WISDEM
Wideband Intelligent RF Spectral Detection Exploitation and Detection

/// OVERVIEW

POC’s WISDEM provides remote real-time monitoring and onboard characterization of the RF spectrum with high detection probability. The WISDEM modular design includes an analog front end and a digital back end that can be used in conjunction, or separately, to acquire and process up to 2 GHz of real-time instantaneous bandwidth.

/// KEY FEATURES

- Up to 2 GHz of real-time instantaneous bandwidth (IBW) to ensure detection of short duration and spectrally-agile signals
- Sensitivity up to -111 dBm at 1 MHz resolution bandwidth possible in direct RF mode (0.5-2 GHz) to detect low amplitude signals such as spread spectrum
- User-adjustable narrowband/wideband signal separation: enables detection of spectrally overlapping signals in dense signal environments
- Characterizes signals across entire IBW or a user-specified subset, according to: center frequency, bandwidth, amplitude, timestamp (other options possible)
- Identifies signals by comparing detected signal metadata to a database of authorized signals in an area of regard
- Modular, compact hardware design (2U analog front end, 1U digital back end) based on open standards makes WISDEM reconfigurable, upgradeable, and scalable
- Can be combined with POC’s RF interference mitigation technology for use in harsh electromagnetic spectrum (EMS) environments

Physical Optics Corporation
Technology that makes a difference.
/// PERFORMANCE CAPABILITIES

SPECIFICATIONS

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF Range</td>
<td>0.5 - 7.0 GHz (expandable to 18 GHz)</td>
</tr>
<tr>
<td>Real Time Instantaneous Bandwidth</td>
<td>2 GHz</td>
</tr>
<tr>
<td>Form Factor</td>
<td>3U 19” - Rackmount</td>
</tr>
<tr>
<td>Power</td>
<td>120 VAC</td>
</tr>
<tr>
<td>RF/IF Interfaces</td>
<td>SMA</td>
</tr>
<tr>
<td>Control Interfaces</td>
<td>RS-232/USB</td>
</tr>
<tr>
<td>Cooling</td>
<td>Air-Cooled</td>
</tr>
<tr>
<td>Data Interface</td>
<td>GbE</td>
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</tbody>
</table>

Persistence spectrum display (most probable spectrum in red, least probable in blue) taken from the WISDEM graphical user interface. The entire spectrum (0.5-2.5 GHz) was captured simultaneously (not scanning). Each row shows ambient signals detected in the following bands (from top to bottom): 0.5-1.0 GHz, 1.0-1.5 GHz, 1.5-2.0 GHz, 2.0-2.5 GHz.

/// CONTACT

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