

Explore the next sense



Entry+ Module XM125 - Product Brief

2023

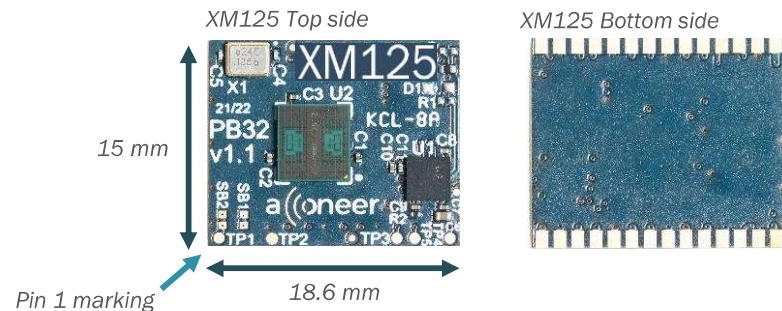


Product Brief – Entry+ Module XM125

Entry module ready for integration in commercial products.

- Optimized for selected use cases, including Parking space occupancy detection, Level measurement, Motion detection and Smart people presence

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Overview

- A121 60GHz PCR sensor with 32-bit ARM® Cortex™ M4 MCU (STM32L431CBY6) 80 MHz, 128 kb Flash; 64kb RAM.
- Formfactor 15x18.6 mm.
- All components mounted on PCB top side and solder pads (LGA) on PCB underside.
- 1.8V single power supply
- 1.8V or 3.3V IO interface power supply
- Operating temperature -40°C to 85°C
- Included on XE125 evaluation board with LH132 lens kit support for evaluation purposes
- Support for customer embedded application (SDK supported)

Interfaces

- UART, I2C, GPIO and Reset supported
- SW flash and SW debug with XE125 evaluation board
- Support for register command protocol by external host configuration.

Example of selected applications

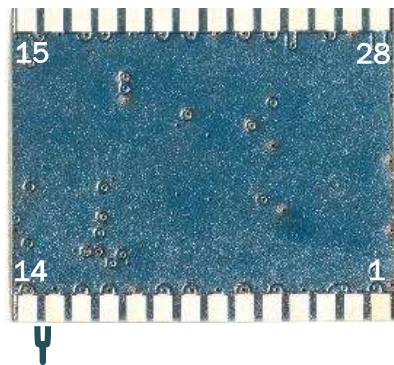
- High accuracy proximity and distance of multiple static and moving objects., motion and velocity measurement, material detection and classification, gesture control and monitoring of vital sign.

XM125 LGA Pad Configuration

Overview

- XM125 LGA pad layout
- LGA pitch 1.27mm

DRAFT XM124 Bottom side



Pitch 1.27 mm

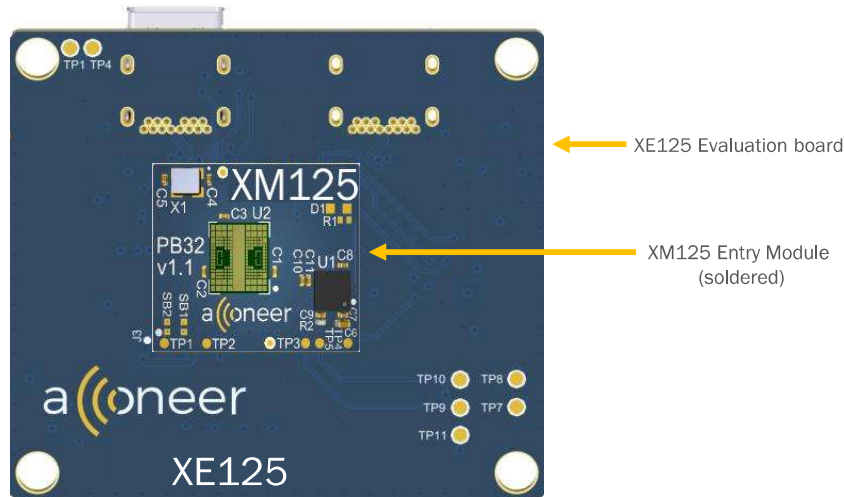
Pin Number	Signal	Comment
1	VIN	1.8 V or 3.3 V input A121 IO and MCU voltage
2	Ground	
3	1V8	1.8 V input A121 voltage
4	Ground	
5	UART_TX	Connect to UART_RX on host side. Leave Not Connected if unused.
6	UART_RX	Connect to UART_TX on host side. Leave Not Connected if unused.
7	Ground	
8	UART_CTS	Connect to UART_RTS on host side. Leave Not Connected if unused.
9	UART_RTS	Connect to UART_CTS on host side. Leave Not Connected if unused.
10	Ground	
11	SWD_IO	Leave Not Connected if unused.
12	SWD_CLK	Leave Not Connected if unused.
13	Ground	
14	NRESET	Reset. Leave Not Connected if unused.
15	WAKE_UP	Could be used by host to wake up XM124/XM123 MCU. Leave Not Connected if unused.
16	Ground	
17	I2C_SCL	Leave Not Connected if unused.
18	I2C_SDA	Leave Not Connected if unused.
19	Ground	
20	I2C_ADDRESS	For configuration of I2C address. Leave Not Connected if unused.
21	DEBUG_UART_RX	Connect to UART_TX on host side. Leave Not Connected if unused.
22	Ground	
23	DEBUG_UART_TX	Connect to UART_RX on host side. Leave Not Connected if unused.
24	MISC_GPIO0	Leave Not Connected if unused.
25	MISC_GPIO1	Leave Not Connected if unused.
26	MISC_GPIO2_BOOT0	Pulling BOOT0 high during boot of module will start the embedded boot loader. Leave Not Connected if unused.
27	Ground	
28	MCU_INT	Could be used to send interrupt from MCU to host. Leave Not Connected if unused.

XE125 Evaluation Board

Overview

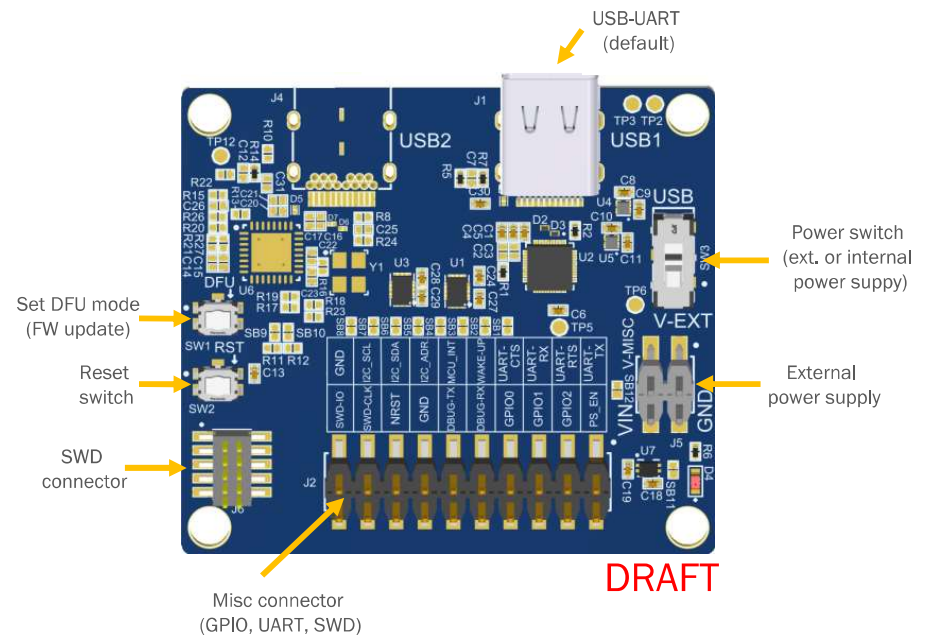
- XE125 includes soldered XM125 on breakout board to enable easy access of flashing, debugging and easy access to all interfaces provided by the XM125 module.
- Support for UART communication over USB.

XE125 Evaluation board - top view



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XE125 Evaluation board - bottom view



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