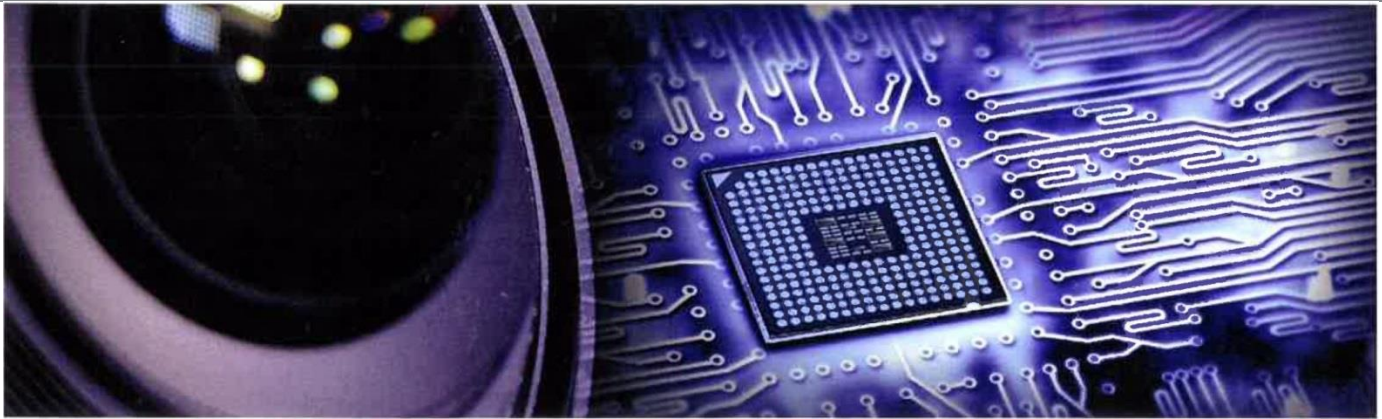# Milbeaut® Image Processor : MBG965

■ Overview

"MBG965" is model of the "Mobile series" lineup targeting smartphones, supporting various functions for single camera solution.
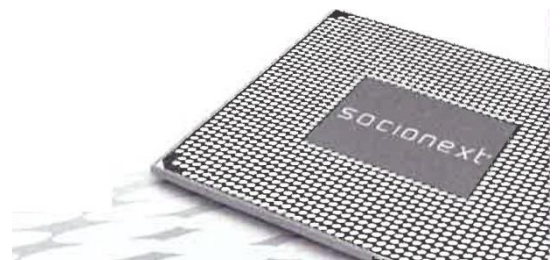
This model is specialized image quality. There is a lot of flexibility parameter setting for Image Quality(IQ) along with customer's requests. We also support to you from FW development to IQ tuning

In addition to basic functions required for single camera, we support the Face Detection(FD), Video Image Stabilization(VIS) and some other useful applications, contributing and allowing expressions in mobile environment for higher possibilities.

■ 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.
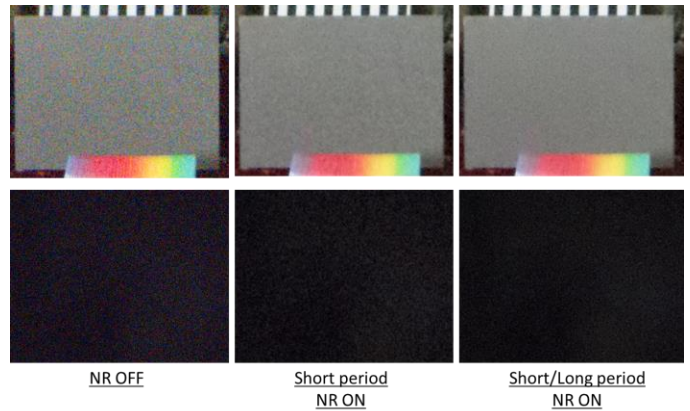Socionext will provide various imaging solution based on
our experience in image processing technology
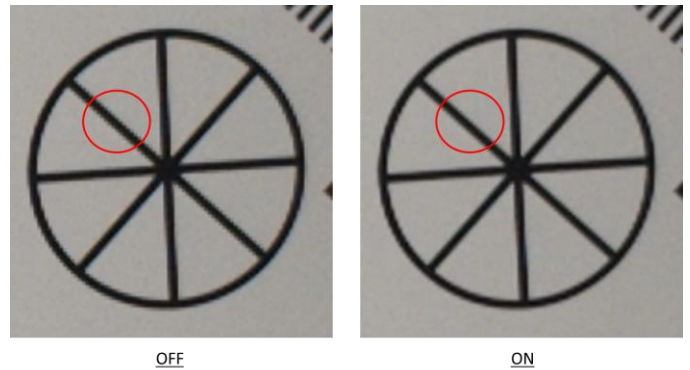accumulated with Milbeaut's 15 years of history.

Key feature

- 13M 30fps(with Zero Shutter Lag)

- Low Power Consumption (300mW Zero Shutter Lag Monitor)

- Bayer Noise Reduction Improvement
  - Support various types frequency noise

- AE/AWB/AF
  - Support sensor and white color setting with our AE/AWB algorithm

- Edge Enhance
  - New algorithm for Edge Enhance
    - Reduce Jaggy noise
    - Sharpness image

◆ New Noise Reduction

| NR OFF | Short period NR ON | Short/Long period NR ON |

◆ New Edge Enhance

| OFF | ON |

Specification

Feature	Specification
ISP Process	55nm CMOS Technology
SDRAM	1G bit LPDDR-2
Flash	16M bit nor Flash
Package size	8.0 x 9.0 x max1.3[mm] BGA 217P
CPU	ARM946 288MHz single core
Host IF	MIPI 4/2/1Lane (1Gbps/Lane) YUV422 YUV420(Legacy) JPEG/NV12
Demosaic Capability	240Mpix/sec
Max Image Size	16Mpix
Sensor IF	MIPI 4/2/1Lane (1.25Gbps/Lane) MIPI 4/2/1Lane (1Gbps/Lane)
DDR Memory	SIP LPDDR-2 200MHz
Internal Memory	704K Byte(High Speed SRAM)

Feature	Specification
Adaptive WDR for still	Support
Chroma NR(still / video)	Support
Shading / Defect Pixel Correct	Support
Lens distortion correction	Support
ZSL(Zero Shutter Lag)	13M 30fps
Continuous Shoot (without video)	13M 15fps
Instant Capture	385msec
AF/Continuous AF	10point Vertical horizontal statistics
Video capability (depend on sensor input size)	1080p 60fps 2Kx4K 24fps
Digital Zoom	x4(or over)
Still EIS	High ISO Approach