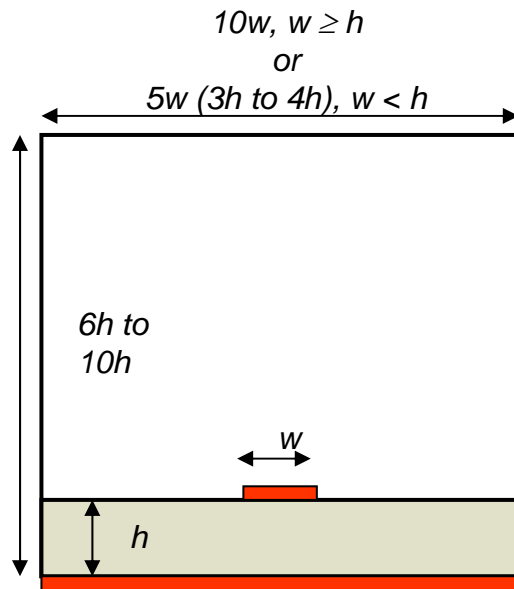


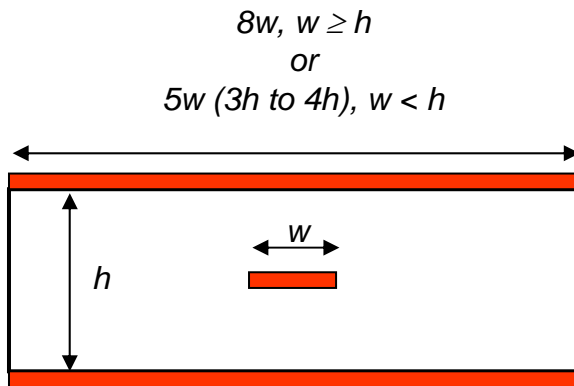
Sizing Handbook I



*Note: Port sizing guidelines are **not** inviolable rules true in all cases. For example, if meeting the height and width requirements outlined result in a rectangular aperture bigger than $\lambda/2$ on one dimension, the substrate and trace may be ignored in favor of a waveguide mode. When in doubt, build a simple ports-only model and test.*

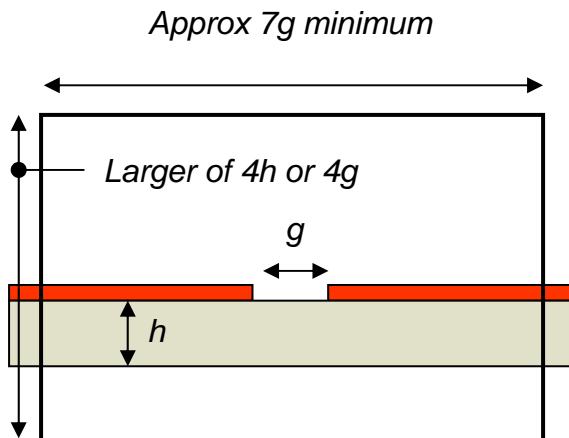
- ▲ Microstrip Port Sizing Guidelines
 - ▲ Assume width of microstrip trace is w
 - ▲ Assume height of substrate dielectric is h
- ▲ Port Height Guidelines
 - ▲ Between $6h$ and $10h$
 - ▲ Tend towards upper limit as dielectric constant drops and more fields exist in air rather than substrate
 - ▲ Bottom edge of port coplanar with the upper face of ground plane
 - ▲ (If real structure is enclosed lower than this guideline, model the real structure!)
- ▲ Port Width Guidelines
 - ▲ $10w$, for microstrip profiles with $w \geq h$
 - ▲ $5w$, or on the order of $3h$ to $4h$, for microstrip profiles with $w < h$

Sizing Handbook II



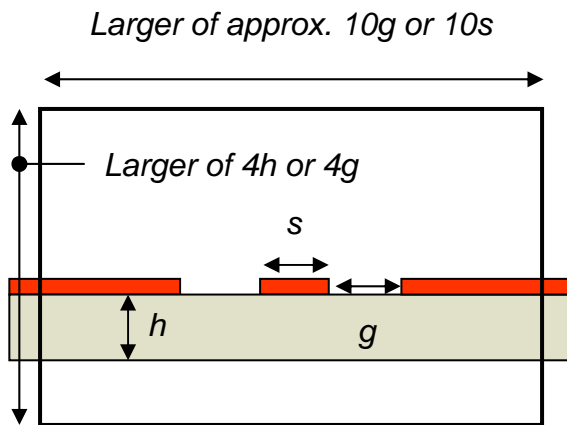
- ▲ Stripline Port Sizing Guidelines
 - ▲ Assume width of stripline trace is w
 - ▲ Assume height of substrate dielectric is h
- ▲ Port Height Guidelines
 - ▲ Extend from upper to lower groundplane, h
- ▲ Port Width Guidelines
 - ▲ $8w$, for microstrip profiles with $w \geq h$
 - ▲ $5w$, or on the order of $3h$ to $4h$, for microstrip profiles with $w < h$
- ▲ Boundary Note: Can also make side walls of port *Perfect H* boundaries

Sizing Handbook III



- ▲ Slotline Port Guidelines
 - ▲ Assume slot width is g
 - ▲ Assume dielectric height is h
- ▲ Port Height:
 - ▲ Should be at least $4h$, or $4g$ (larger)
 - ▲ Remember to include air below the substrate as well as above!
 - ▲ If ground plane is present, port should terminate at ground plane
- ▲ Port Width:
 - ▲ Should contain at least $3g$ to either side of slot, or $7g$ total minimum
 - ▲ Port boundary *must* intersect both side ground planes, or they will 'float' and become signal conductors relative to outline 'ground'

Sizing Handbook IV



- ▶ CPW Port Guidelines
 - ▶ Assume slot width is g
 - ▶ Assume dielectric height is h
 - ▶ Assume center strip width is s
- ▶ Port Height:
 - ▶ Should be at least $4h$, or $4g$ (larger)
 - ▶ Remember to include air below the substrate as well as above!
 - ▶ If ground plane is present, port should terminate at ground plane
- ▶ Port Width:
 - ▶ Should contain $3-5g$ *or* $3-5s$ of the side grounds, whichever is larger
 - ▶ Total about $10g$ *or* $10s$
 - ▶ Port outline *must* intersect side grounds, or they will 'float' and become additional signal conductors along with the center strip.

射频和天线设计培训课程推荐

易迪拓培训(www.edatop.com)由数名来自于研发第一线的资深工程师发起成立,致力并专注于微波、射频、天线设计研发人才的培养;我们于 2006 年整合合并微波 EDA 网(www.mweda.com),现已发展成为国内最大的微波射频和天线设计人才培养基地,成功推出多套微波射频以及天线设计经典培训课程和 ADS、HFSS 等专业软件使用培训课程,广受客户好评;并先后与人民邮电出版社、电子工业出版社合作出版了多本专业图书,帮助数万名工程师提升了专业技术能力。客户遍布中兴通讯、研通高频、埃威航电、国人通信等多家国内知名公司,以及台湾工业技术研究院、永业科技、全一电子等多家台湾地区企业。

易迪拓培训课程列表: <http://www.edatop.com/peixun/rfe/129.html>



射频工程师养成培训课程套装

该套装精选了射频专业基础培训课程、射频仿真设计培训课程和射频电路测量培训课程三个类别共 30 门视频培训课程和 3 本图书教材;旨在引领学员全面学习一个射频工程师需要熟悉、理解和掌握的专业知识和研发设计能力。通过套装的学习,能够让学员完全达到和胜任一个合格的射频工程师的要求...

课程网址: <http://www.edatop.com/peixun/rfe/110.html>

ADS 学习培训课程套装

该套装是迄今国内最全面、最权威的 ADS 培训教程,共包含 10 门 ADS 学习培训课程。课程是由具有多年 ADS 使用经验的微波射频与通信系统设计领域资深专家讲解,并多结合设计实例,由浅入深、详细而又全面地讲解了 ADS 在微波射频电路设计、通信系统设计和电磁仿真设计方面的内容。能让您在最短的时间内学会使用 ADS,迅速提升个人技术能力,把 ADS 真正应用到实际研发工作中去,成为 ADS 设计专家...



课程网址: <http://www.edatop.com/peixun/ads/13.html>



HFSS 学习培训课程套装

该套课程套装包含了本站全部 HFSS 培训课程,是迄今国内最全面、最专业的 HFSS 培训教程套装,可以帮助您从零开始,全面深入学习 HFSS 的各项功能和在多个方面的工程应用。购买套装,更可超值赠送 3 个月免费学习答疑,随时解答您学习过程中遇到的棘手问题,让您的 HFSS 学习更加轻松顺畅...

课程网址: <http://www.edatop.com/peixun/hfss/11.html>

CST 学习培训课程套装

该培训套装由易迪拓培训联合微波 EDA 网共同推出,是最全面、系统、专业的 CST 微波工作室培训课程套装,所有课程都由经验丰富的专家授课,视频教学,可以帮助您从零开始,全面系统地学习 CST 微波工作的各项功能及其在微波射频、天线设计等领域的设计应用。且购买该套装,还可超值赠送 3 个月免费学习答疑...

课程网址: <http://www.edatop.com/peixun/cst/24.html>



HFSS 天线设计培训课程套装

套装包含 6 门视频课程和 1 本图书,课程从基础讲起,内容由浅入深,理论介绍和实际操作讲解相结合,全面系统的讲解了 HFSS 天线设计的全过程。是国内最全面、最专业的 HFSS 天线设计课程,可以帮助您快速学习掌握如何使用 HFSS 设计天线,让天线设计不再难...

课程网址: <http://www.edatop.com/peixun/hfss/122.html>

13.56MHz NFC/RFID 线圈天线设计培训课程套装

套装包含 4 门视频培训课程,培训将 13.56MHz 线圈天线设计原理和仿真设计实践相结合,全面系统地讲解了 13.56MHz 线圈天线的工作原理、设计方法、设计考量以及使用 HFSS 和 CST 仿真分析线圈天线的具体操作,同时还介绍了 13.56MHz 线圈天线匹配电路的设计和调试。通过该套课程的学习,可以帮助您快速学习掌握 13.56MHz 线圈天线及其匹配电路的原理、设计和调试...

详情浏览: <http://www.edatop.com/peixun/antenna/116.html>



我们的课程优势:

- ※ 成立于 2004 年,10 多年丰富的行业经验,
- ※ 一直致力并专注于微波射频和天线设计工程师的培养,更了解该行业对人才的要求
- ※ 经验丰富的一线资深工程师讲授,结合实际工程案例,直观、实用、易学

联系我们:

- ※ 易迪拓培训官网: <http://www.edatop.com>
- ※ 微波 EDA 网: <http://www.mweda.com>
- ※ 官方淘宝店: <http://shop36920890.taobao.com>

专注于微波、射频、天线设计人才的培养

官方网址: <http://www.edatop.com>

淘宝网: <http://shop36920890.taobao.com>