

# CheckFox

## Instant autonomous universal Sigfox coverage measurement device

Sigfox • GPS • GSM • accelerometer • velocity • temperature  
• graphical display • complete CheckFox Backend • local logging

### Always logging both to the local device memory and to the CheckFox backend:

Measurement ID	Sigfox strength (RSSI, SNR, repetitions, TAP ID)	Temperature
Time	GSM strength	Battery voltage
GPS position	Acceleration	Timer
GPS strength	Orientation	Custom tags
Altitude	Velocity	
Sigfox Geolocation position		



### General Features:



#### Hardware:

- Small water-resilient and dust-proof independent box
- Highly energy efficient, long lasting Li-Pol battery, rechargeable through USB-C
- 2200mAh (thousands of Sigfox test messages on a single battery charge)
- Highly readable, backlit, low power display
- GSM 2G/3G worldwide compatibility
- Beeper for acoustic notification
- Dimensions: 88 x 25 x 146 mm (W x H x D)
- Weight: 245g (without antenna), 252g (with lambda/4 antenna)



#### Firmware:

- Assembly language programmed to be robust, quick, cheap and low power
- Over the air upgradable (OTA)
- Intuitive interface/no printed manual needed
- Format of data open and documented
- Encrypted data transmission
- Auto/timer switch off
- Data load configurable on the device
- GPS of last position can be used if no GPS position locked during measurement
- If no GSM present, data is logged and transferred once GSM is available



#### CheckFox backend:

- Organisation, branch, user, test run rights management
- Visualisation
- SSO, real cloud hosting/security/availability
- Remote management of the Checkfox devices



#### Timing:

- Immediate availability for RC1, RC2, RC3, RC4

## User modes configurable on device via CheckFox backend:

### 1 Reference coverage and third party HW radio performance measurement

- Ten messages, lambda/4 shift, number of base-stations, number of repetitions
- Direct and graphical comparison on backend with third party HW radio performance measurement with expanded statistical processing - just add the ID of the measured device

### 2 Sigfox Operator mode

- Messages, ID and names of base-stations, RSSI, SNR, including total numbers and total repetitions displayed instantly at both Checkfox device and Checkfox backend
- Visualisation of the results on the web including distance calculation to base-stations
- Instant comparison (delta) with computed model
- Ability to compare and calculate immediately indoor/outdoor
- Sigfox geolocation logging and delta evaluation

### 3 Channel/partner mode

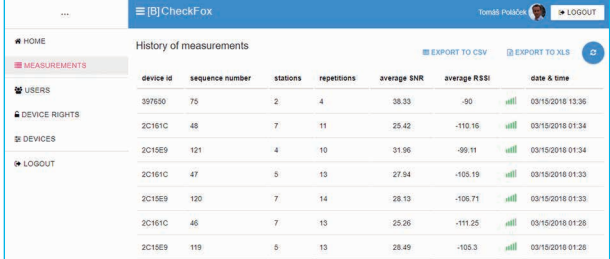
- Access to ID of base-stations, messages RSSI, SNR, repetitions including totals
- Instant comparison (delta) to computed model
- Ability to compare and calculate immediately indoor/outdoor
- Ability to add/upload photos from measurements to the CheckFox backend (Camera not included in this version :)

### 4 Measuring while driving

- Measure each minute and automatically measure while stationary
- Velocity logging
- Visualisation and comparison with prediction model

### 5 End user/installer mode

- Excellent, Good, Border, Nothing (values configurable)
- Mode for 1 meter and ground level outdoor reference measurement before installation
- Configurable Self timer for in-cabinet measurement
- Manual tagging to distinguish types of measurement (1m, ground, place and/or outdoor/indoor)
- Forcible reference measurement to be sure the antenna is screwed properly



The screenshot shows the 'History of measurements' page in the CheckFox web interface. The table lists measurement data for various devices, including device ID, sequence number, number of stations and repetitions, average SNR and RSSI, and the date and time of the measurement. Each row also includes a small green bar chart indicating signal strength.

device id	sequence number	stations	repetitions	average SNR	average RSSI	date & time
39F500	75	2	4	38.33	-90	03/15/2016 13:36
2C181C	48	7	11	25.42	-110.16	03/15/2016 01:34
2C18E9	121	4	10	31.96	-99.11	03/15/2016 01:34
2C181C	47	5	13	27.94	-105.19	03/15/2016 01:33
2C18E9	120	7	14	28.13	-106.71	03/15/2016 01:33
2C181C	46	7	13	25.26	-111.25	03/15/2016 01:28
2C18E9	119	5	13	28.49	-105.3	03/15/2016 01:28

#### Backend comparison:

1. Does the outdoor reference measurement match coverage prediction?
2. Does the device to be installed match the radio performance of reference device outdoor?
3. Is there a coverage at installation site and what is the attenuation
4. Does the installed device perform properly and is the attenuation the same as that of reference device?



#### Price: 250 Euro

Including 2 years of connectivity and backend  
Additional 2 years for 50 Euro

USB-C charger not included. Mini SIM card not included.

Brought to you by Simple Hardware and proudly produced in the Czech Republic.