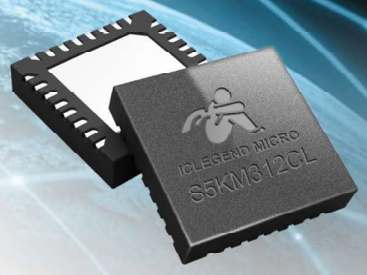
矽典微
ICLEGEND MICRO

mmWave Sensor SoC

S5KM312CL | S5 Series



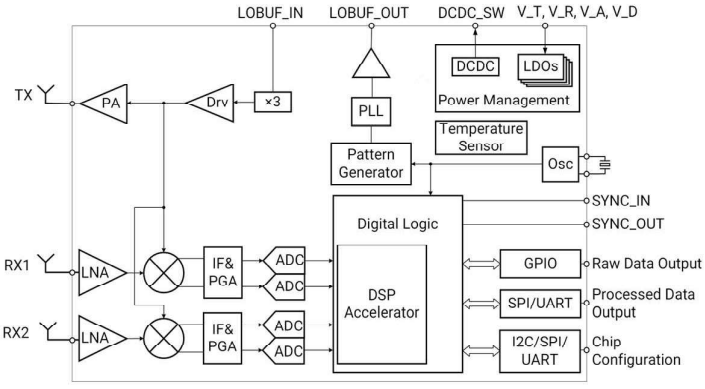
ICLM S5 series SoC has been optimized specially for AIoT applications, with smaller size, lower power consumption, easier-to-use, which has inspired various smart sensor designs. The S5 series SoC adopts fully integrated structures, by incorporating complete mmWave sensor systematic function blocks, providing flexibly configurable waveform, power, and gain. The embedded ADC and algorithm hardware empower excellent signal bandwidth and super precision. Support cascaded application.

Specifications	S5KM312CL
Channels	1T2R
Frequency	22.5 GHz~27.5 GHz
Bandwidth	4 GHz
Cascading	Support
TX Max. power*	12 dBm
RX noise figure	10.5 dB
Adjustable RX gain	15 dB~31 dB
PLL phase noise	-97 dBc@ 1 MHz
ADC Sample Rate	2.5 MSPS
ADC Precision	16 bits
Interface	IIC/SPI/UART
Operating voltage	3.0 V~3.6 V
Operating current	78 mA
Package	4mm x 4mm QFN
Temperature	-40°C~85°C

*The power consumption is measured @ 50% chirp duty cycle with all circuits on.

Features

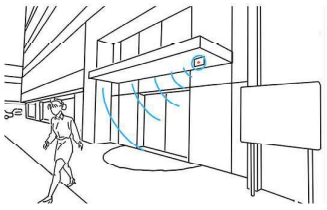
- Single chip design, integrated Tx, Rx, ADC, PLL, DSP, and power management.
- 4 mm x 4 mm QFN package, hundred-mW level power consumption, suitable for AIoT applications.
- Greater link budget, larger dynamic range, detect targets no matter near or far.
- Embedded DCDC, single power supply, concise peripheral circuit design.



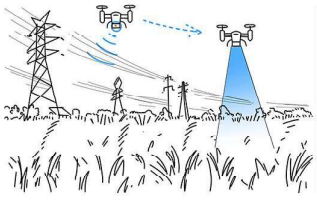
S5KM312CL SoC block diagram

Trajectory Tracking
Smart Toilet

Human Positioning
Smart Home



Space Partition
Smart Business



Collision Avoidance
Drones & Robots

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ICLEGEND MICRO is committed to implementing smart RF technology and developing high-performance wireless SoC. Our products have been widely used in the wireless field such as millimeter wave sensors, next generation mobile communication, and satellite communication. Integrating our professional capabilities in the fields of chip systems, software, and algorithms, we are creating disruptive chips and application products, and empowering smart devices wireless perception, cognition and communication capabilities.