# AXI_DAQ_HiCCE128_v0

## Register Stucture

**Read_intan (0x43C00000)**

Set which block that need to read

| | | | | | | | | | | | | Read A | Read B | Read C | Read D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bit 15 | | | | | | | | | | | | Bit 3 | | | Bit 0 |

**Ack_intan_DAQ (0x43C00000 + 4)** – Read only

Provide FIFO status ( 1 – FIFO x full, 0 – FIFO x not full)

| | | | | | | | | | | | | FIFO A | FIFO B | FIFO C | FIFO D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bit 15 | | | | | | | | | | | | Bit 3 | | | Bit 0 |

0001100000100100

**Config_Res_intan_x (0x43C00000 + 4*n)** ( x(n) – A(2), B(3), C(4), or D(5))

Configure the intan block for data acquisition

| | | | BW_SEL(1) | BW_SEL(0) | SETTLE | SEL4 | SEL3 | SEL2 | SEL1 | SEL0 | TEST_ENB | CONN_ALL | DAQ_Start_Stop | READ_MODE | Virtual_Mode |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bit 15 | | | Bit 12 | | | | | | | | | | | | Bit 0 |

| Bit No. | Name | Value | Description |
|---|---|---|---|
| **12-11** | BW_SEL | 11 | Wider frequency bandwidth (0.75 – 20 kHz) |
| | | 01 | narrower frequency bandwidth (1 kHz) |
| **10** | SETTLE | 1 | Resets all amplifiers to baseline levels |
| | | 0 | For normal acquisition |
| **9 - 5** | SEL4 – SEL0 | x | Channel selection bits when READ_MODE = 0 (manual reading) |
| | | x | Ignore when READ_MODE = 1 (Auto reading) |
| **4** | TEST_ENB | 1 | The elec_test pin is connected to the selected amplifier input pin (for electrode impedance measurement) |
| | | 0 | For normal acquisition |
| **3** | CONN_ALL | 1 | Ties all amplifier input pins to elec_test pin |
| | | 0 | For normal acquisition |
| **2** | DAQ_Start_Stop | 1 | Start acquisition |
| | | 0 | Stop acquisition |
| **1** | READ_MODE | 1 | Auto Sequential |
| | | 0 | Manual |
| **0** | Virtual_Mode | 1 | Pre-defined test pattern or Virtual ADC (Should uncomment the code) |

- A – 1010101010101010 (Hex: AAAA)
- B – 1100110011001100 (Hex: CCCC)
- C – 1110001110001110 (Hex: E38E)
- D – 1111000011110000 (Hex: F0F0)

| | |
|---|---|
| 0 | Actual Data |

**SW_Res_DAQ (0x43C00000 + 24)** – Read only

Read Board switches

| | | | | | | | | SW7 | SW6 | SW5 | SW4 | SW3 | SW2 | SW1 | SW0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bit - 15 | | | | | | | | Bit - 7 | | | | | | | Bit - 0 |

**LED_Res_DAQ (0x43C00000 + 28)**

Set Board leds

| | | | | | | | | LD7 | LD 6 | LD 5 | LD 4 | LD 3 | LD 2 | LD 1 | LD 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bit - 15 | | | | | | | | Bit - 7 | | | | | | | Bit - 0 |