

Unit 6 - Week 5

Register for Certification exam

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Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-04-03, 23:59 IST

The total shielding effectiveness provided by a metal plate, characterized by its thickness t , conductivity σ , magnetic permeability μ , can be considered to be due to absorption of the waves as it passes through the metal and also due to the reflection of the waves from the metal surfaces. In the following questions what happens to the **absorption loss** when the specified parameter is changed as described, keeping all other parameters constant. Assume that the shield is in the **far-field region** of the field source in air. Also assume that the effect of multiple reflections within the shield is negligible

1) Increase plate thickness, t

- Absorption loss **decreases**
 Absorption loss **increases**
 Absorption loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Absorption loss **increases**

1 point

2) Decrease the frequency, f

- Absorption loss **decreases**
 Absorption loss **increases**
 Absorption loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Absorption loss **decreases**

1 point

3) Increase the conductivity, σ

- Absorption loss **decreases**
 Absorption loss **increases**
 Absorption loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Absorption loss **increases**

1 point

4) Increase the permeability, μ

- Absorption loss **decreases**
 Absorption loss **increases**
 Absorption loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Absorption loss **increases**

1 point

5) For an iron shield of thickness 1 mm, relative permeability 100, and conductivity 0.58×10^7 S/m, the shielding effectiveness due to absorption in the shield material alone at a frequency of 50 kHz is _____ dB.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Range) 92,94

1 point

The total shielding effectiveness provided by a metal plate, characterized by its thickness t , conductivity σ , magnetic permeability μ , can be considered to be due to absorption of the waves as it passes through the metal and also due to the reflection of the waves from the metal surfaces. In the following questions what happens to the **reflection loss** when the specified parameter is changed as described, keeping all other parameters constant. Assume that the shield is in the **far-field region** of the field source in air. Also assume that the effect of multiple reflections within the shield is negligible

6) Increase plate thickness, t

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **unchanged**

1 point

7) Decrease the frequency, f

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **increases**

1 point

8) Increase the conductivity, σ

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **increases**

1 point

9) Increase the permeability, μ

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **decreases**

1 point

The total shielding effectiveness provided by a metal plate, characterized by its thickness t , conductivity σ , magnetic permeability μ , can be considered to be due to absorption of the waves as it passes through the metal and also due to the reflection of the waves from the metal surfaces. In the following questions what happens to the **reflection loss** when the specified parameter is changed as described, keeping all other parameters constant. Assume that the shield is in the **near-field region** of an **electric dipole** source at a distance r in air. Also assume that the effect of multiple reflections within the shield is negligible

11) Increase plate thickness, t

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **unchanged**

1 point

12) Decrease the frequency, f

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **increases**

1 point

13) Increase the conductivity, σ

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **increases**

1 point

14) Increase the permeability, μ

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **decreases**

1 point

15) Increase the distance, r , still maintaining the near-field condition

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **decreases**

1 point

16) For an iron shield of thickness 1 mm, relative permeability 100, and conductivity 0.58×10^7 S/m, the shielding effectiveness due to reflection alone at a frequency of 50 kHz is _____ dB. Assume near-field condition with an electric dipole at a distance of 30 m in air

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Range) 119,123

1 point

The total shielding effectiveness provided by a metal plate, characterized by its thickness t , conductivity σ , magnetic permeability μ , can be considered to be due to absorption of the waves as it passes through the metal and also due to the reflection of the waves from the metal surfaces. In the following questions what happens to the **reflection loss** when the specified parameter is changed as described, keeping all other parameters constant. Assume that the shield is in the **near-field region** of a **magnetic dipole** (loop) source at a distance r in air. Also assume that the effect of multiple reflections within the shield is negligible

17) Increase plate thickness, t

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **unchanged**

1 point

18) Decrease the frequency, f

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **decreases**

1 point

19) Increase the permeability, μ

- Reflection loss **decreases**
 Reflection loss **increases**
 Reflection loss **unchanged**
 Insufficient data to determine

No, the answer is incorrect.
Score: 0

Accepted Answers:
Reflection loss **decreases**

1 point

20) For an iron shield of thickness 1 mm, relative permeability 100, and conductivity 0.58×10^7 S/m, the shielding effectiveness due to reflection alone at a frequency of 50 kHz is _____ dB. Assume near-field condition with a magnetic loop at a distance of 30 m in air

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Range) 59,63

1 point

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