E-Cigarette Aerosol Analysis Report

Report No. : TCT170719C015-1 Date : Jul. 26, 2017

Applicant: **Vandy vape**

Address: **415, huafeng Internet + creative park, no.107 republic industrial road, xixiang, baoan district, shenzhen**

The following sample was submitted and identified by/on behalf of the client as:

Sample Name:	Pulse 24 BF RDA
Model No.:	Pulse 24 BF RDA
Tank:	Juice Capacity 2ml, SS304
Power level in testing:	40W
Adjustable air inlet or not:	Yes
Trade Mark:	Vandyvape
Sample Received Date:	2017.07.19
Testing Period:	2017.07.19—2017.07.26
Test Requested:	1. As specified by client, to determine the Carbonyl Compounds content(s) in aerosol generated by the submitted sample. 2. As specified by client, to determine the Metals content(s) in aerosol generated by the submitted sample. 3. As specified by client, to determine Nicotine consistency in aerosol generated by the submitted sample.
Test Method:	Please refer to the following page(s).
Test Result(s):	Please refer to the following page(s).
Remark:	The report is to supersede test report TCT170719C015.

Checked by

Chris Zhong

Chris Zhong

Signed for and on behalf of TCT

Kim Zhang

Technical Manager

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Test Results:

Test Condition for test items except Nicotine consistency test:
With reference to the CORESTA RECOMMENDED METHOD Nº 81 method parameter and Afnor standardization XP D90-300-3, a smoke machine was used to collect the vapor.

Puff Duration	3.0s±0.1s
Puff Volume	55mL±0.3mL
Puff Frequency	30s±0.5s
Puff of Each Group	20
Group Interval Time	300s±120s
Maximum Flow	18.5mL/s±1.0mL/s
Pressure Drop	< 50hPa
Group	5
Total Number of Puff	100
Total Duration of Vaporization	300s

The temperature and relative humidity of the test atmosphere during machine preparation and testing shall be kept within the following limits: temperature ±2℃, relative humidity ±5%

Sample Description:

1. Pulse 24 BF RDA

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1. Carbonyl Compounds Content(s)

Method: Using volumes based on the desired dilution, a measured volume of sample was combined with a volume of DNPH solution and vortexed. After sitting for 20 minutes at ambient temperature, the sample was then quenched with a sufficient amount of pyridine. An aliquot was then analyzed using the Agilent Model 1200, High Performance Liquid Chromatograph equipped with an Ultraviolet (UV) Detector operating at 365 nm.

Test Item	CAS No.	Unit	MDL	LOQ	Content(s)
					1
Formaldehyde	50-00-0	ug/100puffs	0.667	2	27.3
Acetaldehyde	75-07-0	ug/100puffs	0.667	2	ND
Acrolein	107-02-8	ug/100puffs	0.667	2	ND
Crotonaldehyde	4170-30-3	ug/100puffs	0.667	2	ND

Note:
- ug = Microgram
- ND = Not Detected (lower than MDL)
- MDL = Method Detection Limit
- LOQ = Limit of Quantitation
- E-Liquid Used: E-liquid B (AFNOR XP D90-300-3)

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2. Metals Content(s)

Method: The vapor was passed through a dry-ice cooled impinger containing glass packing beads and quartz wool. After smoking the impinger was extracted with 5% nitric acid and filtered through quartz wool. An aliquot of the resulting solution was submitted for analysis by ICP-OES.

Test Item	CAS No.	Unit	MDL	LOQ	Content(s)
					1
Aluminium(Al)	7429-90-5	ug/100puffs	0.025	0.25	ND
Chromium(Cr)	7440-47-3	ug/100puffs	0.005	0.05	ND
Iron(Fe)	7439-89-6	ug/100puffs	0.005	0.05	ND
Nickel(Ni)	7440-02-0	ug/100puffs	0.025	0.25	ND
Tin(Sn)	7440-31-5	ug/100puffs	0.25	2.5	ND
Lead(Pb)	7439-92-1	ug/100puffs	0.025	0.25	ND
Cadmium(Cd)	7440-43-9	ug/100puffs	0.005	0.05	ND
Arsenic(As)	7440-38-2	ug/100puffs	0.025	0.25	ND
Antimony(Sb)	7440-36-0	ug/100puffs	0.025	0.25	ND

Note:
- ug = Microgram
- ND = Not Detected (lower than MDL)
- MDL = Method Detection Limit
- LOQ = Limit of Quantitation
- E-Liquid Used: E-liquid B (AFNOR XP D90-300-3)

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3. Nicotine Consistency Test

Test Condition: With reference to the CORESTA RECOMMENDED METHOD Nº 81 method parameter and Afnor standardization XP D90-300-3, a smoke machine was used to collect the vapor.

Puff Duration	3.0s±0.1s
Puff Volume	55mL±0.3mL
Puff of Each Group	20
Maximum Flow	18.5mL/s±1.0mL/s
Pressure Drop	< 50hPa

The temperature and relative humidity of the test atmosphere during machine preparation and testing shall be kept within the following limits: temperature ±2℃, relative humidity ±5%

Method: A reference liquid was prepared. A pharmaceutical nicotine inhaler was used as a comparator. Products were attached to a smoke machine, and the aerosol was collected in Cambridge filter pads. After trapping and solvent extraction, solution was analyzed by GC-MS and nicotine was dosed by comparing the areas obtained on the MS detector with those of standard solutions prepared in the laboratory under concentration conditions surrounding those of the samples.

Sample Description	Nicotine(CAS No.:54-11-5) Contents(mg / 20 Puffs)						Total(mg/ 100puffs)
	Group 1*	Group 2	Group 3*	Group 4	Group 5*	AVG	
Pulse 24 BF RDA	0.808	0.795	0.739	0.763	0.748	0.771	3.85
Deviation(%)	4.8	-	4.0	-	2.9	-	-

Note:
- mg = milligram
- ND = Not Detected (lower than MDL)
- MDL = Method Detection Limit = 0.01 mg / 20 Puffs
- LOQ = Limit of Quantitation = 0.1 mg / 20 Puffs
- 1group = 20 puffs
- * Values used for determination of consistency of nicotine emission
- E-Liquid Used: E-liquid A (AFNOR XP D90-300-3)
- Under the conditions of the test and with reference to AFNOR XP D90-300-3, the electronic cigarette delivers a dose of nicotine at consistent levels.

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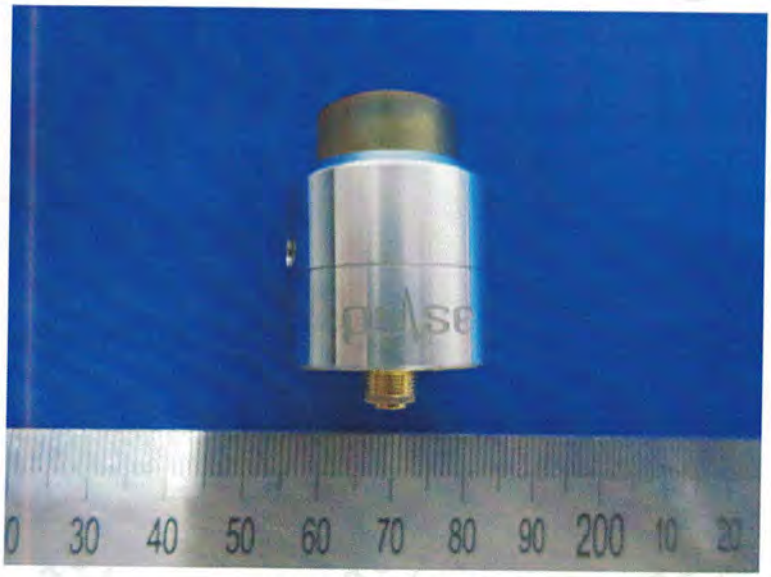
Photo(s) of the sample(s)



Pulse 24 BF RDA

***** End of Report *****

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