

Chip ID should be only used to confirm if the I2C slave is active when the board first power on ,  
You'd better to reset the chip after you got the correct chip ID value .

| Chip Address | Register Address | Value | R/W   | Comment                    |
|--------------|------------------|-------|-------|----------------------------|
| 0x9E         | 0xff             | 0xE0  | write | write bank to 0xE0         |
| 0x9E         | 0xEE             | 0x01  | write | Enable I2C control         |
| 0x9E         | 0xff             | 0xE1  | write | write bank to 0xE1         |
| 0x9E         | 0x00             | 0x22  | read  | chip ID register high byte |
| 0x9E         | 0x01             | 0x04  | read  | chip ID register low byte  |
| 0x9E         | 0xff             | 0xE0  | write | write bank to 0xE0         |
| 0x9E         | 0xEE             | 0x00  | write | Disable I2C control        |

The below registers are for the signal information with INT notification , the firmware must be  
flashed in advance .(These register don't need to enable I2C control using 0xE0EE)

| Chip Address | Register Address | Value | R/W   | Comment  |
|--------------|------------------|-------|-------|--|
| 0x9E         | 0xff             | 0xE0  | write | write bank to 0xE0   |
| 0x9E         | 0x80             | /     | read  | chip name register   |
| 0x9E         | 0x81             | /     | read  | chip name register   |
| 0x9E         | 0x82             | /     | read  | Version High Byte  |
| 0x9E         | 0x83             | /     | read  | Version Low Byte   |
| 0x9E         | 0x84             | /     | read  | video interrupt type :<br>Bit0:video ready<br>Bit1:audio ready<br>Bit2:HDRStreamEn |

Resolution & Clock (Valid at 0xE084 bit0=1&bit2=0)

| Chip Address | Register Address | Value | R/W   | Comment   |
|--------------|------------------|-------|-------|---|
| 0x9E         | 0xff             | 0xE0  | write | write bank to 0xE0                                    |
| 0x9E         | 0x85             | /     | read  | PixelClock[23:16] KHZ                                 |
| 0x9E         | 0x86             | /     | read  | PixelClock[15:8] KHZ                                  |
| 0x9E         | 0x87             | /     | read  | PixelClock[7:0] KHZ                                   |
| 0x9E         | 0x88             | /     | read  | Htotal[15:8]  |
| 0x9E         | 0x89             | /     | read  | Htotal[7:0]   |
| 0x9E         | 0x8A             | /     | read  | Vtotal[15:8]  |
| 0x9E         | 0x8B             | /     | read  | Vtotal[7:0]   |
| 0x9E         | 0x8C             | /     | read  | Hactive[15:8]   |
| 0x9E         | 0x8D             | /     | read  | Hactive[7:0]  |
| 0x9E         | 0x8E             | /     | read  | Vactive[15:8]   |
| 0x9E         | 0x8F             | /     | read  | Vactive[7:0]  |
| 0x9E         | 0x92             | /     | read  | ByteClock[23:16] KHZ                                  |
| 0x9E         | 0x93             | /     | read  | ByteClock [15:8] KHZ                                  |
| 0x9E         | 0x94             | /     | read  | ByteClock [7:0] KHZ                                   |
| 0x9E         | 0xA0             | /     | read  | port number : 1,2,4,                                  |
| 0x9E         | 0xA1             | /     | read  | mipi format:<br>0x00:YUV422 8bit<br>0x01:YUV422 10bit |

|      |      |   |      |                    |
|------|------|---|------|--------------------|
|      |      |   |      | 0x02:RGB 8bit      |
|      |      |   |      | 0x03:Legacy YUV420 |
| 0x9E | 0x95 | / | read | DP format:         |
|      |      |   |      | 0x00:RGB           |
|      |      |   |      | 0x01:YUV422        |
|      |      |   |      | 0x02:YUV444        |
|      |      |   |      | 0x03:YUV420        |
| 0x9E | 0x96 | / | read | DP Color Depth:    |
|      |      |   |      | 0x00:6bit          |
|      |      |   |      | 0x01:8bit          |
|      |      |   |      | 0x02:10bit         |
|      |      |   |      | 0x03:12bit         |

#### Audio Sample Rate (Valid at 0xE084 bit1=1&bit2=0)

| Chip Address | Register Address | Value | R/W   | Comment                       |
|--------------|------------------|-------|-------|-------------------------------|
| 0x9E         | 0xff             | 0xE0  | write | write bank to 0xE0            |
| 0x9E         | 0x90             | /     | read  | Audio_FS_Value[15:8]          |
| 0x9E         | 0x91             | /     | read  | Audio_FS_Value [7:0]          |
| 0x9E         | 0xA2             | /     | read  | Audio Channel:8ch,6ch,4ch,2ch |

#### MIPI stream enable (Valid when firmware supports this feature)

| Chip Address | Register Address | Value | R/W   | Comment             |
|--------------|------------------|-------|-------|---------------------|
| 0x9E         | 0xff             | 0xE0  | write | write bank to 0xE0  |
| 0x9E         | 0xB0             | 0x00  | write | Disable MIPI Stream |
|              |                  | 0x01  | write | Enable MIPI Stream  |

#### DP HDR Information Frame(Valid at 0xE084 bit2=1)

| Chip Address | Register Address | Value | R/W   | Comment            |
|--------------|------------------|-------|-------|--------------------|
| 0x9E         | 0xff             | 0xE0  | write | write bank to 0xE0 |
| 0x9E         | 0x86             | /     | read  | HDR_HB0            |
| 0x9E         | 0x87             | /     | read  | HDR_HB1            |
| 0x9E         | 0x88             | /     | read  | HDR_HB2            |
| 0x9E         | 0x89             | /     | read  | HDR_HB3            |
| 0x9E         | 0x8A             | /     | read  | HDR_DE0[7:0]       |
| 0x9E         | 0x8B             | /     | read  | HDR_DE0[15:8]      |
| 0x9E         | 0x8C             | /     | read  | HDR_DE0[23:16]     |
| 0x9E         | 0x8D             | /     | read  | HDR_DE0[31:24]     |
| 0x9E         | 0x8E             | /     | read  | HDR_DE1[7:0]       |
| 0x9E         | 0x8F             | /     | read  | HDR_DE1[15:8]      |
| 0x9E         | 0x90             | /     | read  | HDR_DE1[23:16]     |
| 0x9E         | 0x91             | /     | read  | HDR_DE1[31:24]     |
| 0x9E         | 0x92             | /     | read  | HDR_DE2[7:0]       |
| 0x9E         | 0x93             | /     | read  | HDR_DE2[15:8]      |
| 0x9E         | 0x94             | /     | read  | HDR_DE2[23:16]     |

|      |      |   |      |                |
|------|------|---|------|----------------|
| 0x9E | 0x95 | / | read | HDR_DE2[31:24] |
| 0x9E | 0x96 | / | read | HDR_DE3[7:0]   |
| 0x9E | 0x97 | / | read | HDR_DE3[15:8]  |
| 0x9E | 0x98 | / | read | HDR_DE3[23:16] |
| 0x9E | 0x99 | / | read | HDR_DE3[31:24] |
| 0x9E | 0x9A | / | read | HDR_DE4[7:0]   |
| 0x9E | 0x9B | / | read | HDR_DE4[15:8]  |
| 0x9E | 0x9C | / | read | HDR_DE4[23:16] |
| 0x9E | 0x9D | / | read | HDR_DE4[31:24] |
| 0x9E | 0x9E | / | read | HDR_DE5[7:0]   |
| 0x9E | 0x9F | / | read | HDR_DE5[15:8]  |
| 0x9E | 0xA0 | / | read | HDR_DE5[23:16] |
| 0x9E | 0xA1 | / | read | HDR_DE5[31:24] |
| 0x9E | 0xA2 | / | read | HDR_DE6[7:0]   |
| 0x9E | 0xA3 | / | read | HDR_DE6[15:8]  |
| 0x9E | 0xA4 | / | read | HDR_DE6[23:16] |
| 0x9E | 0xA5 | / | read | HDR_DE6[31:24] |
| 0x9E | 0xA6 | / | read | HDR_DE7[7:0]   |
| 0x9E | 0xA7 | / | read | HDR_DE7[15:8]  |
| 0x9E | 0xA8 | / | read | HDR_DE7[23:16] |
| 0x9E | 0xA9 | / | read | HDR_DE7[31:24] |

**Note:**

1. INT is used as the interrupt signal(50ms low level) to inform SOC start reading registers from LT7911UXD;
2. Support 100k/400k I2C;
3.  $Fps = PixelClock / (Htotal * Vtotal)$ ;
4. Audio\_FS\_Value: audio sampling frequency;
5. Mipi clock rate = ByteClock\*4; Mipi data rate = ByteClock\*8;