



M3C SiP Series

H.264 Encoder SoC with Integrated Fisheye Correction and DDR Function

Models		M3851C	M3881C	M3882C
Host Controller		ARM926EJ™ 600MHz		
Video Compression	H.264 Profile	H.264/MPEG-4 AVC (ISO/IEC 14496-10) baseline, main, and high profile@Level 4.1		
	H.264 Performance	1080p@30fps+D1@30fps		
	H.264 ROI Encoding	Up to 8 independent ROI windows. Support different quality and frame rate in each ROI region.		
	H.264 SVC-T Encoding	Up to 4 layers		
	MJPEG Performance	2M@30fps		
Video Input I/F	Bayer	Up to two 12-bit channels		
	MIPI Rx	Up to one 2-lane channel		
	BT.1120	Up to one channel		
	BT.656	Up to two channels (including one MUX-4 channel)		
	BT.601	Up to two channels		
Video Output I/F	8-bit BT.656	Support		
	16-bit BT.1120	Support		
	RGB 888	Support		
	sRGB (i80-50MP)	Support		
	CVBS	Support		
Image Pipeline		Up to two channels		
Fisheye Correction (Hardware)		No	Yes	
Image Signal Processing		Geometric lens distortion correction		
		Lens shading correction		
		Chromatic aberration correction		
		Fixed pattern noise removal		
		Saturation, Brightness and Contrast adjustment		
		Statistic data output for customized 3A process		
		Static and dynamic defect pixel correction		
		Separated black clamp for R/G _R /G _B /B		
		Crop, mirror, flip, rotation		
		Color correction (3x3 RGB to RGB matrix with offset)		
		Gamma correction (12-bit to 8-bit correction table)		
		Separated digital gain control for R/G/B		
		Digital WDR (local tone mapping)		
		2D/3D noise reduction		
		Edge enhancement		
		Video Analytic		Motion detection
De-interlace				
Privacy mask (support arbitray mask shape)				
Resize (support arbitrary scaling ratio from 1/4x to 4x, up to four size-down channels simultaneously)				
Intelligent classifier				
Audio Interface		Built-in audio codec with LSPK (mono differential output up to 500mW)		
		Full duplex		
		Single channel		
		I ² S I/F x1		
Embedded SDRAM		128MB DDR3-800 SDRAM		256MB DDR3-800 SDRAM
USB		USB 2.0 OTG x1		
Ethernet MAC		10/100/1000M (support MII, RMII, and 3.3V RGMII)		
MMC/SD/SDIO		x2, support up to UHS-1 SDXC; One for SDIO only		
NAND Flash		x1		
UART		x4 Tx/Rx, or x2 Tx/Rx and x1 RS485, or x1 full function		
ADC		x4, 10-bit resolution		
I2C		x3		
RTC		x1 (<18uW@3.3V mode, <3uW@1.2V mode)		
IrDA		x1		
SPI		x2		
GPIO		Up to 96 bits (16 dedicated pins)		
PWM		x8		
XTAL		12MHz (for system) and 32.768KHz (for RTC)		
Clock Generator		4 configurable clock sources		
Operating Voltage		Core: 1.2V		
		I/O: 1.5V (for DDR3) and 3.3V		
Package		TFBGA361 (19x19)		
		Ball Pitch: 0.65mm		
		Dimension: 13mm x 13mm		
Power Consumption		TBD		
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