

# Bumble Bee™



**HANDHELD MULTI-BAND SPECTRUM ANALYZER**

**SPOT  
RFID  
TAGS**

**DETECT  
802.11  
APs**

**900 MHz**  
**2.4 GHz**  
**5 GHz**

**IDENTIFY  
VoIP  
SIGNALS**

**BumbleBee™** is a precision calibrated spectrum analyzer that interfaces with HP's iPAQ® PocketPC®. The handheld receiver measures 4 distinct wireless bands: 900 MHz, 2.4-2.5 GHz, 5.15-5.50 GHz & 5.5-5.9 GHz. **BumbleBee™** allows the user to capture, display and record each of these bands for network installation, coverage and interference analysis. The iPAQ's touch screen allows field engineers to tap on points of interest in the waveform and "zoom" in for further analysis. Advanced spectrum analysis features include 3 waveform traces, peak hold, peak search, and user selectable power triggers. **BumbleBee™** allows for on-the-fly switching of bands for realtime spectral analysis of many wireless standards including RFID, VoIP, 802.11(b,a,g & Bluetooth) and cordless phones/video. **BumbleBee™** does the job of multiple wireless test instruments all in the palm of your hand.

## **BUMBLE BEE FEATURES:**

- 900 MHz, 2.4-2.5 GHz, 5.15-5.5 GHz & 5.5-5.9 GHz SPECTRUM ANALYSIS**
- IDENTIFY RFID, VoIP, 802.11 & OTHER ISM RF SPECTRUMS**
- HP iPAQ POCKETPC INTERFACE**
- 3 WAVEFORM TRACES**
- PEAK HOLD / SEARCH**
- PACKET / INTERFERENCE TRIGGERS**
- WAVEFORM JPEG SNAPSHOTS**

Berkeley Varitronics Systems  
255 Liberty Street, Metuchen, NJ 08840  
(732) 548-3737 / Fax: (732) 548-3404  
[www.bvsystems.com](http://www.bvsystems.com)

wireless products **BERKELEY  
VARITRONICS  
SYSTEMS**

# Bumble Bee™



## HANDHELD MULTI-BAND SPECTRUM ANALYZER

### Frequency:

Ranges:	902-928 MHz	ISM Band	
	2400 – 2500 MHz	ISM Band	(802.11/802.11b/g standard)
	5150 – 5500 MHz	U-NII	(802.11a standard)
	5500 – 5900 MHz	U-NII	(802.11a standard)

Span:	50 kHz to 800 MHz
Resolution bandwidth:	50 kHz – 1 MHz (50, 100, 300, 500, 1 MHz) Automatic 802.11 preset bandwidths
Video bandwidth (smoothing):	100 kHz – 1 MHz (50 kHz steps)
Screen Averaging:	1 – 100 Averages
Reference Stability:	± 2.5 PPM
Sweep Time:	800 mSec (20 MHz span, 50 kHz resolution bandwidth)

### Amplitude:

Average Noise Floor (No input):	< -100 dBm (reference level -70 dBm)
Dynamic Range:	> 40 dB
Level Accuracy:	± 1.5 dB (25 deg. C)
Max input (safe):	+ 0 dBm
Max input (no saturation):	- 20 dB
Reference level:	-20 to -70 dBm (10 dB steps)

### Display/Operating System/Memory:

Number of traces:	3 colors
Trace settings:	Peak hold, screen average
Marker functions:	Peak search, center frequency, left, right, delta Screen shots saved to .jpg file
Display (iPAQ):	see HP4700 or HP2200 specifications
Operating system (iPAQ):	Pocket PC™ 2003

### Triggering:

Auto or Manual:	
Packet/Interference Trigger:	Trigger analyzer when input power meets or exceeds threshold (20 MHz span)
Trigger threshold:	user settable in dBm.
Trigger delay:	user settable in mS.

**Input Connector:** SMA Female, 50Ω

### Power:

Internal battery:	(4 AA Ni-MH), AC or DC
Run time (internal battery):	> 3 hours
Re-charge time:	< 1 hour

*Use Berkeley's optional 5 watt attenuator pad when connected directly to an AP.*



### Physical Specifications:

Weight:	3 lbs.
Dimensions:	4"H x 4"W x 6"L

### Accessories:

900 MHz Antenna  
2400 MHz Antenna  
5 GHz Antenna

### Optional Accessories:

HX4700 or HX2400 series iPAQ  
12V Car Adapter  
900 MHz Yagi Antenna  
2.4 GHz Directional Antenna  
5 GHz Directional Antenna  
5 Watt dB attenuator pad

*Use Berkeley's optional 900 MHz, 2.4 GHz or 5 GHz directional antenna to locate and pinpoint various sources of interference or hackers.*

