

24 GHz FMCW-RADAR KIT

DEVELOPMENT KIT DK-sR-1030e WITH EXTERNAL ANTENNA A-sR-1032 AND PC-SOFTWARE SenTool

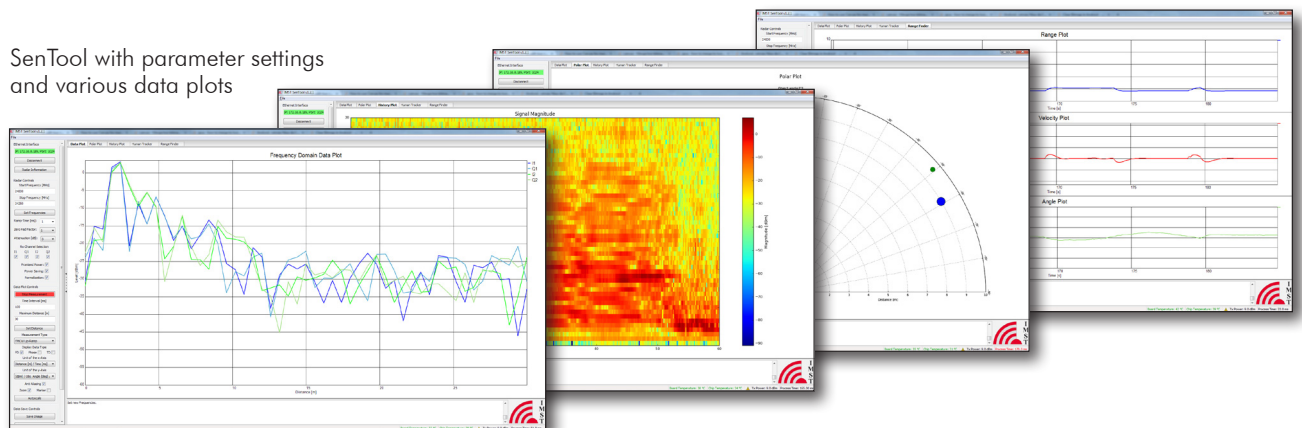
The IMST 24 GHz FMCW Radar Development Kit **DK-sR-1030e** consists of a radar module, the external patch antenna **A-sR-1032**, and the Graphical User Interface (GUI) called **SenTool**. **SenTool** makes it easy to configure the sensor and to measure, visualize and analyze the data of the radar in several different plots. Also the provided high level algorithms Human Tracker and Range Finder can be adjusted and run. The measured data can easily be saved and also be replayed afterwards. **SenTool** offers a wide range of functions.



FUNCTIONS:

- **Configuration** of the Radar and the interface.
- **Radar Selection** out of several connected Radars.
- High level measurement modes like **Human Tracking** and **Range Finding**.
- **Measurement Monitoring** in different presentation forms: Time Domain, Frequency Domain, Phase Domain, Polar Plot, History Plot, Range Plot.
- **Storing** and **Restoring** of measurement data in binary or ASCII format.
- **Offline Viewing** of measurement data without connection to the Radar.
- **Animated** or **Static** display of recorded data.
- **Magnifying View**.
- **Firmware update** via Ethernet interface.
- Implementation of **User-Defined-Functions**.

SenTool with parameter settings and various data plots



TECHNICAL DATA DK-sR-1030e

GENERAL

Modulation:	FMCW / CW
Operating Frequency:	24.0GHz - 24.25GHz (ISM band)
Number of Channels:	1 Tx, 2 Rx (with I/Q demodulator each)
Data Interface:	Ethernet (with PoE)

INTERFACE TO EXTERNAL ANTENNAS

Three RF Connectors:	RPC-2.92, 50 Ohm, DC to 40 GHz, female
Connector Compatibility:	APC-3.5, GPC-3.5, SMA, RPC-3.5, K
Three Coax Adapters:	2.9mm Male-Male, DC to 40 GHz

EXTERNAL ANTENNA "A-sR-1032"

Antenna Type:	external Patch Antenna
Antenna Characteristics:	90° Azimuth, 24° Elevation
Antenna Gain:	9 dBi
Antenna Polarization:	linear

MEASUREMENT WITH EXTERNAL ANTENNA "A-sR-1032"

Min. Measurement Range:	0.6m (@ ISM band)
Max. Measurement Range:	307m (@ ISM band)
Range Resolution:	max. 0.6m (@ ISM band)
Max./Min. Speed (theoretical):	±3200m/s
Speed Resolution:	6.25m/s (@ 24GHz, CW Mode)
Angle Measurement Accuracy:	2° - 3°

FMCW PERFORMANCE

Frequency Ramp Duration:	1ms - 100ms
Typical Update Rate:	10Hz - 200Hz (depending on application)
Output Power (EIRP):	-2dBm - 7dBm (tunable)

TEMPERATURE

Min. Operating Temperature:	-40°C
Max. Operating temperature:	60°C (@ duty cycle < 50%)

POWER SUPPLY

Operation Voltage:	44V - 54V (PoE)
Standby Power:	3.0W
Operating Power:	4.5W

HOUSING

Dimensions (L x W x H):	98mm x 87mm x 42.5mm (Housing) 114mm x 87mm x 42.5mm (with Bushing)
Weight:	280g (with cable)
Mounting:	4 Mounting Holes (5mm)
Connection Cable and Connector:	CAT-6 with RJ45 Female Plug (Ethernet)
Housing:	No specific Protection

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