



Package.  
Performance.  
Validation.  
Integrity

REPORT TO:

	Zeus Thermal 5470 Kietzke Lane Suite 300 Reno Nevada 89511 USA
ATTENTION:	Jon Nakagawa
PROJECT:	Temperature Validation- Summer Profile
PROJECT NUMBER:	T20725-554
LAB NUMBER:	HQE3
DATE:	April 4, 2025
IDENTIFIER:	Zeus Thermal 3 Liter

Temperature Profile Performance Testing was completed on one (1) type of package in accordance with standard laboratory practices and referenced test methods. The results of the test are presented in the accompanying report. The results contained in this report are related only to the items tested.

Please contact HighQ should you have any questions concerning this report.  
Respectfully submitted,

A handwritten signature in black ink, appearing to read "Barry E. Johnston".

Barry E. Johnston  
HighQ, LLC



## SCOPE OF SERVICE

The following package was submitted to HighQ Testing for Temperature Profile Validation Testing. Packages were tested and submitted to the BSTA Summer profile as detailed below.

### Description of Packaging

#### **Packaging:**

Description: Corrugated Box containing Expanded Polystyrene cooler (.65" thickness) and Zeus thermal electrical unit

Manufacturer: Zeus Thermal

External Dimensions: 10.00" x 10.00" x 10.5"

#### **Coolant:**

Description: 16 oz. Gel Pack

Quantity: 1

#### **Product:**

Description: 7 mL Vacutainer

Quantity: 3





**Test Procedure**

All packaging and components were prepared for testing in an environment of approximately 22°C. Gel Pack was preconditioned for a minimum of 24 hours prior to testing in a freezer at -18°C. Once the packout is complete the probes are activated and record at 10 minute intervals for the duration of the test.

<b>Temperature Probe Calibration</b>	
<b>Probes are calibrated every 3 years and checked prior to each test</b>	
<b>Serial Number</b>	<b>Calibration Date</b>
<b>Chamber</b>	
2001311003	11-22
<b>Product</b>	
11033001	11-22

<b>BSTA Summer Elevated Profile</b>		
<b>Temperature</b>	<b>Cycle Period Hours</b>	<b>Total Time Hours</b>
22°C	5	5
30°C	5	10
22°C	5	15
20°C	5	20
31°C	4	24
25°C	5	29
31°C	5	34
24°C	5	39
30°C	5	44
25°C	4	48

**Test Results**

