CERNEX, Inc.

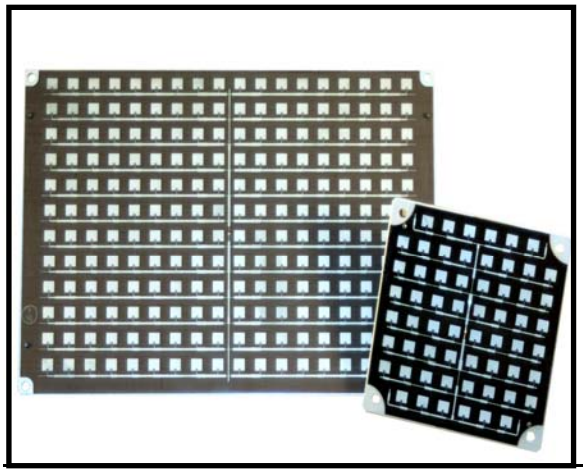
Patch Antenna (Microstrip) For Speed Sensor Heads

EATURES:

- Compact Size
- Economically Priced

APPLICATIONS:

- Moving Target Speed Measurement
- Speed and Direction Detection Measurement



CAPS Series

DESCRIPTION:

CAPS series antenna is a product with speed sensor heads based on Doppler principle. Model CAPS2427A is designed and manufactured for moving target speed measurement. Model CAPS2427B is for speed and direction detection measurement. The operation frequency of the models is at 24.125GHz. The antenna implemented is a low loss, high performance microstrip patch array version. The sensor modules are configured with a T/R diplexer, a single or I/Q receiver and a transmitter/receiver oscillator in an integrated package.

SPECIFICATIONS:

Model Number	CAPS2427A	CAPS2427B
Antenna Type	Microstrip Array	Microstrip Array
Antenna Polarization	Linear	Linear
Antenna 3 dB Beamwidth	4.6°(H) x 6.8° (V)	4.6°(H) x 6.8° (V)
Antenna Gain (dBi), Typical	27	27
Antenna Sidelobes (dBc), Max	-18	-18
TX Frequency (GHz)	24.125	24.125
TX Power (dBm), Typical	7.0	7.0
Receiver I/Q Phase Δ, Max	N/A	N/A
Receiver I/Q Amplitude Δ, Max	N/A	N/A
Detection Range	Up to 500 meters for radar cross section 2 meter2 (IF amplifier performance and radar DSP scheme dependent)	
IF Frequency (MHz), Min	DC to 10 MHz	DC to 10 MHz
IF Offset Voltage (Vdc), Typical	0 to -0.2	0 to -0.2
Frequency Stability, Max	-0.8MHz/°C	-0.8MHz/°C
Power Stability, Max	-0.03 dB/°C	-0.03 dB/°C
Bias Voltage (Vdc), Typical	+4.5 to 6.0	+4.5 to 6.0
Bias Current (mA), Typical	150 to 250	150 to 250
Temperature Range (°C)	-40 to +80 Degree °C	-40 to +80 Degree °C