

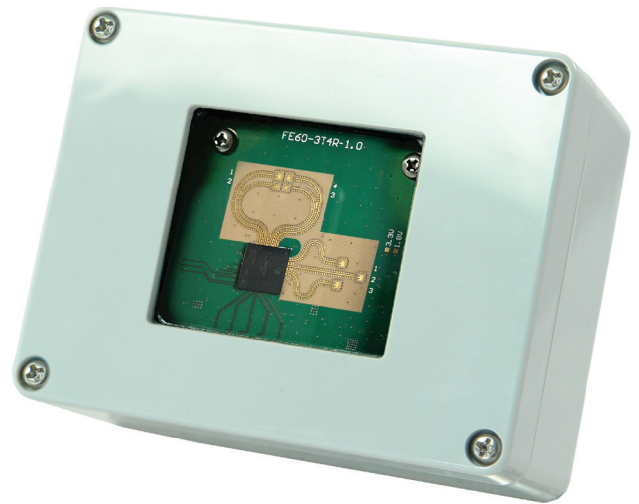
60 GHz RADAR KIT (3Tx + 4Rx)

DK-sR60-3400e/u AND sR60-3400e/u

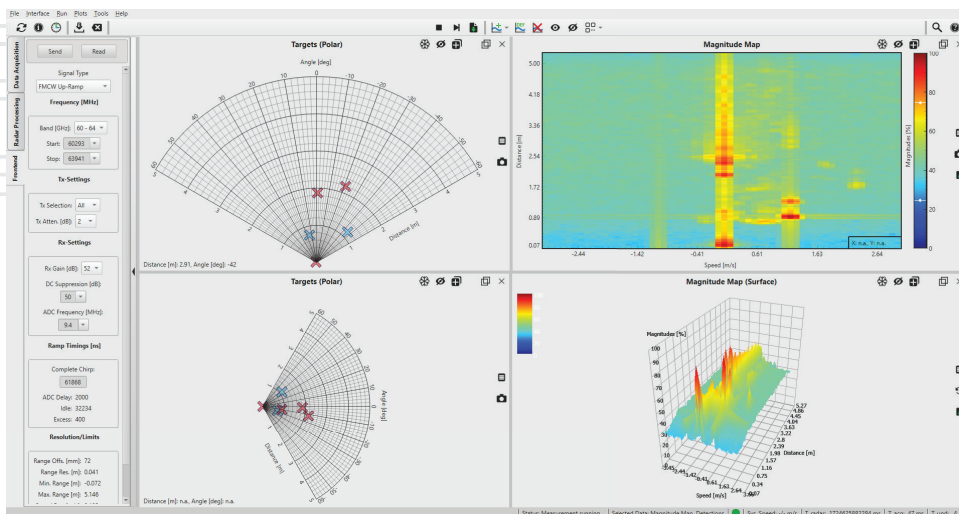
FMCW RANGE-DOPPLER RADAR FOR 3D TRACKING OF TARGETS IN RANGE, AZIMUTH & ELEVATION ANGLE

IMST's 60 GHz Radar sR60-3400 and the Developer-Kit DK-sR60-3400 are designed for 3D tracking of targets in range, azimuth & elevation angle. It is also capable of performing highly accurate distance and velocity measurements. This Radar supports the two bands 57 to 60.75 GHz and 60 to 64 GHz. The integrated signal processing includes Range- and Doppler-FFT, Peak Detection, 2D-CFAR, Tracking, Micro Doppler and MIMO with 12 virtual channels as optional radar method. The user has access to internal radar results via an advanced data interface.

The Developer Kit DK-sR60-3400 comes with a Graphical User Interface (GUI) called SenTool™. SenTool™ makes it easy to configure the sensor and to measure, visualize and analyze radar data in several different graphical plots.



sR60-3400e/u with Ethernet (e) or USB (u)



GUI SenTool™ with azimuth & elevation detection plots (left), Range-Doppler Map (right)



TECHNICAL DATA sR60-3400e/u

GENERAL

Radar Method, Modulation	FMCW, Fast-Chirp-Sequence, MIMO
Operating Frequency Band	57 to 60.75 GHz, 60 to 64 GHz
Tx/Rx Channels	3 Tx, 4 Rx
EIRP, Tuning Range	19 dBm, 30 dB
Data Interfaces	(e) Ethernet, (u) USB
Certifications	no

ANTENNA

Antenna Type	Integrated Patch Antennas
Azimuth (3 dB Beam Width)	65°
Elevation (3 dB Beam Width)	60°
Unambiguous Target Detection in Azimuth	-65° to +65°
Unambiguous Target Detection in Elevation	-60° to +60°
Antenna Gain	7 dBi
Antenna Polarization	linear

FMCW MEASUREMENT

Min. Distance Range Resolution	0.0375 m @ 60 to 64 GHz, BW = 4 GHz
Max. Distance (@ 1024 Bins)	38.4 m @ 60 to 64 GHz, BW = 4 GHz
ADC Sampling Frequency	2 MHz to 50 MHz
Range Bins	64...1024
Doppler Bins	64...256

PROCESSING EXAMPLES

	SINGLE TRANSMITTER	MIMO WITH 3 TX
Max. Doppler-MAP	512 x 128 Bins	512 x 64 Bins
Max. Target Distance	20.5 m	20.5 m
Max. Target Speed	±28 m/s	±9 m/s
Azimuth Resolution	~60°	~30°
Elevation Resolution	~60°	~30°

POWER SUPPLY

Operation Voltage	12 V DC, 10V to 36V
Max. Power	5 W
Standby Power	3 W
Operating Temperature	tbc

HOUSING

Dimensions (L x W x H)	115 x 90 x 55 mm	Housing w/o connectors and cables
Weight	260 gr	
Protection Code for Housing	IP65	

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