

AXON-IMX8M-MINI



Main Features

- TechNexion AXON-IMX8M-MINI is a high-performance and reliability SoM featuring NXP i.MX8M Mini applications processor based on ARM Cortex-A53 and Cortex-M4 architecture that provides industry-leading computing performance, efficiency and security.
- With the AXON series, you have a single hardware platform, where the multimedia and compute power of the NXP i.MX8M Mini SoC is combined with the extensibility of the AXON Fabric.
- The module is a compact SoM with the enhanced flexibility of a programmable I/O fabric which can be used to implement customized digital logic and interfaces.



yocto
PROJECT



X1

VDD IN (5V)	1.8V OUT	I2C A	I2C B	SPI A	AUDIO A	GPIO		USB2.0/OTG A	USB SS A	
	3.3V OUT	UART A		SDIO	PWM	ANALOG IN	RSVD	PWR CTRL	BOOT CTRL	JTAG

X3

HDMI TX/ EDP A		MIPI-CS12 A			AUD B	
PCIE A	4-LANE MIPI-DSI		RSVD	I2C D	GPIO	UART C

X2

I2C C	SPI B	GPIO		UART B	USB2.0 B	USB SS B	ETHERNET A
CAN A	CAN B	RSVD	PWM	TTL/CMOS DISPLAY FABRIC GPIO			

X4*

PWM	LVDS B/ EDP C	GPIO		MIPI-CS12 B/ HDMI RX		SATA*
PWM	LVDS A/ EDP B	GPIO		PCIE B	ETHERNET B	

* X4 connector not present on AXON-IMX8M-MINI

Specifications

Core System

Processor	NXP i.MX8M Mini Solo NXP i.MX8M Mini Dual NXP i.MX8M Mini Quad
Architecture	ARM Cortex-A53 + M4
Fabric	AXON Fabric
PMIC	ROHM BD71847
Memory	up to 4GB LPDDR4
Storage	eMMC (16GB Default)
Board-to-Board Connector	AXON 80-pin Hirose connectors
System on Module	AXON SOM

Connectivity

Network LAN	1x Atheros AR8035 Gigabit LAN
Wi-Fi/Bluetooth	Qualcomm QCA9377 802.11 a/b/g/n/ac + BT 5 (BR+EDR+BLE)
Antenna	MHF4 connector (optional)

Signaling

I/O	MIPI CSI	SDIO
	MIPI DSI	UART
	LAN	SPI
	PCIe	I ² C
	USB	PWM
	USB OTG	GPIO
	I ² S	

Video

Graphic Engine	Vivante GC7000Lite
Video Decode	1080p60 H.264
Video Encode	1080p60 H.264
Camera	MIPI CSI (4 lanes)

Audio

Audio Codec	On carrier board
Audio Interface	I ² S (2 channel)

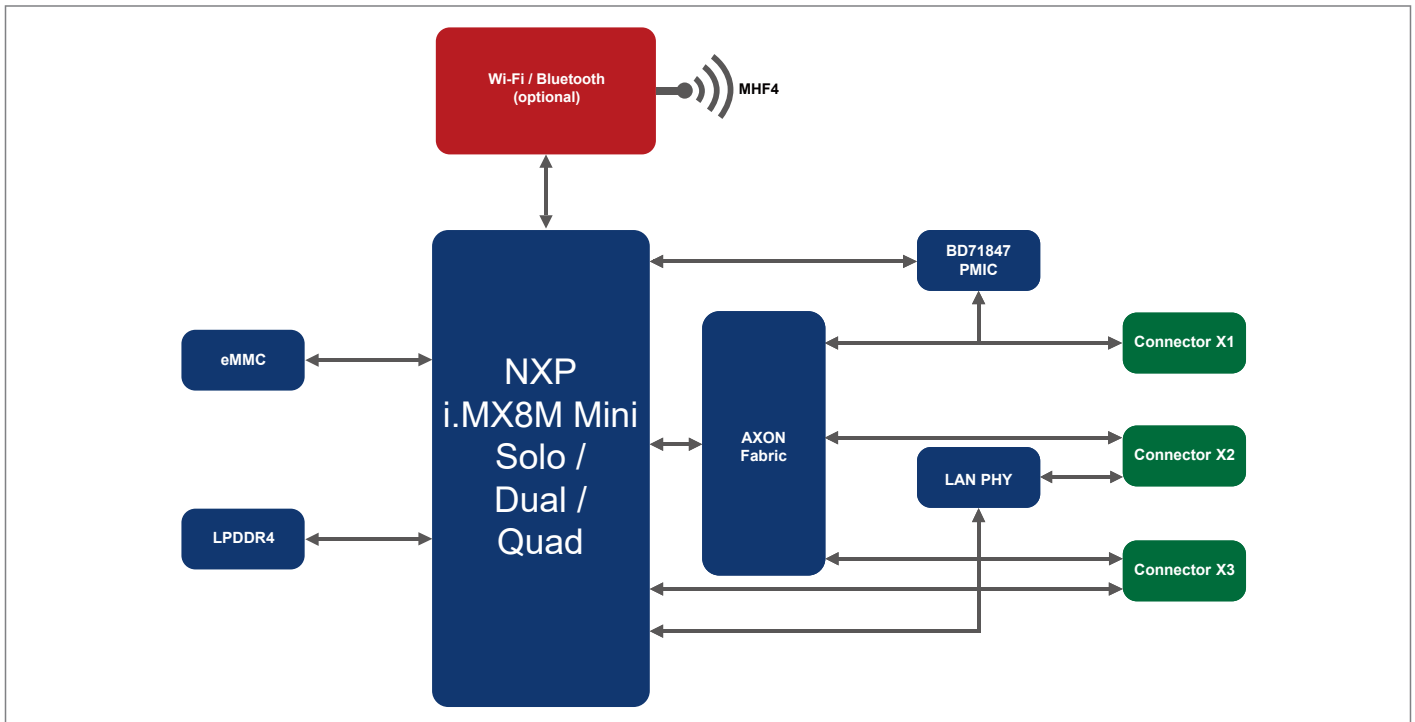
Power Specifications

Power Input	5V DC +/-5%
Power Consumption	Depending on Configuration

Operation Systems

Standard Support	Linux Yocto Android
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Block Diagram



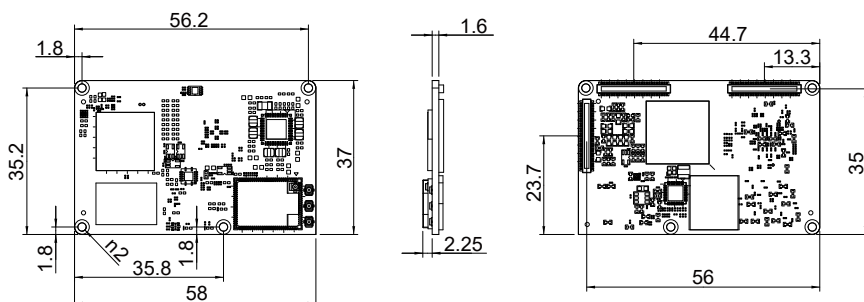
Environmental and Mechanical

Dimensions	58 x 37 mm
Form Factor	AXON Compute Module
Weight	12 grams
Temperature	Commercial: 0° to +60° C Extended: -20° to +70° C Industrial: -40° to +85° C
Relative Humidity	10 to 90 %
MTBF	>100 000 Hours
Shock	15G half-sine 11 ms duration
Vibration	1 Grms random 5-500Hz hr/axis

Certification and Compliance

USA	FCC ID: 2AKZA-QCA9377
Canada	IC: 22364-QCA9377
Japan	TELEC: 201-180629
European Union	EN 55032 / EN 55024 EN 300 328 v2.1.1 EN 301 893 v2.1.1
Australia/New Zealand Certification	RCM Compliant with RoHS / REACH directives

Dimensions (units in mm)



Order Information Example:

AXON-IMX8MMx-xx-Rxx-Exx-Fxx-xxxx-xx-xxxx

	Code	Description
Processor	IMX8MMS	NXP i.MX8M Mini Solo
	IMX8MMD	NXP i.MX8M Mini Dual
	IMX8MMQ	NXP i.MX8M Mini Quad
Processor Speed	18	1.8GHz
Memory	R10	1GB LPDDR4
	R20	2GB LPDDR4
	R40	4GB LPDDR4
Storage	E16	eMMC 16GB
	E32	eMMC 32GB
	EXX	eMMC other capacity
Fabric	F01	TechNexion Fabric F01
	F03	TechNexion Fabric F03
Wi-Fi / Bluetooth	-	-
	9377	Qualcomm QCA9377 802.11a/b/g/n/ac (2.4 + 5GHz) + Bluetooth 5
Temperature Range	-	Commercial Temperature range (0° to +60° C) (Default)
	TE	Extended Temperature range (-20° to +70° C)
	TI	Industrial Temperature range (-40° to +85° C)
Custom ID	XXXX	Custom Part number ID for customized Software loader and special component (BOM)

* Feel free to contact us for customization requests.

Antenna Options



Main Features

- TechNexion offers a range of MHF4 high-performance antenna solutions for M2M and IoT applications.
- Operating in the 2400–2500 MHz and 5150–5850 MHz frequency bands.
- Compatible with TechNexion PIXI, CLIX and STIX series wireless connectivity modules.

Specifications

ANT-P180-A1380-45D-2450-MHF4

Electrical

Frequency Range	2400-2500 MHz / 5150-5850 MHz
Peak Gain	up to 3.5 dBi @ 2400-2500 MHz up to 4.5 dBi @ 5150-5850 MHz
VSWR	≤ 2.0 @ 2400-2500 MHz ≤ 2.5 @ 5150-5850 MHz
Impedance	50 Ω
Polarization	Linear
Antenna Type	Dipole
Connector Type	MHF4

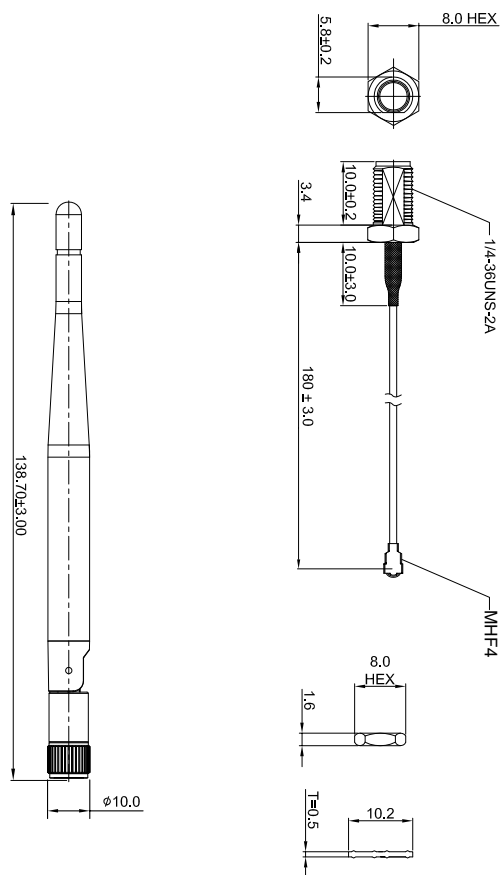
Environmental and Mechanical

Dimensions	138 (H) x 10 (W) mm
Patch Cable	180 mm
Temperature	-30° to +65° C

Ordering Information

ANT-P180-A1380-45D-2450-MHF4
Dipole type 138 mm wireless antenna solution for WLAN and Wi-Fi applications with 180 mm patch cable and MHF4 connector.

Dimensions (units in mm)



ANT-P180-A2070-70D-2450-MHF4

Electrical

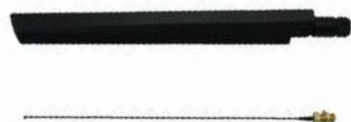
Frequency Range	2400-2500 MHz / 5150-5850 MHz
Peak Gain	up to 4.0 dBi @ 2400-2500 MHz up to 6.0 dBi @ 5150-5850 MHz
VSWR	≤ 2.5 @ 2400-2500 MHz ≤ 2.5 @ 5150-5850 MHz
Impedance	50 Ω
Polarization	Vertical
Antenna Type	Dipole
Connector Type	MHF4

Environmental and Mechanical

Dimensions	207 (H) x 21 (W) mm
Patch Cable	180 mm
Temperature	-20° to +65° C

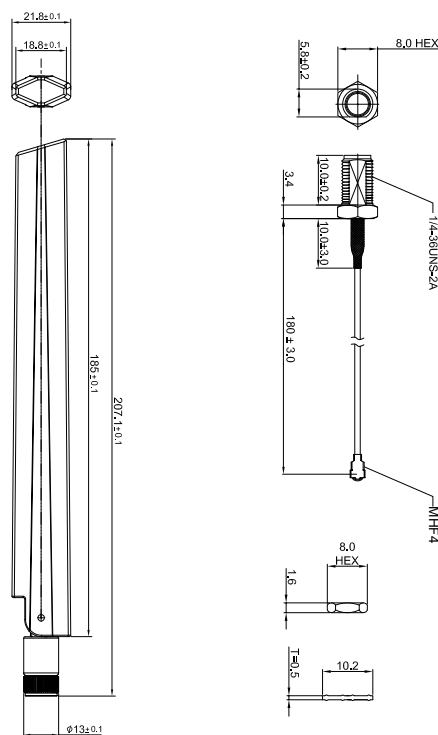
Ordering Information

ANT-P180-A2070-70D-2450-MHF4
Dipole type 207 mm wireless antenna solution for WLAN and Wi-Fi applications with 180 mm patch cable and MHF4 connector.



Dimensions

(units in mm)



ANT-P150-P2325-25D-2450-MHF4

Electrical

Frequency Range	2400-2500 MHz / 5150-5850 MHz
Peak Gain	up to 2.5 dBi @ 2400-2500 MHz up to 3.0 dBi @ 5150-5850 MHz
VSWR	≤ 2.0 @ 2400-2500 MHz ≤ 2.0 @ 5150-5850 MHz
Impedance	50 Ω
Polarization	Linear
Antenna Type	PIFA
Connector Type	MHF4

Environmental and Mechanical

Dimensions	23 (W) x 25.5 (H) mm
Patch Cable	150 mm
Temperature	-30° to +65° C

Ordering Information

ANT-P150-P2325-25D-2450-MHF4
PIFA type compact wireless antenna solution for WLAN and Wi-Fi applications where the antenna should be internal to the product with 150 mm patch cable and MHF4 connector, supplied with an adhesive backing.

