DI_0, DI_1, DI_2, DI_3 입니다.

```
-----  
Press menu key  
-----  
0> System Information  
-----  
1> LED Test  
2> MPU 9150 9 Axis Sensor Test  
-----  
3> Ambient LightL (BH17) Sensor Test  
4> Temp & Humidity (HTU21) Sensor Test  
-----  
5> Actuator Test  
6> Actuator Test - ZigBee Comm  
-----  
x> quit  
5 is selected
```

5번 선택

9번 입력

```
Test_Actuator() S  
actuator_port_setup() done
```

```
-----  
Press menu key  
-----
```

```
1> Output port 0 On  
2> Output port 0 Off  
3> Output port 1 On  
4> Output port 1 Off  
5> Output port 2 On  
6> Output port 2 Off  
7> Output port 3 On  
8> Output port 4 Off  
-----
```

```
9> Read Input ports  
a> Read DIP switch ports  
b> Read Output ports  
-----
```

```
x> quit
```

```
9 is selected
```

Input Port P0: 1, P1: 0, P2: 0, P3: 0

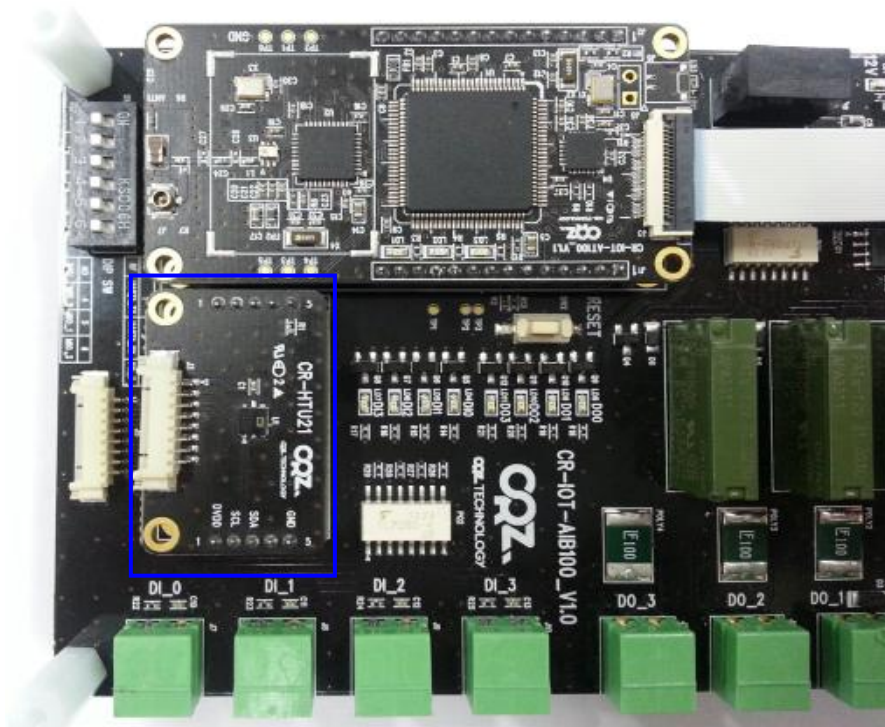
“Input Port P0: 1, P1: 0, P2: 0, P3: 0”

DI_0에 Input 전압을 인가해서 위와 같은 값이 나옵니다.

1.3. 온습센서 테스트 (CR-HTU21)



CR-HTU21를 아래와같이 장착합니다.




```
-----  
Press menu key  
-----  
0> System Information  
-----  
1> LED Test  
2> MPU 9150 9 Axis Sensor Test  
-----  
3> Ambient LightL (BH17) Sensor Test  
4> Temp & Humidity (HTU21) Sensor Test  
-----  
5> Actuator Test  
6> Actuator Test - ZigBee Comm  
-----  
x> quit
```

에서 4번 입력

```
Test_Sensor_HTU21() S  
  
-----  
Press menu key  
-----  
1> Get Temperature Data  
2> Get Humidity Data  
-----  
x> quit
```

1번은 온도 데이터를 읽어옵니다.
2번은 습도 데이터를 읽어옵니다.

```
1 is selected  
  
data[0]: 0x6E, data[1]: 0x98, data[2]: 0xB8  
data16Val: 0x6E98, Temperature: 29.062241
```

Press menu key

1> Get Temperature Data

2> Get Humidity Data

x> quit

2 is selected

data[0]: 0x49, data[1]: 0x52, data[2]: 0x56

data16Val: 0x4952, Humidity: 29.800934