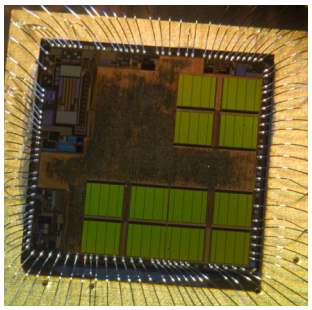
WiseNET – an ultra low-power wireless sensor technology

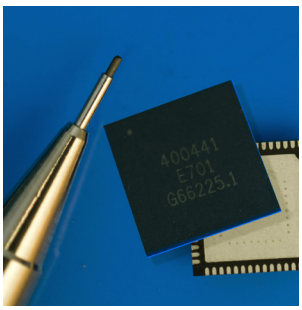
the combination of CSEM's best-in-class radio SoC and power-efficient MAC/protocol

The ultra low-power icycom SoC

- RF SoC with on-chip DSP microprocessor & SRAM
- Ultra low power 863-928MHz transceiver

Low voltage	1V supply
Low power	I_{RX}=2.5mA in active mode I_{SLEEP}=1µA
Data rule	up to 400kb/s
Sensitivity	-110dBm at 25kb/s
Output power	10dBm with I_{TX}=35mA@1V



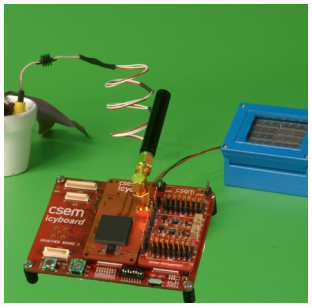


The ultra low-power WiseMAC protocol

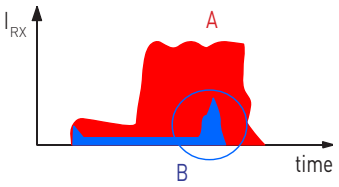
- Large-scale data harvesting for decentralized systems
- Easy deployment: turn on, drop and configure remotely
- Fully self-healing with automatic route discovery
- Field proven through numerous deployments throughout Europe

The miniature WiseNode platform

- 1V low-cost Alkaline battery
- Ultra low-power, low-current, low-energy
- Miniature form factor: 2x2cm RF PCB
- Home automation, building control & surveillance, asset tracking, people/patients monitoring, etc.
- Easily adaptable & configurable for your application



Power efficient "wake up" sequence



A: standard commercial RF IC
B : icycom: 30x less energy

Customer benefits

- Development of dedicated wireless solutions, management of production and logistics, technology transfer and support for industrialization
- Customization and optimization of wireless protocols for specific applications
- Development of customized RF SoCs for specific applications (medical, industrial, etc.)

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