Module 3: Product Description

3.2.1.1 Components or Parts

TABLE OF CONTENTS

1. *IQOS* TOBACCO HEATING DEVICE 6

1.1. *IQOS* 3 Holder 6

(b) (4)

1.2. *IQOS* 3 Charger 24

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

1.3. Comparison of *IQOS* 3 System composition with marketed *IQOS* 2.4 System ...44

2. SOFTWARE / FIRMWARE 46

2.1. Main Components 48

(b) (4)

2.2. Device storage data 50

(b) (4)

LIST OF FIGURES

Figure 1:

Figure 2:

Figure 3:

Figure 4:

Figure 5:

Figure 6:

Figure 7:

Figure 8:

Figure 9:

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Figure 10:
Figure 11:
Figure 12:
Figure 13:
Figure 14:
Figure 15:
Figure 16:
Figure 17:
Figure 18:
Figure 19:
Figure 20:
Figure 21:
Figure 22:
Figure 23:
Figure 24:

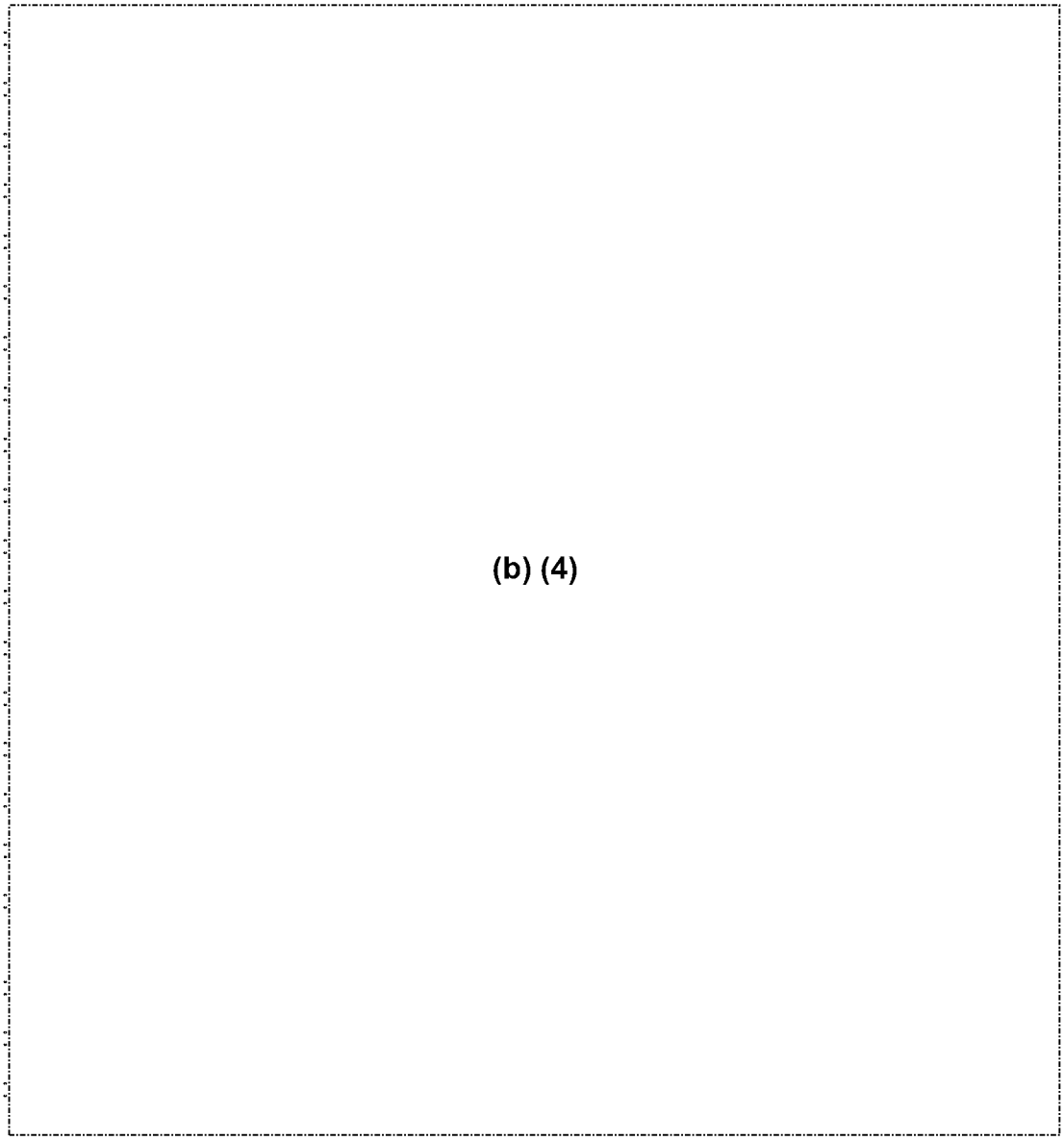
(b) (4)

Figure 25:
Figure 26:
Figure 27:
Figure 28:
Figure 29:
Figure 30:
Figure 31:
Figure 32:
Figure 33:
Figure 34:
Figure 35:
Figure 36:
Figure 37:
Figure 38:

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Figure 39:
Figure 40:
Figure 41:
Figure 42:
Figure 43:
Figure 44:
Figure 45:
Figure 46:
Figure 47:
Figure 48:
Figure 49:
Figure 50:
Figure 51:
Figure 52:
Figure 53:
Figure 54:
Figure 55:
Figure 56:
Figure 57:
Figure 58:
Figure 59:



LIST OF TABLES

Table 1: Composition of *IQOS* 3 Holder 7

Table 2: Holder battery electrical specifications and current supplier details 10

Table 3: Composition of *IQOS* 3 Charger 24

Table 4: Charger battery electrical specifications and current supplier details 37

Table 5: Comparison of the composition of *IQOS* 3 and *IQOS* 2.4 Holder 44

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Table 6: Comparison of the composition of *IQOS* 3 and *IQOS* 2.4 Charger.....45

Table 7: Firmware Architectural Design 47

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

1. *IQOS* TOBACCO HEATING DEVICE

The *IQOS* 3 System consists of the heating unit called the *IQOS* 3 Holder into which a *HeatStick* is inserted, a charging unit, which is called the *IQOS* 3 Charger, to facilitate easy recharging of the Holder.

1.1. *IQOS* 3 Holder

IQOS 3 Holder is 92 mm long and 14 mm wide electrically powered and rechargeable unit, which uses glass-coated ceramic heating blade to heat tobacco material in *HeatSticks* and generate nicotine-containing aerosol.

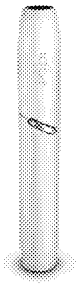


Figure 1: *IQOS* 3 Holder

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Table 1: Composition of *IQOS* 3 Holder

(b) (4)

Figure 2: Exploded view of *IQOS* 3 Holder

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

The Li-ion battery cell is based on LFP technology ($LiFePO_4$) and is currently supplied by two suppliers - Zhangzhou Aucopo Energy Technology Co., Ltd. and (b) (4) Both current suppliers of the Holder battery are compliant with PMP S.A. electrical requirements (for details see Table 2) and also with Li-ion battery standards IEC 62133 (2nd edition) and UL 1642 (5th edition). Additional information including reports on compliance with these standards are provided in section 3.1.2 *Compliance to Tobacco Product Standards*.

Table 2: Holder battery electrical specifications and current supplier details

	PMP S.A. requirements	Aucopo*	(b) (4)
Nominal voltage	(b) (4)		
Nominal capacity			
Internal resistance			
Maximum charging voltage			
Maximum charging current			
Maximum discharging current			

Note: * These are current suppliers of Holder batteries. Additional suppliers, which will meet the all the PMP S.A. requirements, can be used as well.

(b) (4)

[1] Guangzhou Fullriver Battery New Technology Co., Ltd was renamed to Guangzhou Battsys Co., Ltd in 2019.

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Please find the technical drawing for this part in the figure below.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

[3] Please note that the positions and the size of individual electronic component on provided drawings of the PCBs are for illustration purposes only.

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

The Li-ion battery cell is based on LCO technology ($LiCoO_2$) and is currently supplied by **(b) (4)** **(b) (4)** Ltd. All current suppliers of the Charger battery are compliant with PMP S.A. electrical requirements (for details see Table 4) and also with Li-ion battery standards IEC 62133 (2nd edition) and UL 1642 (5th edition). Additional information including reports on compliance with these standards are provided in section 3.1.2 *Compliance to Tobacco Product Standards*.

Table 4: Charger battery electrical specifications and current supplier details

Nominal voltage	**(b) (4)**
Nominal capacity	
Internal resistance	
Maximum charging voltage	
Maximum charging current	
Maximum discharging current/power	

Note: * These are current suppliers of Charger batteries. Additional suppliers, which will meet the all the PMP S.A. requirements, can be used as well.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

1.3. Comparison of *IQOS* 3 System composition with marketed *IQOS* 2.4 System

The composition of the upgraded *IQOS* 3 System has been compared with the marketed *IQOS* 2.4 System. Please find the comparison of both Holders and Chargers in the Table 5 and Table 6, respectively.

Table 5: Comparison of the composition of *IQOS* 3 and *IQOS* 2.4 Holder

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Table 6: Comparison of the composition of *IQOS* 3 and *IQOS* 2.4 Charger

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Although many device parts in *IQOS* 3 had to be adjusted and/or upgraded to support the improvements to the usage convenience for adult consumers, to incorporate advances in electronic technology and support new appearance and housing of the *IQOS* 3 System, the main functions and operating principles of *IQOS* 3 System remained the same.

2. SOFTWARE / FIRMWARE

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

Table 7: Firmware Architectural Design

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

2.1.5. *Mechanism to Prevent Misuse*

The puff detection mechanism is used to detect and prevent the user from taking an excessive amount of puffs. It ensures consistent aerosol deliveries for all types of experiences or uses while keeping the amounts of HPHCs reduced compared to combustible cigarettes. This mechanism is based on the rules set in the heating profile and on the duty cycle.

The Holder counts the number of puffs drawn during the inhalation experience. The puff detection mechanism detects modifications of temperature, or duty cycle, from an established heating regime.

2.1.6. *Communication Protocols*

The purpose of the communication protocol is to allow the exchange of two-way information between the Charger and the Holder about the system status. In addition, both the Holder and the Charger can exchange data with a PC application. The PC application allows to:

- Update firmware and
- Provide support during service and repair.

(b) (4)

2.2. Device storage data

During the use of the devices, some pieces of data, such as errors and battery status, are collected and stored locally in the devices which can be retrieved for diagnostic purposes to evaluate a device fault and apply appropriate corrective actions, such as resetting the device.

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.

(b) (4)

Confidentiality Statement

Data and information contained in this document are considered to constitute trade secrets and confidential commercial information, and the legal protections provided to such trade secrets and confidential information are hereby claimed under the applicable provisions of United States law. No part of this document may be publicly disclosed without the written consent of Philip Morris International.