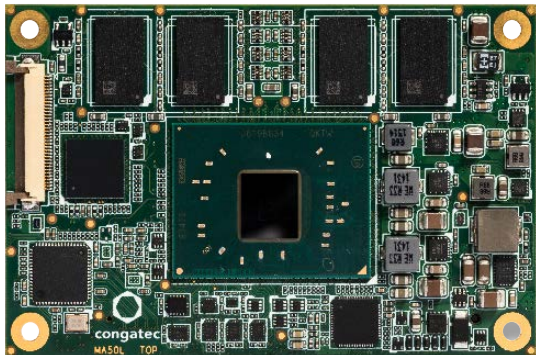


# POWERFUL AND SMALL

# conga-MA5



- 5<sup>th</sup> Gen. Intel® Atom™ processor family
- COM Express Mini Type 10 module
- Intel 9th generation (Gen 9) LP graphics
- Up to 4k resolution (4096x2160@60Hz)
- 4K Codec Decode & Encode for HEVC, H.264, VP8

**COM**  **Express®**

Formfactor	Formfactor COM Express® Mini   (55 x 84 mm)   Type 10					
CPU	Intel® Pentium® N4200	2.50 GHz (Burst)   1.1 GHz Clock	Quad Core	L2 cache 2MB	6W TDP	
	Intel® Celeron® N3350	2.40 GHz (Burst)   1.1 GHz Clock	Dual Core	L2 cache 2MB	6W TDP	
	Intel® Atom™ x7-E3950	2.00 GHz (Burst)   1.6 GHz Clock	Quad Core	L2 cache 2MB	12W TDP	
	Intel® Atom™ x5-E3940	1.80 GHz (Burst)   1.6 GHz Clock	Quad Core	L2 cache 2MB	9.5W TDP	
	Intel® Atom™ x5-E3930	1.80 GHz (Burst)   1.3 GHz Clock	Dual Core	L2 cache 2MB	6.5W TDP	
DRAM	Dual channel onboard DDR3L memory support for up to 8 GByte at 1866MT/s					
Chipset	Integrated in SoC					
Ethernet	Intel® I210 (Industrial) / I211 (Commercial) Gigabit Ethernet Controller					
I/O Interfaces	4x PCIe Gen2   2x USB 3.0/2.0   6x USB 2.0   2x SATA3   SDIO   LPC Bus   SMBus   I2C Bus   2x UART					
Onboard storage	eMMC 5.0 interface up to 128GB					
Sound	Intel® High Definition Audio (Intel® HD Audio)					
Graphics	Intel® HD Graphics 500 with support for 4k Ultra HD displays   DirectX 12   OpenGL 4.4   OpenCL 2.0   OpenGL ES 3.0   HDCP 1.4 (wired), HDCP 2.0 (wireless)   Video decode hardware acceleration including support for 4kp60 HEVC (H.265), H.264, MVC, VP8, VP9, VC-1, WMV9, JPEG/MJPEG   Video encode hardware acceleration including support for 4kp30 HEVC (H.265), H.264, MVC, VP8, JPEG/MJPEG.					
LVDS	18/24-bit Single Channel LVDS Interface, resolutions up to 1280x1024@60Hz   VESA standard or JEIDA data mapping Automatic Panel Detection via EDID/EPI   shared with eDP 1.3 supporting up to 3840x2160@60 Hz (option)					
Digital Display Interface	DisplayPort 1.2 up to 4096x2160@60Hz or DDI up to 3840x2160@60Hz					
congatec Board Controller	Multistage watchdog   non-volatile user data storage   manufacturing and board Information   board statistics I <sup>2</sup> C bus (fast mode)   400 kHz   multi master   power loss control					
Embedded BIOS Features	AMI Aptio® UEFI 2.x firmware   8 MByte serial SPI with congatec Embedded BIOS features OEM Logo   OEM CMOS Defaults   LCD Control Display Auto Detection   Backlight Control   Flash Update					
TPM	Infineon's Trusted Platform Module (TPM 2.0/1.2) SLB 9665/9660 option					
Power Management	ACPI 5.0 compliant   Smart Battery Management					
Operating Systems	Microsoft® Windows 10   Microsoft® Windows 10 IoT Enterprise   Microsoft® Windows 10 IoT Core   Linux   Yocto   Android					
Power Consumption	Typ. application 6W...12W					
Temperature	Commercial :	Operating: 0 to +60°C	Storage: -20 to +70°C			
	Industrial:	Operating: -40 to +85°C	Storage: -40 to +85°C			
Humidity	Operating:	10 to 90% r. H. non cond.				
	Storage:	5 to 95% r. H. non cond.				
Size	55 x 84 mm (2.17" x 3.31")					

# conga-MA5 | Block diagram

