HPNW
HEALTH PHYSICS NORTHWEST

August 10, 2021

Jarrod Parasmo
President
Protech Medical
1360 North Killian Drive, Suite 2
Lake Park, Florida 33403

Dear Jarrod:

Enclosed are the attenuation and lead equivalency results for the acrylic shield that was received by Health Physics Northwest on February 26, 2021. At your request, all tests were conducted in accordance with IEC 61331-1 Edition 2.0 2014-05, using an inverse broad beam geometry. All of this testing was performed at our office following the calibration of our ion-chamber and installation of a new X-ray generator.

If you have any questions or need any additional information, please contact our office.

Sincerely,

Matt Brien, BS
Medical Physicist

Encl.

7525 SE Lake Road, Milwaukie, Oregon 97267
Phone: 503-620-6617 Fax: 503-684-5548
www.hpnw.com

Test Report

1.) Name and address of laboratory (and location of performed tests):
Health Physics Northwest
7525 SE Lake Road
Milwaukie, Oregon 97267

2.) Unique identification of test report:
Report 103

3.) Name and address of customer:
Protech Medical
1360 North Killian Drive, Suite 2
Lake Park, Florida 33403

4.) Identification of the methods used:
- IEC 61331-1: Edition 2.0 2014-05
  - Inverse Broad Beam Condition

5.) Description of, condition of, and unambiguous identification of the tested items:
  - **Acrylic Shield**
  - Labeled as 0.5 mm lead equivalent

6.) Date of receipt of all test items:
February 26, 2021

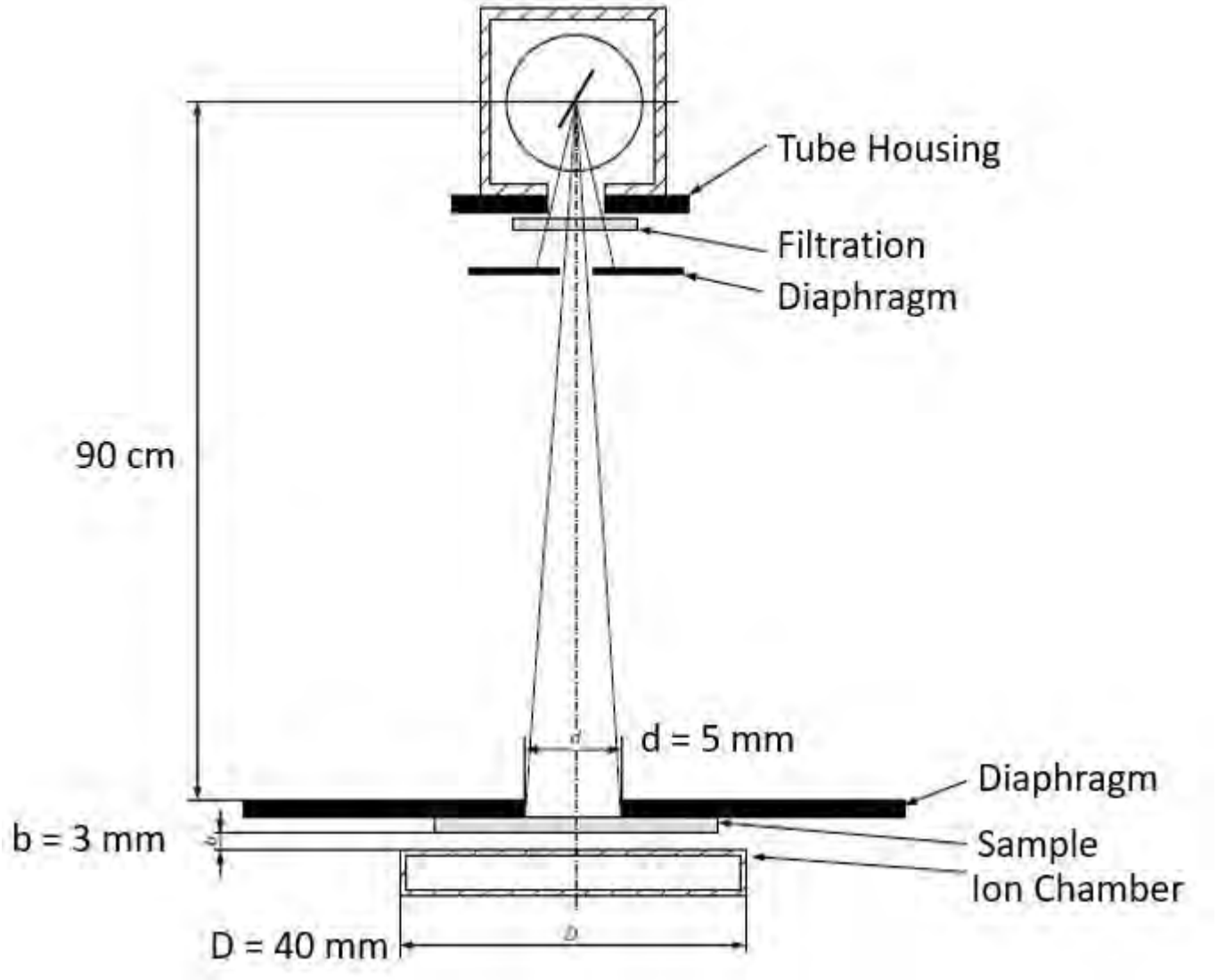
7.) Date of testing:
August 10, 2021 (testing was performed following the calibration of our ion-chamber and installation of a new X-ray generator)

8.) Dates of calibration of equipment used for this testing:
- March 5, 2021 – Unfors RaySafe X2 R/F Sensor
(used to measure and kV and half-value layer)
- April 26, 2021 – Fluke ion-chamber
(used to measure exposure)

9.) Identification of person authorizing the test report:
Jarrod Parasmo, Protech Medical

Test Report

Measuring arrangement with an inverse broad beam condition (IEC 61331-1: 2014-05)
Not Drawn to Scale



Test Report

Radiation Qualities and Signal to Noise Condition (IEC 61331-1: 2014-05)

X-ray Tube Voltage	Measured X-ray Tube Voltage	First Half-Value Layer	Signal to Noise Condition
50 kV	50.5 kV	1.79 mm Al	Pass
69 kV	69.8 kV	2.41 mm Al	Pass
89 kV	89.6 kV	3.07 mm Al	Pass
110 kV	109.8 kV	3.75 mm Al	Pass
150 kV	148.4 kV	5.14 mm Al	Pass

Acrylic Shield:

Attenuation Ratio	See Below*:	inverse broad beam	50 kV	HVL = 1.79 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	See Below*:	inverse broad beam	50 kV	HVL = 1.79 mm Al	IEC 61331-1: 2014-05
Attenuation Ratio	204.30:	inverse broad beam	70 kV	HVL = 2.41 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.55:	inverse broad beam	70 kV	HVL = 2.41 mm Al	IEC 61331-1: 2014-05
Attenuation Ratio	50.26:	inverse broad beam	90 kV	HVL = 3.07 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.55:	inverse broad beam	90 kV	HVL = 3.07 mm Al	IEC 61331-1: 2014-05
Attenuation Ratio	30.52:	inverse broad beam	110 kV	HVL = 3.75 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.55:	inverse broad beam	110 kV	HVL = 3.75 mm Al	IEC 61331-1: 2014-05
Attenuation Ratio	19.25:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.55:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05

*****Radiation at this tube potential is fully attenuated.