

4.5 Microstrip antenna

Quiz

Answer these questions to get feedback on how well you understand the course. Only one of the answers is correct. You don't have to answer every question. If you don't know the answer you can just leave it blank (default option: "I won't answer this question") and this won't affect your score. Answering **correctly** will **add 2 points** to your score but on the other hand you'll **lose 1 point** if your answer is **wrong**. The questions are divided in groups of five questions.

Press **See result** after you have finished answering.

Displaying questions **1..10** of **10**:

Question 1

The aperture-fed patch antenna consists of ...

Possible answers for question 1:

- ... the patch and the coaxial probe in the role of feeding.
- ... the patch and the aperture of the horn antenna in the role of the primarily radiator.
- ... the microstrip on the bottom, the slot in the middle, and the patch on the top.
- I won't answer this question

Question 2

The patch antenna excels in ...

Possible answers for question 2:

- ... low profile and low fabrication costs.
- ... low fabrication costs, and very high efficiency.
- ... high gain.
- I won't answer this question

Question 3

The simplified analysis of the patch antenna ...

Possible answers for question 3:

- ... considers the patch only – the antenna behaves like a wide dipole.
- ... assumes the antenna behaves like a dielectric resonator (non-radiating structure).
- ... cannot be performed – full-wave methods have to be applied.
- I won't answer this question

Question 4

Surface waves degrade antenna parameters ...

Possible answers for question 4:

- ... in case the dielectric constant of the substrate is high, and the frequency is high also.
- ... in case the height of the substrate is negligible compared to the wavelength.
- ... any time – they cannot be satisfactorily suppressed.
- I won't answer this question

Question 5

Increasing the dielectric constant of the substrate ...

Possible answers for question 5:

- ... the antenna is smaller, and its parameters are not influenced.
- ... the antenna is smaller, and the bandwidth is narrower.
- ... the bandwidth is narrower, the dimensions are not influenced.
- I won't answer this question

Question 6

Microstrip feeding of the microstrip antenna ...

Possible answers for question 6:

- ... is hard to be fabricated.
- ... does not influence the radiation pattern of the antenna.
- ... simplifies the construction of antenna arrays.
- I won't answer this question

Question 7

Dealing with the dimensions of the rectangular patch ...

Possible answers for question 7:

- ... the width should equal to half wavelength on the substrate, and the length is unimportant.
- ... both the width and the length should equal to half wavelength on the substrate.
- ... the length should equal to half wavelength on the substrate, and the width is unimportant.
- I won't answer this question

Question 8

Green functions for layered media ...

Possible answers for question 8:

- ... can be exactly expressed in the closed form.
- ... have to be approximated (limited validity) for the practical use.
- ... are not used when analyzing patch antennas.
- I won't answer this question

Question 9

Moment method analysis of the patch antenna ...

Possible answers for question 9:

- ... can be performed in two dimensions when feeding is mapped to the plane of the patch.
- ... has to be carried out as the three-dimensional problem.
- ... is naturally a two-dimensional problem.
- I won't answer this question

Question 10

In the moment method analysis of the patch antenna ...

Possible answers for question 10:

- ... a single mesh is used both for x-components and for y-components.
- ... no meshing is needed.
- ... two meshes have to be used (the first one for x-components, the second one for y-components).
- I won't answer this question

see result