

- 23 -

CLAIMS:

1. System for analyzing an air condition (150), the system comprising
a detection unit (101) configured for detecting of detection signals
5 indicative of a contamination with a contaminant of an evaporator (151)
and/or the air filter of the air condition (150),
an analyzing unit (102) configured for analyzing of a level of
contamination of the evaporator (151) and/or the air filter based on the
detection signals, and
10 an output unit (103) configured for outputting the analyzed level of
contamination with the contaminant of the evaporator (151) and/or the air
filter to a user.
2. System according to claim 1,
15 wherein the analyzing unit (102) is configured to generate a decontamination
signal if the analyzed level of the contaminant exceeds a predetermined level
of the contaminant,
wherein in particular the output unit (103) is configured for outputting the
decontamination signal.
20
3. System according to claim 2, further comprising
a decontamination unit (104),
wherein the decontamination unit (104) is coupleable to the evaporator (151)
for decontaminating the evaporator (151) and/or the air filter based on the
25 decontamination signal.
4. System according to claim 3,
wherein the decontamination unit (104) comprises a chemical exhaust nozzle
(105) for ejecting chemical decontamination fluid to the evaporator (151)
30 and/or the air filter.

- 24 -

5. System according to claim 3 or 4,
wherein the decontamination unit (104) comprises a heating element (106)
coupleable to the evaporator (151) and/or the air filter for heating up the
evaporator (151) and/or the air filter in order to reduce the level of
5 contaminant.
6. System according to one of the claims 1 to 5,
wherein the detection unit (101) is coupleable to an exhaust air channel (107)
of the air condition (150) for measuring the level of contaminant.
- 10 7. System according to one of the claims 1 to 6,
wherein the detection unit (101) comprises a contamination sensor for
measuring a concentration of volatile organic compounds in the exhausted air
of the air condition (150),
15 wherein the concentration of volatile organic compounds, in particular
isopropanol and/or other former, such as carbonic acids, is indicative of the
level of the contaminant of the evaporator (151) and/or the air filter.
8. System according to claim 7,
20 wherein the contamination sensor is configured for measuring a concentration
of volatile organic compounds of at least 8ppb, in particular at least 6ppb, in
the exhausted air.
9. System according to one of the claims 1 to 8,
25 wherein the detection unit (101) comprises an air flow sensor for detecting a
flow of exhaust air of the air condition (150).
10. System according to one of the claims 1 to 9,
wherein the detection unit (101), the analyzing unit (102) and/or the output
30 unit (103) are coupled wire connected or wireless connected for transmitting
data.

- 25 -

11. System according to one of the claims 1 to 10,
wherein the output unit (103) is a handheld (202) device, in particular a
smartphone or a tablet computer.

5

12. System according to one of the claims 1 to 11,
wherein the air condition (150) is an air condition (150) of a vehicle, in
particular a car,
wherein the analyzing unit (102) is a control unit (203) of the vehicle.

10

13. Use of a system according to one of the claims 1 to 12 for detecting,
analyzing and outputting a level of the contaminant of an evaporator (151)
and/or an air filter of an air condition (150), in particular an air condition
(150) of a vehicle.

15

14. Method of analyzing an air condition (150), the method comprising
detecting of detection signals indicative of a contamination with a
contaminant of an evaporator (151) and/or an air filter of the air condition
(150),

20

analyzing of a level of the contamination with the contaminant of the
evaporator (151) and/or the air filter based on the detection signals, and
outputting the analyzed level of contamination with the contaminant of
the evaporator (151) and/or the air filter to a user.

25

15. Method according to claim 14,
generating a decontamination signal if the analyzed level of the a
contaminant exceeds a predetermined level of the contamination,
decontaminating the evaporator (151) and/or the air filter based on the
decontamination signal,

30

analyzing the level of contamination with the contaminant after
decontaminating the evaporator (151) and/or the air filter if the analyzed level

- 26 -

of the contamination with the contaminant falls below a predetermined level of the contamination with the contaminant.