Epsilon Lambda Electronics

Since 1974

Celebrating 36 Years as the Millimeter Wave Industry Technology Leader

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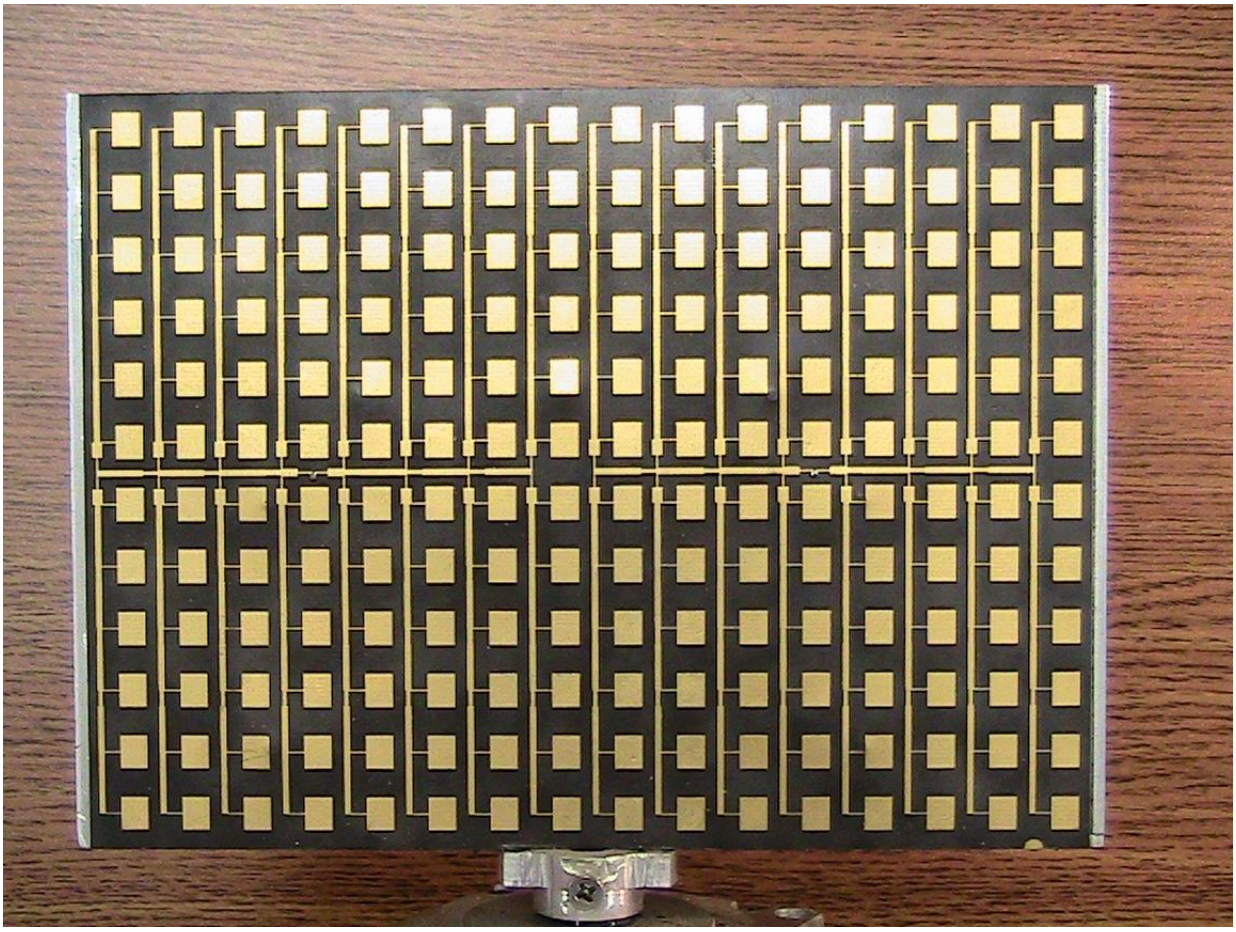
Epsilon Lambda Electronics

Vehicle Detection Ranging
Radar Sensor for Traffic Management at 24 GHz



Epsilon Lambda Electronics
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FEATURES

- **FM-CW Ranging Radar – (High Resolution)**
- **High Gain Antenna with range up to 300 meter (10 dB RCS)**
- **Vehicle ranging and Doppler speed measurement by FM-CW modulation**
- **Low Phase Noise Transceiver**
- **Operable from Battery Supply Voltages**
- **Compact Size, Rugged Construction**
- **Code embedded to DSP Circuit Card**
- **F.O.V. Image maps displayed on Laptop**

This low cost, high resolution ranging radar vehicle detection sensor is suitable as infrastructure for intersection safety enhancement or for vehicle and traffic detection, classification and management. Object data reported includes range, relative velocity, and signal return amplitude.

Model ELSO22-1M Specifications

Transmitter Power	**+10 dBm**
Center Frequency	**24.125 ± 0.0005 GHz**
Swept Band B	**200 MHz**
Modulation fm	**Triangular linear (3 in 15 ms) plus CW (25ms)**
Linearity	**<0.05%**
Antenna Type	**Dual patch array in elevation direction**
Antenna Gain	**>27 dB**
Azimuth FOV	**Fixed by antenna beam angle**
Azimuth Beam Angle	**3.8 degree**
Elevation Beam Angle (and FOV)	**10.6 degree**
Polarization	**Linear, horizontal**
Maximum Operating Range	**300 meters (for 10 dB RCS object)**
Obstacle List Update Rate	**40 ms**
Range Resolution	**< 1 meter**
Maximum Velocity	**80 m/s (288 km/hr or 180 mph)**
Velocity Resolution	**<0.25 m/s (1 km/hr or 0.63 mph)**
Update Rate	**40 ms**
DC Power (Electronics)	**9-16 V / max 1.5 A**
Interface	**SMA for maximum of six targets—coded TTL Ethernet for maximum of 16 objects; for map Ethernet for maximum of 150 objects; data**
Weight	**<1.5 Kg**
DSP Board	**Dual DSP and FPGA processor 1024 FFT for maximum 400 KHz beat signal**
Temperature Range	**-40 to +85 C**
Package Dimensions	**7.5X6.1X1.2 in.**

- Please contact Epsilon Lambda Electronics sales department for further information regarding this innovative radar sensor product.

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