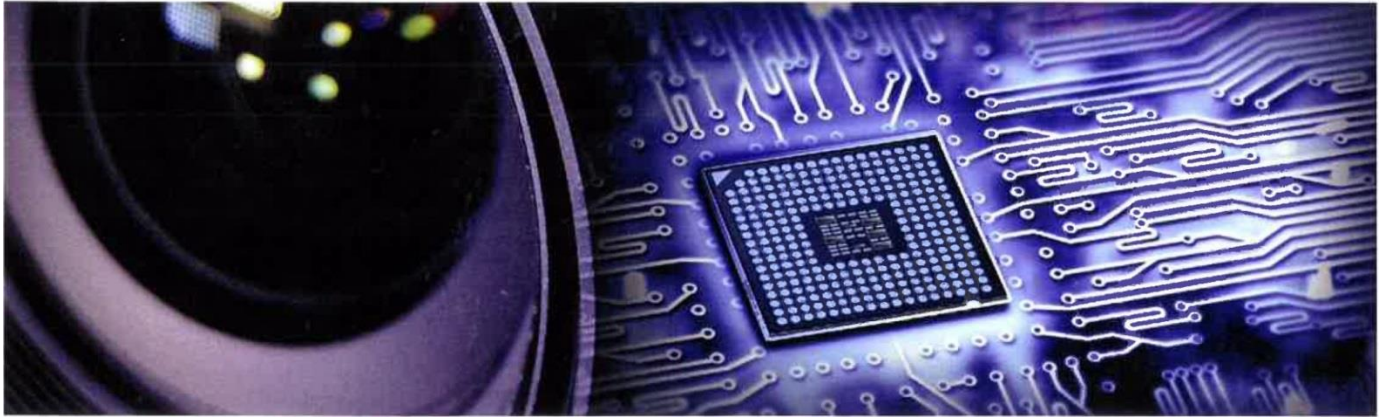# Milbeaut® Image Processor : MB86S29

■ Overview

"MB86S29" is model of the "Mobile series" lineup targeting smartphones. This model is supported bayer domain function, especially Auto-Focus(AF) solution is special key function to reduce in-focus time. In addition, we support the latest high-speed/ high-precision AF, which is called "Hybrid AF", contributing and allowing expressions for higher possibilities.
We also support image quality such like "Bayer Noise Reduction(NR)", "Auto Exposure(AE)", "Auto White Balance(AWB)", "Defect Pixel Correction(DPC)", etc.

■ Milbeaut ISP solution

"Milbeaut" is a high quality imaging processor with track record of DSLR, smartphones, surveillance camera and other various cameras since its start-up in 2000.
Socionext will provide various imaging solution based on our experience in image processing technology accumulated with Milbeaut's 15 years of history.
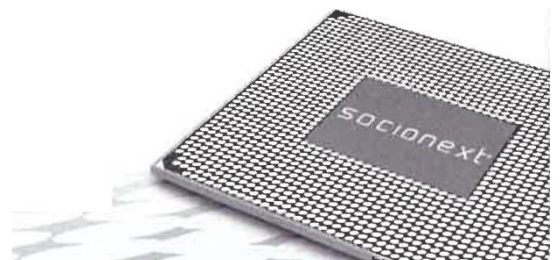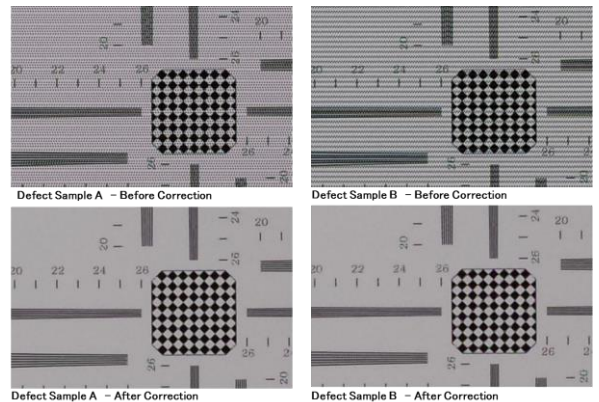
■ Key feature

● 16MPix[16:9] 30fps Bayer Output

● Super Hybrid AF
   ・Achieve High-speed & accuracy AF in all situations
   ・Three types of hybrid of an auto-focus function
     - Contrast AF
     - Phase Detection AF (PDAF)
     - Laser AF

● AE/AWB
   ・Support sensor setting with our AE algorithm
   ・Support white color setting with our AWB algorithm

● Bayer Noise Reduction Improvement
   ・Support various types frequency noise

● Defect Pixel Correction
   ・Support PDAF with RAW image

◆ Super Hybrid AF Solution

◆ Defect Pixel Correction

Defect Sample A – Before Correction   Defect Sample B – Before Correction
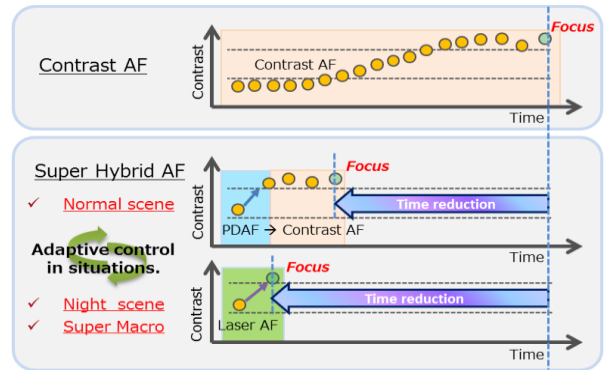
Defect Sample A – After Correction   Defect Sample B – After Correction

■ Specification

Feature	Specification
ISP Process	28nm CMOS Technology
Package size	4.0 x 4.0 x max0.8[mm] BGA 81P
CPU	ARM946 288MHz single core x 2
Host IF	MIPI 4/2/1Lane (2.1Gbps/Lane) Bayer Output
Max Image Size	21Mpix(16:9) 24MPix(4:3)
Sensor IF	MIPI 4/2/1Lane (2.1Gbps/Lane) MIPI 4/2Lane (1.5Gbps/Lane)
Internal Memory	512K Byte(For FW) 512K Byte(For IQ)

Feature	Specification
Defect Pixel Correction	Support
Shading	Support
Super Hybrid AF	PDAF, Laser, Contrast
AE	Support
AWB	Transfer CC Matrix with AP
Bayer Noise Reduction	Support