NOVELDA

Ultra Low Power, Dual channel UWB Radar Sensor IC & X7F202 Module

X7

Samples available for Beta customers now

NOVELDA X7: Single Chip, 2D People Tracking thru Sensing
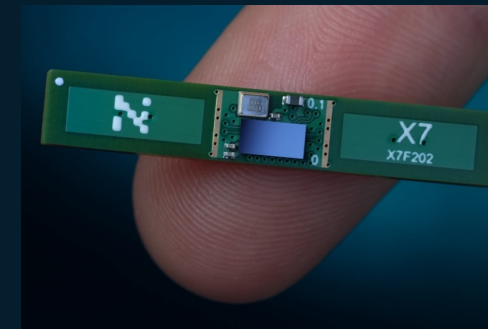
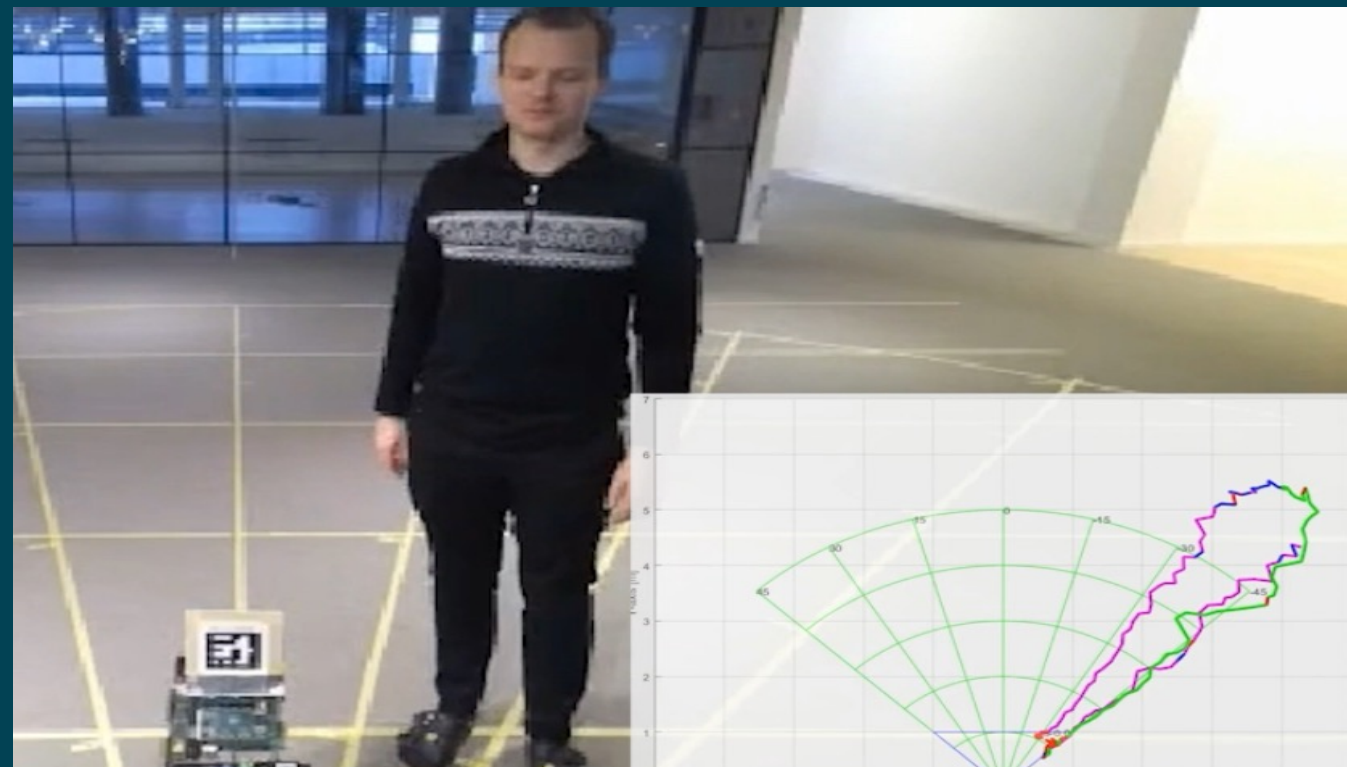**A self-explanatory demonstration:**

<Video>

NOVELDA X7 enables advanced applications...

<50uW

People tracking

Video conferencing | Smart speakers | AR / VR

Turn on / off | Immersive audio | Understand scene

People counting & positioning

Lighting, heating and ventilation | Building intelligence

Reduce energy consumption | Optimize use of buildings

Ultra-low power sensing

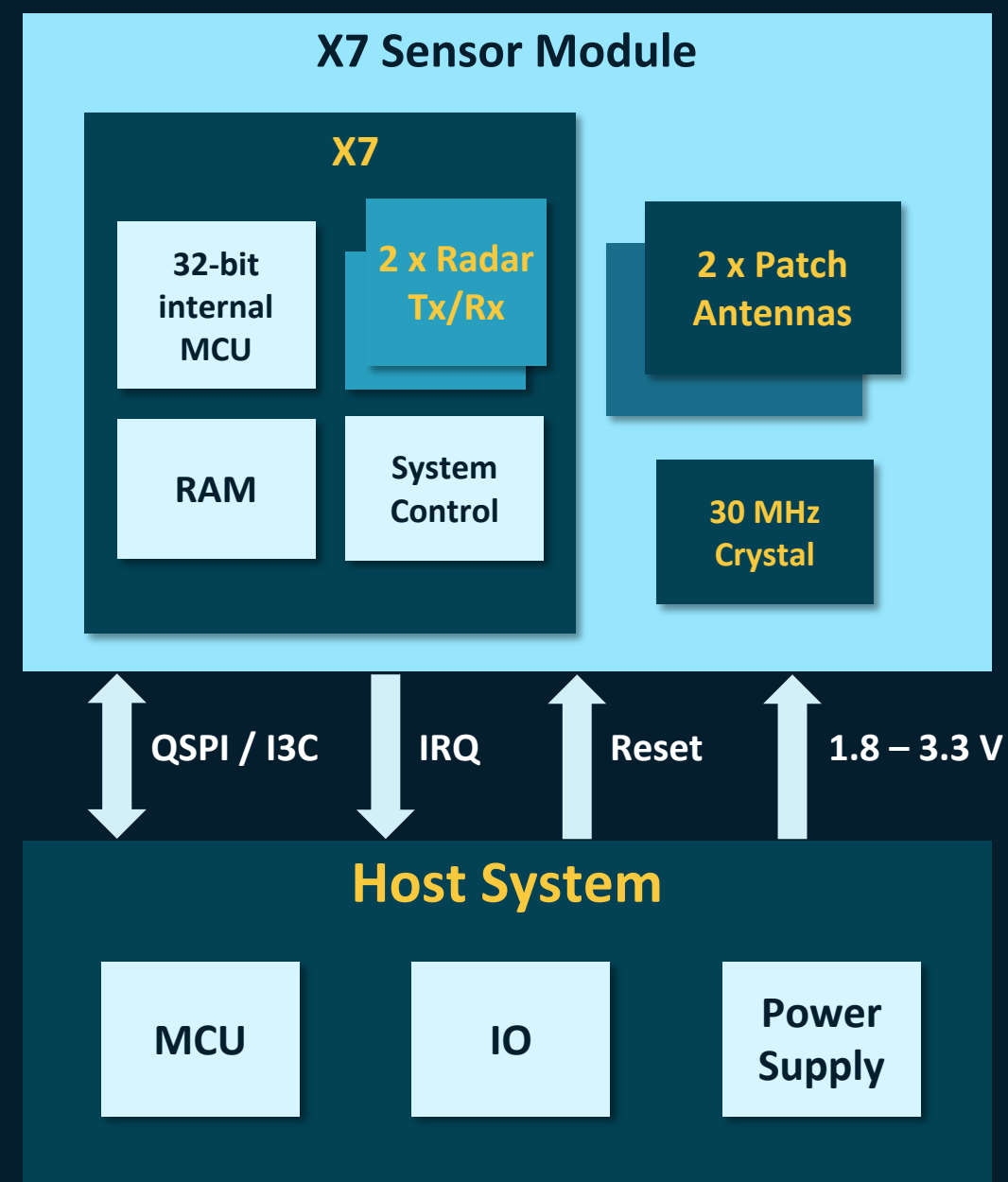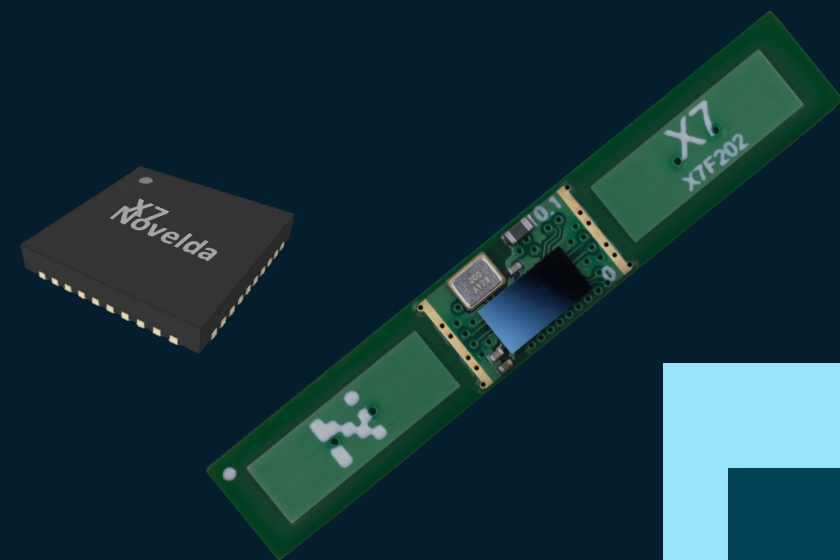Alarm & security | Hygiene

Motion sensor | Low power proximity sensing

X7 Solution of Choice for In-Cabin Sensing: CPD (Child Presence Detection) and More...

- **X7 UWB can support:**

  CPD, Seat occupancy detection , Kick sensing, Gestures recognition,
  DMS (driver monitoring syst.) ...

- **NOVELDA UWB outperforms traditional 60GHz radar:**
  - Worlds lowest power presence & intrusion detection (50 to 100uW)
  - UWB cm-wave is un-sensitive to obstacles and materials in the cabin
  - CPD: may allow single sensor operation even in 3-row vehicles

- **NOVELDA X7 brings:**
  - CPD algorithm
  - Target classification (adult / child)
  - Breathing detection, possibly heartbeat monitoring

Detection zone

Reliable child presence detection

Heartbeat

NOVELDA X7F202 Simplified Block Diagram & Specs

X7 Sensor Module

X7

| 32-bit internal MCU | 2 x Radar Tx/Rx | 2 x Patch Antennas |
| RAM | System Control | 30 MHz Crystal |

QSPI / I3C   IRQ   Reset   1.8 – 3.3 V

Host System

| MCU | IO | Power Supply |

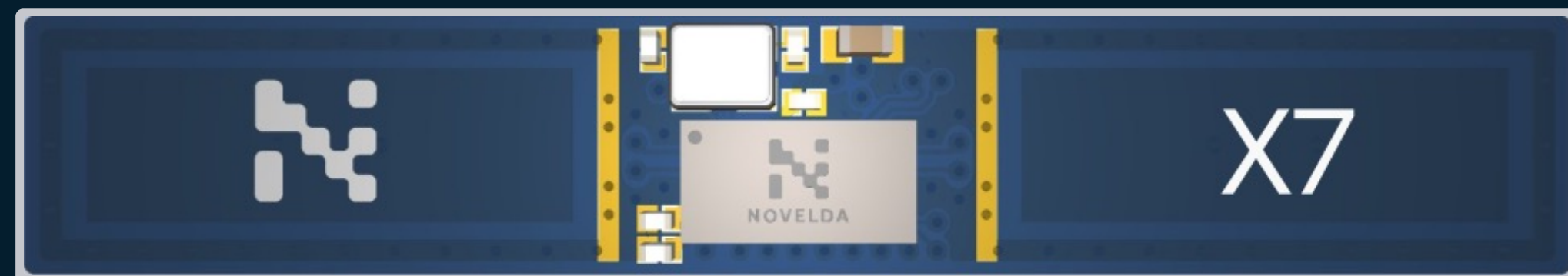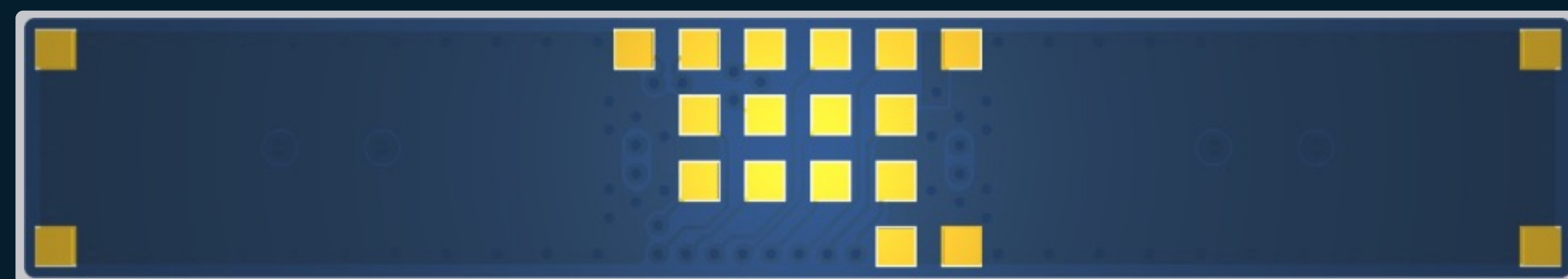| X7F202 Module Specification	
Supply Voltage	1.8V to 3.3V
Operating Temperature	-40° to +85°C
Size	5 x 30 mm
Radar ports	2 TX, 2 RX
Radar frequency	7.875 GHz
Built-in antennas	Yes, dual RX/TX antennas
Field of view	Up to 180°
Built-in balun and filter	Yes (on X7 chip)
Host interface	[Q]SPI/I3C/IRQ/GPIO
Power Consumption	
Low power presence	< 50 µW
Idle (with retention)	11 µW
Power down	5 µW
Detection Output	
Presence in selected zone	Yes
Position of the detected target	Yes: Distance and azimuth angle
Radar frames	Yes (with Radar Direct firmware)
Respiration rate	Yes (with CPD firmware)
Sensor Integration	
Flexible mounting in ceiling, on wall, in dashboard	
Sees through any non-conductive object or material	
Best-in-class operation in heavy multipath RF environment	
Pulse coding allowing robust multi-sensor coexistence	

X7F202: high-performance, low-cost module

Why Novelda modules?

- **Pre-certified world-wide**
- **Easy integration**
- **Faster Time-to-Market**

Top side with PCB antennas and components

Bottom side with LGA solder pads

HW	Item
L x W x H	5 x 30 x 3.13 mm
Mounting	LGA (Land Grid Array)
PCB	4-layer low-cost FR4
Components	X7, crystal, passives, metal shield
Status	Early sampling now

Features	Item
Interface	QSPI, SPI-XIP, I2C, GPIO
Supply voltage	1.8 – 3.3V
Co-existence	WIFI filter built-in (X7)
Ext requirements	MCU / flash
SW features	Radar Direct, Ultra-Low Power Presence
UWB certification	World-wide

单击下面可查看定价，库存，交付和生命周期等信息

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