

COMP4336/9336 Mobile data networking
Quiz: RF Sensing

程序代写代做CS编程辅导



1. What is the resolution of FMCW radar utilising the frequency band 77GHz-81GHz?

- a) 7.5cm
- b) 3.75cm**
- c) 30cm
- d) 60cm
- e) 90cm

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2. What is the resolution of pulse radar operating with 100ns pulses?

- a) 5m
- b) 10m
- c) 15m**
- d) 20m
- e) 100m

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3. A 60GHz radar is likely to

- a) Have better resolution than a 24GHz radar**
- b) Have worse resolution than a 24GHz radar
- c) Have better resolution than a 77GHz radar
- d) Have a resolution on the order of a few μm
- e) None of these

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4. For a CSI= $3+j4$, the amplitude response is

- a) 4
- b) 6
- c) 5**
- d) 7
- e) None of these

5. More subcarriers per channel means

- a) More CSI values available per packet**
- b) More RSS values available per packet
- c) More CSI and more RSS values available per packet
- d) More RSS values but less CSI values available per packet
- e) More CSI values but less RSS values available per packet

6. Which of the following statements is true?

- a) Pulse radars estimate range by sending chirps.
- b) FMCW radars estimate range by transmitting ultra-short pulses
- c) FMCW radars transmit signals whose frequency changes over time**
- d) FMCW radars cannot work with mmWave signals
- e) Pulse bandwidth increases proportionally with increasing pulse width

7. An UWB radar operating in the band 1.5GHz-2.5GHz can separate two objects along the same bearing if

- a) The difference of distances of the two objects from the radar is 10cm
- b) The difference of distances of the two objects from the radar is 12cm
- c) **The difference of distances of the two objects from the radar is 16cm**
- d) The difference of distances of the two objects from the radar is less than 15cm
- e) The difference of distances of the two objects from the radar is less than 10cm



8. Radars are only used for communication and sensing.

- a) True
- b) **False**

9. RSS can detect more fine-grained human activities compared to CSI

- a) True
- b) **False**

10. CSI is used by radars to detect and estimate the range of target objects.

- a) True
- b) **False**

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