

Bumble Bee™

HANDHELD MULTI-BAND SPECTRUM ANALYZER

DETECT
802.11
APs

2.4 GHz

PUBLIC
SAFETY
BAND

4.9 GHz

IDENTIFY
VoIP
SIGNALS

5 GHz

NOW SUPPORTS

4.9 GHz (specify model)

Wi-MAX (specify model)

BumbleBee™ is a precision calibrated Wi-Fi spectrum analyzer that interfaces with HP's iPAQ® PocketPC®. The handheld receiver measures popular wireless bands: 2.4 GHz, 4.9 GHz and 5 GHz. **BumbleBee™** allows the user to capture, display and record spectral data 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/search, spectrogram, histogram as well as user selectable power triggers. **BumbleBee™** allows for on-the-fly switching of bands for realtime spectral analysis of many wireless standards including 802.11(b,a,g & Bluetooth), WIMAX, cordless phones/video and the Public Safety Band. **BumbleBee™** is the only true handheld Wi-Fi spectrum analyzer.

BUMBLE BEE FEATURES:

- 2.4 GHz, 4.9 GHz, 5 GHz SPECTRUM ANALYSIS (4.9 GHz only available in Public Safety Model)
- HP iPAQ POCKETPC INTERFACE
- 3 INDEPENDENT WAVEFORM TRACES
- RF SPECTROGRAM & HISTOGRAM
- PEAK HOLD / SEARCH
- PACKET / INTERFERENCE TRIGGERS
- 802.11 CHANNEL PRESETS
- WAVEFORM JPEG SNAPSHOTS
- NECTAR PC SPECTRUM ANALYSIS SOFTWARE (OPTIONAL)

IDENTIFY
INTERFERENCE



Now you can have all the power of BumbleBee™ on your PC with Nectar™ spectrum analysis software and Berkeley's Pollenator™ USB/Ethernet PC interface.

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wireless products **BERKELEY
VARITRONICS
SYSTEMS**

Bumble Bee™



HANDHELD MULTI-BAND SPECTRUM ANALYZER

Frequency:

Ranges:	2400 – 2500 MHz	ISM Band	(802.11/802.11b/g standard)
	4940 – 4990 MHz	(Public Safety Band)	*only available in public safety model
	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
2.4 GHz Directional Antenna
5 GHz Directional Antenna
5 Watt dB attenuator pad



Use Berkeley's optional 2.4 GHz, 4.9 GHz or 5 GHz directional antenna to locate and pinpoint various sources of interference or hackers.