

Radiofrequency Hazards Test

Name_____

Date_____

1. The AZ BRC regulations and the ANSI C95.1, 1999 standard cover electromagnetic fields starting at frequencies above:

- A) 60 Hz (line frequency)
- B) 3 kHz
- C) 300 kHz
- D) 500 kHz

2. For RF radiation measurements made in the near field of a source, which parameters must be measured?

- A) The E field
- B) The H field
- C) Both the E and the H fields
- D) The power density

3. The RF occupational standard allows measurements to be averaged over what time period?

- A) 1 minute
- B) 6 minutes
- C) 1 hour
- D) 8 hours

4. What is the occupational exposure limit at 300 MHz in IEEE C95.1, 1999?

- A) 10 mW/cm^2
- B) 1 mW/cm^2
- C) 614 V/m
- D) $1842/f$

5. Which is the most vulnerable part of the body with regard to exposure to RF and microwave radiation?

- A) The lens of the eye
- B) The liver
- C) The brain
- D) The extremities

6. In the far field of an antenna or other source:

- A) You must measure both the E field and the H field
- B) The E Field and the H Field are equal and orthogonal, so you may measure either the E or H Field.
- C) All health and safety determinations should be performed by calculation as the power is located at nodes whose location is not known.

7. The wavelength of a microwave at 2450 MHz is:

- A) 20 cm
- B) 12.2 cm
- C) 5 cm
- D) 2 meters

8. A 2 dB loss from the amplifier to the antenna is what as a power ratio:

- A) 2
- B) 10
- C) 1.6
- D) 4.5

9. The reason for the “big dipper” shape of the occupational exposure standard is:

- A) Conservative methodology
- B) Bureaucratic excess
- C) Whole body resonance
- D) ANSI said it

10. The Hawk anti-aircraft missile system recently given to Ukraine utilizes an “illuminator” type radar that blasts incoming aircraft or missiles with RF energy and allows the pursuit missile to hone in on the reflected RF radiation. The near field power density for this radar is 800 mW/cm^2 at 1.25 to 1.35 Ghz. Which of the following statements are correct for this system.

- A) This radar is extremely dangerous and personnel must stay away from the primary beam.
- B) The power density in the near field exceeds what can be safely measured with most broadband monitors.
- C) The power density exceeds the values that have been observed to cause cataracts in animal studies.
- D) All of the above.