

Analysis Report



Data

Test name:

2019-09_INT_ISGLOBAL_2ND_BATCH_25_OUTDOOR

Number of devices tested:

27

Test dates:

2019-09-19 02:00:00+02:00 - 2019-09-21 02:00:00+02:00

Test author(s):

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Disclaimer

The methods used in this analysis are subject to the low amount of devices tested, and in general, a *common sense* approach is applied. This means that the plots indicate only trends and highlight some (but not all) potential faulty devices.

Below, the confidence intervals used are those of the normal distribution (meaningful for sample numbers >30) and of the t-student distribution.

Conclusions are derived by analysing the data further and testing the devices for longer periods if needed. Please, also note that statistical significance cannot be inferred from these amounts of devices, so some assumptions for normality have to be accepted. Comments and further discussion are always welcome.

Finally, the individual sensors components integrated in the Smart Citizen hardware have their own accuracies and dispersions, for which Smart Citizen cannot assume any liability other than trying to work with the most appropriate selection. The tests we perform are aimed to determine and assume any failures in the sensors and their integration within the Smart Citizen hardware. For more information, please check the [official documentation](#) and the datasheets of each of the sensors.

Warnings

All devices show similar amounts of data. No data loss concern

Conclusions

One device to replace for temperature/humidity problems (10069)

Time Series Plots

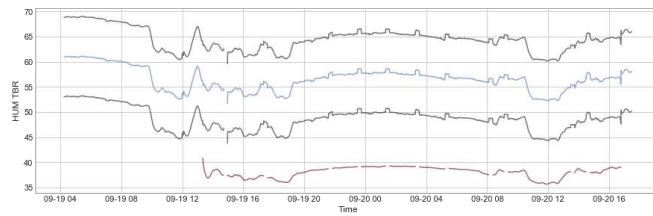
Min Date available: 2019-09-19 02:00:00+02:00

Max Date available: 2019-09-21 02:00:00+02:00

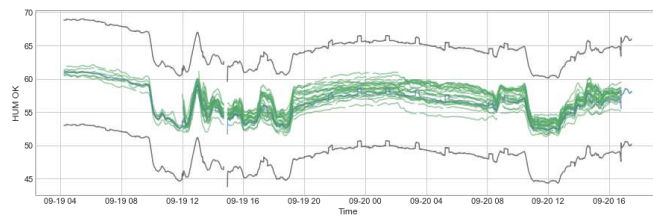
(1/10) - HUM

Using t-student Distribution

WARNING: Device 10069 out of 5% limit - 53.7% out



10069 Average Upper-Bound Lower-Bound

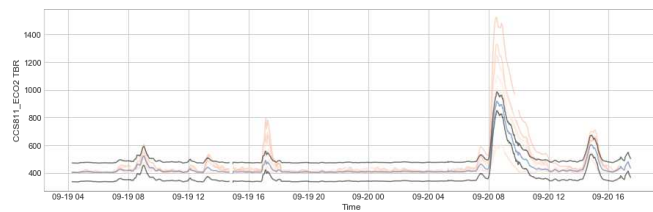


10032 10039 10056 10064 10071
10033 10050 10057 10065 10072
10034 10052 10058 10066 Average
10035 10053 10060 10067 Upper-Bound
10036 10054 10062 10068 Lower-Bound
10038 10055 10063 10070

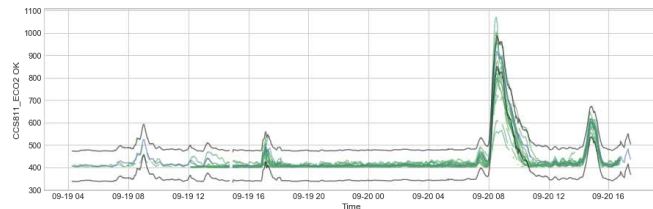
(2/10) - CCS811_ECO2

Using t-student Distribution

WARNING: Device 10032 out of 5% limit - 5.4% out
WARNING: Device 10034 out of 5% limit - 10.8% out
WARNING: Device 10035 out of 5% limit - 7.7% out
WARNING: Device 10036 out of 5% limit - 5.6% out
WARNING: Device 10038 out of 5% limit - 5.7% out
WARNING: Device 10039 out of 5% limit - 13.3% out
WARNING: Device 10062 out of 5% limit - 5.3% out
WARNING: Device 10066 out of 5% limit - 6.9% out



10032 10036 10039 10066 Upper-Bound
10034 10038 10062 Average Lower-Bound
10035

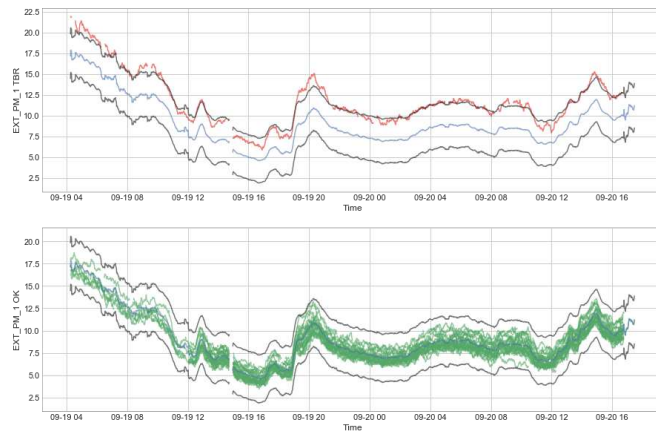


10033 10055 10063 10068 10072
10050 10056 10064 10069 Average
10052 10057 10065 10070 Upper-Bound
10053 10058 10067 10071 Lower-Bound
10054 10060

(3/10) - EXT_PM_1

Using t-student Distribution

WARNING: Device 10032 out of 5% limit - 34.3% out



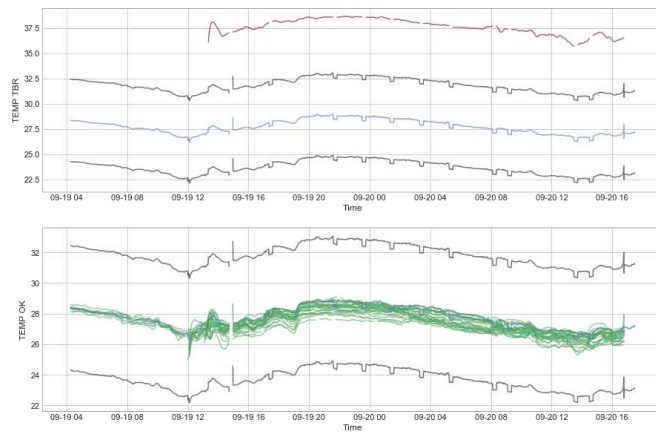
10032 Average Upper-Bound Lower-Bound

10033 10050 10057 10065 10071
 10034 10052 10058 10066 10072
 10035 10053 10060 10067 Average
 10036 10054 10062 10068 Upper-Bound
 10038 10055 10063 10069 Lower-Bound
 10039 10056 10064 10070

(4/10) - TEMP

Using t-student Distribution

WARNING: Device 10069 out of 5% limit - 53.7% out



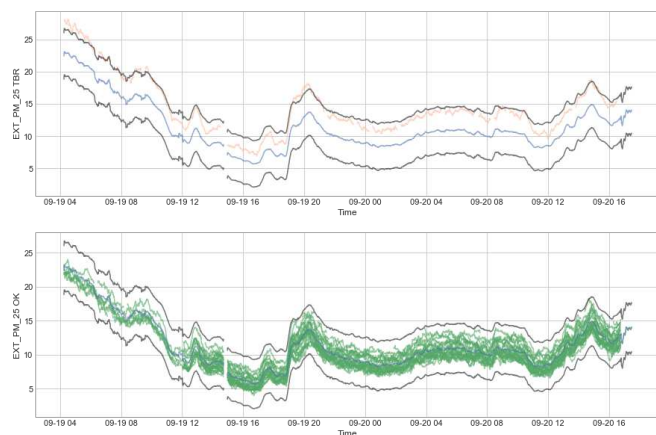
10069 Average Upper-Bound Lower-Bound

10032 10039 10056 10064 10071
 10033 10050 10057 10065 10072
 10034 10052 10058 10066 Average
 10035 10053 10060 10067 Upper-Bound
 10036 10054 10062 10068 Lower-Bound
 10038 10055 10063 10070

(5/10) - EXT_PM_25

Using t-student Distribution

WARNING: Device 10032 out of 5% limit - 12.5% out



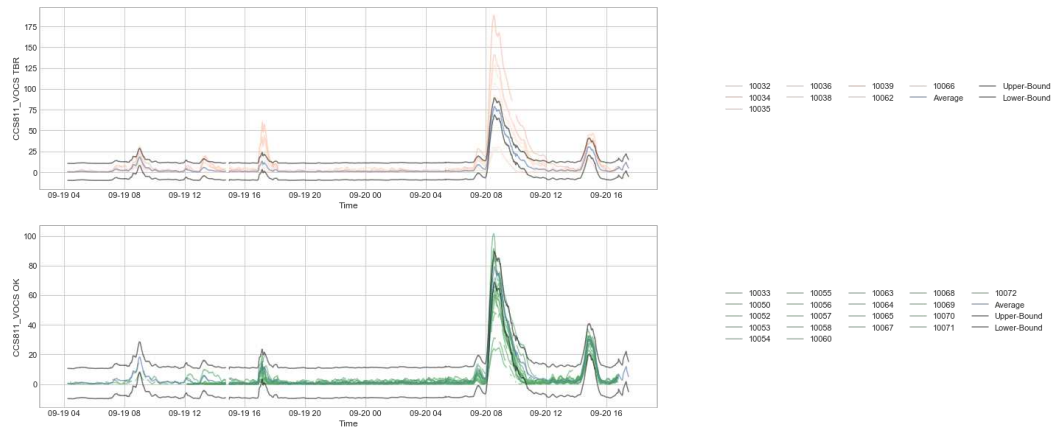
10032 Average Upper-Bound Lower-Bound

10033 10050 10057 10065 10071
 10034 10052 10058 10066 10072
 10035 10053 10060 10067 Average
 10036 10054 10062 10068 Upper-Bound
 10038 10055 10063 10069 Lower-Bound
 10039 10056 10064 10070

(6/10) - CCS811_VOCS

Using t-student Distribution

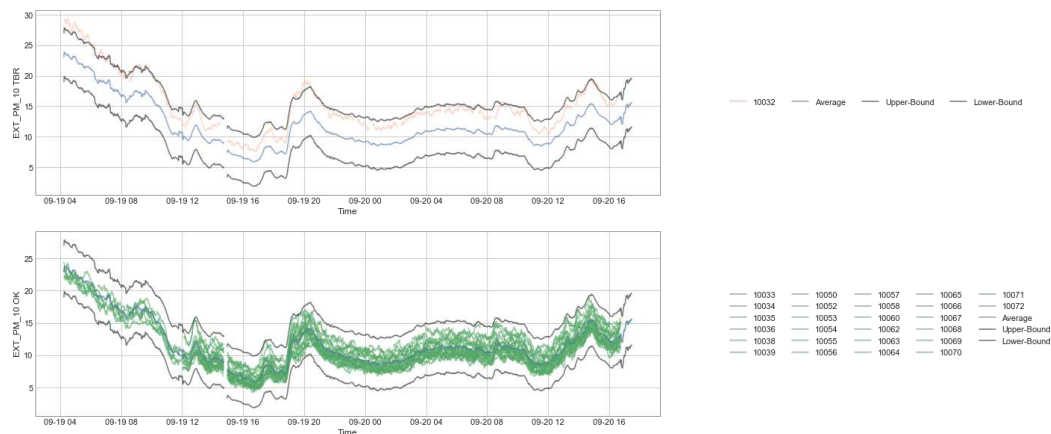
WARNING: Device 10032 out of 5% limit - 5.3% out
 WARNING: Device 10034 out of 5% limit - 10.8% out
 WARNING: Device 10035 out of 5% limit - 7.7% out
 WARNING: Device 10036 out of 5% limit - 5.6% out
 WARNING: Device 10038 out of 5% limit - 5.7% out
 WARNING: Device 10039 out of 5% limit - 13.3% out
 WARNING: Device 10062 out of 5% limit - 5.3% out
 WARNING: Device 10066 out of 5% limit - 6.9% out



(7/10) - EXT_PM_10

Using t-student Distribution

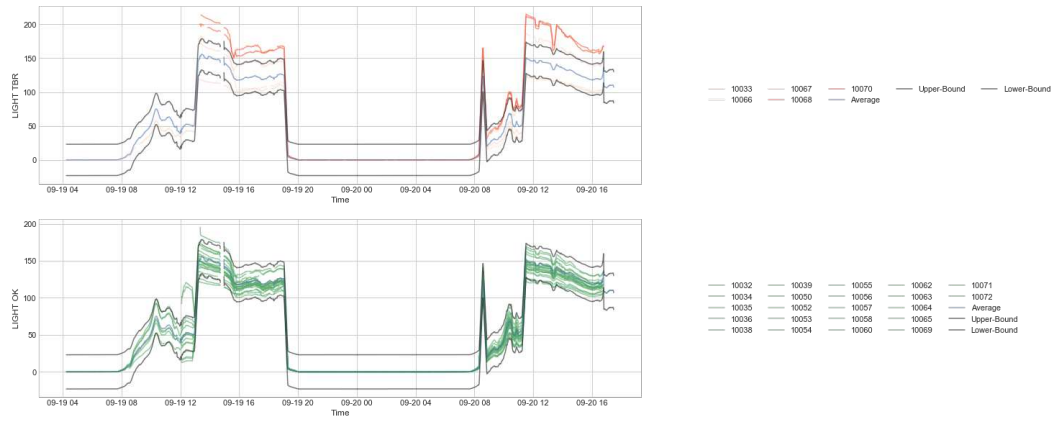
WARNING: Device 10032 out of 5% limit - 11.4% out



(8/10) - LIGHT

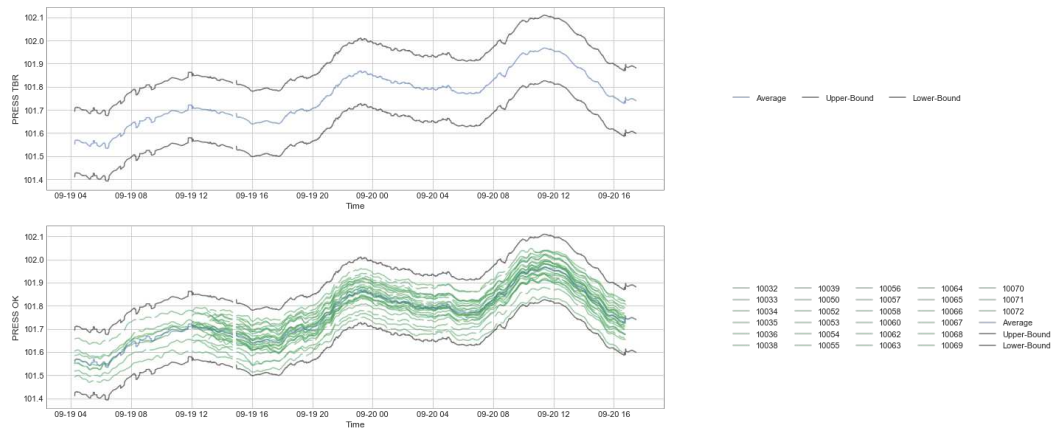
Using t-student Distribution

WARNING: Device 10033 out of 5% limit - 8.6% out
 WARNING: Device 10066 out of 5% limit - 6.1% out
 WARNING: Device 10067 out of 5% limit - 7.6% out
 WARNING: Device 10068 out of 5% limit - 26.5% out
 WARNING: Device 10070 out of 5% limit - 27.4% out



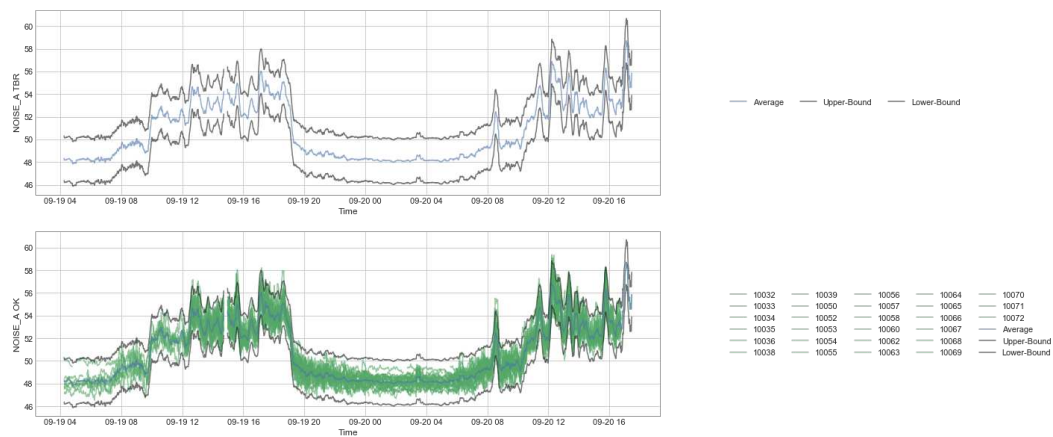
(9/10) - PRESS

Using t-student Distribution



(10/10) - NOISE_A

Using t-student Distribution



Summary

	#_OK_DEVICES	DISPERSION	#_TBR_DEVICES
HUM	26	2.85147	1
CCS811_ECO2	19	24.4213	8
EXT_PM_1	26	0.966432	1
TEMP	26	1.47062	1
EXT_PM_25	26	1.30157	1
CCS811_VOCS	19	3.67906	8
EXT_PM_10	26	1.44379	1
LIGHT	22	8.32027	5
PRESS	27	0.0510828	0
NOISE_A	27	0.709953	0
BATT	NaN	NaN	NaN