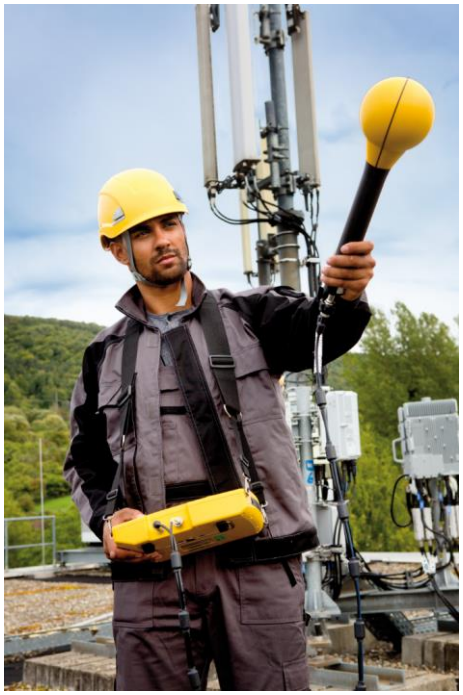
EMF Seminar

Exposure Measurements at Radio Base Stations with the SRM-3006



Target group

Beginners, advanced users and professionals in the field of selective electromagnetic field measurement; theoreticians and practitioners; also ideal for users and those interested in well-founded application guidance for the SRM-3006.

Aim

Expanding and consolidating theoretical knowledge in the field of radio signal exposure measurements as well as increasing practical experience by means of versatile, everyday measurement tutorials.

Dates in 2021

Monday 19th - Wednesday 21st April 2021 in Pfullingen

Monday 18th – Wednesday 20th October 2021 in Pfullingen
(3 Day Seminar)

Course contents

Day 1:

Fundamentals of field strength measurement

- relevant standards and recommendations
- frequency-selective and broadband measurements compared
- spatial and time-domain variations in field strength and the resulting consequences for measurements
- extrapolating for maximum system load
- comparison of “sweeping” and “raster” methods
- correct measurement bandwidth; RMS and peak detection.

Introduction to SRM-3006 and its measurement features

- Frequency-selective measurement, channel power, safety evaluation, code-selective measurement of WCDMA (UMTS) / LTE signals and timed exposure measurements with level recorder and scope mode
- introduction to the SRM-Tools and SRM-TS software packages.

Day 2:

Application measurements - theory

- Theoretical introduction to frequencies and signal structures of various wireless services and the associated features of measuring and standards-compliant evaluation including any necessary extrapolation for maximum system load
- Correct adjustment of SRM-3006 for measuring major wireless services (e.g. FM radio, digital radio (DAB) and TV (DVB-T), GSM, TETRA, UMTS, LTE).
- **5G transmitters: Basic information on frequency ranges, signal radiation and antenna technology (beamforming). Procedure for measuring the current immission or for extrapolation to maximum system utilization**

- **Measuring method for adaptive antennas and 5G base stations**
- **Ordinance on the protection against non-ionising radiation (NISV) in the field of mobile radio**

Day 3:

Application measurements - practice

- Useful basic settings on the SRM-3006 for effective work
- practical measurement exercises with SRM-3006 for determining safety zones around antennas: measuring broadcast signals (FM radio / DVB-T)
- measurement of mobile telecommunication base station immissions (GSM, TETRA, UMTS, LTE) including extrapolation to maximum transmitter power, result evaluation, and limit value comparison
- **Measurement challenges in determining immissions at 5G transmitters with beamforming. Correct adjustment of the SRM-3006 and results of the first test measurements carried out on 5G transmitters in the FR1 frequency range.**
- Measurement procedure and correct evaluation of pulsed high frequency signals (e.g. radar) with the SRM-3006.
- Strategies for determining safety zones around transmitting antennas.
- Wideband estimation of actual high frequency immission (e.g. for overview measurement campaigns at places of public access) using automatic measurement routines in “Safety Evaluation” mode.

Participants booking day 3 separately should already possess the basic knowledge covered during days 1 and 2 (e.g. from attending this seminar on an earlier date).

Use the form overleaf on the last page to register!

Lecturer

Prof. Dr.-Ing. Matthias Wuschek
Deggendorf Institute of Technology

Fee

€ 1,599 (3 days) **An early-bird discount of Euro 50.00 is only offered for registrations for the full 3-days-seminar and for registrations received by 31.1.2021 / 31.7.2021!**

Days 1 and 2 can also be booked as a package deal costing € 1,200.

If you only wish to participate in day 3 of the seminar, this will cost € 550.

Terms of payment: prepayment

These seminars can also be held individually at your location. Do not hesitate to ask us for details!

General information:

The number of participants is strictly limited; applications must be submitted no later than 4 weeks before the seminar date. If not enough participants register, we reserve the right to cancel the seminar at short notice. Fees include lunch, drinks, and refreshments and the seminar documentation. The seminar documents include a reference book for selective EMF measurements with the SRM. You will receive a short confirmation e-mail message when we have received and registered your application. We will then mail you confirmation of registration as well as the address of the course location and directions on how to get there. You will receive the invoice directly from your supplier. We offer 10% discount per person for two or more participants from the same company. You may cancel your application without charge up to 4 weeks prior to the start of the seminar. 50% of the course fee will be charged if you cancel after this date. The full cost will be charged for no shows or cancellations made less than 3 days before the seminar. Cancellations must be made in writing. You can transfer your place to another person. Fees do not include any applicable taxes.

Special information about day 3 (practical measurements):

The number of participants for day 3 is limited to 14. Day 3 can be booked separately if participants already possess the knowledge covered in days 1 and 2 (e.g. because they have attended the seminar on an earlier date). We recommend that you bring your own SRM with you (if available) for the practical measurement exercises.

Please find the registration form on the next page! Please fill in and send to info.narda-de@L3Harris.com or fax +49 7121 9732-790 or send your registration directly to your supplier, which you will find here on our website: https://www.narda-sts.com/en/sales-partner-list/

Registration for EMF Seminar

Fax: +49 7121 9732-790
Tel.: +49 7121 9732-0

We will forward your registration to the sales partner responsible for your region. You will then receive the invoice from there. You are also welcome to register directly with your sales partner, which you can find here https://www.narda-sts.com/en/sales-partner-list/

☐ Monday 19th until Wednesday 21st April 2021 in Pfullingen/Germany
☐ Monday 18th until Wednesday 20th October 2021 in Pfullingen/Germany

Participant's Surname, Forename(s) _____

Position / Department _____

Telephone / Fax _____

E-mail (for confirmation of receipt) _____

Company name _____

Address / PO box _____

City / ZIP or postcode /Country _____

Date / Signature _____

Send confirmation to
(only if different to participant) _____

Send invoice to
(only if different to participant) _____

I wish to participate as following: ☐ 3-Days-Seminar ☐ Day 1 und 2 ☐ only Day 3

SRM-3006 available ☐ yes ☐ no
(If "yes": Please bring a complete SRM set with you)

Presentation language ☐ only English ☐ only German ☐ English or German

☐ I hereby permit my personal data to be used for the purpose of providing Narda and its Sales Partners with information, whereby my data will be compared against the international anti-terrorism list under EU law and subject to a Restricted Party Screening in the USA. If you object to this match, participation in the seminar is unfortunately not possible for you.

☐ I hereby permit Narda Safety Test Solutions GmbH to regularly send me by email information about its product range (e.g. in the form of a Newsletter). I can withdraw this permission at any time.