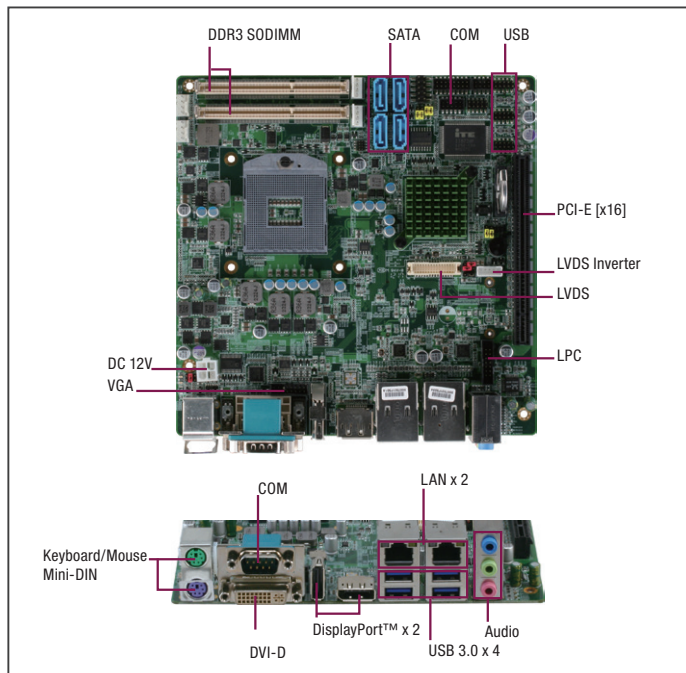


Embedded Motherboard with 3rd Generation Intel® Core™ i7/i5/Celeron® Quad Core/Dual Core™ Processor



## Specifications

System	
Processor	Socket 3rd Generation Intel® rPGA988 Processor
Chipset	Intel® QM77
Memory	Dual-Channel with 204-pin SDRAM x 2, DDR3 1600/1333/1066, up to 16GB
Graphics	Intel® HD Graphics
I/O Chipset	ITE IT8728F+Fintek F81216DG
Ethernet	Intel® PHY WG82579LM / Realtek RTL 8111E, Gigabit LAN x 2
Audio	Realtek® ALC892/886/662
TPM	Infineon SLB9635TT 1.2
Expansion Slots	PCIe [x16] x 1, Mini-PCIe x 1, CFast x 1
BIOS	AMI BIOS - 128MB ROM
H/W Monitor	Supports System temperature, Voltage, and Cooling fan status monitoring
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/PXE	Yes
Power State	S3,S4,S5
Graphics	
Graphics Chipset	Intel® Core™ i7/i5/i3 + QM77
Graphics Multi Display	DP x 2+VGA, DP x 2+LVDS, HDMI+DP, HDMI+VGA, HDMI+LVDS
VGA	1
DVI	1
HDMI	1 (by SKU)
Display Port	2 (by SKU)
LVDS	1
eDP	—
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium Battery
Power Requirement	12V DC
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40 °F ~ 176 °F (-40 °C ~ 80 °C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE/FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.32 lb (0.6 kg)
MTBF (Hours)	60,000

## Features

- Socket rPGA988, 3rd Generation Intel® Core™ i7/i5/Celeron® Processor
- Intel® Core™ i7/i5 + QM77
- 204-pin Dual-channel DDR3 1066/1333/1600 MHz SODIMM x 2, Up to 16 GB
- Gigabit Ethernet x 2
- Dual Display Version: CRT, Dual 24-bit LVDS, DVI-D, HDMI, DisplayPort™
- Three Display Version: CRT, Dual 24-bit LVDS, DVI-D, DisplayPort™ x 2 (Optional)
- SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2, Supports RAID 0,1,5,10
- USB 2.0 x 6, USB 3.0 x 4, COM x 2
- PCI-Express [x16] x 1, Mini-Card x 1, CFast™ x 1, TPM x 1



### Rear Panel I/O Ports

USB	USB 3.0 x 4
Display I/O	DP x 2 or DP x 1+HDMI x 1, DVI-D x 1
Audio I/O	Line-in, Mic-in, Line-out
LAN I/O	RJ-45 x 2
Serial Port	RS-232/422/485 x 1
PS/2 Port	Mini-Din PS/2 K/B and Mouse x 1
Others	—

### Internal I/O Connectors

Storage	SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2, Supports RAID 0,1,5,10
USB	USB 2.0 x 6
Display I/O	VGAx 1, LVDSx 1
Audio I/O	—
Serial Port	RS-232 x 1
PS/2 Port	—
Parallel Port	—
DIO	8-bit programmable (4-in/4-out)
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 1
Power	4-pin connector x 1
Others	—
OS	
OS Support	Windows® XP, Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Linux Fedora

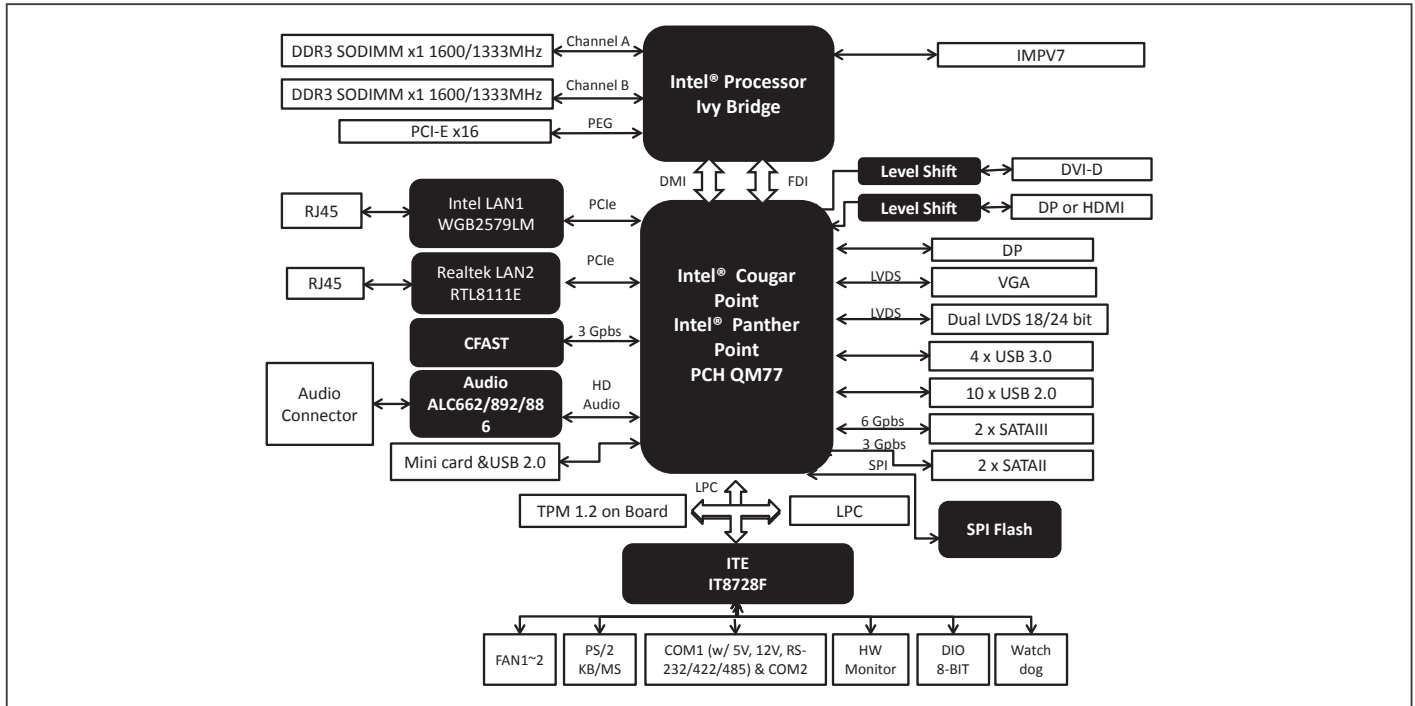
## Packing List

- 1701160201  
VGA Cable
- 1709100201  
USB Cable w/ bracket
- 1701100206  
COM Cable
- 1709070800  
SATA Cable
- 1702151201  
SATA Power Cable (4-pin)
- Metal I/O Bracket
- Product DVD
- EMB-QM77

## Optional Accessories

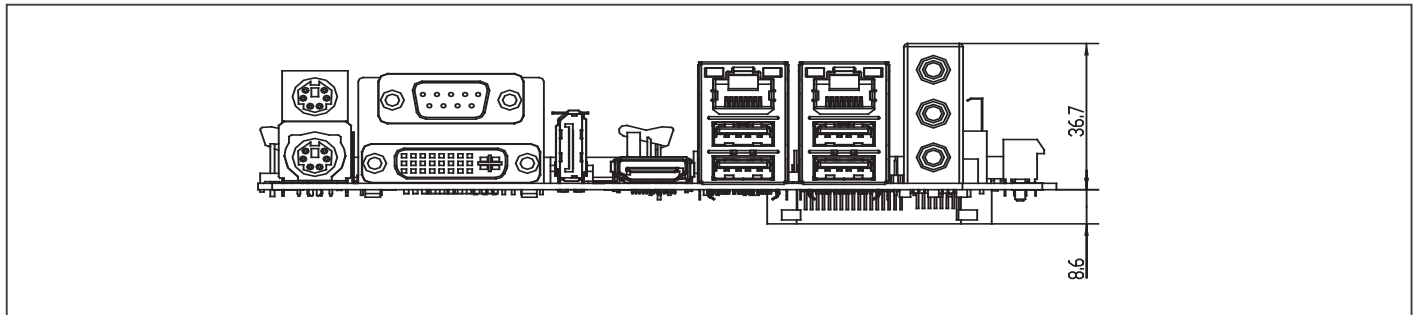
- 17592QM672  
CPU Cooler 4P, 60mm x 60mm x 26.5mm

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	RAM	Fan/ Fanless	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
TF-EMB-QM77-A10-OSP	Socket	DDR3 16GB	Fan	VGA/DVI-D/LVDS/DP	SATA2 x 2, SATA3 x 2, CFAST x 1	GbE x 2	USB 3.0 x 4, USB 2.0 x 6	1	1	PCIe [x16] x 1, mPCIe x 1	+12V DC	1.2	32°F ~ 140°F (0°C ~ 60°C)
TF-EMB-QM77-A10-01-OSP	Socket	DDR3 16GB	Fan	VGA/DVI-D/LVDS/DP/HDMI	SATA2 x 2, SATA3 x 2, CFAST x 1	GbE x 2	USB 3.0 x 4, USB 2.0 x 6	1	1	PCIe [x16] x 1, mPCIe x 1	+12V DC	1.2	32°F ~ 140°F (0°C ~ 60°C)