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Nota di contenuto	Intro -- Introduction -- About this Book -- Contents -- List of Figures -- About the Author -- IoT Target Applications -- Wireless WAN for Internet Access -- From GSM to Cellular IoT -- NB-IoT Use Cases -- Object Tracking/Localization -- Remote Monitoring/Detection -- NB-IoT Gateway -- Cellular IoT Technology -- Cellular Network Basics -- Modem Interface -- NB-IoT Technology -- Network Deployment Options -- Cell Capacity -- Coverage Extension -- Network Selection -- Radio Resource Control (RRC) and Random Access (RA) Procedures -- Power Saving Methods -- Power Saving Mode (PSM) -- Extended Discontinuous Reception (eDRX) -- Release Assistance Indication (RAI) -- RRC Suspend/Resume -- Early Data Transmission (EDT) -- Wake-Up Signal (WUS) -- Latency -- Ingredients for NB-IoT Design Concepts -- NB-IoT Cellular Network Modules -- Vendor Overview -- AT Command Interface -- Unsolicited Result Code (URC) -- IoT Data Transfer Protocols -- IP-Based Protocols -- MQTT (Message Queuing Telemetry Transport) -- CoAP (Constrained Application Protocol) -- End-to-End IoT Data Security -- How Public-Key Cryptography Can Help -- Message Authenticity and Integrity -- Public Key Infrastructure (PKI) -- TLS Handshake and DH Key Agreement -- Security Hardware and Certifications -- Server Hosting and IoT Clouds -- LwM2M Device

Management -- SIM Card or Embedded eSIM -- Sensors -- Suppliers and Online Support -- NB-IoT Network Deployment -- Roaming and MVNOs -- Designing an NB-IoT Device -- RasPi Mockup and Network Tester -- Low-Power Device Design -- Manage Immediate RRC Release -- Optimize Downlink Traffic Scheduling -- Avoid Coverage Enhancement Levels CE1 and CE2 -- Optimize Uplink Transmission -- Matching of Antenna -- Utilize Sleep Modes -- Estimate Overall Power Consumption -- NB-IoT Device Battery Lifetime Calculator -- Design Concept #1: Environmental Sensor. Principle of Operation -- Functional Description -- Estimation of Battery Lifetime -- Local Device Setup -- Block Diagram/Schematics -- Board Assembly Layout -- Design Concept #2: Object Localizer -- Principle of Operation -- Functional Description -- Power Consumption -- Block Diagram/Schematics -- Board Assembly Layout -- Glossary: Explanation of Frequently Used Cellular IoT Acronyms -- References.
