Accessing EDID SRAM via I2C

- EDID SRAM data is accessible from the I2C interface on the device through an indirect register access mechanism provided by the APB Interface registers.
- The APB Interface registers consist of a control register (Reg 0x48), address registers (Reg 0x49, 0x4A) and data registers (Reg 0x4B – 0x4E).
- The address registers provide the byte offset to the EDID SRAM.
- When accessing EDID SRAM, only the first data register (Reg 0x4B) is used since the interface is 8-bits.
- When using the APB interface, the APB must be enabled in reg 0x48[0]. If desired, automatic incrementing of the register address may be enabled by setting reg 0x48[2]. This will cause the APB address to be incremented by 1 following an APB read or write.
- For EDID SRAM accesses, Reg 0x48[4:3] should be set to a value of 01 to select EDID SRAM.

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The process for reading EDID SRAM is as follows:

1) Write to Reg 0x49 to set the 8-bit register address.

2) Set Reg 0x48[1]. This will initiate the APB Interface read. Reg 0x48[0] must also be set during any write to reg 0x48, while the Reg 0x48[4:3] must be set to 01. If desired, the APB auto increment bit (Reg 0x48[2]) may be set to enable the auto-increment function.

3) Read the first APB data register (Reg 0x4B).

4) If APB auto increment bit was set, the next register location may be read by repeating steps 2 and 3, otherwise repeat steps 1-3 to read another register location.

Accessing EDID SRAM via I2C

The process for writing the EDID SRAM is as follows:

1) Set Reg 0x48[0] to enable APB. This bit should remain set through remainder of procedure. Reg 0x48[4:3] should be set to 01. If desired, the auto increment bit (Reg 0x48[2]) may be set to enable the auto-increment function.
2) Write to Reg 0x49 to set the 8-bit register address.
3) Write the 8-bit data to Reg 0x4B. The APB Interface write will occur once this register has been written.
4) If APB auto increment bit is set, the next register location may be written by repeating step 2, otherwise repeat steps 1 and 2 to write another register location.