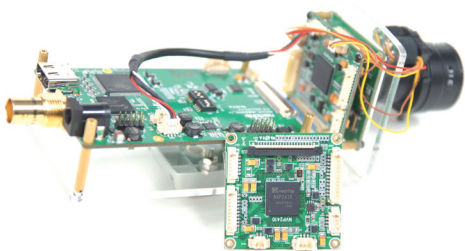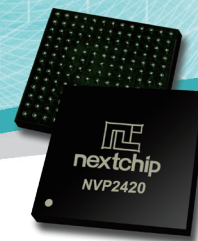# Megapixel CMOS ISP
NVP2420/NVP2421

The brand new megapixel CMOS ISP, NVP2420/NVP2421 has state-of-the-art technology to give the best image quality ever. It is designed for Full-HD surveillance cameras like HD-SDI(HDCCTV), Full-HD IP camera and high-end analog camera. It can support up to 1920 X 1080 @ 60 fps input and output. It receives 12-bits parallel or various sub-LVDS CMOS sensor inputs. Output is provided as BT.656, BT.1120, YC 16bits and composite video outputs. NVP2420/NVP2421 includes groundbreaking functions, for example, N-WDR(Natural Wide Dynamic Range) and powerful motion-adaptive 2D/3D NR. In addition, it offers various customized security camera functions such as Day & Night, FRC, Flicker Detection, HLC/BLC, Privacy Polygon Masking, Motion Detection, IRIS control I/F, OSD, enhanced DEFOG and so on.

● Features

- Full-HD CMOS sensor support
- Natural-WDR
- 3D-NR(Noise Reduction)
- Smart NR (3D-NR+Motion Detection)
- Enhanced Defog
- Low shutter(up to x30)
- Dead pixel compensation(live/static)
- User defined OSD
- Programmable AE/AWB/AF detection
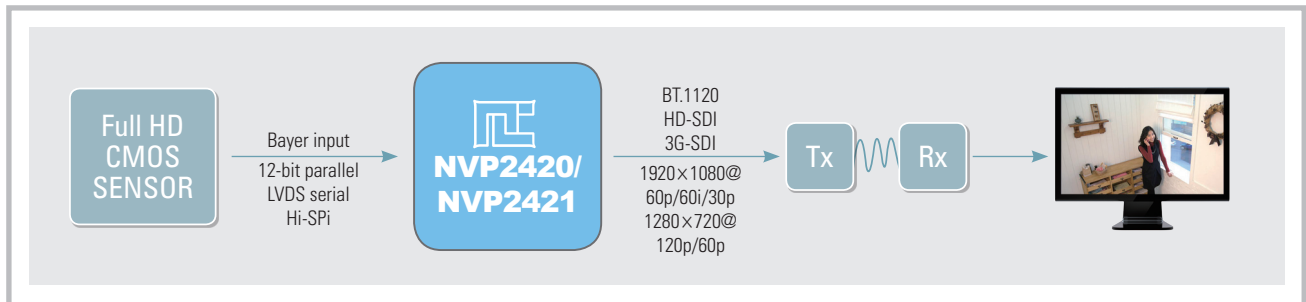- Serializer included (only NVP2420)

● Specifications

Input I/F	• 1.3M/2M pixel CMOS sensor bayer input • 12bit 60fps-parallel/serial @ 1920×1080p • 60fps Hi-SPi IF @ 1920×1080p • 10bit YUV input

Output I/F	• BT.656 / BT.1120 / YC16bit
	• Supports 3G-SDI/HD-SDI Interface
	  (1920×1080@60p/60i/30p
	   1280×720@120p/60p)
	• Composite video (720H, 960H)

Etc	• 1.2V/1.8V/3.3V
	• Package
	  NVP2420 : 256-FBGA 13mm×13mm 0.8p
	  NVP2421 : 144-FBGA 10mm×10mm 0.8p

● Applications

- Megapixel IP camera
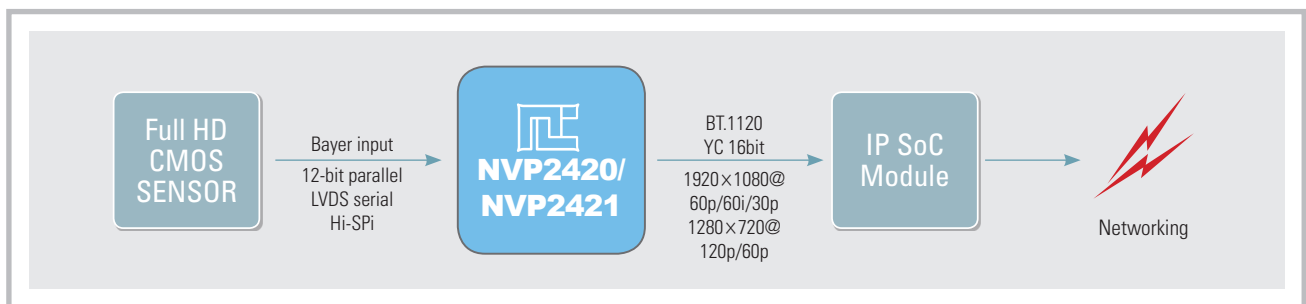- HDCCTV (HD-SDI camera)
- 960H analog camera

● HDCCTV / 3G-SDI Application

Full HD CMOS SENSOR	Bayer input 12-bit parallel LVDS serial Hi-SPi	**NVP2420/ NVP2421**	BT.1120 HD-SDI 3G-SDI 1920×1080@ 60p/60i/30p 1280×720@ 120p/60p	Tx Rx	

- Optimized and customized solution for HDCCTV application.
- Optimized and customized solution for 3G-SDI application.

● Full HD IP Camera Application

Full HD CMOS SENSOR	Bayer input 12-bit parallel LVDS serial Hi-SPi	**NVP2420/ NVP2421**	BT.1120 YC 16bit 1920×1080@ 60p/60i/30p 1280×720@ 120p/60p	IP SoC Module	Networking

- Provide a differentiated product among your competitors who are using same image sensor and SoC, through programmable functions and creating new functions by embedded CPU.

● NVP2420/NVP2421 Major Features

Defog	N-WDR(Day)	N-WDR(Night)	2D/3D-NR
OFF	OFF	OFF	OFF
ON	ON	ON	ON