2.4 GHz to 2.5 GHz ISM Band Radar Demonstration Kit, USB or Bluetooth Control, GUI, Includes Radar Board, Antennas, Cables, and Accessories

Radar Development Kit Technical Data Sheet

PEM11002-KIT

**Features**
- 2.4 GHz ISM Band
- Output Waveforms: Single Tone, Frequency Ramp, Sawtooth
- Audio Received Signal
- Onboard speaker and signal indicator
- Onboard custom tunable filter
- Operating Modes: CW, FMCW, Doppler
- Command Control via USB or Bluetooth
- Powered through USB connection
- Kit comes with radar board, antennas, and cables, mounting plate, tripod, and USB battery pack.

**Applications**
- Classroom Learning Tool
- Demonstration
- Research & Development

**Description**
The PEM1102-KIT radar demonstration kit operates across the International 2.4 GHz ISM band (2.25 to 2.5 GHz). Output signals can be transmitted via single tone, frequency ramp, or sawtooth patterns. The received signal is downconverted to audio frequencies that can be monitored via an onboard speaker and received signal strength indicator. Also included is an onboard prototype filter for custom filtering options. Model PEM1102-KIT is controlled either through the onboard USB port or a Bluetooth connection, and supports GUI command control for Windows. The kit comes complete for field demonstration and instruction purposes with a radar circuit board, antennas, cables, mounting plate, tripod, and USB battery pack. A downloadable operators manual is available on the Pasternack website.

**Performance by Frequency**

<table>
<thead>
<tr>
<th>Description</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>2.4</td>
<td>2.5</td>
<td>GHz</td>
<td></td>
</tr>
<tr>
<td>Output Power</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweeping CW Mode</td>
<td>1</td>
<td>0.125</td>
<td>Watt</td>
<td></td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>5</td>
<td></td>
<td>Volts</td>
<td></td>
</tr>
<tr>
<td>Operating Current</td>
<td></td>
<td>0.5</td>
<td>Amps</td>
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<tr>
<td>ADC</td>
<td>16</td>
<td></td>
<td>Bits</td>
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<tr>
<td>ADC Sampling Frequency</td>
<td>20</td>
<td></td>
<td>kHz</td>
<td></td>
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<tr>
<td>Bluetooth Version</td>
<td>2.1 + EDR</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

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The PEM11000-KIT Radar board, as viewed from above

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