pMDDL2550

Miniature OEM Wireless Digital Data Link

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

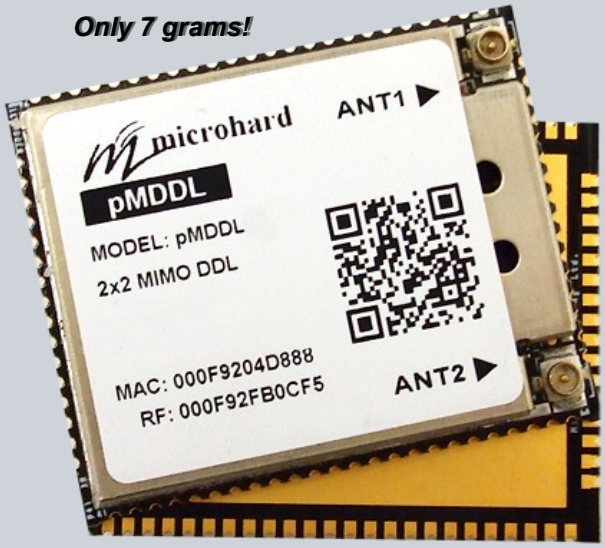
Up to 25 Mbps

Small Footprint

Ethernet + Serial

PTP | Multipoint | Relay

Only 7 grams!

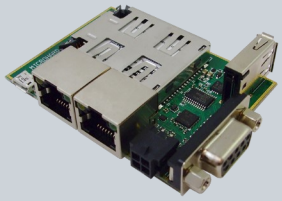


1.3" X 1.05" X 0.14"

pMDDL Features

- Robust 2X2 MIMO 2.5 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



Motherboard

Enclosed

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

Specifications

Frequency	2.500 - 2.570 GHz
Error Detection	32 bits of CRC, ARQ
Encryption *(Requires Export Permit)*	128-bit AES (Optional 256-bit)
Ports	
Serial Data/Console	RS232 TTL level (300 bps - 230 kbps)
Ethernet	Dual 10/100BaseT IEEE802.3 (LAN/WAN)
USB	2.0 (Future Development)
Firewall	Port Forwarding, Access Control, IP/MAC List.
Operating Modes	Point-to-Point, Point-to-Multipoint, Relay
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 = 3.3V / RF Voltage = 5V
Motherboard/ENC	7 - 30 VDC
Connectors:	
OEM	Antenna: UFL x2 (ANT1, ANT2) Data: 80 Pin SMT
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)
Environmental	
Temperature	-40°F to 185°F (-40°C to +85°C)
Humidity	5-95%, non-condensing
Weight	
OEM	Approx. 7 grams
Motherboard	Approx. 50 grams
Enclosed	Approx. 175 grams
Dimensions	
OEM	Approx. 1.05" x 1.3" x .15" (27mm x 33mm x 4mm)
Motherboard	Approx. 2.0" x 3.0" x 0.70" (50mm x 76mm x 18mm)
Enclosed	Approx. 3.05" x 2.2" x 1.1" (77mm x 55mm x 28mm)

Order Options

pMDDL2550	**MHK185700**	2X2 MIMO 2.5 GHz OEM DDL Module (1W)

Optimal Performance Specifications

Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB
8 MHz (2X2 MIMO ON)			
BPSK_1/2	3	-99.5	30dBm
QPSK_1/2	5.9	-98	30dBm
QPSK_3/4	8.8	-96	30dBm
16QAM_1/2	11.6	-92	30dBm
16QAM_3/4	17.1	-90	30dBm
64QAM_2/3	22.8	-85	30dBm
64QAM_3/4	25.5	-83.5	30dBm
64QAM_5/6	27.8	-81	30dBm
4 MHz (2X2 MIMO ON)			
BPSK_1/2	1.51	-102.5	30dBm
QPSK_1/2	2.98	-101	30dBm
QPSK_3/4	4.4	-99	30dBm
16QAM_1/2	5.8	-95.5	30dBm
16QAM_3/4	8.6	-93	30dBm
64QAM_2/3	11.4	-88	30dBm
64QAM_3/4	12.8	-86	30dBm
64QAM_5/6	14	-83.5	30dBm

Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB
8 MHz (MIMO OFF)			
BPSK_1/2	3	-96.5	30dBm
QPSK_1/2	5.8	-95	30dBm
QPSK_3/4	8.6	-93	30dBm
16QAM_1/2	11.5	-89	30dBm
16QAM_3/4	16.9	-87	30dBm
64QAM_2/3	22.2	-82	28dBm
64QAM_3/4	24.7	-80.5	28dBm
64QAM_5/6	27.4	-78	27dBm
4 MHz (MIMO OFF)			
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
64QAM_2/3	11.3	-85	28dBm
64QAM_3/4	12.5	-83	28dBm
64QAM_5/6	14	-80.5	27dBm

Contact Information

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