

Miniature OEM Wireless Digital Data Link

The all new Pico MIMO Digital Data Link is a miniature OEM, high power, 2x2 MIMO 2.4 GHz wireless OEM solution that provides the bandwidth and range needed for complex data intensive applications. The Pico MIMO DDL features 2x2 MIMO Digital Data Link, using Maximal Ratio Combining (MRC), Maximal Likelihood (ML) decoding and Low-Density Parity Check (LDPC) to achieve robust RF performance. The pMDDL features secure & simultaneous Ethernet and Serial Data communications.

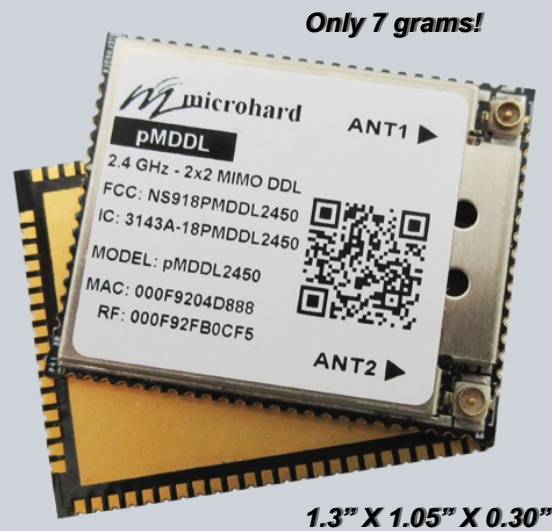
2X2 MIMO

Up to 25 Mbps

Small Footprint

Ethernet + Serial

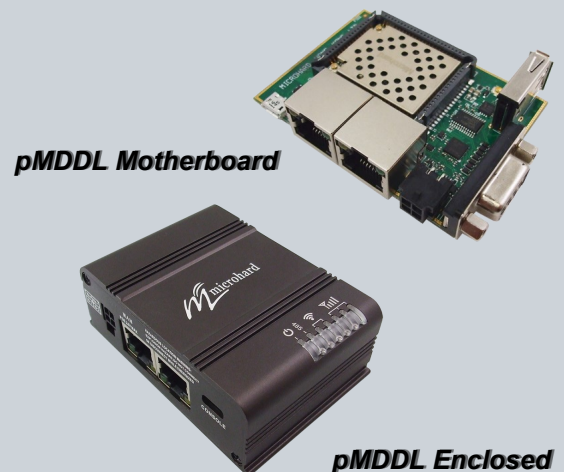
PTP | Multipoint | Relay



pMDDL Features

- Robust 2X2 MIMO 2.4 GHz Operation
- Maximal Ratio Combining (MRC), Maximal Likelihood (ML) decoding
- Low-Density Parity Check (LDPC)
- Up to 25 Mbps Iperf Throughput @ 8 MHz channel (-78 dBm)
Up to 2 Mbps IPerf Throughput @ 4 MHz channel (-102 dBm)
- Extremely small foot print and very lightweight
- Serial Communication Port
- Dual 10/100 Ethernet Ports (LAN/WAN)
- Supports Point-to-Point and Point-to-Multipoint Networks
- Master, Remote, Relay Operating Modes.
- Adjustable total transmit power (up to 1W)
- Interface through local console, telnet, and web browser
- Local and remote wireless firmware upgrading through FTP

Interface Options



◆ Video ◆ 2X2 MIMO ◆ Ethernet ◆ Serial ◆ Security

Specifications

Frequency		2.402 - 2.478 GHz	Optimal Performance Specifications			
Error Detection		32 bits of CRC, ARQ	Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB
Encryption (Requires Export Permit)		128-bit AES (Optional 256-bit)				
Ports		Serial Data/Console Ethernet USB	8 MHz (2X2 MIMO ON)			
Serial Data/Console Ethernet USB	RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 (Future Development)		BPSK_1/2	3	-99.5	30dBm
			QPSK_1/2	5.9	-98	30dBm
		QPSK_3/4	8.8	-96	30dBm	
Firewall		Port Forwarding, Access Control, IP/MAC List.	16QAM_1/2	11.6	-92	30dBm
Operating Modes		Point-to-Point, Point-to-Multipoint, Relay	16QAM_3/4	17.1	-90	30dBm
Diagnostics		Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, IPerf, RSSI	64QAM_2/3	22.8	-85	30dBm
Diagnostics			64QAM_3/4	25.5	-83.5	30dBm
			64QAM_5/6	27.8	-81	30dBm
Management		Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)	4 MHz (2X2 MIMO ON)			
Rejection		Excellent strong signal interference & rejection characteristics	BPSK_1/2	1.51	-102.5	30dBm
Rejection			QPSK_1/2	2.98	-101	30dBm
			QPSK_3/4	4.4	-99	30dBm
Input Voltage		Digital Voltage = 3.3V / RF Voltage = 5V 7 - 30 VDC	16QAM_1/2	5.8	-95.5	30dBm
Connectors:		Antenna: UFL x2 (ANT1, ANT2) Data: 80 Pin SMT Antenna: UFL x2 (ANT1, ANT2) Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin)	16QAM_3/4	8.6	-93	30dBm
OEM Motherboard	Antenna: UFL x2 (ANT1, ANT2) Data: 80 Pin SMT		64QAM_2/3	11.4	-88	30dBm
			64QAM_3/4	12.8	-86	30dBm
Motherboard	Antenna: UFL x2 (ANT1, ANT2) Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin)		64QAM_5/6	14	-83.5	30dBm
					Modulation	IPerf Throughput (Mbps)
Environmental			Temperature Humidity	8 MHz (MIMO OFF)		
Temperature Humidity	-40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing		BPSK_1/2	3	-96.5	30dBm
			QPSK_1/2	5.8	-95	30dBm
Weight		Approx. 7 grams Approx. 50 grams Approx. 165 grams	QPSK_3/4	8.6	-93	30dBm
OEM Motherboard Enclosed	Approx. 7 grams Approx. 50 grams Approx. 165 grams		16QAM_1/2	11.5	-89	30dBm
			16QAM_3/4	16.9	-87	30dBm
Dimensions		Approx. 1.05" x 1.3" x .15" (27mm x 33mm x 4mm) Approx. 2.0" x 3.0" x 0.70" (50mm x 76mm x 18mm) Approx. 3.05" x 2.2" x 1.1" (77mm x 55mm x 28mm)	64QAM_2/3	22.2	-82	28dBm
OEM Motherboard Enclosed	Approx. 1.05" x 1.3" x .15" (27mm x 33mm x 4mm) Approx. 2.0" x 3.0" x 0.70" (50mm x 76mm x 18mm) Approx. 3.05" x 2.2" x 1.1" (77mm x 55mm x 28mm)		64QAM_3/4	24.7	-80.5	28dBm
			64QAM_5/6	27.4	-78	27dBm
Approvals		FCC Industry Canada	4 MHz (MIMO OFF)			
Approvals			BPSK_1/2	1.5	-99.5	30dBm
			QPSK_1/2	2.9	-98	30dBm
			QPSK_3/4	4.3	-96	30dBm
			16QAM_1/2	5.7	-92.5	30dBm
			16QAM_3/4	8.4	-90	30dBm
Order Options			64QAM_2/3	11.3	-85	28dBm
pMDDL2450	MHK185500	2X2 MIMO 2.4 GHz OEM DDL Module (1W)	64QAM_3/4	12.5	-83	28dBm
pMDDL2450LC	MHK118510	2X2 MIMO 2.4 GHz Low Cost DDL Module (25dBm)	64QAM_5/6	14	-80.5	27dBm

Contact Information

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

Email: info@microhardcorp.com
Tel: (403) 248-0028
Fax: (403) 248-2762

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