FDA U.S. FOOD & DRUG ADMINISTRATION

EVALUATION OF AUTOMATIC CLASS III DESIGNATION FOR
Simple 2 Test
DECISION SUMMARY

I Background Information:

A De Novo Number

DEN200070

B Applicant

LetsGetChecked Inc. (formerly PrivaPath Diagnostics Inc.)

C Proprietary and Established Names

Simple 2 Test

D Regulatory Information

Product Code(s)	Classification	Regulation Section	Panel
QYA	Class II	21 CFR 866.3385 - System for detection of nucleic acid from non-viral microorganism(s) causing sexually transmitted infections using home-collected specimens	MI - Microbiology

II Submission/Device Overview:

A Purpose for Submission:

De Novo request for evaluation of automatic class III designation for the Simple 2 Test.

B Measurand:

Chlamydia trachomatis (CT) and/or *Neisseria gonorrhoeae* (GC) ribosomal RNA (rRNA)

C Type of Test:

Nucleic acid amplification assay

III Indications for Use:

A Intended Use(s):

See Indications for Use below.

B Indication(s) for Use:

The Simple 2 Test is intended for in vitro detection and identification of *Chlamydia trachomatis* (CT) and/or *Neisseria gonorrhoeae* (GC) in home-collected specimens which are shipped to a clinical laboratory for testing using the Aptima Combo 2 Assay on the Panther System. This product is available over-the-counter (OTC) to consumers 18 years of age and older.

The Simple 2 Test contains all the necessary components to collect urine from male patients (Simple 2 Urine Home Collection Kit (Penile)) or vaginal swabs from female patients (Simple 2 Swab Home Collection Kit (Vaginal)) in their home, or in similar environments, without supervision from a healthcare provider.
The Simple 2 Test Collection Kits may also be used to self-collect specimens in a clinic.

The testing is performed, as determined to be appropriate, based on the results of LetsGetChecked Suitability Questionnaire.

This test system is not a substitute for visits to a healthcare provider. The information provided by this product should not be used to start, stop, or change any course of treatment unless advised by your healthcare provider.

Testing is limited to the manufacturer, Priva Path laboratories (d.b.a. LetsGetChecked, Inc.).

C Special Conditions for Use Statement(s):

OTC - Over the Counter

D Special Instrument Requirements:

Panther System

IV Device/System Characteristics:

A Device Description:

The LetsGetChecked Simple 2 Test is composed of the Simple 2 Urine Home Collection Kit (Penile) and the Simple 2 Swab Home Collection Kit (Vaginal) and the samples are shipped to LetsGetChecked's Clinical Laboratory Improvement Amendments (CLIA)-certified laboratory for processing using the Aptima Combo 2 Assay on the Panther System. The Aptima Combo 2 Assay was previously cleared for the qualitative *in vitro* detection of *Chlamydia trachomatis* (CT) and/or *Neisseria gonorrhoeae* (GC) when used with male urine and self-collected vaginal swabs collected in clinical settings.
The home collection kits are intended to be distributed for purchase online without the need for prescription from a physician or healthcare professional (over-the-counter use). After purchase, the user activates the kit on LetsGetChecked's website and is requested to fill out the Suitability Questionnaire to determine whether this test is appropriate for this individual. The user follows detailed directions for self-collecting a urogenital specimen (male urine or female vaginal swab,

as applicable), packaging and shipping it to the LetsGetChecked CLIA certified laboratory for testing (PrivaPath lab). The test results are delivered to the individual via LetsGetChecked online portal. Positive and invalid/inconclusive results are followed up with a call from the LetsGetChecked Care Team. If the patient received a positive chlamydia result, treatment options are discussed. Patients receiving a positive gonorrhea test result, will be advised to contact their healthcare provider to receive appropriate treatment. The LetsGetChecked Care Team will also contact all patients who test negative for chlamydia and gonorrhea, but do report symptoms, or concerns, or where further investigation is indicated. These patients are internally flagged for follow-up.

Simple 2 Urine Home Collection Kit (Penile)
Each Simple 2 Urine Home Collection Kit (Penile) includes a urine collection cup with indicated urine fill area, one Aptima Urine Specimen Transport Tube, a graduated transfer pipette, a biohazard bag, home specimen collection and shipping instructions, and Frequently Asked Questions (FAQs) sheets with information about CT/GC infections and test results. All components are included in the box which is also used for shipping of the sample to the laboratory for testing.

Simple 2 Swab Home Collection Kit (Vaginal)
Each Simple 2 Swab Home Collection Kit (Vaginal) includes Aptima Multitest Swab Specimen Collection Kit, which includes sterile vaginal swab and Sample Transport Tube. The kit also includes a biohazard bag, home specimen collection and shipping instructions, and Frequently Asked Questions (FAQs) sheets with information about CT/GC infections and test results. All components are included in the box which is also used for shipping of the sample to the laboratory for testing.

B Principle of Operation

The Aptima Combo 2 Assay utilizes target capture, transcription-mediated amplification, hybridization protection assay, and dual kinetic assay for specimen processing to amplify target rRNA and detect the amplicon, respectively. Please refer to the decision summaries of K111409, K132251, K180681, and K200866.

C Instrument Description Information

1. Instrument Name:

   Panther System

2. Specimen Identification:

   Refer to K111409, K132251, K180681, and K200866

3. Specimen Sampling and Handling:

   Refer to K111409, K132251, K180681, and K200866

4. Calibration:

Refer to K111409, K132251, K180681, and K200866

5. Quality Control:

   Refer to K111409, K132251, K180681, and K200866

V Standards/Guidance Documents Referenced:

Not applicable.

VI Performance Characteristics:

A Analytical Performance:

1. Precision/Reproducibility:

   Reproducibility and within laboratory precision studies were previously reviewed and described in K111409, K132251, K180681, and K200866.

2. Linearity:

   Not Applicable; this is a qualitative assay.

3. Analytical Specificity/Interference:

   Analytical Specificity/Interference studies were previously reviewed and described in K111409, K132251, K180681, and K200866.

4. Assay Reportable Range:

   Not Applicable; this is a qualitative assay.

5. Traceability, Stability, Expected Values (Controls, Calibrators, or Methods):

   Traceability, Stability, Expected Values (Controls, Calibrators, or Methods) were previously reviewed and described in K111409, K132251, K180681, and K200866.

6. Detection Limit:

   The Detection Limit was previously reviewed and described in K111409, K132251, K180681, and K200866.

7. Assay Cut-Off:

   Assay cut-off was previously reviewed and described in K111409, K132251, K180681, and K200866.

8. Accuracy (Instrument):

   Instrument accuracy was previously reviewed and described in K111409, K132251, K180681, and K200866.

9. Carry-Over:

   Carry-Over study was previously reviewed and described in K111409, K132251, K180681, and K200866.

B Comparison Studies:

1. Method Comparison:

   Not applicable.

2. Matrix Comparison:

   Not applicable.

C Clinical Studies:

1. Clinical Sensitivity:

   Clinical Sensitivity was previously reviewed and described in K111409, K132251, K180681, and K200866.

2. Clinical Specificity:

   Clinical Specificity was previously reviewed and described in K111409, K132251, K180681, and K200866.

3. Other Clinical Supportive Data (When 1. and 2. Are Not Applicable):

   Not applicable.

D Clinical Cut-Off:

Not applicable.

E Expected Values/Reference Range:

Expected Values/Reference Range was previously reviewed and described in K111409, K132251, K180681, and K200866.

F Other Supportive Performance Characteristics Data:

1. USABILITY AND COMPREHENSION

A. Simple 2 Urine Home Collection Kit (Penile)

Two usability and comprehension studies with lay users were conducted to evaluate the ease of use of the collection kit, ability to interpret the test results and comprehension of the educational materials included in the Simple 2 Urine Home Collection Kit (Penile).
The first study was conducted with 89 male participants. The summary of demographics of participants included in this study is presented in Table 1.

Table 1. Summary of Demographics of Participants in the Initial Usability and Comprehension Study for the Simple 2 Urine Home Collection Kit (Penile).

Participants	**N**	**%**
Male	89	100%
Age Group		
18-25	7	8%
26-35	25	28%
36-45	17	19%
46-55	20	22%
56-65	14	16%
> 65	6	7%
Education		
< High school	0	0%
High school/Some College	42	47%
Bachelor's degree or higher	47	53%
Race/Ethnicity		
Caucasian	55	62%
Asian	7	8%
Hispanic/Latin American	9	10%
Black/African American	11	12%
Mixed/Unknown/Other	7	8%

The results from this study showed that 9% (8/89) of lay users had difficulty transferring correct volume of urine to the transport tube. Therefore, modifications to the home collection kit and instructions were necessary and to mitigate the risk of users transferring incorrect volume of urine to the transfer tubes, the collection kit was modified to include a graduated transfer pipette and revisions were made to the instructions on how to transfer the proper volume of urine. In addition, FAQs sheets were added to the kit to help the lay user with understating of test results and to provide educational information on CT/GC infections. To evaluate the modifications introduced to Simple 2 Urine Home Collection Kit (Penile), the second usability and comprehension study was conducted. The summary of demographics of participants in the final usability and comprehension study for the Simple 2 Urine Home Collection Kit (Penile) is presented in Table 2.
Similar to the first study, the second usability and comprehension study was conducted remotely from lay user's home via online video conferencing. The study participants were asked to follow the home collection Instructions for Use provided with the kit to complete tasks required for use of the Simple 2 Urine Home Collection Kit (Penile), including kit

activation, sample preparation and packaging, and sample shipment. Participants had an option to watch the instructional video. The lay users did not have to collect a urine sample. In this study, the collection cup was filled with water to simulate urine and evaluate users' ability to transfer the appropriate volume of liquid to the transport tube. After packaging of the sample, the study participants answered study staff questions to evaluate comprehension of the instructions/safety warnings, possible test results, and general information about the diseases. In addition, the samples were evaluated at the testing laboratory for critical errors that could lead to inaccurate test results or sample rejection upon receipt in the laboratory. The results from the study are summarized in the Table 3 and Table 4.

Table 2. Summary of Demographics of Participants in the Final Usability and Comprehension Study for the Simple 2 Urine Home Collection Kit (Penile).

Participants	**N**	**%**
Male	32	100
Age Group		
18-25	5	16%
26-35	10	31%
36-45	6	19%
46-55	3	9%
56-65	5	16%
> 65	3	9%
Education		
< High school	1	3%
High school diploma	4	13%
Some college/Associates Degree/Vocational Degree	11	34%
Bachelor's degree	12	38%
Graduate degree	4	13%
Literacy (SAHL)[a)]		
Low (<14)	0	0%
Average (15-16)	2	6%
High (17-18)	30	94%
Race/Ethnicity		
Caucasian	15	47%
Asian	2	6%
Hispanic/Latin American	8	25%
Black/African American	3	9%
Mixed/Unknown/Other	3	9%

a) Short Assessment of Health Literacy

Table 3. Summary of Results of Usability and Comprehension Study for the Simple 2 Urine Home Collection Kit (Penile).

Instructions Step/Question	**Correct Action/Response**	**Success Rate**

Sample Collection Assessment

(b)(4)

IFU and Warnings Comprehension

(b)(4)

Test Results Interpretation Comprehension
(b)(4)
General Information about Diseases Comprehension
(b)(4)

Table 4. Errors Noted at the Testing Laboratory During Accessioning for the Simple 2 Urine Home Collection Kit (Penile).

		Success Rate
(b)(4)		
Rejection Reason:		
(b)(4)		

N/A Not applicable.

B. Simple 2 Swab Home Collection Kit (Vaginal)

Two usability and comprehension studies with lay users were conducted to evaluate the ease of use, results comprehension, and understanding of the educational materials about

gonorrhea and chlamydia included in the Simple 2 Swab Home Collection Kit (Vaginal). First study was conducted with 85 female participants. The summary of demographics of participants included in this study is presented in Table 5.

Table 5. Summary of Demographics of Participants in the Initial Usability and Comprehension Study for the Simple 2 Swab Home Collection Kit (Vaginal).

Participants	N	%
Female	85	100%
Age Group		
18-25	17	20%
26-35	34	40%
36-45	14	16%
46-55	15	18%
56-65	4	5%
> 65	1	1%
Education		
< High school	2	2%
High school/Some College	49	58%
Bachelor's degree or higher	34	40%
Race/Ethnicity		
Caucasian	44	52%
Asian	7	8%
Hispanic/Latin American	14	16%
Black/African American	14	16%
Mixed/Unknown/Other	6	7%

Upon completion of the study the home collection kit instructions were modified to ensure closer alignment with the instructions from the Hologic's Aptima Multitest Swab Specimen Collection Kit for Patient Collected Specimen. In addition, FAQs sheets were added to the home collection kit to help the lay user with understating of test results and provide education on CT/GC infections. The second usability and comprehension study was conducted to evaluate the modifications introduced to the Simple 2 Swab Home Collection Kit (Vaginal). The summary of demographics of participants in the final usability and comprehension study is presented in Table 6.

Similar to the first study, the second usability and comprehension study was conducted remotely from lay user's home via online video conferencing. The study participants were asked to follow the Instructions for Use provided with the kit to complete tasks required for use of the Simple 2 Swab Home Collection Kit (Vaginal), including kit activation, sample preparation and packaging, and sample shipment. Participants had an option to watch the instructional video. After packaging of the sample, the study participants answered study staff questions to evaluate comprehension of the instructions/safety warnings, possible test results, and general information about the diseases. In addition, the samples were evaluated at the testing laboratory for critical errors that could lead to inaccurate test results or sample

rejection upon shipping. The results from the study are summarized in the Table 7 and Table 8.

Table 6. Summary of Demographics of Participants in the Final Usability and Comprehension Study for the Simple 2 Swab Home Collection Kit (Vaginal).

Participants	**N**	**%**
Female	33	97%
Transgender Male*	1	3%
Age Group		
18-25	5	15%
26-35	8	24%
36-45	8	24%
46-55	9	26%
56-65	3	9%
> 65	1	3%
Education		
< High school	1	3%
High school diploma	6	18%
Some college/Associates Degree/Vocational Degree	15	44%
Bachelor's degree	10	29%
Graduate degree	2	6%
Literacy (SAHL)[a)]		
Low (<14)	2	6%
Average (15-16)	6	18%
High (17-18)	26	77%
Race/Ethnicity		
Caucasian	15	44%
Asian	3	9%
Hispanic/Latin American	5	15%
Black/African American	9	26%
Mixed/Unknown/Other	2	6%

a) Short Assessment of Health Literacy

Table 7. Summary of Results of Usability and Comprehension Study for the Simple 2 Swab Home Collection Kit (Vaginal).

Instructions Step/Question	**Correct Action/Response**	**Success Rate**
Sample Collection Assessment		
(b)(4)		

(b)(4)

IFU and Warnings Comprehension

(b)(4)

(b)(4)
Test Results Interpretation Comprehension
(b)(4)
General Information about Diseases Comprehension
(b)(4)

Table 8. Errors Noted at the Testing Laboratory During Accessioning for the Simple 2 Swab Home Collection Kit (Vaginal).

		Success Rate
(b)(4)		
Rejection Reasons:		
(b)(4)		

N/A Not applicable.

The results from the usability studies for both kits demonstrated that lay users are able to properly collect their own specimens and correctly perform the tasks associated with the packaging and shipping the samples. Further, results from the questionnaire support the conclusion that lay users demonstrated comprehension of the critical elements in the labeling,

including warnings, implications of the test results and the need to contact a healthcare provider as needed.

In addition, the second study for the urine kit showed that replacing generic transfer pipette with the graduated transfer pipette allows the users to transfer an appropriate amount of urine, which was a challenge with the previous version of the pipette.

2. FLEX STUDIES

To conduct analytical studies at the challenging concentrations (low positive) of CT and NG, the empirical LoD of the assay was established. In urine, the LoD was established at (b)(4) for NG and (b)(4) for CT. In negative vaginal swab specimens, the LoD was established at (b)(4) for NG and (b)(4) for CT. All Flex Studies, Interference with Hand Contaminant, and Sample Shipping Stability studies were performed in reference to the empiric LoD.

A. Incorrect Volume of Urine Transferred to the Aptima Urine Transport Tube (Minimum Volume)

The manufacturer's instructions for the Aptima Combo 2 assay recommend a urine volume of (b)(4) to be transferred into the Aptima Urine Transport Tube for a final sample volume (urine + Aptima transport media) of (b)(4). The package insert indicates that the final sample volume must be within the black fill lines indicated on the urine specimen transport tube. The study was performed to determine the effects of sample volumes below the maximum fill line, i.e., (b)(4) of added urine (underfilled tubes) and above the maximum fill line (overfilled tubes). Negative male urine matrix was spiked with CT or GC organisms at the target concentration of (b)(4) LoD and the test samples were prepared by adding the spiked urine (for positive samples) and unspiked urine (for negative samples) into the (b)(4) of the transport medium at the volumes listed in Tables 9 and 10. (b)(4) positive and (b)(4) negative replicates of each sample were tested. The results for underfilled samples are presented in Table 9 below. Correct results were obtained for all negative samples tested and positive samples when at least (b)(4) of urine was transferred into the Urine Transport Tube. For positive samples, urine volume below (b)(4) failed to generate 100% positivity. The results for overfilled samples are presented in Table 10 below. Correct results were obtained for all negative and positive samples tested.

Table 9. Summary of Testing Underfilled Urine Transport Tubes.

Urine Volume (mL)	(b)(4) LoD CT #positives/ #tested	CT Agreement with expected result	(b)(4) LoD GC #positives/ #tested	GC Agreement with expected result	Negative Samples	Negative Samples Agreement with Expected Results (for CT and NG)
(b)(4)		100%	(b)(4)	100%	(b)(4)	100%
		100%		100%		100%
		100%		100%		100%
		100%		100%		100%
		80%		60%		100%
		80%		40%		100%
		0%		20%		100%

(b)(4)

Table 10. Summary of Testing Overfilled Urine Transport Tubes.

Urine Volume (mL)	(b)(4) LoD CT #positives/ #tested	CT Agreement with expected result	(b)(4) LoD GC #positives/ #tested	GC Agreement with expected result	Negative Samples	Negative Samples Agreement with Expected Results (for CT and NG)
(b)(4)		100%	(b)(4)	100%	(b)(4)	100%
		100%		100%		100%
		100%		100%		100%
		100%		100%		100%
		100%		100%		100%

The study results showed that underfilling the Transport Tube with urine will generate accurate results if at least (b)(4) of the specified volume) of urine is transferred. The results also showed that the test is not sensitive to overfilling the Transport Tube. To mitigate the risk of user errors, the transfer pipette is marked to indicate the proper volume to be transferred and the instructions guide the user to ensure that the transferred urine volume is appropriate.

B. <u>Incorrect Amount of Transport Media in the Aptima Urine Transport Tubes.</u>

Aptima urine transport tubes are prepared by the manufacturer with a fixed amount of the transport media (b)(4). The transport media is responsible for cell lysis and subsequent stabilization of the resulting rRNA. Spilling or removing of the transport media from the sample tube could lead to a reduced transport media-to-urine volume ratio (intended ratio (b)(4), which could lead to erroneous results. To determine if lower than the recommended volume of the transport media leads to erroneous results, the tubes were filled with several volumes, followed by addition of (b)(4) of urine samples; one set of test samples used low positive (b)(4) LoD) CT or GC urine samples, and the second set of samples used negative urine samples. (b)(4) positive and (b)(4) negative replicates were tested for each volume of the transport media. The results are presented in Table 11 below. Correct results were obtained for all negative and all positive samples tested.

Table 11. Summary of Testing Various Transport Media Volumes in the Urine Transport Tube.

Transport Media Volume (mL)	Urine Volume (mL)	(b)(4) LoD CT #positives/ #tested	CT Agreement with expected result	(b)(4) LoD GC #positives /#tested	GC Agreement with expected result	Negative Samples	Negative Samples Agreement with Expected Results (for CT and NG)
(b)(4)			100%	(b)(4)	100%	(b)(4)	100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		0%		100%

(b)(4)

C. Delay of Urine Transfer to the Aptima Urine Transport Tubes.

The collection instructions direct the user to transfer the urine into the Urine Transport Tube after collection. The study was performed to determine the effect of delay of urine transfer from the collection cup to the Aptima Urine Transport Tubes. Negative male urine spiked with (b)(4) LoD CT or GC at time/day 0, was placed into a urine collection cup/box and stored on the bench top at room temperature ((b)(4) . At each time point, as presented in the Table 12 below, a (b)(4) aliquot was transferred from the urine collection cup, placed into an Aptima Urine Specimen Transport Tube, and tested for the presence of GC/CT using the Aptima Combo 2 assay. (b)(4) positive and (b)(4) negative replicates were tested at each time point. The results are presented in Table12 below. Expected results were obtained for all negative samples. False negative results for CT were obtained when the urine was transferred to the Urine Transport Tube three weeks after placing in the collection cup/box. False negative results were obtained for GC when the transfer of urine to the Urine Transport Tube was delayed more than one day. Therefore, the IFU directs the user to transfer the urine right after the collection to mitigate the risk of erroneous results due to the delay in urine transfer to the Urine Transport Tube. Further, the directions specify that the sample should be sent to the lab on the same day as it is collected.

Table 12. Summary of Testing the Delay of Urine Transfer to the Urine Transport Tube.

Time	(b)(4) LoD CT #positives/ #tested	CT Agreement with expected result	(b)(4) LoD GC #positives/ #tested	GC Agreement with expected result	Negative Samples	Negative Samples Agreement with Expected Result (for CT and NG)
(b)(4)		100%	(b)(4)	100%	(b)(4)	100%
		100%		100%		100%
		100%		100%		100%
		100%		0%		100%
		100%		0%		100%
		100%		0%		100%
		100%		0%		100%
		60%		0%		100%

a) (b)(4) negative and (b)(4) equivocal result were obtained.
b) negative results were obtained.
c) negative results were obtained.

3. INTERFERING SUBSTANCES

A. Simple 2 Urine Home Collection Kit (Penile)

Studies were performed to evaluate the effect of inadvertent introduction of common hand contaminants to urine samples collected with Aptima urine transport tubes and tested using the Aptima Combo 2 assay. Pooled male urine samples containing common hand contaminants (i.e., water, soap, hand sanitizer, lotion, and sunscreen) were spiked with GC or CT at (b)(4) LoD to determine if accidental introduction of exogenous substances that may be introduced during specimen collection present a risk for false results. Multiple brands of each substance were tested at (b)(4) . (b)(4) positive and (b)(4) negative replicates were tested for each

substance. The results are presented in Table 13 below. Expected results were obtained for negative and all CT positive samples. However, false negative results were obtained for GC in the presence of certain brands of hand soap and hand sanitizer (Table 13). The limitations have been introduced in the labeling to caution the user about the interference. Additionally, the instructions direct the user to wash their hands in warm soapy water and dry thoroughly which serves to lower the risk of sample contamination.

Table 13. Summary of Testing Interfering Substances in the Urine Transport Tube.

Substance Tested	Brand	(b)(4) LoD CT #positives/ #tested	CT Agreement with expected result	(b)(4) LoD GC #positives/ #tested	GC Agreement with expected result	Negative Samples	Negative Samples Agreement with Expected Results (for CT and NG)
(b)(4)			100%	(b)(4)	100%	(b)(4)	100%
			100%		0%		100%
			100%		100%		100%
			100%		67%		100%
			100%		100%		100%
			100%		100%		100%
			100%		50%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%

a) (b)(4) negative and (b)(4) equivocal results were obtained.
b) (b)(4) equivocal results were obtained.
c) negative and (b)(4) equivocal result were obtained.

B. Simple 2 Swab Home Collection Kit (Vaginal)

Studies were performed to evaluate the effect of inadvertent introduction of common hand contaminants to vaginal swab samples collected with the Simple 2 Swab Home Collection Kit (Vaginal) and tested using the Aptima Combo 2 assay. Negative vaginal swab STM samples containing common hand contaminants (i.e., water, soap, hand sanitizer, lotion, and sunscreen) were spiked with GC or CT at (b)(LoD to determine if inadvertent introduction of exogenous substances that may be introduced during specimen collection present a risk for false positive or false negative results. Multiple brands of each substance were tested at (b)(4) (b)(4), (b)(4) positive and (b)(4) negative replicates were tested for each substance. The results are presented in Table 14 below. All samples generated expected results.

Table 14. Summary of Testing Interfering Substances in the Simple 2 Swab Home Collection Kit (Vaginal).

Substance Tested	Brand	3x LoD CT #positives/ #tested	CT Agreement with expected result	3x LoD GC #positives/ #tested	GC Agreement with expected result	Negative Samples	Negative Samples Agreement with Expected Results
(b)(4)			100%	(b)(4)	100%	(b)(4)	100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%
			100%		100%		100%

4. SAMPLE SHIPPING STABILITY

A. Simple 2 Urine Home Collection Kit (Penile)

Shipping stability studies were performed to evaluate the stability of samples under extreme shipping conditions that samples may encounter when shipped via commercial carriers. Pooled negative male urine was spiked with live CT or GC at (b)(4) LoD (low positive) or (b)(4) LoD (moderate positive). (b)(4) low positive, (b)(4) moderate positive and (b)(4) negative samples were evaluated according to the Summer and Winter Shipping Temperature Cycles as indicated in Tables 15 and 17, respectively. The results from the study are presented in Tables 16 and 18. The expected results were generated for all samples tested under both Summer and Winter Shipping Temperature Cycles except (b)(4) sample tested at (b)(4) LoD under Winter Shipping Temperature Cycle. These data are acceptable since (b)(4) (>95%) positive results were generated at (b)(4) LoD. The data demonstrate that the urine sample integrity is maintained even when exposed to extremes of temperature during shipping.

Table 15. Summer Shipping Temperature Cycle.

Temperature	Cycle Period	Cycle Period (Hours)	Total Time (Hours)
(b)(4)			

(b)(4)

Table 16. Summary Results for the Summer Shipping Temperature Cycle.

Concentration/ Organism	CT # positive/#tested	GC # positive/#tested	CT/GC #negatives/#tetsed
(b)(4)			

Table 17. Winter Shipping Temperature Cycle.

Temperature	Cycle Period	Cycle Period (Hours)	Total Time (Hours)
(b)(4)			

Table 18. Summary Results for the Winter Shipping Temperature Cycle.

Concentration/ Organism	CT # positive/#tested	GC # positive/#tested	CT/GC #negatives/#tetsed
(b)(4)			

B. Simple 2 Swab Home Collection Kit (Vaginal)

The stability of the collected vaginal specimens under shipping conditions was evaluated by testing negative vaginal swabs in transport medium and positive vaginal swabs in transport medium (spiked with live CT or GC at (b)(4) LoD (low positive) and (b)(4) LoD (moderate positive)) after exposure to the Summer and Winter Shipping Temperature Cycles, as indicated in Tables 15 and 17, respectively. (b)(4) low positive, (b)(4) high positive, and 10 negative samples were subjected to the extended Summer and Winter shipping profiles, as indicated in Tables 15 and 17 above. The results are presented in Tables 19 and 20 below. The expected results were generated for all samples tested under both Summer and Winter Shipping Temperature Cycles. The study results demonstrate that the vaginal swab sample integrity is maintained even when exposed to extremes of temperature during shipping.

Table 19. Summary Results for the Summer Shipping Temperature Cycle.

Concentration/ Organism	CT # positive/#tested	GC # positive/#tested	CT/GC #negatives/#tetsed
(b)(4)			

(b)(4)

Table 20. Summary Results for the Winter Shipping Temperature Cycle.

Concentration/ Organism	CT # positive/#tested	GC # positive/#tested	CT/GC #negatives/#tetsed
(b)(4)			

VII Proposed Labeling:

The labeling supports the decision to grant the De Novo request for this device.

VIII Identified Risks and Mitigations:

Identified Risks to Health	Mitigation Measures
Risk of false results	Certain labeling information including limitations, device descriptions, performance information, and explanations of procedures. Use of certain specimen collection devices. Certain design verification and validation including documentation of device descriptions, certain analytical studies and clinical studies, risk analysis strategies.
Failure to correctly interpret test results	Certain labeling information including limitations, device descriptions, performance information, and explanations of procedures. Certain design verification and validation including documentation of device descriptions, certain analytical studies and clinical studies, risk analysis strategies.
Failure to correctly operate the device	Certain labeling information including limitations, device descriptions, performance information, and explanations of procedures. Certain design verification and validation including documentation of device descriptions, certain analytical studies and clinical studies, risk analysis strategies.

IX Benefit/Risk Assessment:

A Summary of the Assessment of Benefit:

The Simple 2 Test is the first over-the counter device for detection of chlamydia and gonorrhea that allows for self-collection of specimens in the privacy of one's home (home collection). It is probable that the wide availability of this test without prescription will increase testing for STIs in patients who cannot or chose not to visit a healthcare provider, and who would not be tested otherwise. Because infections with *Chlamydia trachomatis* and *Neisseria gonorrhoeae* are often

asymptomatic, opening the access to testing at home will likely help curb the spread of these infections. Further, home collection of specimens for testing for sexually transmitted infections is desirable to patients, facilitating access to information about their sexual health without the need for a visit to a physician. Additionally, identification of these infections early in the course of disease will lead to more effective or more timely treatments and a reduction in the morbidity in sexually active individuals. The data submitted in this De Novo application demonstrates that lay users can effectively collect samples at home without compromising the performance of the test results provided by the Aptima Combo 2 assay.

B Summary of the Assessment of Risk:

The risks associated with the test are mainly the possibility of false positive and false negative test results. False negative test results can cause delays to effective treatment, progression to disseminated disease, and spread of infection to other persons throughout the community. According to the CDC guidelines, patients with known exposure to either gonorrhea or chlamydia (e.g., a sexual partner with positive diagnosis), should be empirically treated with antibiotics, regardless of the test result. Thus, a false negative result obtained by persons with known exposures to gonorrhea or chlamydia using this test may lead to delays or lost opportunities for treatment. A false negative result may also be obtained if the test is used within a short time after exposure. False positive results when using this test could lead to an incorrect diagnosis and unnecessary treatment for chlamydia and gonorrhea. Additionally, false positive results may lead to risk of side effects from unnecessary treatments, as well as psychological distress. Further, the risks associated with the device are failure to correctly interpret test results and failure to correctly operate the device. These risks are mitigated by the special controls, mainly required analytical and clinical performance and required information in the labeling and educational information about CT and GC infections contained in the enclosed FAQ pamphlet.

C Summary of the Assessment of Benefit-Risk:

In conclusion, given the available information above, for the following indication statement:

The Simple 2 Test is intended for in vitro detection and identification of Chlamydia trachomatis (CT) and/or Neisseria gonorrhoeae (GC) in home-collected specimens which are shipped to a CLIA compliant laboratory for testing using the Aptima Combo 2 Assay on the Panther System. This product is available over-the-counter (OTC) to consumers 18 years of age and older.

The Simple 2 Test contains all the necessary components to collect urine from male patients (Simple 2 Urine Home Collection Kit (Penile)) or vaginal swabs from female patients (Simple 2 Swab Home Collection Kit (Vaginal)) in their home, or in similar environments, without supervision from a healthcare provider.
The Simple 2 Test Collection Kits may also be used to self-collect specimens in a clinic.

The testing is performed, as determined to be appropriate, based on the results of LetsGetChecked Suitability Questionnaire.

This test system is not a substitute for visits to a healthcare provider. The information provided by this product should not be used to start, stop, or change any course of treatment unless advised by your healthcare provider.

Testing is limited to the manufacturer, Priva Path laboratories (d.b.a. LetsGetChecked, Inc.).

The probable benefits outweigh the probable risks for the Simple 2 Test. The device provides benefits, and the risks can be mitigated by the use of general controls and the identified special controls.

X Conclusion:

The De Novo request is granted and the device is classified under the following and subject to the special controls identified in the letter granting the De Novo request:

Product Code: QYA
Device Type: System for detection of nucleic acid from non-viral microorganism(s) causing sexually transmitted infections using home-collected specimens.
Class: II
Regulation: 21 CFR 866.3385