Review of VIAQ Ambient Mode Test

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Compared Several Ambient Modes

Ambient modes in several test methods

- China: 6 h Stabilization, 16 h Ambient mode, ~22.5 h Total
- Korea: 12 h Ambient mode, 0.5 h Sampling, ~14.75 h Total
- ISO12219-1: 1 h Stabilization, 8 h Ambient mode, ~13.5 h Total

Korea and China test result can be different:
- Effect of...
  ① Different preconditioning (Door open) time
  ② Different door closed time
  ③ Sampling position (not considered this time)
Compared Korean to China test result

- **Longer door open time** of China method (6 h), Korea and China emissions at 2 hours can differ. (67 ~ 99 %)

- Day 1 vs Day 5 (Korean Method) : 74 % ~ 91 %
  - Quiet reproducible within a few days
  - Korean method let take samples twice (2 days)

- Sun exposure or parking mode test may make test vehicle quiet different condition.

**Emissions increase 101~ 187 %**

- Acetaldehyde rises sharply.

- Test Vehicle : 32 d after production (Leather Seat)
- Sampling position : Driver’s nose
- Benzene, Styrene and Formaldehyde are quiet low level.
Adjust Closed Time Study

Time study of China method (Day 4)

- Most of compound emission equilibrated after ~ 10 hours

- Test Vehicle: 32 d after production (Leather Seat)
- Sampling position: Driver’s nose
- Benzene, Styrene and Formaldehyde are quite low level.
Summary

2 Ambient modes test compared. (Korea and China)
- Longer preconditioning time: relatively lower emissions at early stage
- Longer door closed time: increasing emission 101~ 187% 16 hours later
- Emissions can equilibrate about 10 hours passed.

To do
- Consideration of sampling position
Thank you