

VIA  
**Mobile360 M820**

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



**Features**

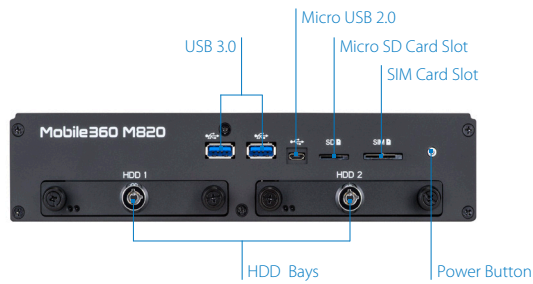
- Nine FAKRA connectors
- AWS IoT Greengrass qualified
- VIA ADAS technology including FCW, BSD, LDW, SLD, and DMOD
- VIA SVS technology enabling real-time 360° panoramic display
- VIA DMS technology including distraction and drowsiness detection

**Specifications**

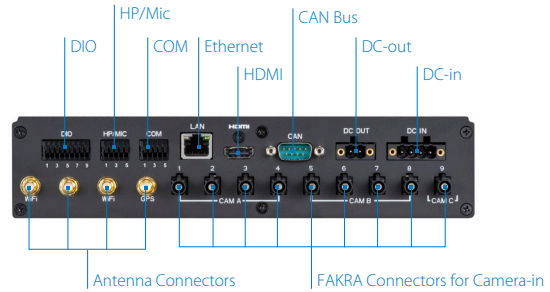
<b>Model Name</b>	<b>Mobile360 M820</b>
<b>Processor</b>	Qualcomm® APQ8096A Embedded Processor - Two high-performance Kryo cores up to 2.054GHz - Two low power Kryo cores up to 1.593GHz
<b>System Memory</b>	4GB LPDDR4 SDRAM
<b>Storage</b>	16GB eMMC flash memory 2 M.2 SATA slots 2 2.5" SATA HDD/SSD storage bays
<b>Graphics</b>	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
<b>Camera-in Interface</b>	3 DS90UB964-Q1 Quad FPD-Link III deserializer Hub
<b>LAN</b>	RTL8111G Ethernet Controller
<b>Sensor</b>	1 6-Axis IMU
<b>Wireless Connectivity</b>	AMPAK AP12356_I MiniPCIe Wi-Fi/BT 4.1 module MAX-M8Q-0-10 u-blox 8 GNSS module
<b>Audio</b>	TI 6PAIC3104IRHBRQ1 Audio Codec
<b>HDMI</b>	Integrated HDMI 2.0 transmitter
<b>Expansion I/O</b>	1 MiniPCIe slot (USB only) for 4G module 1 MiniPCIe slot (PCIe/USB) for Wi-Fi/BT module
<b>Front Panel I/O</b>	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
<b>Back Panel I/O</b>	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
<b>Power Supply</b>	9~36V DC-in with IGN
<b>Operating System</b>	Yocto 2.3
<b>Operating Temperature</b>	-20°C ~ 70°C
<b>Storage Temperature</b>	-20°C ~ 70°C
<b>Operating Humidity</b>	0~95% (non-condensing)
<b>Vibration Loading During Operation</b>	ISO-16750-3 Test VII compliance



## Front Panel External I/O



## Back Panel External I/O



## Specifications

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

## 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-62 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-192 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" SSD (-40°C-90°C)
99G61-080904	128GB Transcend 2.5" SSD (-40°C-90°C)

### Calibration Patterns

Part Number	Description
99G51-030021	ADAS Calibration pattern for front and rear ADAS cameras (170cm x 90cm)
99G51-030011	BSD/SVS Calibration patterns (152.5cm x 152.5cm)

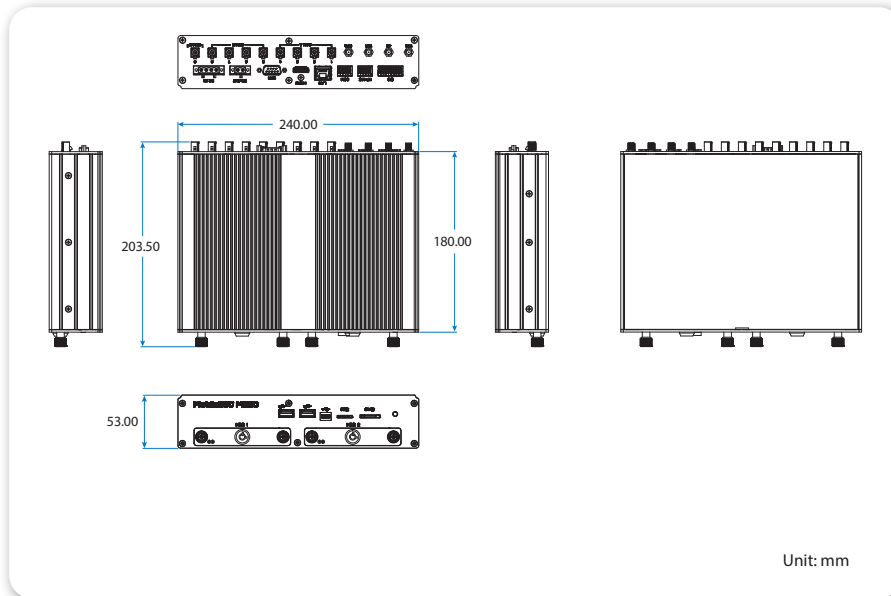
## Wireless Modules

Part Number	Description
M360-LTE1-Q1APA1	4G LTE Module kit for Asia Pacific region
M360-LTE1-Q1EUA1	4G LTE Module kit for EU region
M360-LTE1-Q1USA1	4G LTE Module kit for North America region

## Mounting Options

Part Number	Description
M360-SBKT-00A1	System mounting bracket, 337.2mm x 185mm x 62mm

## Dimensions



## Packing List

### Items

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