

**EMC ACCREDITATION ASSESSOR MEETING
MEETING REPORT
March 11, 2005**

When: March 11, 2005
8:00 am to 4:00 pm

Where: A2LA EMC Conclave
Columbia Sheraton, Columbia, MD

1. Welcome and Introductions

Name	Organization
Bill Hurst	FCC
Art Wall	FCC
George Tannahill	FCC
Yukio Tanuma	NVLAP
Kurt B. Fischer	A2LA/NVLPA/ANSI
Richard Reitz	Retlif/ACIL
Don Heirman	C63/CISPR
Victor Kuczynski	NVLAP
Bob Blank	NVLAP
Benoit Nadeau	A2LA
Derek Walton	A2LA
Joe Dhillon	NIST
Jon Crickenberger	NIST
Werner Schaefer	A2LA
William Peverill	A2LA
Beth Hackett	A2LA
Larry Gradin	A2LA
Peter Boers	A2LA
Dan Hoolihan	NVLAP
Trace McInturff	A2LA
Brad Moore	A2LA
Senero Hu???	EMA (NVLAP) Observer
Peter Unger	A2LA
Greg Gogates	A2LA

2. Approval of Agenda – The agenda was approved. (See attachment #1)
3. Taking of Minutes – Bill Hurst (FCC) with help from George Tannahill (FCC), agreed to draft the initial meeting report.

4. Review of Previous Meeting Report

Previous meeting report was not available for review.

5. Action Items from Previous Meetings:

The following action items from the August 2004 meeting will be discussed during this meeting:

- What documentation is required to show compliance with NSA? See agenda item 14D.
- Can the minutes from the meeting be placed on a Webpage? See agenda item See agenda item 13.
- Are volumetric measurements required for alternative test sites? See agenda item 14C.
- What are the instrumentation requirements for FCC testing? Does a lab have to have CISPR 16-1-1 compliant system? – See agenda item 14D.

6. NIST– Joe Dhillon

MRA Activity

NIST gave a presentation on the status of the Mutual Recognition Agreements (MRA) that the FCC and NIST are party to. (See Attachment #2)

MRAs under Phase 1 (testing) are active with the following countries:

- European Union
- Canada
- Singapore
- Chinese Taipei
- Australia
- Hong Kong

Korea – It is expected that the U.S. and Korea will implement Phase 1 of the APEC Tel MRA this year. There will be a one day workshop with Korea and the U.S. on May 10, 2005, in conjunction with the TCB Workshop.

Japan – The U.S. is working on a MRA with Japan that will cover both testing and certification of equipment. Once an agreement is reached, it is expected that accreditation by NVLAP and A2LA will be accepted by VCCI in Japan.

Hong Kong – It is anticipated the exchange letters will be signed between the United States and Hong Kong, to implement both Phase 1 and Phase 2 later this year.

NIST will be holding a MRA workshop the week of October 3 – 7, 2005 at NIST in Gaithersburg, MD. Representatives from several countries will be invited to participate, including: Japan, Hong Kong, European Union, Brazil, Mexico, Canada, and others.

NVLAP and A2LA should begin preparations for accrediting U.S. laboratories to the technical requirements in Korea and Japan.

Action Item 1: NIST will check to see if ISO/IEC 17025 is required by Hong Kong under the APEC TEL MRA implementation of phase 1.

Action Item 2: NVLAP and A2LA will begin necessary preparations for the accreditation of laboratories to the requirements in Japan, Korea and Hong Kong.

EMC Directive

EMC Info Day Presentations are located at:

http://europa.eu.int/comm/enterprise/electr_equipment/emc/revision/workshop.htm

Europa EMC Web site:

http://europa.eu.int/comm/enterprise/electr_equipment/emc/index.htm

7. FCC Report – Bill Hurst

The FCC rules provide for the use of measurement techniques from various sources including: Industry Standards, FCC Report and Orders, FCC bulletins, FCC Public Notices and FCC interpretations. (See Attachments #3, 4, 5 and 6)

FCC Knowledge Database is a web-based source of information regarding questions about the FCC Rules. The KDB replaces the interpretations database. See www.fcc.gov/labhelp

8. A2LA Report – Trace McInturff

A2LA has received a reply from David Alderman, NIST concerning the issue of CISPR 16-1-1 compliance. This topic will be covered under item 14 of the agenda.

The topic of listing of test sites vs. laboratory accreditation was raised. It is not necessary to continue to have a test site listed if the laboratory is accredited by a recognized accreditation body and the accreditation body has provided the required information to the FCC. The FCC sends out an automatic reminder letter to laboratories when the site listing is about to expire. This letter does not indicate

that site listing is no longer needed if the laboratory is accredited. The FCC needs to edit the letter being sent, to remind labs about site listing as an option.

Action Item 3: The FCC will edit the letter being sent to remind labs that their test site listing is about to expire, to include a statement that test site listing is not required if the laboratory is accredited.

The issue was raised as to who should be notified about the laboratory accreditation expiration in the FCC database. The FCC currently sends an automatic e-mail to the laboratory. Should this notice be sent to the accreditation body instead? The FCC agreed to consider the process it uses to give notification that the laboratory accreditation renewal date is about to expire.

C63.4 requires NSA every three years and since there is a new assessment every two years this may lead to confusion as to when NSA is required to be taken. This issue will be referred to C63 for consideration.

Action Item 4: FCC will look at this issue and consider preparing a letter to require an accreditation body to review the laboratory's NSA data, during an assessment, which has been taken in the last two years. A copy of the letter would be sent to C63 for their consideration in updating C63.4.

Action Item 5: FCC will make a change to the FCC database so that a laboratory that does not do "contract" work will be visible by the public from the FCC database by entering the test site registration number in the test site search.

Action Item 6: The FCC will consider the process it uses to give notification that the laboratory accreditation renewal date is about to expire.

A2LA has withdrawn from NACLA. Peter Unger gave a report on the reasons for A2LA actions.

9. NVLAP Report – Jon Crickenberger

It was agreed to discuss the issue of scope of accreditation required by the TCB program, under item 14 of the agenda.

There is a need to have information on the required scopes of accreditation for other countries.

10. EMC Standards Update – Don Heirman

ASC C63 Activity

ASC C63 has put into place a procedure for giving interpretations/explanations. To date six requests have been received. Copies of these interpretations/explanations will be available on the C63 web page. See www.c63.org (See attachments # 7 and 8.)

CISPR Activity

CISPR SC/A is working on site validation and measurement procedures for emissions above 1 GHz. (See attachment # 9.)

11. ACIL Round Robin Report –Richard Reitz

Rich gave a presentation on the interlaboratory comparison program recently conducted for measurement of emissions above 1 GHz. (See attachment #10.)

Action Item 7: Richard Reitz to provide a copy of the ACIL presentation.

Action item 8: Richard Reitz to provide A2LA and NVLAP with a copy of the ACIL Interlaboratory Comparison program manual.

Action item 9: Richard Reitz to provide conducted data vs. true value, accredited vs. non-accredited and split between OATS and chamber results.

12. Tutorial on use and limitations of Spectrum Analyzer – Werner Schaefer

Presentation on the use of spectrum analyzers vs. EMC receivers, average detectors, and measurement of pulsed emissions (See attachment #11)

Action Item 10: Werner Schaefer to provide a copy of his presentation.

Werner proposed the following assessment guidelines –

- When spectrum analyzers are used, check if laboratory personnel understands the need to optimize the measurement dynamic range, e.g., when making a quasi-peak measurement.
- When using different bandwidths (which ANSI C63.4-2003 allows in par. 4.2), check if personnel understands the impact on the test result, based on the signal characteristics (i.e., narrowband vs. broadband).
- When spectrum analyzers are used, closely examine the measurement uncertainty estimate. It is much different from CISPR 16-4-2. This only applies if the laboratory decides to calculate measurement uncertainty and to include these numbers in test reports.

Action Item 11: Richard Reitz, (ACIL) to prepare a guidance document to be used to evaluate personnel in the use of spectrum analyzer and EMC receivers.

Action Item 12: Werner Schaefer to prepare list of CISPR 16-1-1 compliant EMC receivers.

Action Item 13: FCC will coordinate the development of guidance documents on the use of Spectrum Analyzers between C63, ACIL, A2LA and NVLAP.

13. Assessor questions and concerns

Question: C63.7 Rayleigh criterion for reflecting ground plane terrain roughness above 1 GHz

Answer: The theory in C63.7 does not have an upper frequency limit.

Question: Can you use of geometric antenna factors for NSA (CISPR and C63.4)?

Answer: C63.5 is the appropriate procedure for the calibration of antennas and is also acceptable for testing to the CISPR requirements.

The availability of the meeting report from these meetings was discussed. The FCC stated that they do not expect to publish the meeting report on their web page, but that others may do so. A2LA has published the past meeting reports.

Action Item 14: A2LA will publish a copy of the meeting report that will be available to both laboratory assessors and laboratories.

14. Discussion Topics:

A. C63.4 2003 Transition Issues

Don Heirman made reference to newsletter article he wrote regarding the differences between C63.4-2001 and C63.4-2003. He agreed to provide a copy of the article.

Action item 15: Don Heirman to provide a copy of newsletter article on changes between C63.4 versions. (See attachment 8)

B. Measurement of Pulsed Emissions

The FCC has recently issued a Public Notice, DA 04-3946 (Released: December 17, 2004) reminding test laboratories of the need to use a pulse desensitization correction factor (PDCF) when making pulsed emission measurements. Information about pulse desensitization is available in a book entitled "*Spectrum and Network Measurements*," 297 Pages, Robert A. Witte, and Publisher: Noble Publishing, 2001, originally published: 1993 by Prentice-Hall. Another good explanation of pulse desensitization and source for determining the PDCF was the Hewlett Packard Application Note, 150-2, entitled: "*Spectral Analysis – Pulse*

RF,” November, 1971. Unfortunately, this application note is no longer published. (See attachment #5.)

Werner Schaefer submitted a proposal for a paper on this subject to be given at the IEEE EMC this year. (August 2005)

C. Alternative Test Site Validation

Volumetric Normalized Site Attenuation (NSA) is required by ANSI C63.4-2003 for alternate test sites.

At the full renewal assessment a check of the site attenuation shall be performed. (See FCC checklist question 96 for guidance) (See attachment #12.)

D. Measurement Instrumentation (CISPR 16-1-1)

ANSI C63.4-2003 has been revised to further include the relevant EMI test equipment standards and use of spectrum analyzers versus EMI receivers in Section 4, Measurement Instrumentation. The revised language in C63.4-2003 details the requirements for measurement instrument.

FCC Part 15 has requirements for measurement instrumentation in Section 15.35(a). Part 15 permits the use of measurements using peak detection for the demonstration of compliance.

E. Site Validation above 1 GHz

Both ASC C63 Subcommittee 1 and CISPR Subcommittee A are continuing to work on the development of techniques for the validation of a test site for making measurements above 1 GHz.

F. Criteria for FCC Part 15 Scope of Accreditation and Scope of Laboratory Accreditation required for TCBs (ANSI-ACP-PR-044)

ANSI with input from the FCC has developed a list of scopes of accreditation that meet the FCC's requirement for TCBs to be accredited to ISO/IEC 17025 with the appropriate scope of accreditation. This document may be used for listing the scope of accreditation for a laboratory performing tests to FCC Part 15. (See attachments 6a, 6b and 6c.) ANSI-ACP-PR-044 is meant to identify the scope language used by NVLAP and A2LA for the listing of the required FCC test methods. A2LA and NVLAP were requested to review this document and provide any needed comments to give the scope language that they are using.

Action Item 16: A2LA and NVLAP are to provide comments on revisions to ANSI-ACP-PR-044.

G. Criteria for Declaration of Conformity Scope of Accreditation

To meet the requirement to use an accredited laboratory for FCC's Declaration of Conformity, a laboratory's scope of accreditation needs to cover the following: Part 15 Subpart B using the test methods in ANSI C63.4-2003 with the test facility accredited in accordance with 47 CFR 2.948(d), *Description of Measurement Facilities*.

H. Documentation required to show compliance with NSA

A report should be prepared by the accredited test laboratory, per ISO/IEC 17025, to document NSA measurements. The report stays at the test laboratory and does not need to be submitted to the accreditation body prior to the assessment for review. The NSA test report should be available for review during the accreditation assessment.

15. Other Business

16. Next Meeting

August 8, 2005
9:00 am to 1:00 pm
IEEE EMC Symposium
Chicago, IL

Action Item 17: NIST will make arrangements for the next meeting to be held in conjunction with the IEEE EMC Symposium.

Action Item Summary – March 11, 2005 Meeting

Action Item	Description	Status
1	NIST will check to see if ISO/IEC 17025 is required by Hong Kong under the APEC TEL MRA implementation of phase 1.	Closed
2	NVLAP and A2LA will begin necessary preparations for the accreditation of laboratories to the requirements in Japan, Korea and Hong Kong.	
3	The FCC will edit the letter being sent to remind labs that their test site listing is about to expire, to include a statement that test site listing is not required if the laboratory is accredited.	
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5	FCC will make a change to the FCC database so that a laboratory that does not do "contract" work will be visible by the public from the FCC database by entering the test site registration number in the test site search.	
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7	Richard Reitz to provide a copy of the ACIL presentation.	
8	Richard Reitz to provide A2LA and NVLAP with a copy of the ACIL Round Robin program manual.	
9	Richard Reitz to provide conducted data vs. true value, accredited vs. non-accredited and split between OATS and chamber results.	
10	Werner Schaefer to provide a copy of his presentation.	Closed
11	Richard Reitz, (ACIL) to prepare a guidance document to be used to evaluate personnel in the use of spectrum analyzer and EMC receivers.	
12	Werner Schaefer to prepare list of CISPR 16-1-1 compliant EMC receivers.	Closed
13	FCC will coordinate the development of guidance documents on the use of Spectrum Analyzers between C63, ACIL, A2LA and NVLAP.	
14	A2LA will publish a copy of the meeting report that will be available to both laboratory assessors and laboratories.	

Action Item	Description	Status
15	Don Heirman to provide a copy of newsletter article on changes between C63.4 versions. (See attachment 8)	Closed
16	A2LA and NVLAP are to provide comments on revisions to ANSI-ACP-PR-044.	
17	NIST will make arrangements for the next meeting to be held in conjunction with the IEEE EMC Symposium.	Closed

Attachments – March 11, 2005 Meeting

1. Agenda
2. MRA Presentation - NIST
3. FCC Presentation - FCC
4. FCC Public Notice, DA 04-3946
5. List of FCC Measurement Techniques
6. ANSI-ACP-PR-044 Guidelines on Scopes of TCB Laboratories That Provide Testing for the Telecommunication Certification Program
7. C63 Role and Purpose Presentation
8. ANSI C63 Comparison
9. CISPR A and I – Greater than 1 GHz Presentation
10. ACIL Round Robin Presentation
11. Use of Spectrum Analyzer Presentation
12. FCC EMC Measurement Checklist – NVLAP
13. R&S Test Instrument Compatibility