

pMDDL4000



3.2GHz to 5GHz S-Band + C-Band Wireless Digital Data Link

The pMDDL4000 combines both S and C bands covering 3200 to 5000 MHz. This includes a Dual Synthesizer Architecture which allows for independent Uplink and Downlink frequency. Very Robust off channel filtering with Frequency Hopping allow maximum RF immunity in Harsh RF environments. The Pico MIMO DDL features 2x2 MIMO, using Maximal Ratio Combining (MRC), Maximal Likelihood (ML) decoding and Low-Density Parity Check (LDPC) to achieve robust RF performance. The pMDDL4000 features secure and simultaneous Ethernet, USB and Serial Data Communications.

Only 15 grams!



1.05" X 2.0" X 0.22"

New Dynamic Frequency Selection on OFDM overlay and Frequency Hopping provides robust interference and antijam immunity!

3.2 to 5.0 GHz (Software PGM)

Independent Uplink & Downlink Frequency

2X2 MIMO, > 40 Mbps

High Power (2W)

PTP | PMP | Relay | MESH

DFS + Frequency Hopping

MANET MESH / Advanced MESH

Features

- Software Selectable 3.2 - 5.0 GHz Frequency Operation
- Selectable Channel Bandwidth - 18MHz, 8MHz, 4MHz, 2MHz
- Maximal Ratio Combining (MRC), Maximal Likelihood (ML) decoding
- Low-Density Parity Check (LDPC)
- Optional AES256 (Permit Required)
- Up to 21 Mbps Iperf Throughput @ 8 MHz channel (-78 dBm)
Up to 2 Mbps IPerf Throughput @ 4 MHz channel (-102 dBm)
- Dual 10/100 Ethernet Ports (LAN/WAN)
- Point-to-Point, Point-to-Multipoint & MANET MESH Networks
- Master, Remote, Relay & MESH Operating Modes.
- Adjustable transmit power (up to 2W total)

Available only to Qualified Customers under NDA

Enclosed



Motherboard

SWP Series

◆ Video ◆ 2X2 MIMO ◆ Ethernet ◆ Serial ◆ USB

Specifications



Frequency (Software Selectable)	3200 to 5000 MHz	Connectors: OEM Antenna: UFL x2 (ANT1, ANT2) Data: 116 Pin SMT Enclosed Antenna: SMA Female x2 Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin) SWP Antenna: 2x MMCX Power, Data: 10-Pin (GHR-10V-S)
Error Detection	32 bits of CRC, ARQ	
Encryption (Requires Export Permit)	256-bit AES	
Ports	Serial Data/Console RS232 TTL level (300bps to 230kbps) Ethernet Dual 10/100 IEEE802.3 (LAN/WAN) USB 2.0	
Firewall	Port Forwarding, Access Control, IP/MAC List.	
Operating Modes	Point-to-Point, Point-to-Multipoint, Repeater, MANET Mesh	
Diagnostics	Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, IPerf, RSSI	
Management	Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)	
Rejection	Excellent strong signal interference & rejection characteristics	
Input Voltage	OEM Digital Voltage = 3.3VDC RF Voltage = 5VDC Enclosed/SWP 8-30 VDC	
Environmental		Temperature -40°F to 185°F (-40°C to +85°C) Humidity 5-95%, non-condensing
Weight		OEM ~15 grams SWP ~59 grams Enclosed ~275 grams
Dimensions		OEM 26.5 x 51 x 5.6mm SWP 36 x 66 x 16 mm Enclosed 81 x 88 x 35mm
Order Options		
pMDDL4000		3.2-5.0 GHz 2x2 2W MIMO DDL OEM
pMDDL4000-ENC		3.2-5.0 GHz 2x2 2W MIMO DDL Enclosed
pMDDL4000-SWP		3.2-5.0 GHz 2x2 2W MIMO DDL Miniature

Optimal Performance Specifications

Modulation	MIMO ON						Total Tx Power* +/- 1dB
	18 MHz Channel		8 MHz Channel		4 MHz Channel		
	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	
BPSK_1/2	6	-96	3.1	-99.5	1.57	-102.5	33dBm
QPSK_1/2	12	-95	6.0	-98	3.0	-101	33dBm
QPSK_3/4	17	-93	8.4	-96	4.3	-99	33dBm
16QAM_1/2	21	-89	10.7	-92	5.4	-95.5	32dBm
16QAM_3/4	29	-87	14.8	-90	7.4	-93	32dBm
64QAM_2/3	36	-52	18.1	-85	7.8	-88	32dBm
64QAM_3/4	40	-80	19.0	-83.5	8.0	-86	32dBm
64QAM_5/6	43	-78	21.0	-81	10.0	-83.5	31dBm

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Microhard Systems Inc.
150 Country Hills Landing N.W.
Calgary, AB, Canada T3K 5P3

www.microhardcorp.com
info@microhardcorp.com
1-855-353-0028

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