

August 25 (Wed)

CMPE245

Introduction.

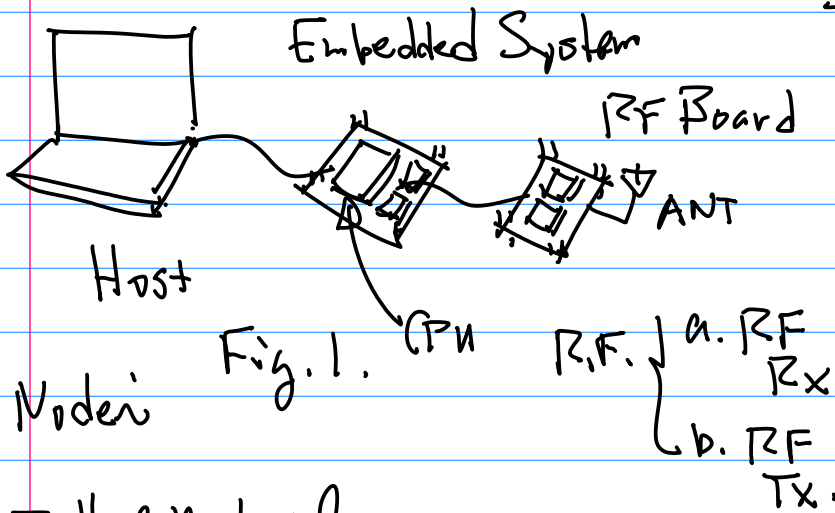
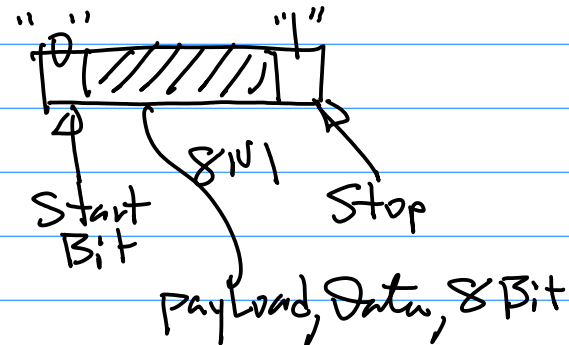
Today's Topics

Bill of Materials
Target platform
For Prototyping

Note: Your RF module(s)
is to be interfaced to GPIO
of your target Board.

Why? General Purpose \rightarrow No
Data Framing.

for UART, Data Frame



Node

a. RF Rx
b. RF Tx.

Note: CPU Target

Option to use NVDA Jetson
NANO

Guide Line for Selection
of target Platform.

Bill of Material

1. Target CPU NXP LPC1769
OR NANO (NVDA)

2. RF modules, physical Layer only.

(1) ASK R.F. module, frequency $\sim 433\text{MHz}$
(2) F.C.C. Certified

Amplitude Switching

(3) Open Spectrum.

Power $\leq 1000\text{mW. (1W)}$

Tx: Transmitter

(4) No MAC (media Access Control)
Needed

1. Register Level Control
of GPIO, SPI Controllers

For LPC1769 \checkmark

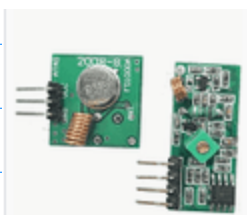
For NANO \rightarrow Devices
Drivers.

(1) Datasheet 400+ pages

(2) Software Dev.
Environment, tools.

Jetpack (OS +
Libs)

(3) O.S. Distr.



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Note: On your RF Board.

2

2° Access to CPU pins, e.g.
GPIO pins, SPI pins.

Homework: Purchase ASK RF
Module By Sept. 8th (Wed)
OR ideally Sept 3rd (Fri)

Note: To provide Hardware Debugging CKT. on
the RF Board

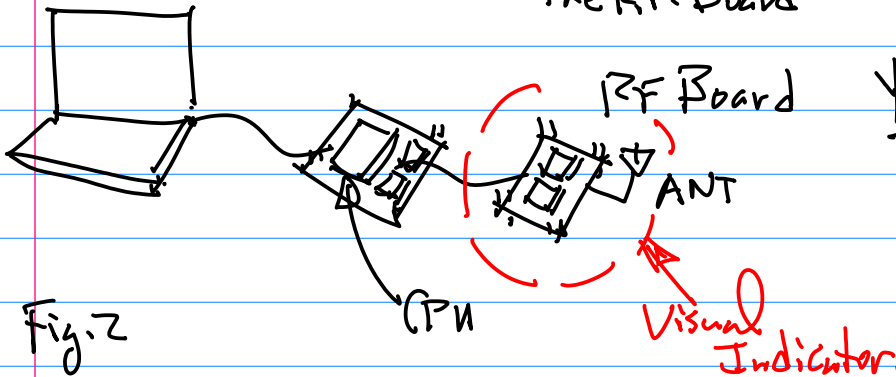


Fig. 2

Debugging Capability on the R.F.
Board:

(1) Objective: To visualize/observe
GPIO output.

Means: LED.

Material:

a LED (Red, Green), 4~10mA

Connectors (to cable to RF Board)

b RJ45 Right Angle Connectors

(2) A piece of CAT5 Cable (Ethernet)

c Components: Resistors, Chps.
d External PWR
Regulator

(1117?)

7805, 7812 OR

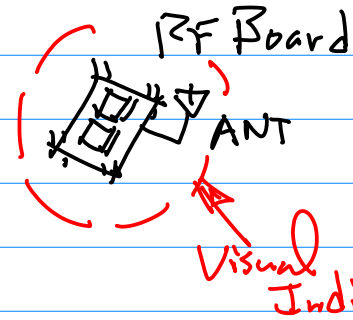


Fig. 3.

2 Blocks { RX
TX

Both Need to Be Powered.

You may want to have the
DC PWR Delivered via
CAT5 Cable from your
Embedded Board.

RJ45 Pins (Pin): 8