XenP108Y   Liquid Level and Position Detection
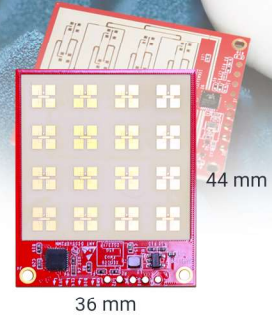
Miniaturized High-precision Liquid Level and Position Detection mmWave Sensor

Wide Range, High Precision: The detection precision within the range of 0.15 to 10 meters is 0.03~0.15 millimeters.
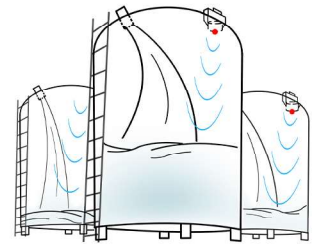
Energy-efficient and Easy to Adapt: Low operating current reduces power consumption and heat generation.

**Compact and Easy to Deploy:** Small size for convenient installation.

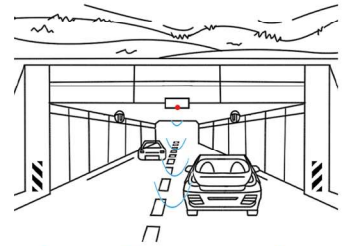**Flexible and Easy to Develop:** Real-time reporting of results with configurable parameter settings.

Specifications	
Detection Range	0.15~10 m
Accuracy	0.5 mm
Precision	0.03~0.15 mm
Operating Frequency	23~27 GHz
Operating Voltage	3.0~3.6 V
Average Current	6 mA (report period: 1 s) 15 mA (report period: 160 ms) * refer to section 9.5 of UM10036P
Sensor SoC	S5KM312CL
Hardware Size	44 mm×36 mm
Beam Width	±12° (-6 dB, round trip)
Interface	UART
IAP Function	In-application programming (IAP) using UART

XenP108Y is a compact high-precision liquid level and position detection sensor reference design developed based on the ICLegend Micro S5KM312CL chip. The sensor utilizes miniaturized narrow-beam antennas, ultra-wideband FMCW waveforms, along with proprietary radar signal processing and an embedded high-precision liquid level and position detection algorithm. This combination enables millimeter-level accurate detection of target distances within a specified area, with real-time reporting of results. With this reference design, users can swiftly develop compact and high-precision liquid level detection sensing products.
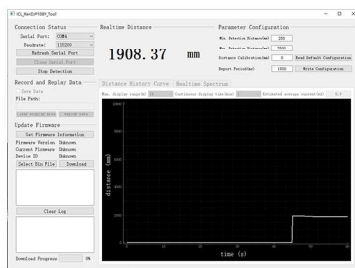
Industrial Application Tank Level Detection
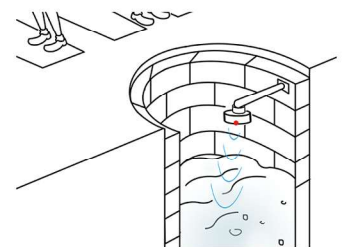
Intelligent Cities Well Cellar Level Detection

Smart Transportation Safty and health monitoring of bridges and tunnels

Recommended Installation Illustration

Liquid level and position detection demonstration tool
Real-time display of distance history curves and detection waveforms