



# VM23

## APOLLO LAKE FANLESS SIGNAGE PLAYER



Intel® Apollo Lake  
Celeron N3350/N3450 processors



DP (Max.4096 x 2304 @60 Hz)  
HDMI (Max.3840 x 2160 @30 Hz)



Support Wi-Fi/BT module



Fanless design

### CPU

<b>CPU</b>	Intel® Celeron® N3350 processor Intel® Celeron® N3450 processor
<b>Frequency</b>	2.40 GHz/2.20 GHz
<b>Chipset</b>	SoC
<b>Processing Units</b>	2 Cores/4 Cores
<b>TDP</b>	6 W

### Network

<b>Network Controller</b>	1 x Realtek RTL 8111H Gigabit Ethernet
<b>Ethernet Interface</b>	1 x RJ45
<b>Wi-Fi/BT</b>	1 x E-Key M.2 (2230) for Wi-Fi/BT
<b>Mobile Network</b>	NA

### System

<b>System Memory</b>	2 GB/4 GB, Onboard LPDDR4-2133 MHz
<b>Storage</b>	32 GB/64 GB, Onboard eMMC 1 x Full-size Mini-PCIe for MSATA
<b>TPM</b>	Optional: TPM2.0
<b>Watchdog Timer</b>	Yes
<b>Auto Power On</b>	Yes
<b>RTC</b>	Set up independently every day, a week as a cycle
<b>Remo on</b>	Yes
<b>Power Requirement</b>	DC-IN, 12 V/2.0 A
<b>Dimensions</b>	116.6 mm x 107.4 mm x 30 mm (4.59" x 4.23" x 1.18")
<b>Construction</b>	Metal, Black
<b>Operating System</b>	Windows 10 (64bit) /Linux Ubuntu (64bit)
<b>Operating Temperature</b>	0°C ~40°C (32°F~104°F) @0.7m/s Air Flow
<b>Humidity</b>	95% @ 40°C (non-condensing)
<b>Certifications</b>	CE, FCC Class B

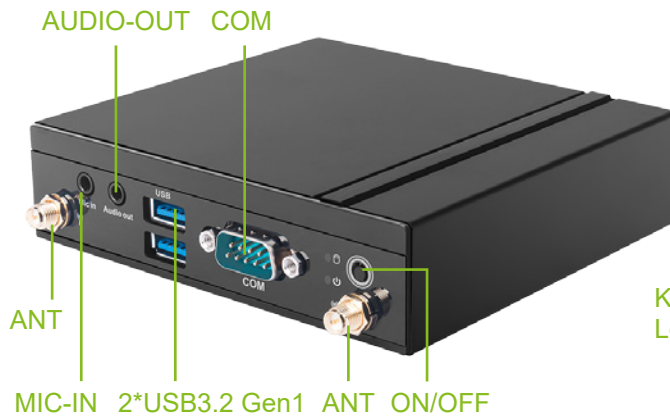
### Display

<b>GPU</b>	Intel® HD Graphics 500
<b>Graphic Engine</b>	DirectX 12, OpenGL 4.3, OpenCL 2.0
<b>Display Interface</b>	1 x DP (Max.4096 x 2304 @60 Hz) 1 x HDMI (Max.3840 x 2160 @30 Hz)

### I/O interface

<b>USB</b>	2 x USB3.2 Gen1, 2 x USB2.0
<b>Serial Port</b>	1 x RS232
<b>Audio</b>	1 x MIC-IN, 1 x AUDIO-OUT
<b>Button</b>	1 x Power on, 1 x CLR-CMOS
<b>Antenna</b>	2 x Connector for Wi-Fi/BT

## Dimensions and Drawing



## Order information

<b>VM23-F4</b> -N335031E5G-GIA	CPU: Intel® Celeron® N3350, RAM: 2 GB, Onboard LPDDR4-2133 MHz Storage: 32 GB, Onboard eMMC
<b>VM23-F4</b> -N345032E5G-GIA	CPU: Intel® Celeron® N3450, RAM: 4 GB, Onboard LPDDR4-2133 MHz Storage: 32 GB, Onboard eMMC
<b>Packing List</b>	2 x Wi-Fi Antenna, 1 x AC Power Cable, 1 x AC Power Adapter
<b>Package</b>	Carton, EPE

## Optional items

<b>VESA Mounting</b>	VESA Mounting Kit (JC530)
<b>Wi-Fi/BT Module</b>	Intel® Dual Band Wireless-AC 3165, Intel® Dual Band Wireless-AC 9260,
<b>Operating System License</b>	Windows 10 (64bit)