



Mobile IoT




Developments in LTE-M and NB-IoT Chip Technology

Dr. Georges Karam

Founder, Chairman, CEO | Sequans Communications





IoT is About Observing the World in Real Time in Order to Make Life Better

- Increase productivity
- Accelerate efficiency

IoT: Observing the World



Sensors on All Things



Wireless Connectivity



Cloud Computing

Evolution from M2M to IoT

Millions of Things
2G Wireless



Low-power Wireless
Connectivity

- Accelerating growth of existing apps
- New applications arising daily

Billions of Things
BLE/Wi-Fi, LPWA, 4G LTE



Key Drivers Converge

- LTE-M & NB-IoT designed for IoT

- Worldwide network availability

- Data plans adapting to IoT

- Ecosystem now ready

LTE-M/NB-IoT Key Requirements for Chip Tech



- **Low power consumption**
- **Low cost**
- **Easy integration**

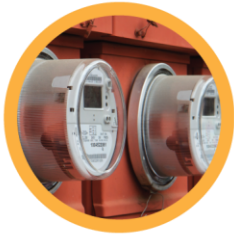
Monarch: an IoT Platform Designed for Low Power

- Rock bottom: 1 μ A
- Fast and adaptive boot, wake-up, go-to-sleep times
- Dynamic power management for smart use of idle/eDRX/PSM



Low Power Use Cases

Using Sequans Monarch



Smart Meters

- Up to 15 years battery life
- Meter reporting over LTE every day
- <1000 mA.h battery using PSM
- 5,000 mA.h battery using eDRX (21 min paging cycle)



Asset Tracker

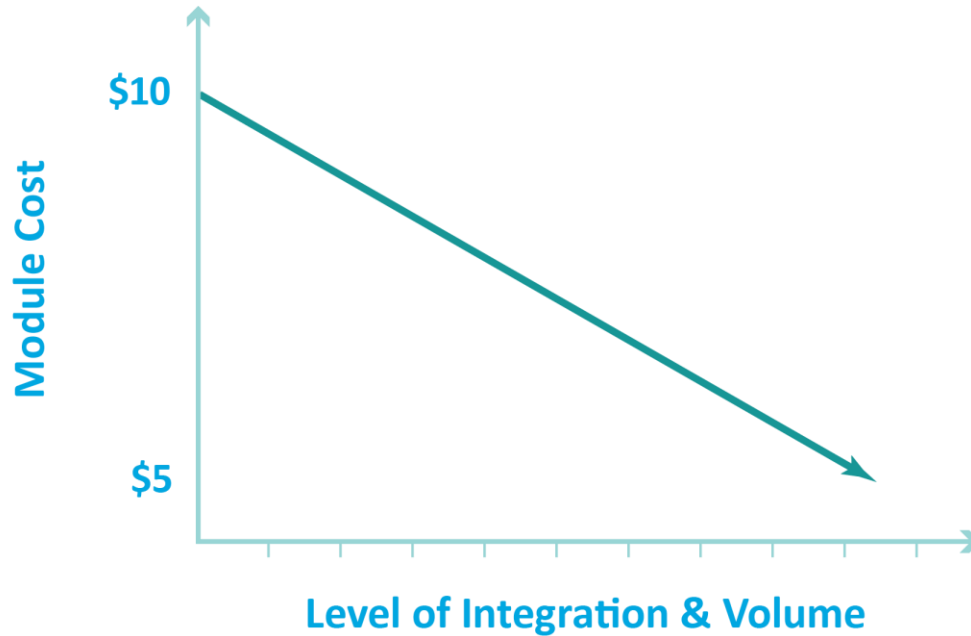
- 3 years battery life (GNSS + LTE)
- Geolocation report every 12h
- 1,100 mA.h battery with combined PSM and eDRX



Consumer Tracker

- 1 month battery life (GNSS + LTE)
- Geolocation report every 5 minutes
- 450 mA.h battery with combined PSM and eDRX

Module Cost Evolution



Easy Integration

With Sequans Monarch



Simple WW SKU: one hardware fits all



Simple BOM



Application-specific Platforms



Native Support of Cloud



Pre-certified Modules





Mobile IoT



Thank You

Dr. Georges Karam

Founder, Chairman, CEO | Sequans Communications

