


Spectral Lines



www.scvemc.org Santa Clara Valley Chapter of IEEE Electromagnetic Compatibility Society

April 2001 issue

Officers:

Chairman: Hans Mellberg
408-391-9694
hans.mellberg@ieee.org

Vice Chair: Tom Cokenias
650-726-1263
fax: 650-726-1252
trephonc@macconnect.com

Treasurer: Chuck Troia
408-525-6080
fax: 408-525-5172
ctroia@cisco.com

Secretary: Neven Pischl
408-527-7874
fax: 408-527-6887
npischl@cisco.com

Committees:

Activities:
Raymond Mascia
raym@runner.engr.sgi.com

Institutions:
Jack Huber
408-241-5699
jhuber@apm-emi.com

Membership: Rich Watkins
408-736-3425
HERSHEY185@aol.com

Nominating:
Len Goldschmidt
408-526-6841
lgoldsch@cisco.com

Webmaster: Mike Walker
webmaster@scvemc.org

SCV EMC Society Meeting "RADIATED EMISSIONS MEASUREMENTS ABOVE 1 GHz" Tuesday, April 10, 2001

The April meeting of the Santa Clara Valley EMC Society will be held at SGI in Mountain View, 1600 Amphitheatre Pkwy., building 40, in the Presentation Center above the lobby. The social gathering will start at 5:30 PM, and food and drinks will be available. **The technical presentation will start at 7:00 PM.** A map with the location of the SGI campus is available in this newsletter.

RADIATED EMISSIONS MEASUREMENTS ABOVE 1 GHZ

Radiated field strength measurements at frequencies above 1 GHz are becoming common requirements for a wider range of equipment than ever before. In addition to case radiated measurements from licensed transmitters, and restricted band emissions from FCC Part 15 devices and for ISM equipment, ITE equipment is now included as one of the categories requiring testing to microwave frequencies. The current 1GHz microprocessors and the 2 GHz processors in development are pushing testing requirements up to the 5 - 10 GHz range.

The presentation will review the regulations requiring measurements above 1 GHz for ITE and other types of equipment. Specialized test equipment, such as horn antennas, boresight antenna masts, low loss flexible coaxial cables, and harmonic mixers will be discussed.

There will also be discussion of test methodology. Published test procedures often lack the level of detail that is necessary to make repeatable and accurate measurements. The narrow beam widths of the measurement antennas and the highly directional nature of the emissions require careful search procedures to accurately measure maximum field strengths, and slight differences in technique can result in level measurements that can differ by more than 10 dB.

BIO

Tom Cokenias has been in the RF regulatory field for over 25 years. He spent 8 years working as an electronic engineer in the Equipment Authorization Branch of the FCC Laboratory in Columbia, MD. Since 1983 has held senior engineering positions at a number of EMC laboratories in the Bay area, most recently as Director of Engineering at Compliance Certification Services. He is also owner and chief consultant at T.N. Cokenias Consulting in El Granada, CA.

Anyone interested in presenting an outline of EMC-related topics should contact Tom Cokenias (trephonc@macconnect.com) at 650-726-1263.

For more information about the newsletter and its distribution, please contact the editor Neven Pischl (npischl@cisco.com) at 408-527-7874.

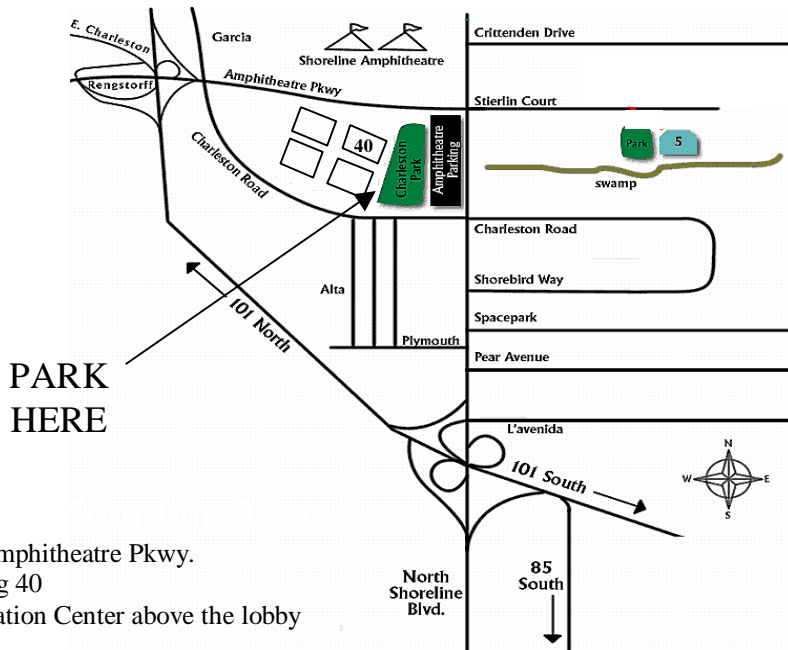
$$\nabla \times \vec{E} = - \frac{\partial \vec{B}}{\partial t}$$

$$\nabla \times \vec{H} = \frac{\partial \vec{D}}{\partial t} + \vec{J}$$

$$\nabla \cdot \vec{D} = \rho$$

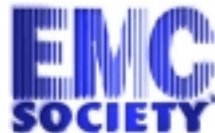
$$\nabla \cdot \vec{B} = 0$$

SCV-CHAPTER OF THE IEEE EMC SOCIETY MEETING, 10 APRIL 2001



Dated Material - Meeting Notice
Address Service Requested
Spectral Lines

IEEE SCV EMC Society
c/o N. Pischl
P.O.Box 4570
Mountain View, CA 94040-5070



"Total Solution, Single Source"



Anechoics, Shielding, Antennas, and Accessories
info@emctest.com www.emctest.com

Represented by ATS

Phone 925.736.2147 Fax 925.736.1314
E-Mail ATSJesse@aol.com

GLOBAL EMC AND SAFETY SERVICES

- Design Consultation
- Pre-Compliance and Certification Testing
- Technical Seminars
- Facility Management
- Two Bay Area Locations



Celebrating our
27th Year
(800) 500-4EMC
www.ckc.com



Engineering Representatives

San Jose Sunnyvale
(408) 263-6486 (408) 773-8871
www.arctechnical.com

Equipment for Regulatory Compliance

- | | | |
|---------------------|-----------------|----------------|
| Anechoic Chambers | Burst / Surge | Emissions |
| Shielded Enclosures | Immunity | ESD Equipment |
| Power Analyzers | Antennas | LISN's & CDN's |
| Harmonics / Flicker | Towers | Positioners |
| RF Amplifiers | Magnetic Fields | AC Sources |

Complete Systems & Services for the EMC Professional

TURNTABLES ANTENNA TOWERS

Sunol Sciences Corp
www.sunolsciences.com
925-485-9260

Testing systems for EMC



Conducted Immunity
Radiated Immunity
Emissions Systems
Transient Systems
GTEM! Systems
CDN's & Clamps

Industry Standard hardware



COMPLIANCE SYSTEMS CORPORATION
(714) 572-1338 (714) 572-2338 FAX
www.compliancesys.com

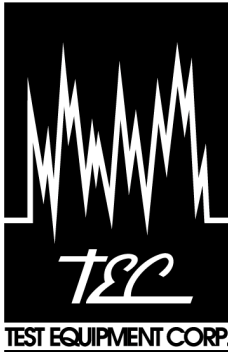
100 Hz to 40 GHz

Test Equipment, Antennas & Accessories for
Communication, Surveillance, & EMC Testing



11317 Frederick Avenue
Beltsville, MD 20705

Tel: (301) 937-8888 Fax: (301)937-2796
E-mail: emc@ara-inc.com http://www.ara-inc.com



EMC TEST EQUIPMENT RENTAL and SALES

- Most major EMC brands in stock
- Knowledgeable technical support
- Calibration and repair services
- Rental, leasing, and financing options
- In the business since 1974

1-888-RENT-EMC
1-888-736-8362

sales@testeq.com http://www.testeq.com/



Located in the
Heart of Silicon Valley

Elliott Laboratories Inc.
Sunnyvale, California
408-245-7800 Phone
408-245-3499 Fax
www.elliottlabs.com
info@elliottlabs.com

- Testing, Engineering and Consulting Services**
- Electromagnetic Compatibility
 - Product Safety
 - Telecom
 - Environmental

Test Facility Management
Call Us Today for All Your Compliance Needs.

Our experience is your success.



Montrose Compliance Services, Inc.
Electromagnetic Compatibility and Product Safety

Mark I. Montrose

Consulting and Design Services Seminars - Public and Private
Printed Circuit Board Layout and Design
CE Test Laboratory (ISO Guide 25 Assessed)
Specializing in ITE and Industrial Products for CE Compliance

www.montrosecompliance.com

2353 Mission Glen Drive
Santa Clara, CA 95051-1214

☎ and FAX (408) 247-5715
mmontros@ix.netcom.com



11825 Niles Canyon Road
Sunol, CA 94586
(925) 862-9051
(925) 862-9052 (Fax)

WORLDWIDE
TESTING ⚡ DESIGN ⚡ ANALYSIS



A Subsidiary of
Underwriters
Laboratories, Inc.



APM Inc,
3481 Rider Trail South
St. Louis, MO 63045
Tel. 800 843-4556
Fax 314 344-9333

Jack Huber
Tel 408 241-5699
Fax 408 241-5689
E-mail jhuber@apm-emi.com

SPEC THE BEST
www.apm-emi.com

A NEW DIRECTION IN EMI SHIELDING SOLUTIONS



Telco Surge:

New Surge Platform
Bellcore GR-1089
FCC Part 68 / ETSI
ANSI / UL tests

CE Mark Equipment:

ESD, EFT, Surge testers
Conducted Immunity
Magnetic Fields, Dips, Sags
Harmonics / Flicker

(703)494-1900

(703)494-4597 FAX

www.haefely.com
Much More Than CE Mark Testing



Ed Blake and Associate

Phone: 408 934-3955

Fax: 408 956-9732

www.ebacal.com

YOUR AD CAN BE HERE

For any information regarding
advertising, please contact

Jack Huber
408-241-5699

jhuber@apm-emi.com

