RFU650

THE MEASUREMENT RFID DEVICE WITH INTEGRATED PASS THROUGH DETECTION (INCL. DIRECTION)

SICK
Sensor Intelligence.

Version S0

At a glance (Features)

- Compact standard compliant UHF RFID read-/ write unit with transponder position detection (angle)
- Integrated algorithm to detect pass through and direction of movement
- Integrated antenna with 2W (ERP)/ 3,2W (EIRP) transmit power
- Supports industrial data and fieldbus interfaces
- High detection- and calculation power (ready for SICK AppSpace)
- RFU6xx Platform; radio approval for Europe and USA/Canada; further in pp / on request

Fields of Application

- Car distribution
- Logistic in-/outbound (product, pallet, forklift)
- Final assembly in vehicle production
- Road toll collect (AVI)

Customer Benefit

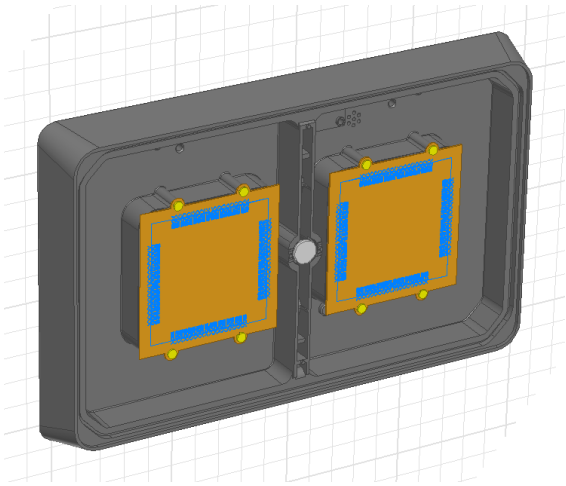
- Extreme high read rate in real time ensure correct assignment of tags incl. integrated pass through detection with direction of movement
- Compact device required no external antennas
- Easy integration in known field busses / 4DPro
- Robust design suited for outdoor installations
- Flexible due to compatibility to the RFU6xx family concept
- SICK AppSpace for third party software functionality

RFU650 ANTENNA

TRANSMIT AND RECEIVE MODE CHARACTERISTIC

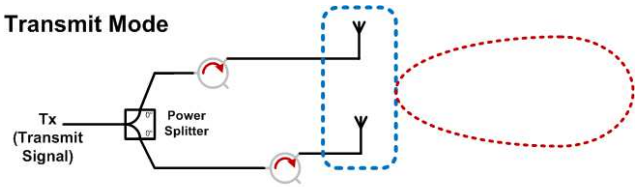
RFU 650 antenna

The RFU650 antenna contains two patch antennas in vicinity. A circulator in front of each antenna is used to seperate transmitted and received signals.

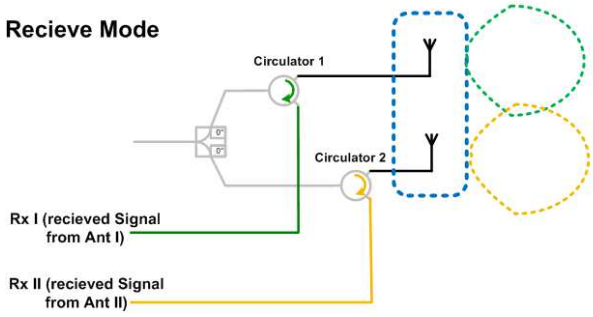


RFU 650 antenna simulation model

In transmit mode, a power splitter and the circulators are used to feed each antenna with a signal of equal amplitude and phase. In this case the two patch antennas work together as an array with a higher gain and reduced beam width (in horizontal plane, compared to vertical plane).



In receive mode, instead of combining the signals of the two antennas, the circulator is used to forward the received signal of each antenna directly to a dedicated receiver. In this mode the two antennas each have a single patch like radiation pattern with lower gain and a similar beam width in horizontal and vertical plane.



RFU 650 antenna operation modes schematic model