

Service Report

Received: 21-Apr-15

The equipment was tested for conformance with Radcal specifications using applicable Conformance test procedures. These procedures include inspection, operation with an x-ray machine and electrical test. The results are summarized below:

Model Number	Serial Number	Description	Meets Mfr Spec	Spec limit (±)	Cal Date
9096	96-0119	Control Unit - Accu-Pro	Yes	Pass/Fail	03-Jun-15
9660	01-1288	Ion Chamber Converter	Yes	Pass/Fail	03-Jun-15
10X6-6	03-0363	Ion Chamber	Yes	4%	03-Jun-15
40X12-W	52-0170	Diagnostic kV Sensor	Yes	Pass/Fail	03-Jun-15

Service requested:

Intermittent errors - No Converter, Bias Error, EPROM and No Dose Sensor
Perform conformance test, inspection and issue certificate.

Service performed:

Verified customers problem statement.
Replaced main cable due to internal wire short.
The 40X12-W Diagnostic kV Sensor was recalibrated for optimal performance.
Issued Certificate of Conformance.

Certificate of Conformance

Issued to: Upstate Medical Physics
1290 Blossom Dr.
Victor, NY 14564

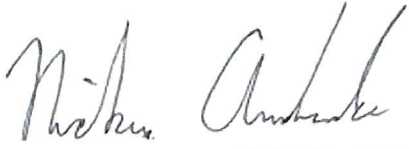
<u>Equipment Description</u>	<u>Model</u>	<u>S/N</u>
Ion Chamber Converter	9660	01-1288
Ion Chamber	10X6-6	03-0363

The equipment identified above has been calibrated and tested using Radcal calibration and acceptance procedure PP1102, Radcal Quality Manual PP1007, Radcal Policy and Procedure PP1038, PI1045, PI1055 and other related documents. The equipment has been found to conform in all respects. These test procedures are designed to ensure that the tested equipment meets or exceeds all aspects of Radcal's published product specifications and requirements. Radcal is an ACLASS accredited calibration lab that meets the requirements of ISO 17025 and ANSI/NCLZ Z540-1, cert number AC-1553.

All measurements performed during the testing employ equipment traceable to NIST or another recognized National Laboratory such as Physikalisch-Technische Bundesanstalt (PTB).

For additional information please refer to Radcal's Product note: "The Importance of Conformance Testing". Radcal recommends revalidation in 12 months.

Certificate Issue Date: 14-Dec-15

By: 
Authorized Representative



Ref No: S114598

Certificate of Conformance

Issued to: Upstate Medical Physics
1290 Blossom Dr.
Victor, NY 14564

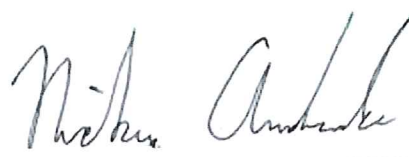
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For additional information please refer to Radcal's Product note: "The Importance of Conformance Testing". Radcal recommends revalidation in 12 months.

Certificate Issue Date: 03-Jun-15

By: 
Authorized Representative

Radcal Corporation
426 W. Duarte Rd. Monrovia, CA 91016
Tel: (626) 357-7921 FAX: (626) 357-8863 email: service@radcal.com

This Certificate of Conformance shall not be reproduced except in full, without the written approval of Radcal Corporation.

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Radcal Corporation

426 W. Duarte Rd.
Monrovia, CA 91016
Tel: (626) 357-7921
Fax: (626) 357-8863

Service No: S114598

Certificate of Conformance

Issued To: Upstate Medical Physics
1290 Blossom Dr.
Victor, NY 14564

Equipment Description	Model	S/N
Accu-kV Diagnostic Sensor	40X12-W	52-0170

The equipment identified above has been calibrated and tested using Radcal calibration and acceptance procedure A4087132, Radcal Quality Manual PP1007, Radcal Calibration Program Policy and Procedure PP1038 and other related documents. These procedures are designed to ensure that the tested equipment meets or exceeds Radcal's specifications and the requirements of ANSI/NCLS Z540-1-1994.

All measurements performed during the testing employ equipment traceable to NIST or another recognized National Laboratory such as Physikalisch-Technische Bundesanstalt (PTB).

Radcal recommends a recalibration interval of 12 months.

Certificate Issue Date: June 3, 2015

By: 
Authorized Reviewer

Radcal Corporation

426 W. Duarte Rd.
Monrovia, CA 91016
Tel: (626) 357-7921
Fax: (626) 357-8863

Service No: S114598**Date:** June 3, 2015

Certificate of Conformance

Measurement Test Conditions

An Electromed EDEC-80 X-ray generator equipped with a Varian Model A192 tungsten target x-ray tube was used as the source of the required x-ray beam. The generator ripple is less than 0.5 kV. The X-ray Generator's filtration is set to produce a half value layer of 2.89 mmAl at 70kV. The output of the generator was measured by a Radcal Dynalyzer IIIU. The Dynalyzer outputs was recorded at a 7 kHz sampling rate by a 16-bit analog-to-digital converter and the results were averaged over 200mS. All reported measurement results have an accuracy of better than $\pm 1\%$ at the 95% confidence level.

Test Methods

The measurements were made in accordance with Radcal Test Procedure A4087132

Limitations of Use:

See Manufacturer's specifications

Conditions of Measurement

Temperature: 24 °C

Humidity: 31%

Note: Corrections for environmental conditions
are not required for this equipment

Measurement Results**AccuKv 40X12-W Diagnostic Sensor calibration**

EMED 1 Values 25 ma , 750 ms, 2.89 mmAl half value layer at 70kVp, 53 cm target to detector

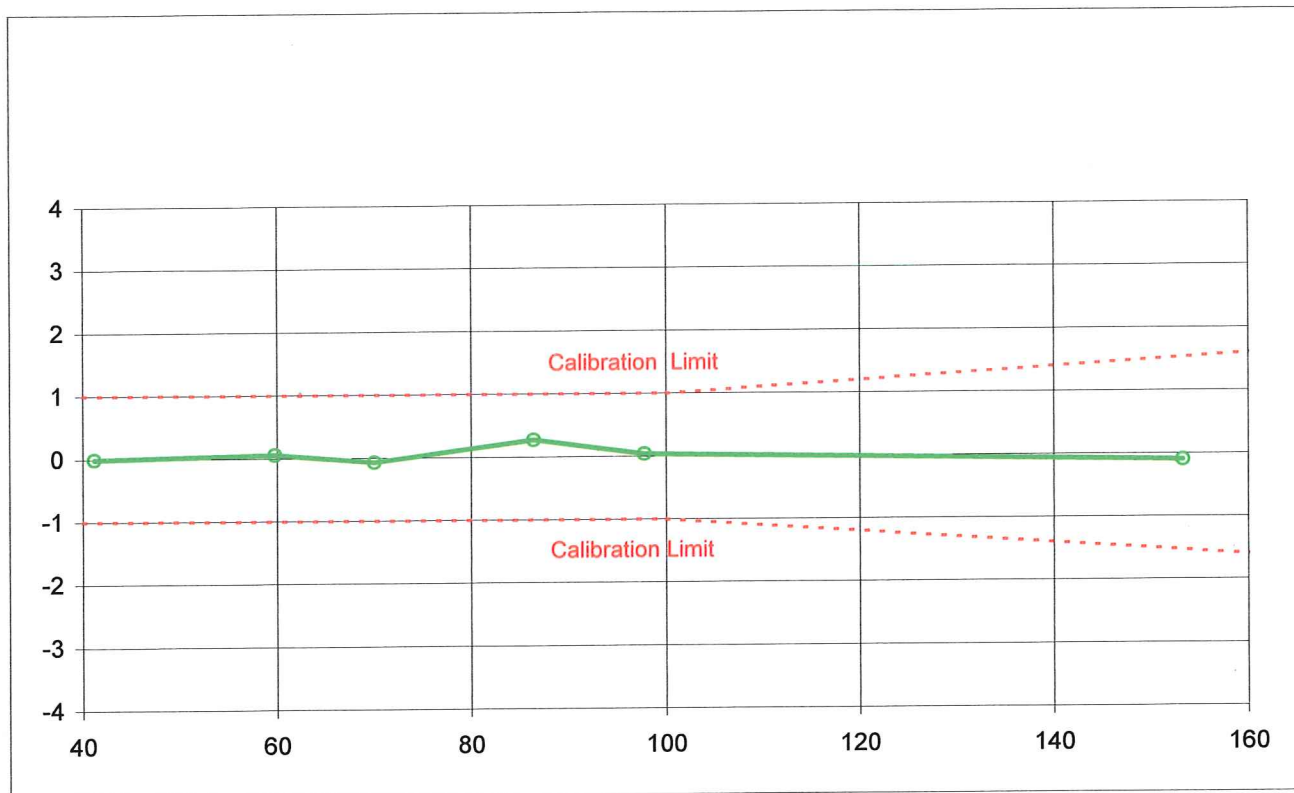
Dynalyzer kV	Accu kV kVAvg	Error	Error %	Pass/Fail
41.1	41.1 kV	-0.01 kV	0.0%	Pass
59.7	59.8 kV	0.06 kV	0.1%	Pass
70.0	69.9 kV	-0.07 kV	-0.1%	Pass
86.4	86.7 kV	0.27 kV	0.3%	Pass
97.8	97.8 kV	0.04 kV	0.0%	Pass
153.3	153.2 kV	-0.10 kV	-0.1%	Pass

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Service No: S114598
Date: June 3, 2015

AccukV 40X12-W Diagnostic Sensor 52-0170
Calibration Error (kV) vs. Tube Voltage (kV)
2.89 mm Al HVL at 70kV



Radcal Corporation

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Initial Cal Report

Service No: S114598**Date:** April 23, 2015**Equipment Description**

Accu-kV Diagnostic Sensor
Control Unit

Model

40X12-W
4085

S/N

52-0170
45-0585

Conditions of Measurement

Temperature: 24 °C

Humidity: 35%

Note: Corrections for environmental conditions
are not required for this equipment

Measurement Results**EMED 1 Values**

25 ma , 750 ms, 2.89 mmAl half value layer at 70kVp, 53 cm target to detector

Dynalyzer kV	Accu kV kVAvg	Error	Error %	Action
41.1	40.9 kV	-0.19 kV	-0.5%	Pass
59.7	59.4 kV	-0.34 kV	-0.6%	Recal
69.9	69.7 kV	-0.24 kV	-0.3%	Pass
86.4	87.2 kV	0.78 kV	0.9%	Recal
97.8	98.6 kV	0.84 kV	0.9%	Recal
153.2	153.1 kV	-0.08 kV	-0.1%	Pass

AccuV 40X12-W Diagnostic Sensor 52-0170
Calibration Error (kV) vs. Tube Voltage (kV)
2.89 mm Al HVL at 70kV

