Test Equipment Usage Notes

The following tests were performed in the month of July 2011 using the test equipment in Table 1.

1. Duty Cycle measurements pg. 14 in the Test Report
2. Band Edge test pg. 18 and 19 in the Test Report
3. Radiated Spurious Emissions per 15.249 Peak measurements pg. 16 in the Test Report
4. Radiated Spurious Emissions per 15.249 AVG measurements pg. 17 in the Test Report

Table 1- Test Equipment used

TEST INSTRUMENT	MODEL NUMBER	MANUFACTURER	SERIAL NUMBER	DATE OF LAST CALIBRATION
SPECTRUM ANALYZER	8566B	HEWLETT-PACKARD	2332A10055	10/29/2010
SPECTRUM ANALYZER	8593E	HEWLETT-PACKARD	3205A00124	10/18/2010
RF PREAMP	8447D	HEWLETT-PACKARD	2944A06291	9/07/10
LOG PERIODIC	3146	EMCO	3110-3236	1/22/10 2yrs
HORN ANTENNA	3115	EMCO	9107-3723	2/9/2010 2 yrs
PREAMP	8449B	HEWLETT-PACKARD	3008A00480	10/21/10
CALCULATION PROGRAM	N/A	N/A	Ver. 6.0	N/A

The calibration interval of all the above test instruments is 12 months unless stated otherwise, and all calibrations are traceable to NIST/USA.

The following tests were performed in the month of October 2010 using the test equipment in Table 2.

1. Conducted emissions per 15.107 and 15.207 pg. 21 in the Test Report
2. Radiated emissions per 15.109 and 15.209 pg. 22 in the Test Report

Table 2- Test Equipment used

EQUIPMENT	MODEL NUMBER	MANUFACTURER	SERIAL NUMBER	DATE OF LAST CALIBRATION
SPECTRUM ANALYZER	8566B	HEWLETT-PACKARD	2410A00109	10/14/09
SPECTRUM ANALYZER	8566B	HEWLETT-PACKARD	2747A05665	03/19/10
RF PREAMP	8447D	HEWLETT-PACKARD	2944A07436	9/07/10
RF PREAMP	8449B	HEWLETT-PACKARD	3008A00480	9/11/09 * Calibration extended 60 days
LISNX2	8028-50-TS24-BNC	Solar Electronics	910495-910494	01/25/10
BICONICAL ANTENNA	3110B	EMCO	9307-1708	2/02/10
LOG PERIODIC ANTENNA	3146	EMCO	9110-3632	1/22/10 (2 Yr.)
HORN ANTENNA	3115	EMCO	9107-3723	11/4/08 (2 Yr.)
CALCULATION PROGRAM	N/A	N/A	EMCCALC	N/A

The calibration interval of all the above test instruments is 12 months unless stated otherwise, and all calibrations are traceable to NIST/USA.

(*) The following test equipment's calibration due date was extended an additional 60 days. In order to extend the test equipment's calibration due date the equipment was evaluated using US Tech's calibration extension process procedure which must be approved by the Quality Manager. Please see the attached UST procedure 09-ENG-CAL EXT-001. Copies of the calibration extension certificate and the renewed calibration certificate are included for your review.

Equipment calibration date extension.

If the equipment Calibration date is past due and has not been sent out for calibration then the equipment must either be labeled "not in use" or the calibration date must be extended (number of days for extension can be 30 to 90 days) and sent out for calibration as soon as possible.

In any event the Lab Manager must be notified and only the Lab Manager or authorized personnel may be able to label the equipment as "not in use" or extend the calibration date and make arrangements to send the equipment out for calibration. When making arrangements to send the equipment out for calibration please refer to calibration procedure YY-ENG-CAL-001.

In the event that the calibration is to be extended the equipment must be verified to check that its specs are still within the last calibration limits. This verification can be preformed by using the Equipment's self calibration option or verification with other calibrated equipment. Once the verification has been completed an extension certificate must be filled out and included in the equipments data file along with the verification data.

In the event that there is no means for verification per the above process, then the equipment's calibration records will be the determining factor for which the equipment's calibration can be extended. The calibration records will be reviewed to at least two (2) previous record years before. Once it is determined that the equipment can be extended then a **Justification Statement** signed by the Lab Manager or Quality Manager will be issued with a completed extension certificate which will be filed into the equipment calibration records.

- The number of days the equipment will be extended to must be indicated on the extension certificate and Justification Statement and a new calibration sticker will be placed on the equipment along side the original calibration sticker.

- In the event that the equipment is to be labeled "not in use" the equipment will be pulled off the lab floor until such a time that the equipment is put back in use; the equipment must be calibrated before the equipment will be authorized to be usable.

Sample Justification Statement

May 19, 2010(Issue Date)

Justification for Calibration Extension

General Equipment Info: Combinova Power measurement system
Asset Number: PM 100
Model: A300
S/N: 126
Cal. Due date: 5-19-10

Based on the review of previous years' calibration certificates, it is my opinion that this device would still be with in tolerance for the next 30 days. Records were reviewed from 2005- present certificate.

This review was performed by the Lab Manager/Quality Manager.

_____ date:_____

Justification Statement

_____ (Issue Date of this statement)

Justification for Calibration Extension

General Equipment Info: _____
Asset Number: _____
Model: _____
S/N: _____
Cal. Due date: _____

Based on the review of previous years' calibration certificates, it is my opinion that this device would still be with in tolerance for the next _____ days. Records were reviewed from _____- present certificate.

This review was performed by the Lab Manager/Quality Manager.

_____ date:_____

Testing Tomorrow's Technology

Certificate of Calibration Extension

Certificate Number: 0040-EXT
Manufacturer: Hewlett Packard
Ambient Temperature: 77 deg. F
Equipment Type: Pre Amplifier
Measurement Uncertainty: +/- 6.0 dB

Serial Number: 3008A00480
Model Number: 8449B
Humidity: 60%
I.D. Number: RA101

Calibration Date: 09/11/2009

Calibration Extension : 60 days
Extended Calibration due date: 11/11/10
Procedure Used: 09-ENG-CAL EXT-001

Upon receipt for calibration this equipment was found to be:
_X Within Tolerance
__ Outside Tolerance
__ Special Calibration

Following is additional calibration information:

•Refer to (previous calibration certificate number)

This certificate shall not be reproduced, (except in full), without the written approval of US Tech.

Sina Sobhaniyan

Calibrated By Name, and signature

Alan Ghasiani
Consulting Engineer- President

Certified By Name, Title, and signature

US Tech - A Scientific Trend Company
3505 Francis Circle, Alpharetta, GA 30004
770-740-0717 (tel.), 770-740-1508 (fax)

Testing Tomorrow's Technology

Certificate of Calibration

Certificate Number: 0040
Manufacturer: Hewlett Packard
Ambient Temperature: 75 deg. F
Equipment Type: Preamp

Serial Number: 3008A00480
Model Number: 8449B
Humidity: 60 %
I.D. Number: RA 101

Calibration Date: 10/21/2010

Calibration Due: : 10/21/2011

Procedure Used: 09-ENG-CAL-0004

Upon receipt for calibration this equipment was found to be:
_X Within Tolerance
__ Outside Tolerance
__ Special Calibration

Following is a list of the standards used to calibrate this equipment:

Mfr./Model	Serial Number	Cal Date	Cal Due
N 5230A-225. Network Anal	MY4640088	08/11/10	08/11/11
CA 210 and	N/A	04/15/10	04/15/11
CA 212 Cables	N/A	04/14/10	04/14/11

This certificate shall not be reproduced, (except in full), without the written approval of US Tech.

Keyvan Muvahhed

Calibrated By Name, and signature

Alan Ghasiani
Consulting Engineer – President

Certified By Name, Title, and signature

In Tolerance/Out of Tolerance Explanation:

Results are compared to manufacturers specifications, the calibration results, with our uncertainty value added (+/- 0.1 dB), are compared to this tolerance, and the combined value must fall within the manufactures tolerance.

In the situation that this laboratory's uncertainty of measurement is larger than the manufacturer's specified tolerance, the comparison criteria will be based on historical in-house data.

US Tech - A Scientific Trend Company
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