## LED\_MATRIX. Device Register’s Map, release 17101814 and following if does not indicated other

For setting the operating modes and getting status of the controller, the register’s file is implemented

in the FPGA.

These are 16 32-bits registers; first 8 registers (0x00..0x00) are accessible in Read/Write mode, the upper 8 registers (0x09..0x0F) are Read-only and represent status information.

|  |  |  |
| --- | --- | --- |
| **Addr** | **Purpose** | **Default (RST) value** |
| **0x00** | Bit-field:   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | | rst | tpg1 | tpg0 | src:  dpi/tpg | led  test | self  test | rfs  ena | scan  ena |   scan\_ena: enables memory scan and output to LED Modules  rfs\_ena: enables refresh video-RAM by DPI or TPG stream  self\_test: runs the self-test  led\_test: runs the test of the connected LED Modules Chain  src\_dpi\_tpg: selects the video image stream source (DPI or TPG)  tpg[1:0]: test pattern selection (vertical bars, Thai flag, GS Gradient)  rst: reset  Bits 31..9 - reserved | 0x0003  Not supported yet |
| **0x01** | Brightness  Allowable values: 0x0000..0x003F | 0x0020 |
| **0x02** | Image width  Actual width of the full image, in pixels | 0x0100 |
| **0x03** | Scan Ratio  Actual number of the lines in 1 row | 0x0020 |
| **0x04** | Rows Number  The actual number of the rows (1 row = 1 panel, now) | 0x0001 |
| **0x05** | PWM Quantum  The smallest time-value for LED lighting during the binary-coded PWM.  Allowable values: 0x0001..0x000F | 0x0007 |
| **0x06** | ROI\_X0  The X coordinate of the ROI’s left-top corner | 0x0101 |
| **0x07** | ROI\_Y0  The Y coordinate of the ROI’s left-top corner | 0x0101 |
| **0x08** | DPI Frequency (kHz)  Indicates the actual pixel clock frequency at the DPI (Parallel RGB) Input |  |
| **0x09** | DPI H-Size  Indicates the actual visible image width at the DPI Input (e.g., 640 or 800) |  |
| **0x0E** | Firmware Version, maj. Format: 0xYYMM  e.g.: 0x1710 |  |
| **0x0F** | Firmware Version, min. Format: 0xDDHH  e.g.: 0x1416 |  |

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