24 GHz FMCW-RADAR KIT

DEVELOPMENT KIT DK-sR-1200e CONSISTS OF RADAR MODULE sR-1200e AND PC-SOFTWARE SenTool

The IMST 24 GHz FMCW Radar Development Kit **DK-sR-1200e** consists of a Graphical User Interface (GUI) called **SenTool** and the Radar Module **sR-1200e**. 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:
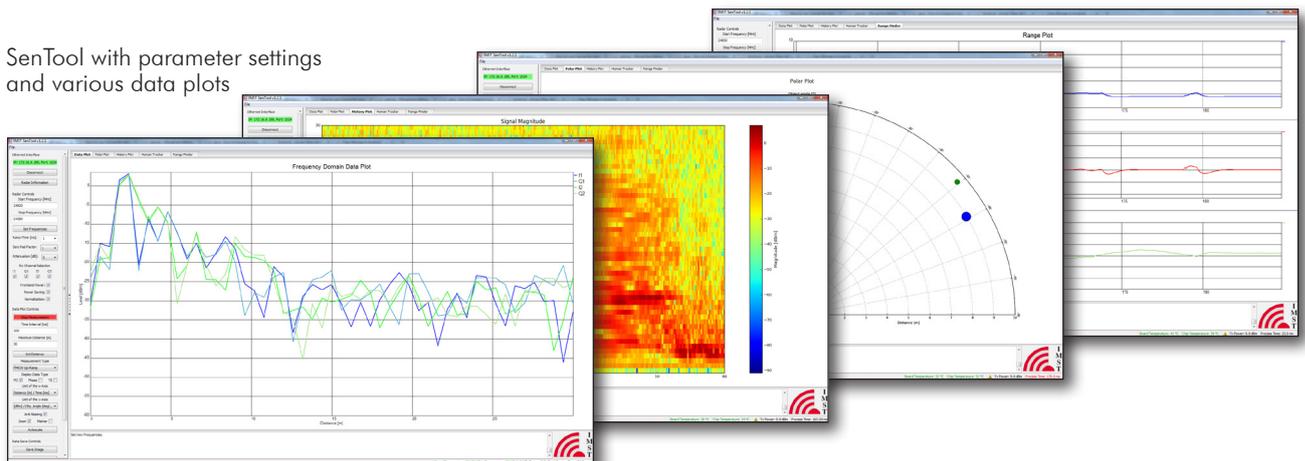
- **Configuration** of the Radar and the interface.
- **Radar Selection** out of several connected Radars.
- High level measurement modes as **Human Tracking** and **Range Finding**.
- **Measurement Monitoring** in different presentation forms: Time Domain, Frequency Domain, Phase Domain, Polar Plot, 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.

sR-1200e
with Ethernet Interface

- **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

SENTIRE RADAR

TECHNICAL DATA sR-1200e

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)
Certification:	CE-Approval

ANTENNA

Antenna Type:	Integrated Patch Antenna
Antenna Characteristics:	65° Azimuth, 24° Elevation
Antenna Polarization:	linear

MEASUREMENT

Min. Measurement Range:	0.6m (@ ISM band)
Max. Measurement Range:	307m (@ ISM band)
Range Resolution:	max. 0.6m (@ ISM band)
Max./Min. Speed (theoretical):	$\pm$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):	10dBm - 19dBm (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)
Protection Code for Housing:	IP65

IMST