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Checklist Protocol 1

Name: Md Rafi Islam	**Vape Brand: Off-stamp X Cube**	**Date: 07/23/2025**

Task no.	**Steps**				**Status (Y/N?)**
1	Charge the vape.				Y
2	Charge the FRIENDS device.				Y
3	Mark RF sensor location on the FRIENDS enclosure				
4	Draw a 7mm grid on the vape				Y
5	Wrap the vape's mouthpiece with putty.				
6	Attach the vape to the vacuum line.				Y
7	Identifying the sensitive zones	7a	Select a side (front, back, right, left, or bottom), place the FRIENDS on top left corner of that side.		Y
		7b	Initiate puff with the vacuum and very slowly slide the FRIENDS from top to the bottom. Make sure the vape is puffing by observing the puff indicator light on the vape.		Y
		7c	Observe the Green LED of the FRIENDS	For stable green, mark the location with “X” in the grid on the vape.	Y
				For no LED illumination, left the space blank in the grid.	Y
		7d	After marking the sensitive spot on the vape, start sliding the FRIENDS device again and complete the whole row.		Y
		7e	Then place the FRIENDS on the middle of the vape and repeat steps 7b to 7d.		Y
		7f	After finishing scanning this row with FRIENDS, go to the next row and so on.		Y
		7g	In this way, the front side of the vape will be scanned for sensitivity zones and the grid on the vape will be marked with the “X” symbol if the vape is sensitive to FRIENDS device.		Y
		7h	Then place the FRIENDS on another side (e.g. front, back, right, left, or bottom) of the vape and start scanning again. Repeat steps 7a to 7e and populate the documentation table.		Y
		7i	Finally, after completing scanning all the sides of the vape, take a picture of each side of the vape and insert the images in the checklist document table below.		Y
		7j	If there are multiple sensitive zones, select a possible FRIENDS mounting location based on signal strength and usability.		Y
		7k	Take a picture and insert it at the end of the checklist documentation.		Y

	Sensitivity documentation table (Rectangular vape)			
For a stable green LED, mark the location with the letter "X" in the grid				
	Front view	Back view		
	Left side view	Right side view	Bottom view	

Suggested Friends Device Placement:

RF sensor Location: Back right bottom

Checklist Protocol 2

Task no.	Steps			Status (Y/N?)
1	Charge the vape.			Y
2	Charge the FRIENDS device.			Y
3	Wrap the vape's mouthpiece with putty.			Y
4	Vaping Machine for laboratory testing of FRIENDS sensors (VM-FRIENDS) Testing	4a	Clean any vape juice residue in the vacuum line leading to the Vaping Machine for laboratory testing of FRIENDS sensors (VM-FRIENDS)	Y
		4b	Attach the vape to the vacuum line leading to VM-FRIENDS	Y
		4c	Open VM-FRIENDS GUI and Set the following parameter: Select input parameters: Volume and Duration Volume (mL): 120 Inhale Flowrate (mL/s): 40.0 Exhale Flowrate (mL/s): 60.0 Inhale Time (s): 3 Exhale Time (s): 3 Interpuff Time (s): 18 Number of Puffs: 80	Y
		4d	Click on Start Puffing	Y
		4e	After 80 puffs, read and store the FRIENDS device data.	Y
		4f	Recharge the FRIENDS device and the vape.	Y
		4g	Repeat steps 4a-4f till the vape runs out of vape juice.	Y
		4h	After completing step 8f, fill out the table given at the end of the document.	Y

VM-FRIENDS Test Result

Total Puff Tested	FRIENDS Total Puffs Registered	Thermistor Used for Testing	Thermistor Needed for Operation
330	293	Yes	Yes