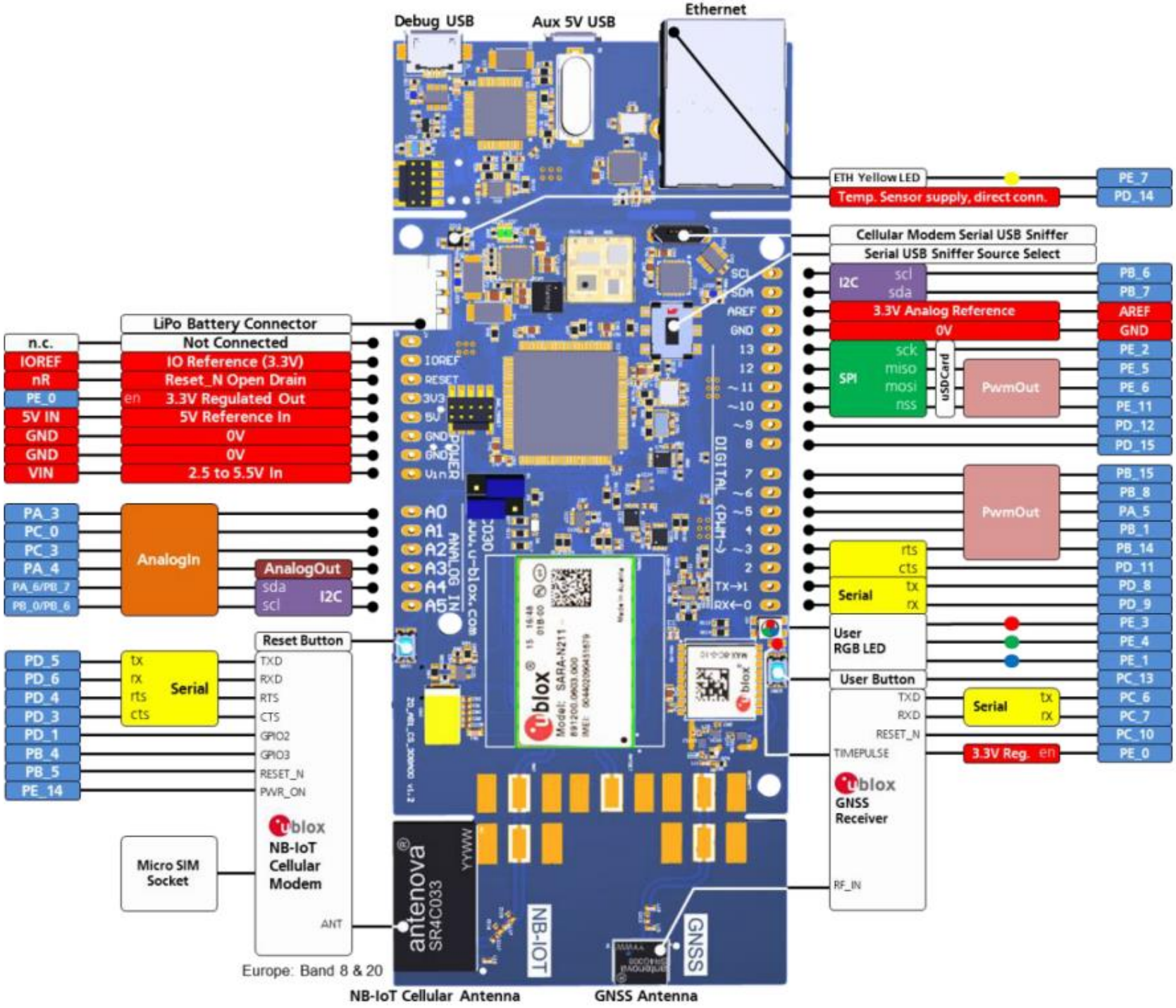
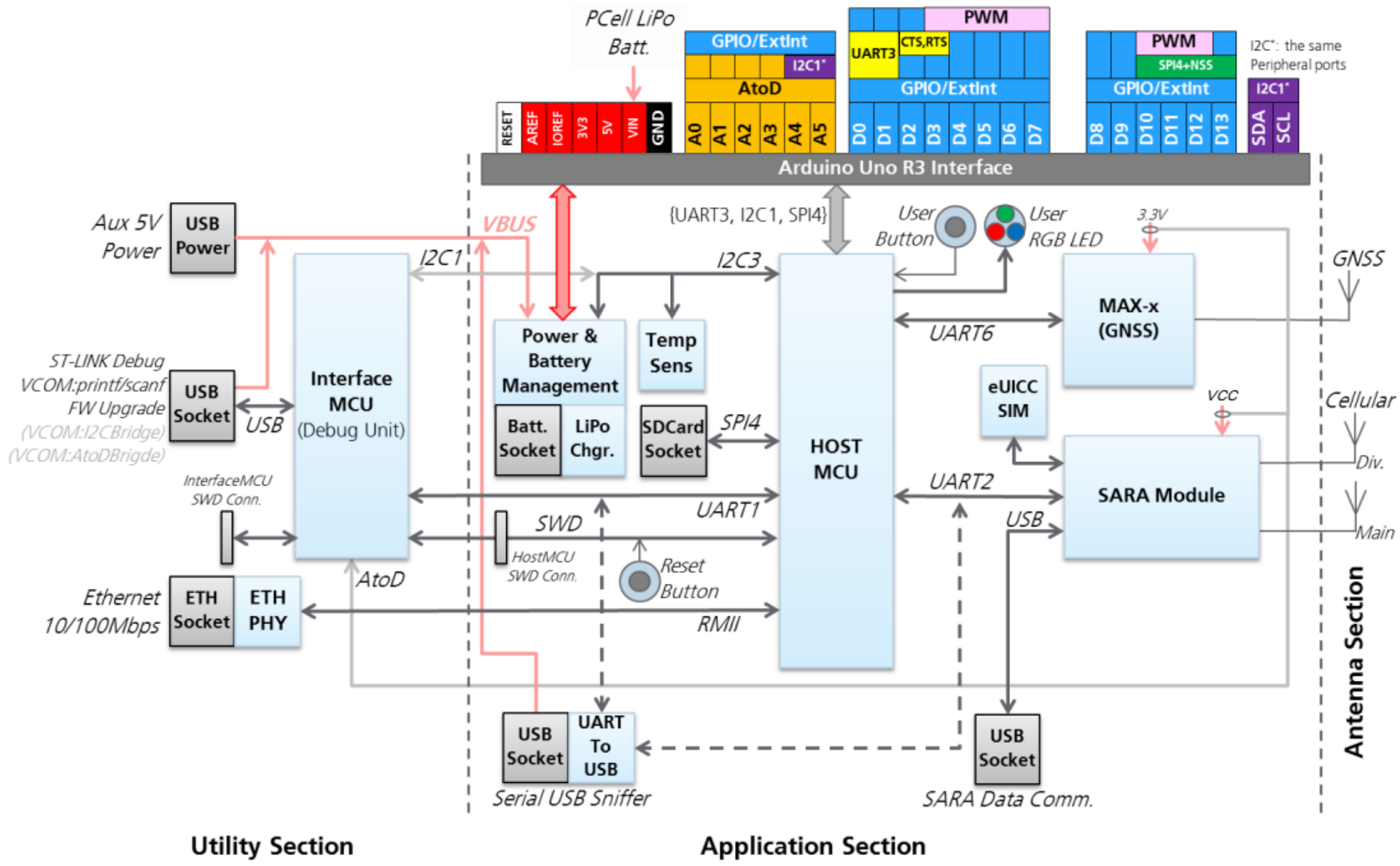
U-blox C030-N211

Overview

- Prototyping solution for IoT applications supporting new LPWAN (low power wide area network) cellular technologies
- The board is powered by an integrated, Arm® Mbed™ compatible Cortex-M4 host MCU with 1 MB FLASH and 256 kB RAM
  - ultra low power design
  - u-blox GNSS technology
  - integrated antennas


Debug USB
Aux 5V USB
Ethernet
ETH Yellow LED
Temp. Sensor supply, direct conn.
PE_7
PD_14
Cellular Modem Serial USB Sniffer
Serial USB Sniffer Source Select
I2C
scl
sda
PB_6
PB_7
3.3V Analog Reference
AREF
0V
GND
SPI
sck
miso
mosi
nss
uSDCard
PwmOut
PE_2
PE_5
PE_6
PE_11
PD_12
PD_15
LiPo Battery Connector
n.c.
Not Connected
IOREF
IO Reference (3.3V)
nR
Reset_N Open Drain
PE_0
en
3.3V Regulated Out
5V IN
5V Reference In
GND
0V
GND
0V
VIN
2.5 to 5.5V In
PA_3
PC_0
PC_3
PA_4
PA_6/PB_7
PB_0/PB_6
AnalogIn
AnalogOut
sda
scl
I2C
PwmOut
PB_15
PB_8
PA_5
PB_1
PB_14
PD_11
PD_8
PD_9
rts
cts
Serial
tx
rx
User
RGB LED
PE_3
PE_4
PE_1
User Button
PC_13
PD_5
PD_6
PD_4
PD_3
PD_1
PB_4
PB_5
PE_14
Reset Button
TXD
RXD
RTS
CTS
GPIO2
GPIO3
RESET_N
PWR_ON
Serial
PC_6
PC_7
PC_10
PE_0
3.3V Reg.
TIMEPULSE
GNSS
Receiver
RF_IN
Micro SIM
Socket
NB-IoT
Cellular
Modem
ANT
antenova
SR4C033
NB-IOT
GNSS
Europe: Band 8 & 20
NB-IoT Cellular Antenna
GNSS Antenna


PCell LiPo Batt.
GPIO/ExtInt
I2C1*
AtoD
PWM
UART3
CTS,RTS
GPIO/ExtInt
PWM
SPI4+NSS
GPIO/ExtInt
I2C1*
I2C*: the same Peripheral ports
RESET
AREF
IOREF
3V3
5V
VIN
GND
A0
A1
A2
A3
A4
A5
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
SDA
SCL
Arduino Uno R3 Interface
{UART3, I2C1, SPI4}
User Button
User RGB LED
3.3V
Aux 5V Power
USB Power
VBUS
I2C1
I2C3
Power & Battery Management
Temp Sens
Batt. Socket
LiPo Chgr.
SDCard Socket
SPI4
HOST MCU
UART6
MAX-x (GNSS)
GNSS
ST-LINK Debug
VCOM:printf/scanf
FW Upgrade
(VCOM:I2CBridge)
(VCOM:AtoDBrigde)
USB Socket
USB
Interface MCU (Debug Unit)
eUICC SIM
vcc
Cellular
Div.
Main
InterfaceMCU SWD Conn.
SWD
HostMCU SWD Conn.
Reset Button
UART1
UART2
SARA Module
USB
AtoD
Ethernet 10/100Mbps
ETH Socket
ETH PHY
RMII
USB Socket
UART To USB
Serial USB Sniffer
USB Socket
SARA Data Comm.
Antenna Section
Utility Section
Application Section

Example using GNSS

- Open Arm Keil Studio Cloud
- With a browser, go to
  https://os.mbed.com/platforms/ublox-C030-U201/
  and import into Keil studio *example-gnss*
- Set C030-U201 as target and compile
- Set C030-N211 as target and compile
- Open *teraterm*

Example using GNSS

- If there is good GPS signal, you get