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Smart Traffic RPi

Non-invasive traffic monitoring solutions

DESCRIPTION

uRAD Smart Traffic RPi B is a specific solution in the field of smart cities for non-invasive traffic monitoring in urban and interurban environments. This finished customizable solution integrates a 60 GHz mMwave radar along with a Raspberry Pi and additional specific software and hardware.

Many applications can be installed: vehicle counting, real-time velocity and distance, bike detection, pedestrian detection, acess control, etc.

All our systems are affordable, easy to install and configure, very versatile since can be installed in any road, and outstandingly accurate, with an effectiveness higher than 95%.

USE CASES

- Velocity measurement up to 180 Km/h.
- Urban and interurban roads.
- Dense or light traffic scenarios.
- Up to 4 lanes monitoring with a single radar. Up to 3 lanes in each direction.
- Counting vehicles with positive (go away) and negative (approach) velocity simultaneously.
- Vehicle discrimination between regular, medium and long vehicles, bicycles and pedestrians.
- Other specific traffic applications such as real-time velocity and distance, bike detection, pedestrian detection, acess control, etc.

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TECHNICAL CHARACTERISTICS

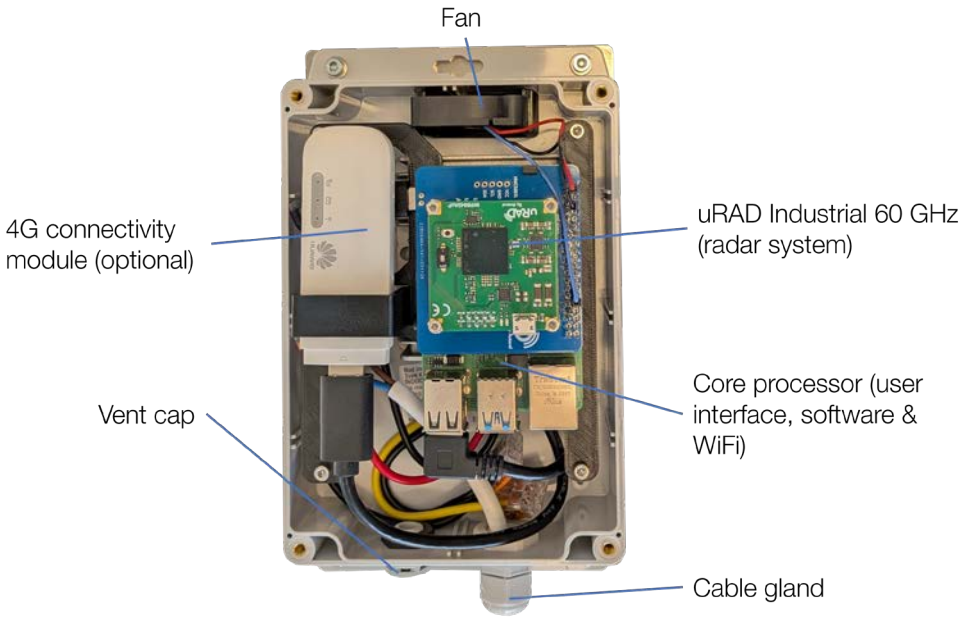
RF parameters	
Frequency	60 - 64 GHz
Modulation	FMCW
Emission power	15 dBm
Field of vision	160 º

Power supply	
Voltage	Opt 1: 8 - 40V DC, Opt2: 110 - 240V AC 50/60 Hz
Connector	Cable gland
Consumption	4.5 W

Mechanical parameters	
Dimensions and weight	171 x 121 x 80 mm, 1.1 kg
Material	Polycarbonate
Protection	IP66, NEMA 4X,12,13, UL-508, UL94 HB
Installation	Anchorage and clamps included. System for vertical adjustment.

Other parameters	
Core processor	Quad-core 64-bit ARM Cortex-A72, 1.8 GHz, 2 GB SDRAM (Raspberry Pi)
Operating temperature	-20ºC to +80ºC
Communication	WiFi and 4G (optional)
Operating system	Linux (Raspberry Pi OS)

Performance	
Maximum speed	180 Km/h
Maximum distance	30 m (counting), 100 m (other applications)
Lateral distance	±15 m





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CLAMPING STRUCTURE

The equipment includes a support structure for placing the radar outdoors on cylindrical columns. The central joint allows the necessary tilt angle to be set during installation. Clamps are also included.







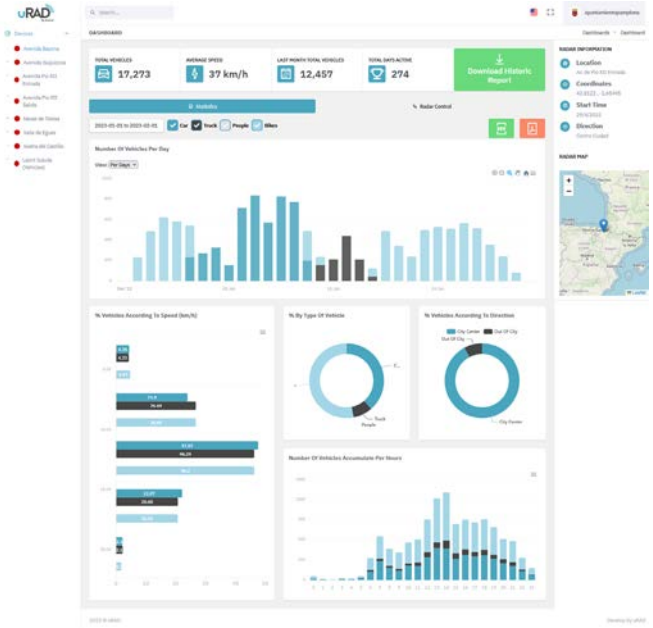
VEHICLE TYPE DISCRIMINATION

Discrimination between regular, medium and long vehicles, bicycles and pedestrians.

- Regular, medium and long vehicles are identified by their length.
- Regular vehicles are distinguished from bicycles based on their speed or the driving lane.
- Bicycles are distinguished from pedestrians based on their speed or the driving lane.

REAL TIME WEB APPLICATION

We offer a web platform where traffic statistics in real time are available. The platform is custom for each client according to their specific requirements. Users can access to traffic statistics and download reports quickly and easily through the web platform or mobile application.



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