

NOVASom M-line is a family of SBCs specifically developed for High end multimedia markets that require heavy **Full HD** movies or multiple **4k UHD**, that need to be managed with high fluidity without compromise in performance.

Thanks to the different architectures it's possible to chose between various OS like Linux, Android or Windows 10 and IoT.

Examples of applications are: **Digital Signage, Infotainment, multimedia and advertising.**



		SBC-M7 Boards	SBC-M8 Boards	SBC-M11 Boards
	<b>Processor</b>	CPU	Rockchip RK3328	Qualcomm Snapdragon 410C
	<b>Graphic</b>	GRAPHICS ENGINE	Mali-450MP4	ADRENO
	<b>Memory</b>	RAM memory DDR3	Up to 4 GB	1 or 2 GB
		eMMC flash memory	Up to 256 GB	8 or 16 GB in bundle with ram
		μSD slot	Y	Y
	<b>Power</b>	Power supply	12v (6.5 - 18Vcc protected)	12v (6.5 - 18Vcc protected)
		Power Consumption Active [W]	2.5	6
		UPS Manager	Y (battery not included)	Y (battery not included)
	<b>Multimedia</b>	HDMI full size connector	Y	Y
		LVDS	External adapter	n.a.
		Display Port DP 1.2 or eDP1.3	n.a.	n.a.
		PCAP on Connector (Dedicated I2C Channel)	1	1
		Display MIPI-DSI	n.a.	Y
		Camera MIPI-CSI PHY 1.1 (1)	n.a.	Y
		Camera MIPI-CSI PHY 1.2	n.a.	n.a.
		Camera parallel	Y	n.a.
	<b>I/O</b>	Audio	Y - Analog line out	Y - Analog on jack
		On Board reconfigurable GPIO (1)	22 @1.8V	22 @1.8V
		On board protected GPIO	n.a.	n.a.
	<b>USB</b>	USB 2.0 port Host/Device on TYPE - A	1xUSB 3.0 + 1xUSB 2.0	Y
		USB 2.0 OTG on micro for debug	Y	Y
		USB 2.0 on strip	Y	Y
	<b>Communication</b>	I2C	2 on strip @ 3.3 V (2)	2 on strip @ 1.8 V (2)
		SPI	1 on strip @ 3.3 V (2)	2 on strip @ 1.8 V (2)
		On board SATA	n.a.	n.a.
		Console RS232	Y-TTL	Y
		mPCIe slot	n.a.	n.a.
		PCIe full size	n.a.	n.a.
	<b>Networking</b>	RJ 45 Ethernet connector on board	Y - 100 Mb	Y - Gb
		WIFI and BT	WIFI 802.11 a/b/g/n with PCB antenna	WIFI 802.11 a/b/g/n with PCB antenna
		GPS	N	Y
	<b>Generic</b>	Additional user led	Y - 1	Y -5
		RTC with external rechargeable battery	Y	Y
		User reset push-button	Y	Y
	<b>Dimension</b>	Mechanical size	85 x 56 mm (1)	85 x 56 mm (1)
		Form factor	Credit Card	Credit Card
	<b>Temperature</b>	Operating temperature	0- 70 °C	-30 / +60 °C
	<b>Operating System</b>	Distributions supported	Android, Linux Distribution, Novasom Industries SDK	Android, Linux Distribution, Novasom Industries SDK
				Windows 10, Linux

NOTE: for more information please refer to Hardware User Manual.

		SBC-M7 Boards					
		SBC-M7A	SBC-M7B	SBC-M7C	SBC-M7D	SBC-M7FT	
	<b>Processor</b>	CPU	Rockchip RK3328	Rockchip RK3328	Rockchip RK3328	Rockchip RK3328	
	<b>Graphic</b>	GRAPHICS ENGINE	Mali-450MP4	Mali-450MP4	Mali-450MP4	Mali-450MP4	
	<b>Memory</b>	RAM memory DDR3	Y – 1 GB@32bit	Y – 1 GB@32bit	Y – 1 GB@32bit	Y – 2 GB@32bit	
		eMMC flash memory	N	N	N	N	16 GB
		µSD slot ( card not included)	Y	Y	Y	Y	Y
	<b>Power</b>	Power supply	5V	5V	12v (6.5 - 18Vcc protected)	12v (6.5 - 18Vcc protected)	12v (6.5 - 18Vcc protected)
		Power Consumption [W]	2.5	2.5	2.5	2.5	2.5
		UPS MANAGER	Y - battery not included	Y - battery not included	Y - battery not included	Y - battery not included	Y - battery not included
	<b>Multimedia</b>	HDMI full size connector	Y – 4k	Y – 4k	Y – 4k	Y – 4k	Y – 4k
		LVDS	n.a.	n.a.	n.a.	n.a.	n.a.
		Display Port DP 1.2 OR eDP 1.3	n.a.	n.a.	n.a.	n.a.	n.a.
		PCAP on Connector ( Dedicated I2C Channel)	1	1	1	1	1
		Display MIPI-DSI	n.a.	n.a.	n.a.	n.a.	n.a.
		Camera MIPI-CSI PHY 1.1 <sup>(1)</sup>	n.a.	n.a.	n.a.	n.a.	n.a.
		Camera MIPI-CSI PHY 1.2	n.a.	n.a.	n.a.	n.a.	n.a.
		Camera parallel	Y	Y	Y	Y	Y
	<b>I/O</b>	Audio	Y – Analog line out	Y – Analog line out	Y – Analog line out	Y – Analog line out	Y – Analog line out
		On Board reconfigurable GPIO <sup>(1)</sup>	22 @1,8V	22 @1,8V	22 @1,8V	22 @1,8V	22 @1,8V
		OnBoard Protected GPIO	n.a.	n.a.	n.a.	n.a.	n.a.
	<b>USB</b>	USB 2.0 port Host/Device on TYPE - A	1xUSB 3.0 + 1xUSB 2.0	1xUSB 3.0 + 1xUSB 2.0	1xUSB 3.0 + 1xUSB 2.0	1xUSB 3.0 + 1xUSB 2.0	1xUSB 3.0 + 1xUSB 2.0
		USB 2.0 OTG on micro for debug	Y	Y	Y	Y	Y
		USB 2.0 on strip	Y	Y	Y	Y	Y
	<b>Communication</b>	I2C	2 on strip @ 3.3 V <sup>(2)</sup>	2 on strip @ 3.3 V <sup>(2)</sup>	2 on strip @ 3.3 V <sup>(2)</sup>	2 on strip @ 3.3 V <sup>(2)</sup>	2 on strip @ 3.3 V <sup>(2)</sup>
		SPI	1 on strip @ 3.3 V <sup>(2)</sup>	1 on strip @ 3.3 V <sup>(2)</sup>	1 on strip @ 3.3 V <sup>(2)</sup>	1 on strip @ 3.3 V <sup>(2)</sup>	1 on strip @ 3.3 V <sup>(2)</sup>
		On board SATA	n.a.	n.a.	n.a.	n.a.	n.a.
		Console RS232	Y-TTL	Y-TTL	Y-TTL	Y-TTL	Y-TTL
		mPCIe slot	n.a.	n.a.	n.a.	n.a.	n.a.
		PCIe full size	n.a.	n.a.	n.a.	n.a.	n.a.
	<b>Networking</b>	RJ 45 Ethernet	1 x 100 Mb/s	1 x 100 Mb/s	1 x 100 Mb/s	1 x 100 Mb/s	1 x 100 Mb/s
		WIFI and BT	N	WIFI 802.11 a/b/g/n with PCB antenna	WIFI 802.11 a/b/g/n with PCB antenna	WIFI 802.11 a/b/g/n with PCB antenna	WIFI 802.11 a/b/g/n with PCB antenna
		GPS	N	N	N	N	N
	<b>Generic</b>	Additional user led	Y-1	Y-1	Y-1	Y-1	Y-1
		RTC with external rechargeable battery	Y	Y	Y	Y	Y
		User reset push-button	Y	Y	Y	Y	Y
	<b>Dimension</b>	Mechanical size	85 x 56 mm <sup>(1)</sup>	85 x 56 mm <sup>(1)</sup>	85 x 56 mm <sup>(1)</sup>	85 x 56 mm <sup>(1)</sup>	85 x 56 mm <sup>(1)</sup>
		Form factor	Credit Card	Credit Card	Credit Card	Credit Card	Credit Card
	<b>Temperature</b>	Operating temperature	0- 70 °C	0- 70 °C	0- 70 °C	0- 70 °C	0- 70 °C
	<b>Operating System</b>	Distributions supported	Android 7.1/8.1, Linux	Android 7.1/8.1, Linux	Android 7.1/8.1, Linux	Android 7.1/8.1, Linux	Android 7.1/8.1, Linux

<sup>(1)</sup> RASPMOOD : form factor , mechanical holes , expansion pin on strip , connector kind and position same of famous Pi Family

<sup>(2)</sup> Strip NOT mounted (2.54), to leave customer free for any choice

NOTE: OPTIONS are related to the Tailor Made solutions. You choose the CPU than the options you need and you have your Tailor Made board.



	SBC Board code	SBC-M8 Boards		SBC-M11 Boards
		SBC-M8A	SBC-M8FT	SBC-M11FT
<b>Processor</b>	CPU	Qualcomm Snapdragon 410C	Qualcomm Snapdragon 410C	Intel Apollo Lake N42
<b>Graphic</b>	GRAPHICS ENGINE	ADRENO 405	ADRENO 405	Intel HD 405 / 505
<b>Memory</b>	RAM memory DDR3	Y - 1 GB@16bit	Y - 1 GB@16bit	SODIMM x2 slot up to 8GB @64bit
	eMMC flash memory	8 GB	8 GB	Up to 128 GB
	µSD slot ( card not included)	Y	Y	Y
<b>Power</b>	Power supply	12v (6.5 - 18Vcc protected)	12v (6.5 - 18Vcc protected)	12v (6.5 - 18Vcc protected redundant)
	Power Consumption [W]	6	6	10-15W
	UPS MANAGER	Y - battery not included	Y - battery not included	Y - battery not included
<b>Multimedia</b>	HDMI full size connector	n.a.	Y	Y - 4k
	LVDS	n.a.	n.a.	LVDS 2ch@1920x1080
	Display Port DP 1.2 OR eDP 1.3	n.a.	n.a.	Y - 4k with audio
	PCAP on Connector ( Dedicated I2C Channel)	1	1	1
	Display MIPI-DSI	1ch 1920x1080 (x4 lane) 1920x1080 @ 60 Hz	1ch 1920x1080 (x4 lane) 1920x1080 @ 60 Hz	1 ch 1920x1080 @ 60 Hz (x4 lane) <b>OR</b> 1 ch 2560x1600 @ 60 Hz (2x4 lane)
	Camera MIPI-CSI PHY 1.1 (1)	2 ch 1920x1080 (x4 lane)	2 ch 1920x1080 (x4 lane)	1 ch 1920x1080 (x4 lane) <b>OR</b> 1 ch @4k (2x4 lane)
	Camera MIPI-CSI PHY 1.2	n.a.	n.a.	1 ch 1920x1080 (x4 lane) <b>OR</b> 1 ch @4k (2x4 lane)
	Camera parallel	n.a.	n.a.	n.a.
<b>I/O</b>	Audio	Y - PCM on strip @ 1.8 V (2)	Y - PCM on strip @ 1.8 V (2)	High Definition Audio 5+1 Spdif
	On Board reconfigurable GPIO (1)	22 @1.8V	22 @1.8V	26 @3.3V
	OnBoard Protected GPIO	n.a.	n.a.	2 O.C. out up to 30V, 2 in up to 30V
<b>USB</b>	USB 2.0 port Host/Device on TYPE - A	N	1 USB	3X USB 3.0; 2 x USB2.0
	USB 2.0 OTG on micro for debug	Y	Y	N
	USB 2.0 on strip	N	Y - 2	Y - 2
<b>Communication</b>	I2C	2 on strip @ 1.8 V (2)	2 on strip @ 1.8 V (2)	2 on strip @ 3.3V (2)
	SPI	2 on strip @ 1.8 V (2)	2 on strip @ 1.8 V (2)	1 on strip @ 3.3V (2)
	On board SATA	n.a.	n.a.	Y - 2 x SATA III
	Console RS232	Y	Y	Y
	mPCIe slot	n.a.	n.a.	3 (2 full + 1 only usb and sim)
	PCIe full size	n.a.	n.a.	1 (full 2 lane)
<b>Networking</b>	RJ 45 Ethernet	N	1 x Gb/s	2 x Gb/s with dual MAC address
	WIFI and BT	N	WIFI 802.11 a/b/g/n with PCB antenna	WIFI 802.11 a/b/g/n with PCB antenna
	GPS	N	N	On mPCIe slot or USB
<b>Generic</b>	Additional user led	Y - 5	Y - 5	Y - 5
	RTC with external rechargeable battery	N	Y	Y
	User reset push-button	Y	Y	Y
<b>Dimension</b>	Mechanical size	85 x 56 mm (1)	85 x 56 mm (1)	170 x 170 mm
	Form factor	Credit Card	Credit Card	Mini ITX
<b>Temperature</b>	Operating temperature	-30 / +60 °C	-30 / +60 °C	-20 / +70 °C / -40+85 °C
<b>Operating System</b>	Distributions supported	Android 5.1/6, Linux based on Debian 8.0/Ubuntu 14, Windows 10 IoT Core	Android 5.1/6, Linux based on Debian 8.0/Ubuntu 14, Windows 10 IoT Core	Windows 10, Linux

(1) RASPMOOD : form factor , mechanical holes , expansion pin on strip , connector kind and position same of famous Pi Family

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