Preliminary Datasheet
TES 120GHz 3D Surveillance Sensor

120GHz 3D Surveillance Radar Sensor with mechanical Beam-Steering

Applications:

1. Detecting static objects, moving objects and multiple objects, in high reflective area, size > diameter 11cm
2. High reliability for detection, within defined “area of interest” / avoidance of misdetection and false detection, with probability value of detection for the objects
3. High Accuracy detection of position / PC-Software with Heat-Map of detection / configuration of the outline for the “area of interest”

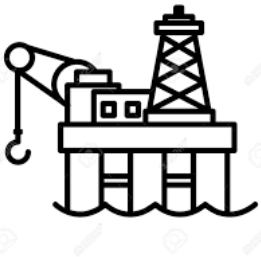
Technology:

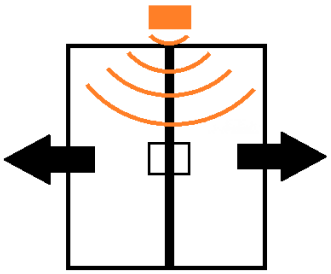
120GHZ antenna with lens and mechanical beam steering with stepper motors
Signal Processing algorithms
Frequency **M**odulated **C**ontinuous **W**ave (**FMCW**)
Continuous **W**ave modulation (**CW**)
Measurement: Difference of **I**nphase and **Q**uadrature Component of sampled Base Band signal.

Sensor Module:

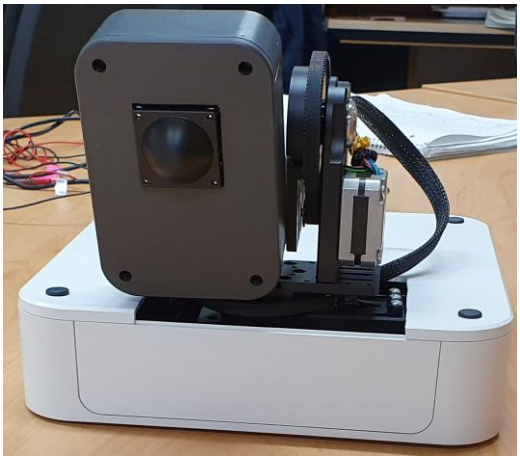
Form factor 20cm x 20cm x 20cm
Configuration of “area of interest” min 1,5cm max 10m, angle +/-45°
Position Accuracy 1,5cm
Mechanical Calibration
Power Consumption Overall Typ. 5.7 W continuous operation (including the power consumption of the motor platform)
Interface: UART, USB

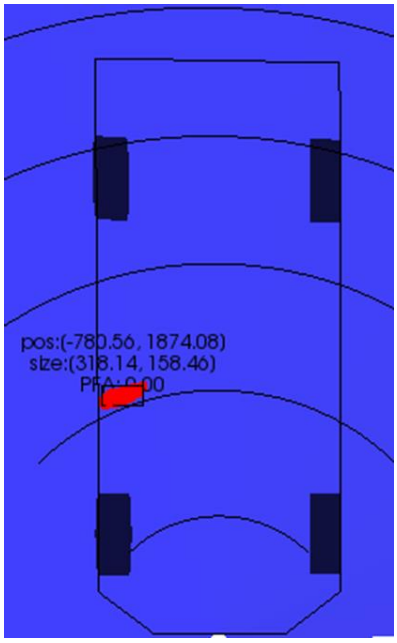
Application Examples



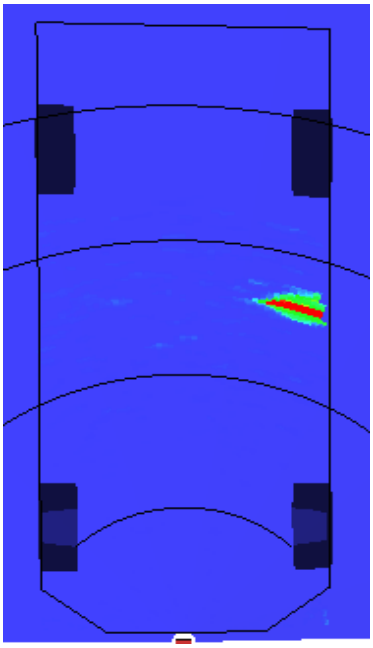


- Surveillance Detector for Industry / Construction / Machines / Robots / Security / Medical Home / Automotive / Trucks
- Obstacle detector / vehicle in cabin / underbody / surround applications / automatic door opening system / detection of intruders / security surveillance applications / robot driven vehicles
- Speed measurement / counting / presence detection / traffic monitoring
- Parking sensor / distance control /distance measurement

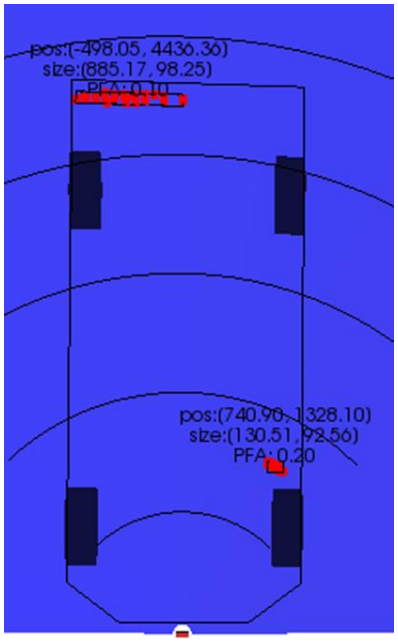




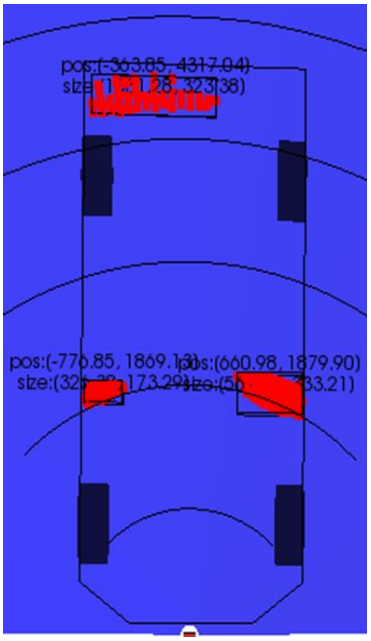
Localization and Dimension



Colourmap / Heat map



Two objects with location and dimension



Three objects with location and dimension