

High Performance for Speed Detection & Range Resolution

Atlas 7xG(76/79GHz Radar Module Evaluation Kit)

- Adopting Analog Devices MMIC(ADAR6901)
- High performance for speed detection(High speed and Wide range chirp configuration)
- Range resolution at long range by high speed ADC.
- Suitable for Vital Sensing application
- PoE supported(Easy evaluation at field)
- 3 Antenna patterns available(We can support custom antenna pattern)
- ' OFF THE SHELF ' Evaluation.

Production ready device(We can shift to mass production soon)
Please contact our distributors for details.

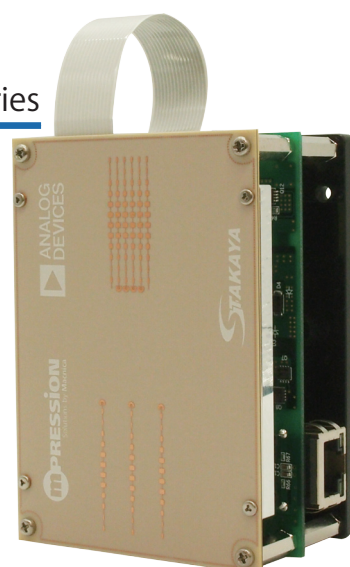
Specification

Item		76GHz Model	79GHz Model
Module Size	mm	65(W) x 44(D) x 93(H)	
Interface		Ethernet 1000BASE-T PoE+	
Consumption Power(Avg.)	W	4.3	
RF Frequency	GHz	76.4 - 76.75	77.3 - 80.9
Detection Range(Typ.)	m	117	33
Detection Angle(Typ.)	deg	±45	
Range Resolution	cm	86	13
Max Detection Speed	km/h	55	27
Chirp Time	us	21.25	42.5
Operation Temperature Range	°C	-20 ~ +55	
Data Format		Raw Data	

Atlas 7xG series



Adopted ADI's MMIC



Antenna Variations

Module Name		AT01120112_2D	AT01030103_2D	AT02010102_3D
Antenna Type				
TX	Patch	12	3	2
RX	Patch	12	3	2
Transmitter Antenna Half Power Angle(Typ.)				
Azimuth	deg	66	68	37
Elevation	deg	8	26	75
Receive Antenna Half Power Angle(Typ.)				
Azimuth	deg	99	66	74
Elevation	deg	9	26	49
Frequency Band	GHz	76	79	79
Polarized Direction		Vertical	Vertical	Vertical
3D Detection		unsupported	unsupported	supported
Output Power(Typ.)	dBm EIRP	21	17	15

※Specification may be changed without notice.

S-TAKAYA ELECTRONICS INDUSTRY CO.,LTD

3121-1 Satomi Satoshio-cho, Asakuchi-gun, Okayama,
719-0301, JAPAN

<https://www.s-takaya.co.jp>



Distributor

Macnica Altima Company, Inc.

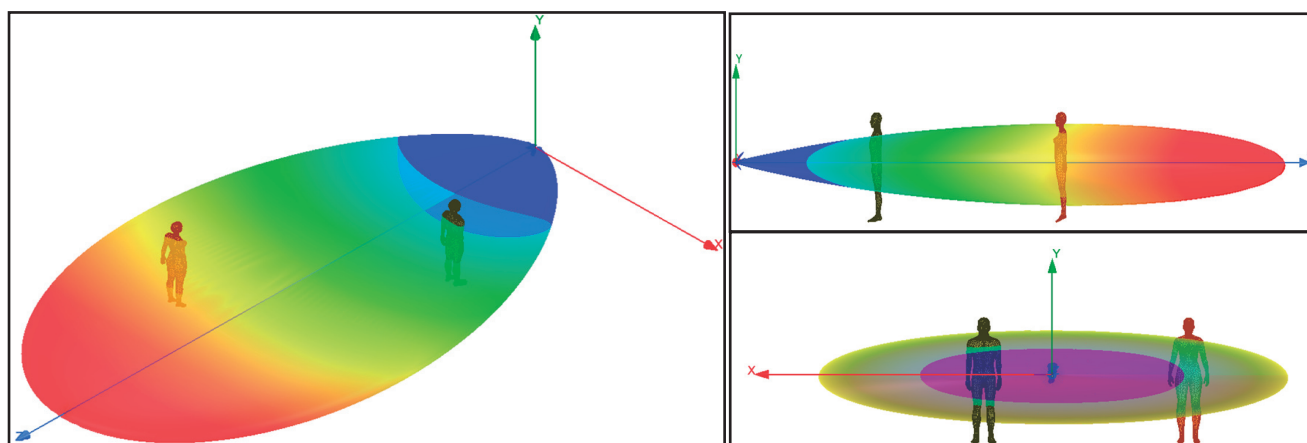
https://www.macnica.co.jp/business/semiconductor/manufacturers/analog_devices/

Merit of Radar

Radar has many advantages for robustness for environment , for rain, fog, smog and can detect at night and low illuminance.

Solution	Advantage	Disadvantage	Usecase
Radar	Range Speed detection Harsh environment	Low resolution	Target classification
LiDAR	Resolution Range	Bad weather Color (Black)	3D mapping Target classification Obstacle detection
Sonar	Cost	Short range Resolution Detection speed	Low speed short range
Vision (Camera)	Resolution Color information	Bad weather Low illuminance Range (Distance)	Target detection Target tracking

Radiation Image



※Radiation image to persons(AT01120112_2D)

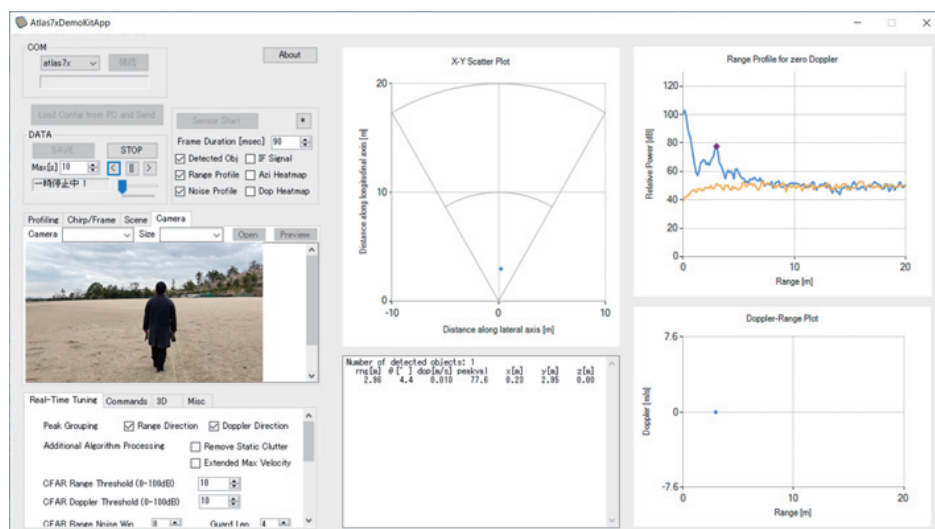
This image shows the graphical image of radiation.

Actually the radar's radiation spreads over this image and can detect more widely.

PC Application (for Windows10/11)

This Radar module is bundled evaluation software(PC)

You can set up the radar by this application and you can see the evaluation result and can record/replay the data easily.



- This tool displays
 - X-Y Scatter Plot
 - Azimuth Range heatmap
 - 3D Scatter plot
 - Range Profile for zero doppler
 - Doppler-range plot
 - Doppler-range heatmap
 - IF Signal
 - Camera image
 - Data save/display