

R2C SiP Series



H.264 Codec SoC with Dual Video Input Channel and Embedded DDR

Models		R2881C
Host Controller		ARM926EJ™ up to 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 Encoding 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
Video Decompression	MJPEG Performance	1080p@30fps
	H.264 Decoding Features	Compliant with R2C Series and R2C SiP Series H.264 encoder
	H.264 Decoding Performance	1080p@30fps+D1@30fps
Video Input Interface	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
Max Sensor Resolution		28MP
Video Output Interface	8-bit BT.656	Support
	16-bit BT.1120	Support
	RGB 888	Support
	sRGB (i80-50MP)	Support
	HDMI Tx	Support
	CVBS	Support
Image Pipeline		Up to two channels
Image Signal Processing	Fisheye correction	
	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 _B /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	
	Motion detection	
	De-interlace	
	Privacy mask (support arbitray mask shape)	
Video Analytic		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
USB		USB 2.0 OTG x1
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)
PWM		x8
XTAL		12MHz (for system) and 32.768KHz (for RTC)
Clock Generator		3 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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