

## Miniature OEM Wireless Digital Data Link

The Pico MIMO Digital Data Link is a miniature OEM, high power, 2x2 MIMO 2.5GHz 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.

> 30km Range

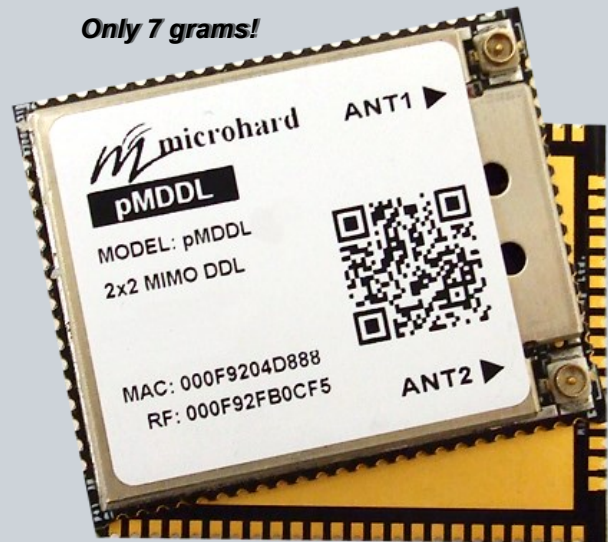
Up to 25Mbps

34dBm (2.5W)

Ethernet + Serial + USB

Mesh | Multipoint | Relay

Only 7 grams!



1.3" X 1.05" X 0.14"

## pMDDL Features

- Robust 2X2 MIMO 2.5GHz Operation
- Adjustable total transmit power (up to 36dBm)
- Maximal Ratio Combining (MRC), Maximal Likelihood (ML) decoding
- Low-Density Parity Check (LDPC)
- Up to 25Mbps Iperf Throughput @ 8MHz channel (-78dBm)  
Up to 2Mbps IPerf Throughput @ 4MHz channel (-102dBm)
- Extremely small foot print and very lightweight
- Serial Communication Port
- Dual 10/100 Ethernet Ports (LAN/WAN)
- Supports Point-to-Point, Point-to-Multipoint and Mesh Networks
- Master, Remote, Relay, Mesh Operating Modes.
- Interface through local console, telnet, and web browser
- Local and remote wireless firmware upgrading through FTP

## Interface Options



# Specifications

Frequency		Optimal Performance Specifications			
Error Detection		Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB
2.500 - 2.570 GHz		<b>8 MHz (2X2 MIMO ON)</b>			
32 bits of CRC, ARQ		BPSK_1/2	3	-99.5	34dBm
128-bit AES (Optional 256-bit AES)		QPSK_1/2	5.9	-98	34dBm
<b>Encryption (Requires Export Permit)</b>		QPSK_3/4	8.8	-96	34dBm
<b>Ports</b> Serial Data/Console Ethernet USB		16QAM_1/2	11.6	-92	34dBm
RS232 TTL level (300 bps - 230 kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0		16QAM_3/4	17.1	-90	31dBm
<b>Firewall</b>		64QAM_2/3	22.8	-85	30dBm
Port Forwarding, Access Control, IP/MAC List.		64QAM_3/4	25.5	-83.5	30dBm
<b>Operating Modes</b>		64QAM_5/6	27.8	-81	30dBm
Point-to-Point, Point-to-Multipoint, Relay, Mesh		<b>4 MHz (2X2 MIMO ON)</b>			
<b>Diagnostics</b>		BPSK_1/2	1.51	-102.5	34dBm
Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, IPerf, RSSI		QPSK_1/2	2.98	-101	34dBm
<b>Management</b>		QPSK_3/4	4.4	-99	34dBm
Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)		16QAM_1/2	5.8	-95.5	34dBm
<b>Rejection</b>		16QAM_3/4	8.6	-93	31dBm
Excellent strong signal interference & rejection characteristics		64QAM_2/3	11.4	-88	30dBm
<b>Input Voltage</b>		64QAM_3/4	12.8	-86	30dBm
OEM Motherboard/ENC	Digital Voltage = 3.3V / RF Voltage = 5V 7 - 30 VDC	64QAM_5/6	14	-83.5	30dBm
<b>Connectors:</b>		<b>8 MHz (MIMO OFF)</b>			
OEM Motherboard/ENC	Antenna: UFL x2 (ANT1, ANT2) Data: 80 Pin SMT	BPSK_1/2	3	-96.5	31dBm
OEM Motherboard/ENC	Antenna (ENC): RP-SMA Female Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin)	QPSK_1/2	5.8	-95	31dBm
<b>Environmental</b>		QPSK_3/4	8.6	-93	31dBm
Temperature Humidity	-40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing	16QAM_1/2	11.5	-89	31dBm
<b>Weight</b>		16QAM_3/4	16.9	-87	30dBm
OEM Motherboard Enclosed	~ 7 grams ~ 75 grams ~ 230 grams	64QAM_2/3	22.2	-82	28dBm
<b>Dimensions</b>		64QAM_3/4	24.7	-80.5	28dBm
OEM Motherboard Enclosed	~1.05 x 1.3 x 0.15" (27 x 33 x 4mm) ~2.75 x 3.25 x 0.90" (70 x 83 x 23mm) ~3.2 x 3.5 x 1.15" (81 x 88 x 29mm)	64QAM_5/6	27.4	-78	27dBm
<b>Order Options</b>		<b>4 MHz (MIMO OFF)</b>			
MHK185700 MHK185750	2X2 MIMO 2.5 GHz OEM Digital Data Link 2X2 MIMO 2.5 GHz Enclosed Digital Data Link	BPSK_1/2	1.5	-99.5	31dBm
		QPSK_1/2	2.9	-98	31dBm
		QPSK_3/4	4.3	-96	31dBm
		16QAM_1/2	5.7	-92.5	31dBm
		16QAM_3/4	8.4	-90	30dBm
		64QAM_2/3	11.3	-85	28dBm
		64QAM_3/4	12.5	-83	28dBm
		64QAM_5/6	14	-80.5	27dBm

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