

Near-field Antenna Measurement Short Course

March 26 – 28, 2008

Nearfield Systems, Inc.

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Course Description

This course will cover theoretical and practical aspects of antenna near-field testing. The intended audience is engineers and technicians using and operating NSI near-field antenna test systems. Planar, cylindrical & spherical methods will be addressed. The course will contain theoretical presentations to provide a background for the near-field antenna technique. The course will focus on the practical aspects of near-field measurements and include demonstrations with a test system by the attendees. A spherical scanner with a full suite of NSI 2000 software will be available for demonstrations during this course.

The course will focus on the NSI product line in order to allow demonstration of various aspects of near-field testing and also to educate attendees on the efficient use of the various tools provided by NSI. A session on the use of the NSI 2000 scripting language will provide formal training on this capability of the software.

The presenters of this course have been chosen to provide a wide expertise base covering theory, application, software, and instrumentation aspects of near-field antenna testing.

Course Outline:

Day 1

Introduction:

Overview of near-field industry and applications

General Antenna Measurement Theory:

Introductory antenna concepts (Gain, Directivity, SLL, beamwidth, dynamic range, sensitivity, averaging, etc.)

Far-field antenna testing vs near-field antenna testing

Compact range testing

Chamber considerations

Near-field Antenna Measurement Theory I:

Planar near-field theory

Cylindrical near-field theory

NSI 2000 Software Overview:

Software layout

Features description

Basic NSI 2000 demo

Day 2

Systems Hardware Overview:

Planar, cylindrical, spherical systems

Mechanical Components & RF equipment

Antenna Measurement Demo I:

Spherical near-field testing

Near-field Antenna Measurement Theory II:

Spherical near-field theory

Back projection theory

Measurement Errors:

Overview of 18-terms error budget

Determination of error terms

NSI 2000 Scripting Overview:

Scripting mode

Application examples

Day 3

Wireless handset testing & CTIA OTA measurements

RF system design & Pulsed Antenna Measurement:

Pulse system configurations

Pulsed modes

Limitations & design considerations

Timing aspects

Near-field Probe Correction:

Probe correction theory

Probe correction models in NSI 2000

Probe correction files

Advanced Antenna Measurement topics:

MARS

SNF alignment

Phased array testing

Back projection

High speed testing

MTI

Antenna Measurement Demo II:

MARS

Spherical near-field alignment

Course Presenters

NSI Staff including: Greg Hindman, Daniël Janse van Rensburg, Allen Newell, Bert Schluper & Greg Masters

Enrollment Form

Name:
Title:
Company:
Address:
Phone #:
Fax #:
E-mail:
PO# for course fee:

Mail your check (payable to Nearfield Systems Inc.) or FAX your PO, or Visa/MC/AMEX information with a printed copy of the above Enrollment Application Form to:

Accounts Receivable
Nearfield Systems Inc.
19730 Magellan Drive
Torrance, CA 90502
tel: (310) 525 7000
fax: (310) 525 7102

Fee

\$1,850 per person: This fee will include lecture notes, a copy of the book "Near-field Antenna Measurements" by Dan Slater and classroom materials.

The number of attendees will be limited to 30.

Dates

Registration deadline: 28 February 2008.