

EMC6650 is a 4K 144Hz commercial display SoC. It supports up to 8K@30fps decoder, 4K 144Hz HDMI 2.1 signal input. With the support of 4K 144Hz and 4K1K 288Hz panels, EMC6650 provides immersive gaming experience. By dedicate low-latency data path and full function HDMI 2.1 ports, end users can truly enjoy the pleasure brought by technologies such as VRR (40 - 144Hz), ALLM, and Free Sync.

EMC6650 adopts a quad-core A75 CPU, ARM G57 MC1 GPU, and an APU with 1.2TOPS computing power, simultaneously equipped with HDMI 2.1, USB3.0, PCIe2.0, Gigabit Ethernet ports, etc., with rich peripheral resources.

## Features

<b>CPU</b>	<ul style="list-style-type: none"><li>• Quad core ARM Cortex-A75 CPU</li></ul>
<b>GPU</b>	<ul style="list-style-type: none"><li>• ARM Mali-G57 MC1</li></ul>
<b>NPU</b>	<ul style="list-style-type: none"><li>• Max 1.2TOPS</li><li>• Support AIPQ</li></ul>
<b>Video Out</b>	<ul style="list-style-type: none"><li>• Support 4K1K 288Hz panel, 4K2K 144Hz panel, VRR 40Hz-144Hz</li></ul>
<b>Video In</b>	<ul style="list-style-type: none"><li>• 1*HDMI 2.1, support ARC/eARC VRR, ALLM, QFT, HDCP 2.3/1.4, CEC</li><li>• 3*HDMI 2.1, support VRR, ALLM, QFT, CEC, HDCP 2.3/1.4</li><li>• 1* DTMB IN interface, support modes defined in GB20600-2006</li><li>• IC cards interface for B CAS or A CAS</li></ul>
<b>Audio</b>	<ul style="list-style-type: none"><li>• 1*SPDIF out</li><li>• PDM in 4 data channels)</li><li>• I<sup>2</sup>S in*4 for Audio processor loop back</li><li>• I<sup>2</sup>S out*4 data channel</li><li>• Line out Analog output (earphone support)</li></ul>
<b>PQ</b>	<ul style="list-style-type: none"><li>• Support AIPQ (face/scene graph recognition and enhance) PQ adjustment for 4K (frame level)</li><li>• Super Resolution (SR) support YUV444/422 10bit</li><li>• Support AI SR, any resolution up to 4K 60Hz</li><li>• Support Sharpness enhancement</li><li>• Support Local Dimming and boosting</li></ul>
<b>Memory Interface</b>	<ul style="list-style-type: none"><li>• 64-bit DDR4</li><li>• eMMC5.1</li></ul>
<b>Connectivity</b>	<ul style="list-style-type: none"><li>• UART, I<sup>2</sup>C, SPI, 10M/100M Ethernet, GMAC</li><li>• SAR-ADC, PWM, IR Receiver</li><li>• USB3.0, USB2.0, PCIe2.0</li></ul>

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