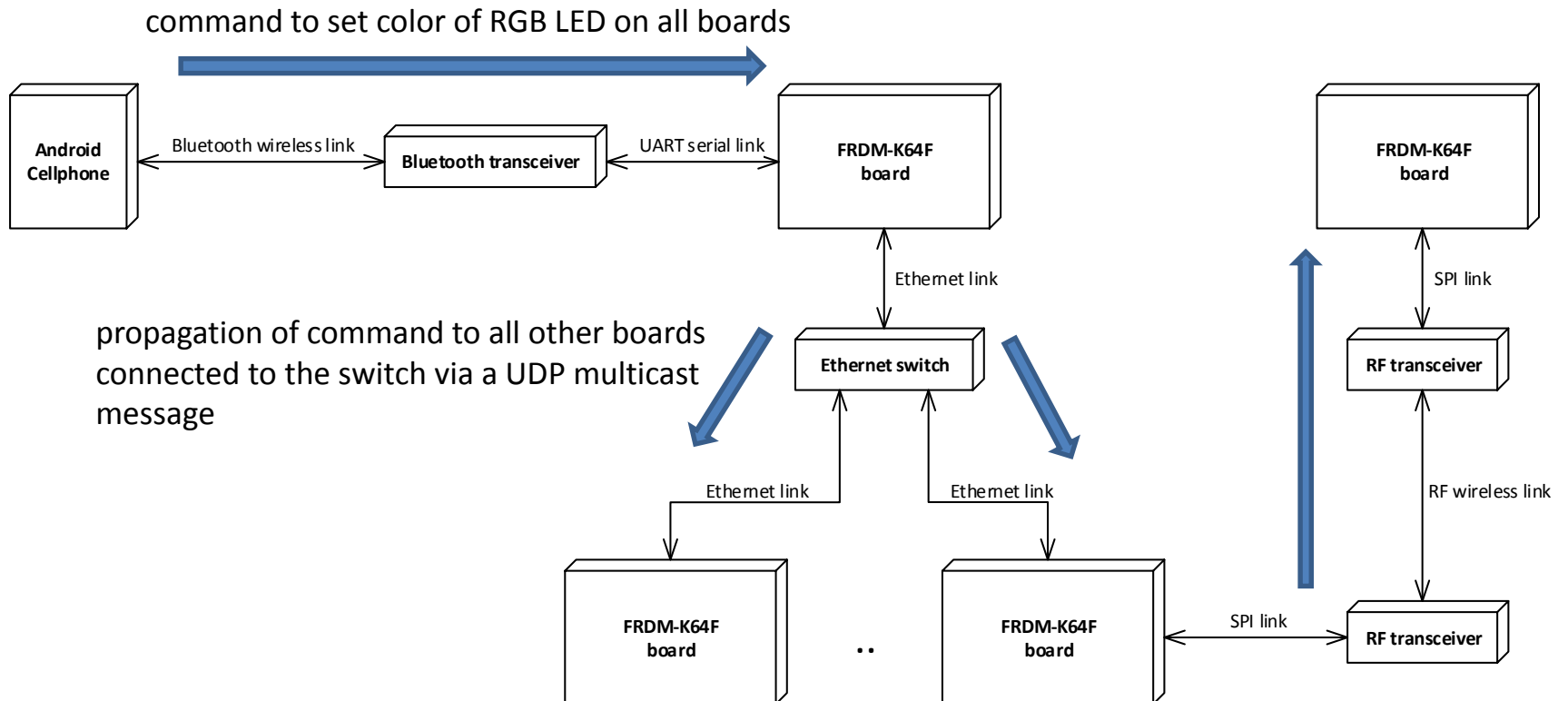# IoT Stack Demo with the FRDM-K64F board

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Overview

- IoT Demo: Hardware Topology

command to set color of RGB LED on all boards

| Android Cellphone | — Bluetooth wireless link — | Bluetooth transceiver | — UART serial link — | FRDM-K64F board | | FRDM-K64F board |

Ethernet link

propagation of command to all other boards connected to the switch via a UDP multicast message

Ethernet switch

SPI link

RF transceiver

Ethernet link · · Ethernet link

RF wireless link

FRDM-K64F board · · FRDM-K64F board — SPI link — RF transceiver
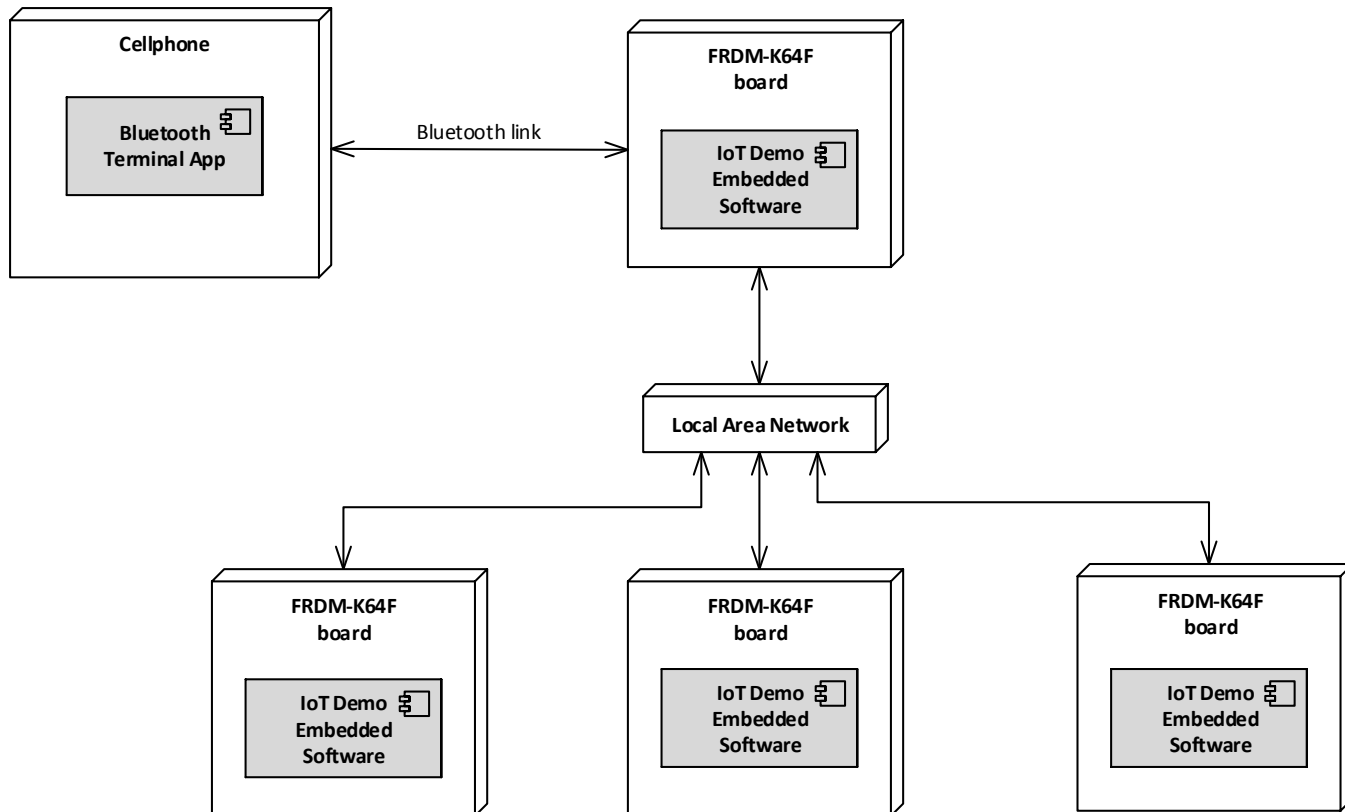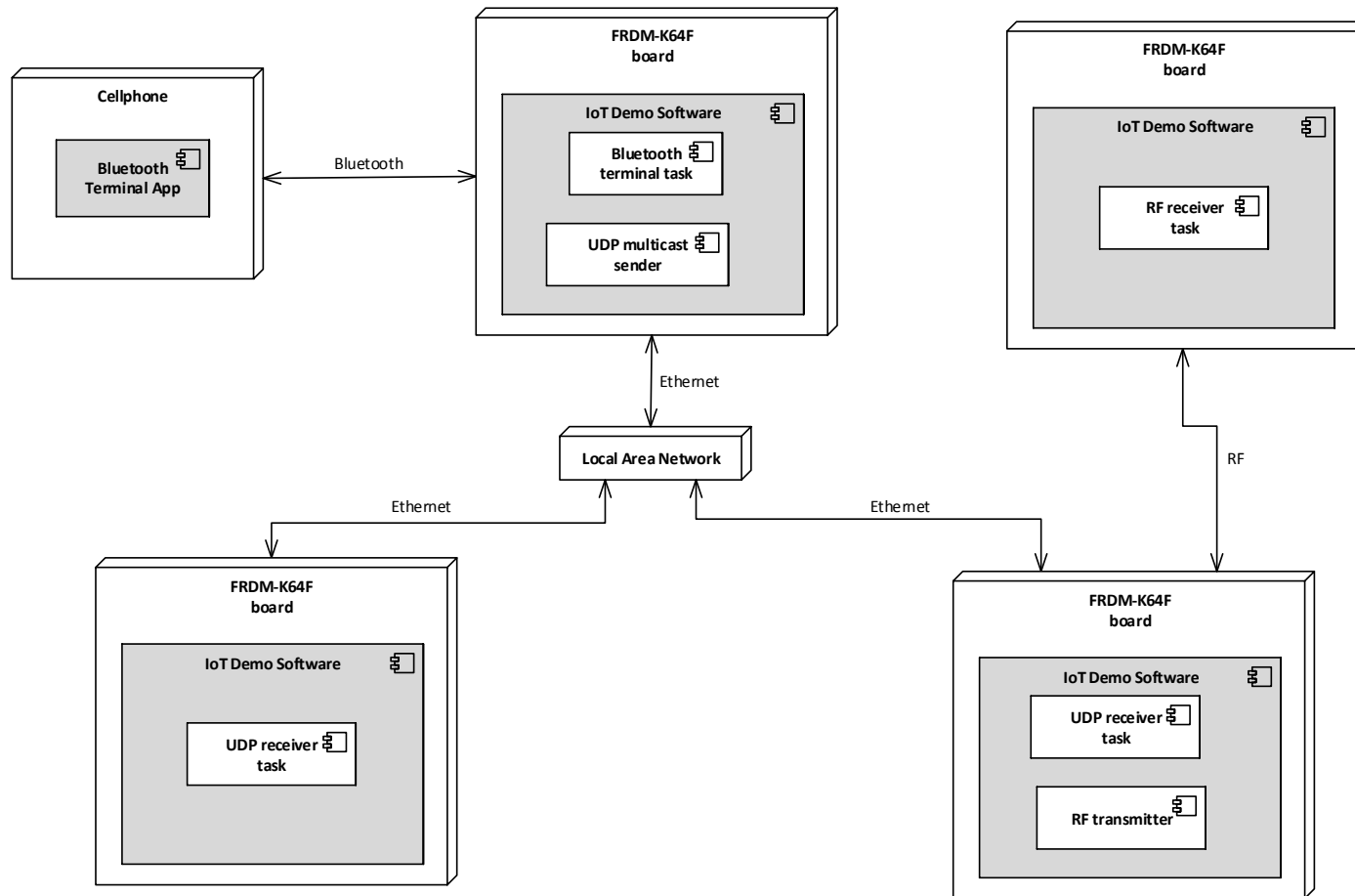
Overview (2)

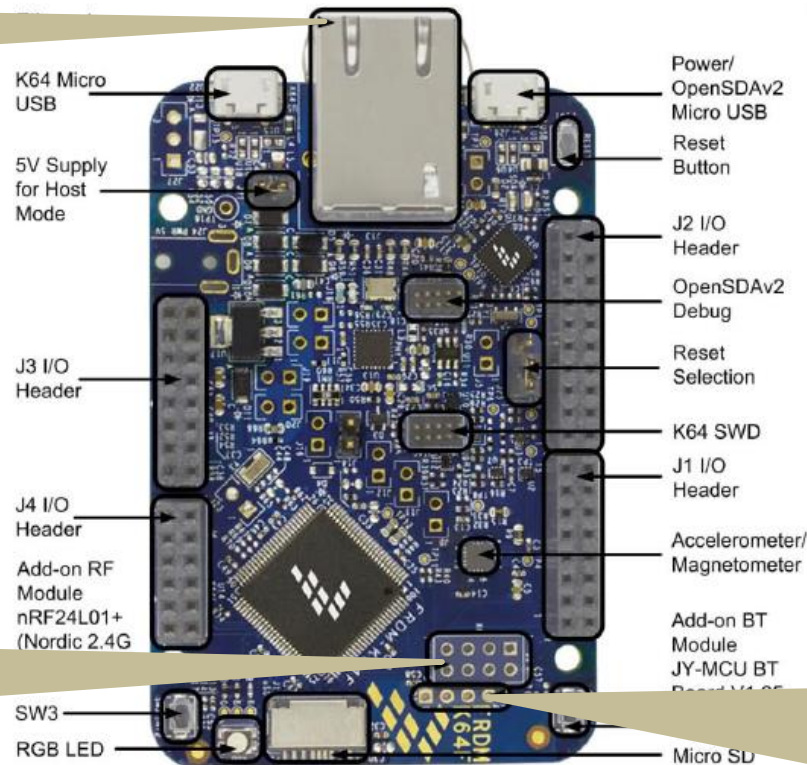- IoT Demo: Software Topology

Overview (3)

- IoT Demo: Detailed Software Topology

Overview (4)

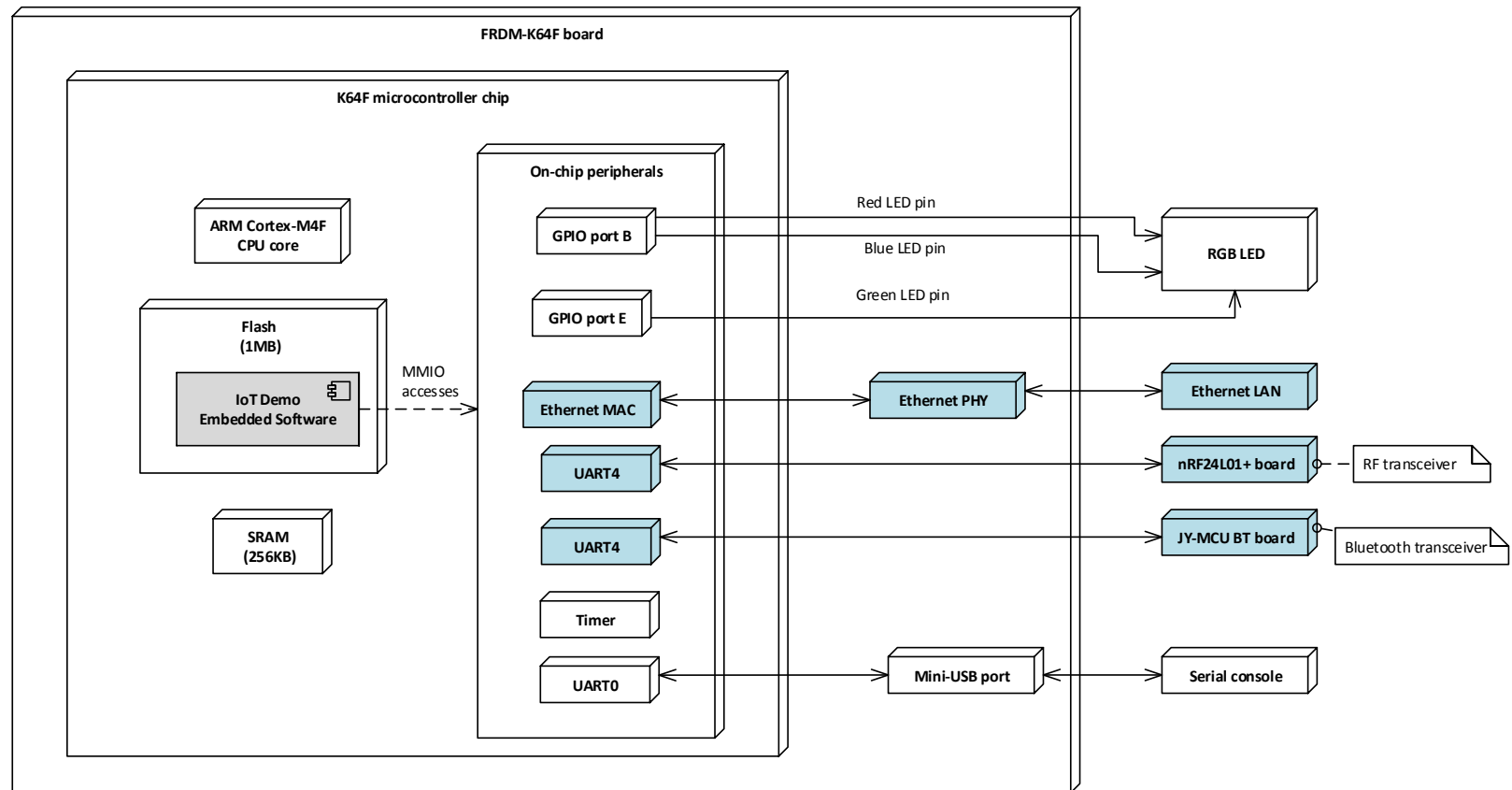- The FRDM-K64F board IoT peripherals

Ethernet interface

RF module interface (SPI interface)

Bluetooth module interface (UART interface)

K64 Micro USB

5V Supply for Host Mode

J3 I/O Header

J4 I/O Header

Add-on RF Module nRF24L01+ (Nordic 2.4G

SW3

RGB LED

Power/ OpenSDAv2 Micro USB

Reset Button

J2 I/O Header

OpenSDAv2 Debug

Reset Selection

K64 SWD

J1 I/O Header

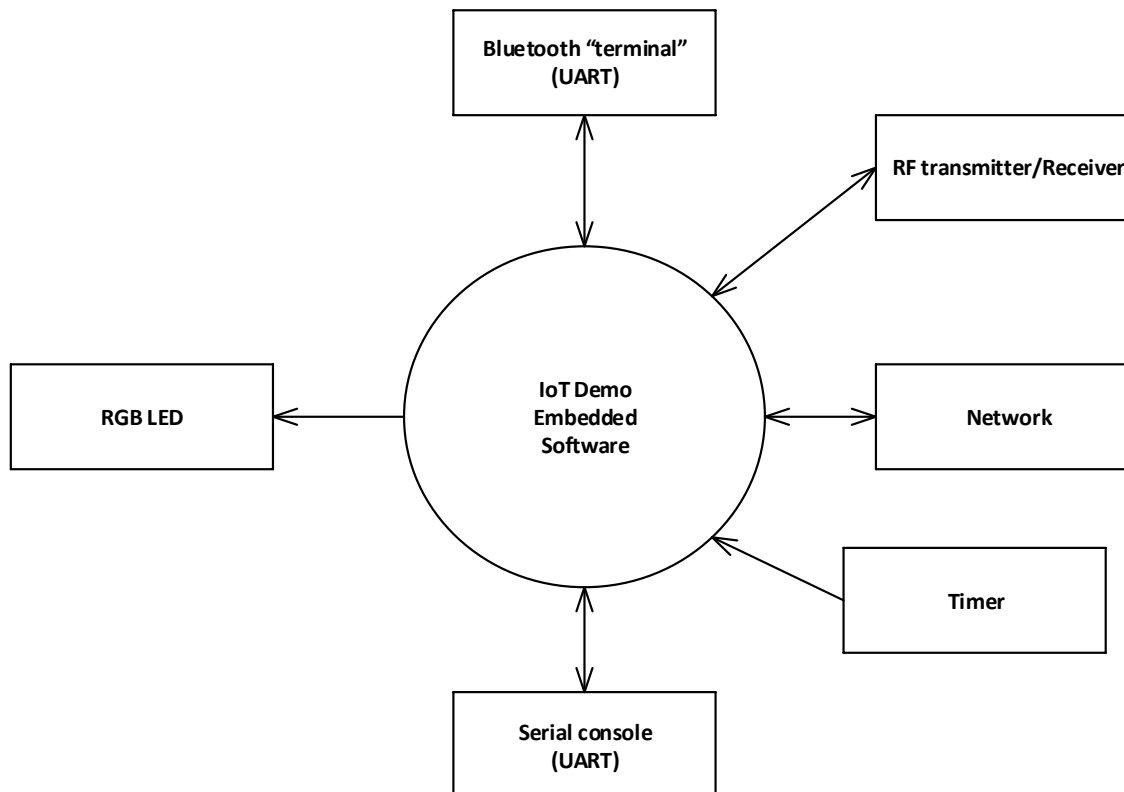Accelerometer/ Magnetometer

Add-on BT Module JY-MCU BT

Micro SD

Software Architecture Diagrams

- Hardware Context Diagram

Software Architecture Diagrams (2)

- Software Context Diagram

Software Architecture Diagrams (3)

- Runtime Architecture