

79GHz



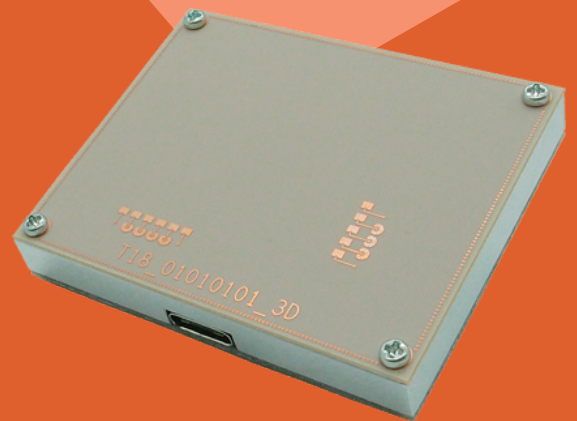
MIMO Radar Sensor Product Evaluation Kit

Our radar sensor products are high precision and small size by using 79GHz radar MMIC (IWR1843) manufactured by Texas Instruments and our proprietary signal-processing technique. The products adopt MIMO(Multi Input Multi Output) technology to estimate detection of arrival with longer-range and wider azimuth. To support your requests, four types of antenna variation that can be detected in 2D and 3D are available. They are certified with radio regulatory in Japan, so you can use our products sooner in public field. In addition, since the IF signal can be imported directly to a PC via USB, you can do signal analysis by yourself. Since the antenna pattern is matched with the T18PE series, it is possible to smoothly move to mass production using your signal processing.

Specifications

Size	mm	55(W)×9(D)×45(H)
Interface		USB-TypeC
Supply Voltage	V	5
Current Consumption	A	0.5
RF Frequency	GHz	77.2 - 80.8
Modulation Bandwidth	GHz	3.6
Detection Range (Typ)	m	0.4 - 49 (1)
Detection Angle (Typ)	deg	±45
Range Resolution	cm	4.5
Chirp Time	us	120
Operating Temperature Range	°C	from 0 to 40

(1) Based on our measurement environment.



Antenna Variations

Type Name		T18_01120112_2D	T18_01030103_2D	T18_01030103_2R5D	T18_01010101_3D
Antenna Type					
TX	Patch	1×12	1×3	1×3	1×1
RX	Patch	1×12	1×3	1×3	1×1
Transmitter Antenna Half-power Angle (Typ)					
Azimuth	deg	±33	±33	±33	±33
Elevation	deg	±4	±15	±15	±45
Receive Antenna Half-power Angle (Typ)					
Azimuth	deg	±45	±45	±45	±45
Elevation	deg	±4	±15	±15	±45
Frequency Band	GHz	79	79	79	79
3D Detection		unsupported	unsupported	supported	supported
DetectionDistance(Max)(2)	m	49	49	49	49
Output Power (Typ)	dBm EIRP	23	20	20	16

- Please contact the distributor or below for inquiries about this catalog.
- This specification is subject to change without prior notice.

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Macnica Clavis Company, Inc.

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TOKYO ELECTRON DEVICE LIMITED

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MARUBUN CORPORATION

<https://www.marubun.co.jp>

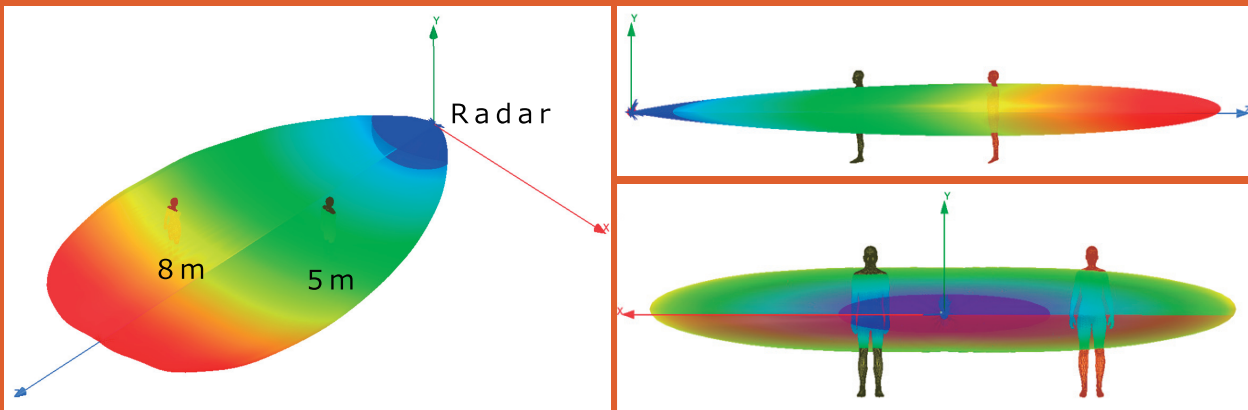
Features

It has excellent environmental resistance and less susceptible to rain, fog, smog, etc. It can also detect nighttime and illuminance changes without being affected.

Performance/Method	TITAN Radar	Laser	Ultrasound Sensor	Stereo Camera	Infrared Camera
Near Range (2m or less) Detection	○	○	○	○	○
Medium Range (30m or less) Detection	○	○	×	○	○
Range Resolution (less than 30cm)	○	○	×	×	×
Angle-detection Area (± 60 deg or more)	○	×	△	○	○
Relative Speed Detection	○	×	×	×	×
Weather Resistance (rain/fog)	○	×	×	×	○
Nighttime (Dark Detection)	○	○	○	×	○
Size	○	△	○	△	×

○: Suitable △: Available ×: Not Available

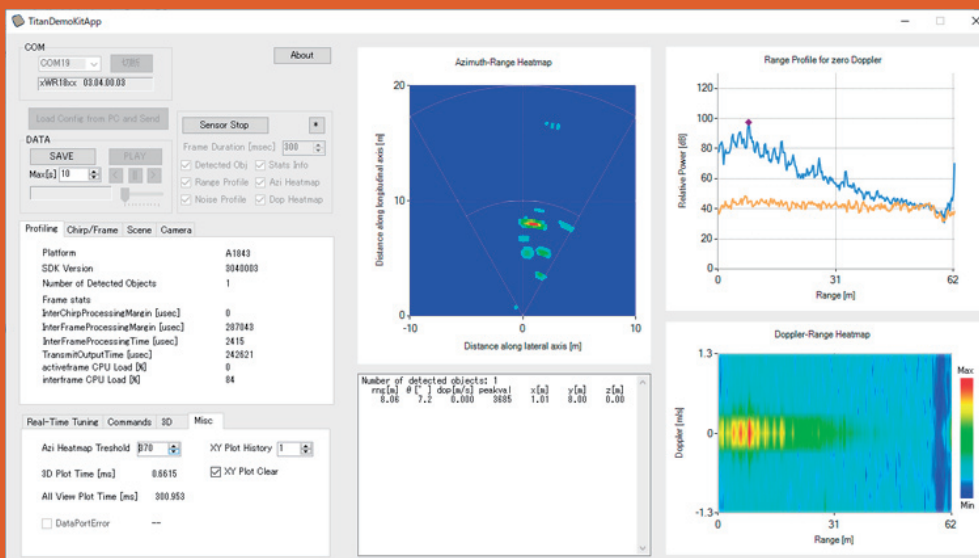
Radio Emission Image



*T18_01120112_2D Emission image

Evaluate Application (for Windows10)

The Radar Sensor Product Evaluation Kit supports display various measurement data. It is easy to display sensor settings, display and record/playback measured data.



- Display of various measurement data
 - X-Y Scatter Plot
 - 3D Scatter plot
 - Azimuth-Range Heatmap
 - Doppler-Range Plot
 - Doppler-Range Heatmap