

**Pros and Cons for test modes**

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Item	Ambient mode		Parking mode		Driving mode	
	PROS	CONS	PROS	CONS	PROS	CONS
1	Easy, less equipment, relatively cheap	Real exposure of people in the car is only covered for a very short time, doesn't represent exposure during driving	Worst Case Scenario, Sun simulation for parked cars outside	More complicated, more equipment needed, higher costs (e.g. sun simulation radiator)	Method to access which emissions occupant will face	More complicated, more equipment needed, higher costs
2	Simulates entering car when parked in tempered garage	Doesn't replicate temperature in cars during normal use outside	Identify what comes out from materials in high temp.	ISO only for Formaldehyde	In conjunction with hot parking mode, lower volatile substances can be measured	More time consuming
3	Estimate impact on higher temperature	Drivers can adjust windows, A/C, ventilation system	Usful for further improvement	No reference for limit values.	Ref. document: - JAMA method - ISO 12219-1 Driving mode	often produces similar results with different cars
4	Quickest method	not suitable to derive people exposure limits	Ref. document: - VDA 278 - JAMA method - ISO 12219-1 Parking mode	Not required, voluntary use only		doesn't simulate all real life situations(e.g. Heating, fresh/circulating mode, filter efficiency...)
5	Less external factors	doesn't give a worst case measurement for parking in the sun		Less repeatable (once the car is tested, concentration is rapidly reduced)		More external factors (e.g. outside air, filter...)
6	Probably most repeatable and reproducable method			Doesn't simulate real life exposure, drivers open the windows and turn on A/C		ISO only for VOCs
7	Method to access what is coming from materials					No reference for limit values.
8	Less measurement deviation					Not required, voluntary use only
9	Comparing test results between cars					so far only method to derive people exposure limit
10	Comparing test results between car and its components					
11	The easiest way to harmonize test mode					
12	Reference for limit values from China and Korea					
13	Ref. document: - Korea standards - Chinese standards - VDA 278 -ISO 12219-1 Ambient mode					
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