

VIA
Mobile360 M820

Fanless ultra-compact in-vehicle safety system with flexible ADAS, SVS, and DMS integration options



Features

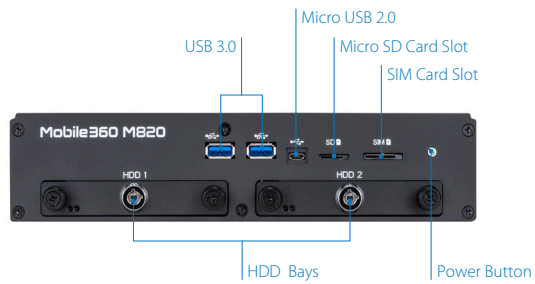
- Nine FAKRA connectors
- AWS IoT Greengrass qualified
- VIA ADAS technology including FCW, BSD, LDW, SLD, and DMOD
- VIA SVS technology enabling real-time 360° panoramic display
- VIA DMS technology including distraction and drowsiness detection

Specifications

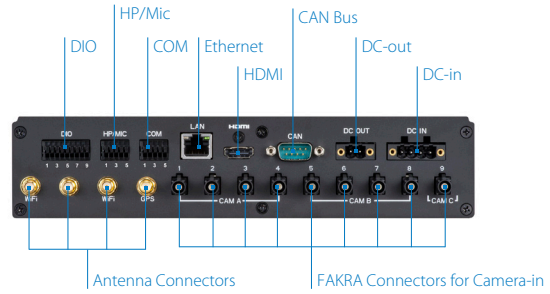
Model Name	Mobile360 M820
Processor	Qualcomm® APQ8096A Embedded Processor - Two high-performance Kryo cores up to 2.054GHz - Two low power Kryo cores up to 1.593GHz
System Memory	4GB LPDDR4 SDRAM
Storage	16GB eMMC flash memory 2 M.2 SATA slots 2 2.5" SATA HDD/SSD storage bays
Graphics	Qualcomm® Adreno™ 530 GPU 3D graphics accelerator with 64-bit addressing 624MHz Graphics engine supporting OpenGL ES 3.1/GEOP, GL4.4, DX11.3/4, OpenCL 2.0, Renderscript-Next Supports H.264, VP8, HEVC 8/10-bit, VP9 video decoding up to: 4K@60fps, 1080p@240fps, 8 x 1080p@30fps
Camera-in Interface	3 DS90UB964-Q1 Quad FPD-Link III deserializer Hub
LAN	RTL8111G Ethernet Controller
Wireless Connectivity	AMPAK AP12356_I1 MiniPCIe WI-FI/BT 4.1 module MAX-M8Q-0-10 u-blox 8 GNSS module
Audio	TI 6PAIC3104IRHBRQ1 Audio Codec
HDMI	Integrated HDMI 2.0 transmitter
Expansion I/O	1 MiniPCIe slot (USB only) for 4G module 1 MiniPCIe slot (PCIe/USB) for Wi-Fi/BT module
Front Panel I/O	2 USB 3.0 ports 1 Micro USB 2.0 port (for debugging) 1 Micro SD card slot 1 SIM card slot 2 2.5" HDD/SSD bays 1 Power button
Back Panel I/O	1 HDMI port 1 DIO port 1 COM port 1 CAN bus port 1 Gigabit Ethernet port 9 FAKRA connectors for camera-in 1 Headphone/Mic-in port 4 Antenna connectors for Wi-Fi, 4G, GPS 1 4-pole Phoenix 9~36V DC-in 1 2-pole Phoenix 12V DC-out
Power Supply	9~36V DC-in with IGN
Operating System	Yocto 2.3
Operating Temperature	-20°C ~ 70°C
Storage Temperature	-20°C ~ 70°C
Operating Humidity	0~95% (non-condensing)
Vibration Loading During Operation	ISO-16750-3 Test VII compliance



Front Panel External I/O



Back Panel External I/O



Specifications

Model Name	Mobile360 M820
Vibration Loading During Operation	ISO-16750-3 Test VII compliance
Shock During Operation	ISO-16750-3 Test VII compliance
Mechanical Construction	Aluminum alloy top cover Metal chassis housing
Dimensions	240mm(W) x 53mm(H) x 180mm(D) (9.45" x 2.09" x 7.09")
Weight	3.0kg (6.61lbs.)
Compliance	CE, FCC

Ordering Information

Part Number	SoC Frequency	Description
M360-820-2Q20A1	Qualcomm® APQ8096A Embedded Processor @ 2.054GHz/1.593GHz	Fanless mobile system with 2.054GHz Qualcomm® APQ8096A Embedded Processor, 4GB LPDDR4 SDRAM, HDMI, 2 USB 3.0, Micro USB 2.0 (debugging), DIO, COM, CAN bus, Gigabit Ethernet, 9 FAKRA connectors for camera-in, Wi-Fi, Bluetooth 4.1, GPS, SIM card slot, Micro SD card slot, 2 M.2 slots, 2 2.5" SSD/HDD bays, 12V DC-out, 9~36V DC-in with IGN

Optional Accessories

Camera & Cables Options	
Part Number	Description
M360-ADAS-1C19A1	1.0MP FOV-35 720p CMOS Front ADAS camera with microphone, speaker and mounting bracket
M360-DMS-1C19A1	1.0MP FOV-60 720p CMOS DMS camera with IR and mounting bracket
99G40-08115Z	1.0MP FOV-35 720p CMOS automotive-grade camera for BSD
99G40-08116Z	1.0MP FOV-190 720p CMOS automotive-grade camera for SVS + Rear ADAS
99G33-230406	15M FAKRA cable
M360-CBKT-00A1	Camera mounting bracket for SVS/BSD 42mm x 28.2mm x 32.3mm (1.65" x 1.11" x 1.27")

Display Options

Part Number	Description
99G73-01034C	10" Resistive touch monitor (1280x800)
99G73-01030C	7" Resistive touch monitor (1280x800)

Storage Options

Part Number	Description
99G61-080554	512GB Transcend 2.5" MLC SSD (-40°C-90°C)
99G61-080904	128GB Transcend 2.5" MLC SSD (-40°C-90°C)

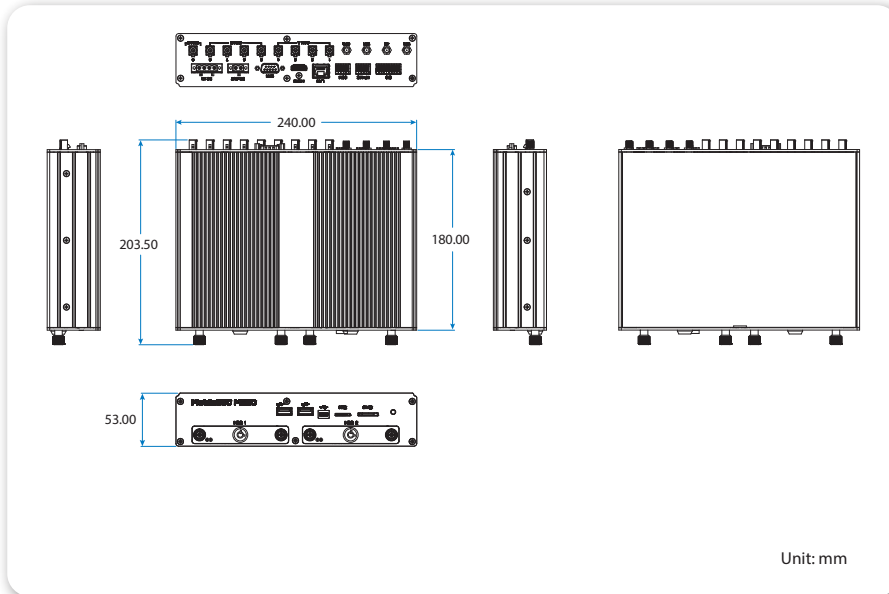
Wireless Modules

Part Number	Description
99G40-071467	4G LTE/DC-HSPA+/EGPRS Mobile broadband full-size miniPCIe module (For North America Regions)
99G40-071967	4G LTE/DC-HSPA+/EGPRS Mobile broadband full-size miniPCIe module (For APAC+ South America Regions)
99G40-071457	4G LTE/DC-HSPA+/EGPRS Mobile broadband full-size miniPCIe module (For EU/APAC Regions)

Mounting Options

Part Number	Description
M360-SBKT-00A1	System mounting bracket, 337.2mm x 185mm x 62mm
M360-CBKT-00A1	Camera Mounting Bracket for SVS /BSD, 42mm x 28.2mmx 32.3 mm

Dimensions



Packing List

Items

- Mobile360 M820 system
- Phoenix plug to DC jack
- COM cable (for debugging)
- GPS antenna
- 2 Wi-Fi/BT antennas