



Bookmarks

- ▶ 1. Introduction to RTOS
- ▶ 2. Thread Management
- ▶ 3. Time Management
- ▶ 4. Real-time Systems
- ▶ 5. File Systems

▼ 6. Bluetooth Low Energy

6.0. Objectives

6.1. Communication Systems

6.2. Bluetooth Fundamentals

6.3. CC2650 Solutions

6.4. Network Processor Interface

6.5. Application Layer Protocols for Embedded Systems

Quiz 6



6. Bluetooth Low Energy > Quiz 6 > Quiz 6

## Quiz 6

🔖 Bookmark this page

### Duplex

1/1 point (graded)

What do we call a communication system, like UART, that allows data transfer in both directions simultaneously?

☒ full duplex ✓

☐ half duplex

☐ simplex

Submit

✓ Correct (1/1 point)

### Physical Layer

1/1 point (graded)

Think about how information is encoded for a communication system.

As data is being transmitted across distance, how is it encoded?

☐ voltage

☒ energy ✓

☐ current

**Lab 6. Bluetooth  
BLE****References**

► Glossary

► Discussion  
Board☐ frequency**Submit**

✓ Correct (1/1 point)

**Medium**

1/1 point (graded)

How do we classify the medium used for Bluetooth Communication?

☒ unguided ✓☐ lossless☐ guided**Submit**

✓ Correct (1/1 point)

**Error detection**

1/1 point (graded)

Please match the following terms with the letter of their appropriate description.

LRC

 ✓

Parity

 ✓

A. Add an additional bit so the total number of ones in the communication is an even number.

B. Add an additional value to the message that contains the modulo addition of all data in the message.

Checksum



CRC



C. Add an additional value to the message that contains exclusive OR of all data in the message.

D. Add an additional value to the message that contains a mathematical calculation of the data in the message based on polynomials.

✓ Correct (1/1 point)

### Controller area network (CAN)

1/1 point (graded)

Which fields commonly use the controller area network (CAN)? Check all that apply

☐ Bluetooth☐ Music☐ Medical☒ Automotive☒ Industrial robots

✓ Correct (1/1 point)

## Channel Capacity

1/1 point (graded)

Consider a physical medium with a bandwidth  $W$  of 1 kHz and SNR of 40 dB. What is the maximum capacity of this channel in bits/sec?



13287.85664

### Answer

Correct:  $C = 1000 \cdot \log_2(10,001) = 13,288$  bits/sec

Submit

✓ Correct (1/1 point)

## BLE radio

1/1 point (graded)

At what frequency does the Bluetooth radio communicate (in GHz)



2.4

### Answer

Correct: 2.402 to 2.480 GHz

Submit

✓ Correct (1/1 point)



## Profile

1/1 point (graded)

Which profile do we use in Lab 6?

☐ Advanced Audio Distribution Profile (A2DP)

☒ Generic attribute protocol (GATT) ✓

☐ Health Device Profile (HDP)

Submit

✓ Correct (1/1 point)

### BLE roles

1/1 point (graded)

The fitness device (MK-II,LaunchPad,CC2650) in Lab 6 performs which role?  
Check all that are true.

☐ Initiator

☒ Advertiser

☒ Host

☐ Client

☒ Server

☒ Controller



### Answer

Correct:

The phone initiates.

The fitness device does advertise.

The CC2650 implements the host.

The phone is the client.

The fitness device is the server

The CC2650 implements the controller.



Submit

✓ Correct (1/1 point)

As we approach the end of this class, we have one final survey you can use to give us feedback [https://utexas.qualtrics.com/SE/?](https://utexas.qualtrics.com/SE/?SID=SV_5BGVLYSzsBPOE5L)

SID=SV\_5BGVLYSzsBPOE5L. We will use your input when we plan a second launch of this course.

### Survey

1/1 point (graded)

There is an end of the course survey.

Will you or have you completed the end of the course survey?

☐ no

☒ yes, the correct answer ✓

Submit

✓ Correct (1/1 point)

© All Rights Reserved

