VULCAN SERIES Product Family Description
Long distance High capacity point to point backhaul 2.3 GHz to 6.06 GHz
Outdoor TDMA Subscriber with internal antenna

VULCANai_PFD_ENB01W

Features:

- Time Division Multiple Access (TDMA).

- Long distance Backhaul.

- Variable frequencies.

- 2.3, 2.4, 4.9 and 5 GHz.

- Dust and water resistant IP-68 rated.

- Overvoltage protected as per IEC61000-4-5.

- Excellent MTBF.

Applications:

- High capacity backhaul in long distances up to 50 Km.

- 5/10/20/40MHz adjustable channel bandwidth.

- Cost effective alternative to wired network environment.

- Redundant link between buildings.

- Dedicated ISP connections for high-reliability subscribers.

- Enterprises or Institutions LAN and PBX extension for high-reliability subscribers.

Licensed Band | 50 Km | 40 Mpbs | OFDM | TDMA | DSSS | Fractional Bandwidth | Backhaul | Long Distance | PTP Bridge | IP-68

VULCAN SERIES Product Family Description
Long distance High capacity point to point backhaul 2.3 GHz to 6.06 GHz
Outdoor TDMA Subscriber with internal antenna

The VULCAN Series by LanPro is an ideal solution for high capacity point to point backhaul for 2.3 to 6.06 GHz bands wireless deployment for long distances, up to 50 Km.

The support of various licensed bands frequencies from 2.3 GHz ~ 6.06 GHz, provides the customer more options besides the crowded ISM band. The use of an internal antenna simplifies the deployment work.

5/10/20/40 MHz adjustable channel bandwidth provides flexibility of deployment to channel plan and high capacity backhaul – truly total accumulated throughput (uplink + downlink) up to 40 Mbps with 40 MHz channel BW.

It utilizes OFDM – TDMA technology which allowing the balanced uplink / downlink tunnels in a single channel with least collision and highest efficiency. The Ethernet products are primarily designed to provide standard Ethernet interface in a wireless link between distant sites.

The VULCAN Series of radios have powerful security management because they use a proprietary protocol and support WEP, WPA2 (AES-128bits) encryption, MAC address filter at the same time. All these functions make the network much more secure and reliable.

> **A** **Product Highlights:**

● **Effective spectrum utility / variable capacities**
The VULCAN series has 4 levels of channel bandwidth (5/10/20/40 MHz) options, they are adjustable via software. This function provides flexibility to channel plans and variable capacities for different applications.

● **Low EIRP for long system and high capacity transmission**
The VULCAN series improves the throughput performance up to 50~70% more than the standard Wi-Fi products, this means that the system has the same performance with lower EIRP (smaller antenna) compared to other standard Wi-Fi products.

● **Time-Division Multiple Access (TDMA) technique**
TDMA tech can avoid the packets collision and send the packets more efficiently and in a stable way to imporve the capacity and quality of data transmission in long distance or NLOS (Near/Non-Line of sight) situation.

● **High output power OFDM technology and Integrated antenna**
Integrated panel antenna with the high output power OFDM technology provides best performance and lowest price and at the same time makes the VULCAN series to be the most cost effective solution in the long distance wireless backhaul market.

● **Proprietary Security**
The VULCAN series uses a proprietary protocol, it cannot connect to other standard Wi-Fi products. It also provides WEP and WPA2 (AES-128bits) and MAC access control to build the highest security mechanism to prevent malicious attacks from the Internet.

● **Antenna Alignment (Audible antenna alignment for optional)**
The site survey function provides the RSSI (signal strength) info to indicate the status of antenna alignment. Customer can order audible antenna alignment model for aligning the antenna by using the headphone of your mp3 player, quite easy and simple.

● **Robust construction**
 Prepared for harsh enviroments, the IP-68 rating ensures long life operation.

> **B** **Specifications:**

RADIO					
Modelo N.	**LP-V232441ai**	**LP-V242441ai**	**LP-V494944ai**	**LP-V495846ai**	**LP-V516046ai**
Frequency Range	2302-2482 MHz	2402-2482 MHz	4940-4990MHz	4958-5875 MHz	5150-6060 MHz
OUTPUT Amplifier POWER (EIRP)					
64QAM (54 Mbps)	38 (±2) dBm	38 (±2) dBm	40 (±2) dBm	41(±2) dBm	41 (±2) dBm
16QAM (36 Mbps)	40 (±1) dBm	40 (±1) dBm	42 (±1) dBm	45(±1) dBm	45 (±1) dBm
BPSK (18 Mbps)	41 (±1) dBm	41 (±1) dBm	44 (±1) dBm	46(±1) dBm	46 (±1) dBm
QPSK (6 Mbps)	41 (±1) dBm	41 (±1) dBm	44 (±1) dBm	46(±1) dBm	46 (±1) dBm
CCK (DSSS)	41 (±1) dBm	41 (±1) dBm	N/A	N/A	N/A
Antenna Gain	18 dBi	18 dBi	23 dBi	23 dBi	23 dBi
Receive Sensivity (Packet error rate: 10%)	-75 dB (±2) dBm @64QAM 2/3 -82 dB (±2) dBm @16QAM 1/2 -86 dB (±2) dBm @64QPSK 1/2 -90 dB (±2) dBm @64BPSK 1/2				
Modulation / Media Access	OFDM				
Channel Bandwidth	5 / 10 / 20 / 40 MHz				
Frequency Stability	±10 ppm				

INTERFACES		
Ethernet	IEEE 802.3 (10 Base-T) / IEEE 802.3u (100 Base-Tx)	
ADVANCE FEATURES		
Base Station Scanning	RSSI	
Watchdog	Yes	
Audible antenna alignment	Yes	
ANTENNA		
Frequencies	2.3 / 2.4 GHz	4.9 / 5 GHz
	2.302 GHz~2.482 GHz	4.9 GHz~6.1 GHz
Gain	18 dBi	23 dBi
Beamwith	H 16° ; E 16°	H 11.4° ; E 10.6°
VSWR	1.7 :1	1.7 :1
Front to back ratio	40 dB	40 dB
Impedance	50 Ohm	50 Ohm
Antenna Aligment	Audible Antenna Alignment beeper(Optional)	
MANAGEABILITY		
Management and setup	Web-based configuration	
Network Architecture	PTP	
Operating System	Windows 98 / 2000 / NT / XP	
SNMP agents	MIB ll	
Protocol	TCP/IP, IPX/SPX, NetBEUI	
SECURITY		
Data Encryption	WEP 128 bits / AES-256 bits	
Other Security	Proprietary Protocol/Isolates connected CPEs (Layer 2 Isolation)	
ENVIROMENT		
Operating Temperature	-30~55 ºC	
Storage Temperature	-30~70 ºC	
Humidity	95% non-condensing	
POWER SUPPLY		
AC 100-264 V 50-60 Hz, DC 24 V or 48 V (Optional for Telecom Grade)		
PHYSICAL FEATURES		
Dimensions	Typical 330 (L) × 295 (W) × 105 (H); mm	Typical 335 (L) * 335 (W) *81 (H) ; mm
Weight	3.3 Kg ; 7.27 lb	2.9 Kg ; 6.39 lb

C **How to Order:**

LP-V232441ai **2302-2482 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 41dBm, IP-68 rated.**

LP-V242441ai **2402-2482 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 41dBm, IP-68 rated.**

LP-V494944ai **4940-4990 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 44dBm, IP-68 rated.**

LP-V495846ai **4920-5875 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 46dBm, IP-68 rated.**

LP-V516046ai **5150-6060 MHz Vulcan Series Outdoor TDMA Subscriber with Internal Antenna EIRP: 46dBm, IP-68 rated.**