

Technician Question Pool

July 2018 to June 2022

The MORE Project

<http://n2re.org/m-o-r-e-project>



Radio Wave Characteristics

No-Nonsense pages 24 - 26

Frequency, Wavelength, and the Electromagnetic Spectrum

Radio waves are what amateur radio is all about. Amateur radio operators generate and transmit them off into space. On the receiving side, we capture and demodulate them.



T3A07

What type of wave carries radio signals between transmitting and receiving stations?

- A. Electromagnetic
- B. Electrostatic
- C. Surface acoustic
- D. Ferromagnetic



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Frequency and Wavelength

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T3A07

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- A. Electromagnetic**
- B. Electrostatic
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- D. Ferromagnetic



T5C07

A radio wave is made up of what type of energy?

- A. Pressure
- B. Electromagnetic
- C. Gravity
- D. Thermal



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T5C07

A radio wave is made up of what type of energy?

- A. Pressure
- B. Electromagnetic**
- C. Gravity
- D. Thermal



T3B03

What are the two components of a radio wave?

- A. AC and DC
- B. Voltage and current
- C. Electric and magnetic fields
- D. Ionizing and non-ionizing radiation



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T3B03

What are the two components of a radio wave?

- A. AC and DC
- B. Voltage and current
- C. Electric and magnetic fields**
- D. Ionizing and non-ionizing radiation



T3B04

How fast does a radio wave travel through free space?

- A. At the speed of light
- B. At the speed of sound
- C. Its speed is inversely proportional to its wavelength
- D. Its speed increases as the frequency increases



T3B04

How fast does a radio wave travel through free space?

- A. At the speed of light
- B. At the speed of sound
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- D. Its speed increases as the frequency increases



T3B11

What is the approximate velocity of a radio wave as it travels through free space?

- A. 150,000 kilometers per second
- B. 300,000,000 meters per second
- C. 300,000,000 miles per hour
- D. 150,000 miles per hour



T3B11

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- B. 300,000,000 meters per second**
- C. 300,000,000 miles per hour
- D. 150,000 miles per hour



T3B01

What is the name for the distance a radio wave travels during one complete cycle?

- A. Wave speed
- B. Waveform
- C. Wavelength
- D. Wave spread



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T3B01

What is the name for the distance a radio wave travels during one complete cycle?

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- B. Waveform
- C. Wavelength**
- D. Wave spread



T3B06

What is the formula for converting frequency to approximate wavelength in meters?

- A. Wavelength in meters equals frequency in hertz multiplied by 300
- B. Wavelength in meters equals frequency in hertz divided by 300
- C. Wavelength in meters equals frequency in megahertz divided by 300
- D. Wavelength in meters equals 300 divided by frequency in megahertz



T3B06

What is the formula for converting frequency to approximate wavelength in meters?

- A. Wavelength in meters equals frequency in hertz multiplied by 300
- B. Wavelength in meters equals frequency in hertz divided by 300
- C. Wavelength in meters equals frequency in megahertz divided by 300
- D. Wavelength in meters equals 300 divided by frequency in megahertz**



T3B05

How does the wavelength of a radio wave relate to its frequency?

- A. The wavelength gets longer as the frequency increases
- B. The wavelength gets shorter as the frequency increases
- C. There is no relationship between wavelength and frequency
- D. The wavelength depends on the bandwidth of the signal



T3B05

How does the wavelength of a radio wave relate to its frequency?

- A. The wavelength gets longer as the frequency increases
- B. The wavelength gets shorter as the frequency increases**
- C. There is no relationship between wavelength and frequency
- D. The wavelength depends on the bandwidth of the signal



T3B07

What property of radio waves is often used to identify the different frequency bands?

- A. The approximate wavelength
- B. The magnetic intensity of waves
- C. The time it takes for waves to travel one mile
- D. The voltage standing wave ratio of waves



T3B07

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T3B10

What frequency range is referred to as HF?

- A. 300 to 3000 MHz
- B. 30 to 300 MHz
- C. 3 to 30 MHz
- D. 300 to 3000 kHz



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T3B10

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- B. 30 to 300 MHz
- C. 3 to 30 MHz**
- D. 300 to 3000 kHz



T3B08

What are the frequency limits of the VHF spectrum?

- A. 30 to 300 kHz
- B. 30 to 300 MHz
- C. 300 to 3000 kHz
- D. 300 to 3000 MHz



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T3B08

What are the frequency limits of the VHF spectrum?

- A. 30 to 300 kHz
- B. 30 to 300 MHz**
- C. 300 to 3000 kHz
- D. 300 to 3000 MHz



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T3B09

What are the frequency limits of the UHF spectrum?

- A. 30 to 300 kHz
- B. 30 to 300 MHz
- C. 300 to 3000 kHz
- D. 300 to 3000 MHz



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T3B09

What are the frequency limits of the UHF spectrum?

- A. 30 to 300 kHz
- B. 30 to 300 MHz
- C. 300 to 3000 kHz
- D. 300 to 3000 MHz**



T5C06

What does the abbreviation “RF” refer to?

- A. Radio frequency signals of all types
- B. The resonant frequency of a tuned circuit
- C. The real frequency transmitted as opposed to the apparent frequency
- D. Reflective force in antenna transmission lines



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T5C06

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- B. The resonant frequency of a tuned circuit
- C. The real frequency transmitted as opposed to the apparent frequency
- D. Reflective force in antenna transmission lines



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A non-profit initiative by the IEEE and ARDC to increase the numbers of youth (12-18) and non-males in Amateur Radio. Participants earn FCC licenses and receive free 2-way radios.

For MORE information: n2re.org/m-o-r-e-project
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