

Quad-Band Wireless Digital Data Link

The all new pMDDL1622 is a miniature OEM, high power, Quad-Band wireless OEM solution that provides the throughput and range needed for complex data intensive applications. The pMDDL1622 offers software selectable operation in the 1.6, 1.8, 2.0, or 2.2 GHz frequency ranges. 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 pMDDL1622 features secure and simultaneous Ethernet and Serial Data Communications.

2X2 MIMO

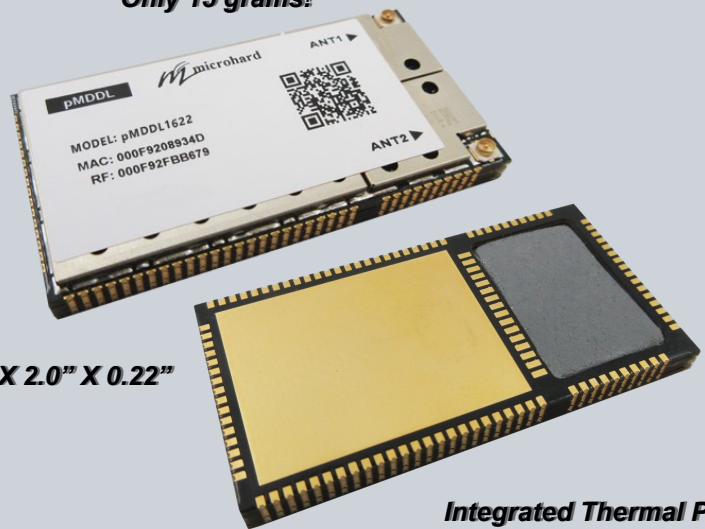
Up to 21 Mbps

Quad-Band

Ethernet + Serial

PTP | Multipoint | Relay

Only 15 grams!



1.05" X 2.0" X 0.22"

Integrated Thermal Pad!

pMDDL1622 Features

- Software Selectable 1.6, 1.8, 2.0, or 2.2 GHz Operation
- Maximal Ratio Combining (MRC), Maximal Likelihood (ML) decoding
- Low-Density Parity Check (LDPC)
- Up to 21 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



Enclosed

Motherboard

Specifications

Optimal Performance Specifications

| Modulation | MIMO ON | | | | | MIMO OFF | | | | |
|--|-------------------------|-------------------------------|-------------------------|-------------------------------|------------------------|-------------------------|-------------------------------|-------------------------|-------------------------------|------------------------|
| | 8MHZ Channel | | 4MHZ Channel | | Total Tx Power +/- 1dB | 8MHZ Channel | | 4MHZ Channel | | Total Tx Power +/- 1dB |
| | IPerf Throughput (Mbps) | Optimal MRC Sensitivity (dBm) | IPerf Throughput (Mbps) | Optimal MRC Sensitivity (dBm) | | IPerf Throughput (Mbps) | Optimal MRC Sensitivity (dBm) | IPerf Throughput (Mbps) | Optimal MRC Sensitivity (dBm) | |
| Frequency Band: 1625 - 1725 MHz | | | | | | | | | | |
| BPSK_1/2 | 3.1 | -99.5 | 1.57 | -102.5 | 30dBm | 3.1 | -96.5 | 1.57 | -99.5 | 30dBm |
| QPSK_1/2 | 6.0 | -98 | 3.0 | -101 | 30dBm | 6.0 | -95 | 3.0 | -98 | 30dBm |
| QPSK_3/4 | 8.4 | -96 | 4.3 | -99 | 30dBm | 8.4 | -93 | 4.3 | -96 | 30dBm |
| 16QAM_1/2 | 10.7 | -92 | 5.4 | -95.5 | 30dBm | 10.7 | -89 | 5.4 | -92.5 | 30dBm |
| 16QAM_3/4 | 14.8 | -90 | 7.4 | -93 | 30dBm | 14.8 | -87 | 7.4 | -90 | 30dBm |
| 64QAM_2/3 | 18.1 | -85 | 7.8 | -88 | 30dBm | 18.1 | -82 | 7.8 | -85 | 30dBm |
| 64QAM_3/4 | 19.0 | -83.5 | 8.0 | -86 | 30dBm | 19.0 | -80.5 | 8.0 | -83 | 30dBm |
| 64QAM_5/6 | 21.0 | -81 | 10.0 | -83.5 | 30dBm | 21.0 | -78 | 10.0 | -80.5 | 30dBm |
| Frequency Band: 1780 - 1850 MHz | | | | | | | | | | |
| BPSK_1/2 | 3.1 | -99.5 | 1.57 | -102.5 | 30dBm | 3.1 | -96.5 | 1.57 | -99.5 | 30dBm |
| QPSK_1/2 | 6.0 | -98 | 3.0 | -101 | 30dBm | 6.0 | -95 | 3.0 | -98 | 30dBm |
| QPSK_3/4 | 8.4 | -96 | 4.3 | -99 | 30dBm | 8.4 | -93 | 4.3 | -96 | 30dBm |
| 16QAM_1/2 | 10.7 | -92 | 5.4 | -95.5 | 30dBm | 10.7 | -89 | 5.4 | -92.5 | 30dBm |
| 16QAM_3/4 | 14.8 | -90 | 7.4 | -93 | 30dBm | 14.8 | -87 | 7.4 | -90 | 30dBm |
| 64QAM_2/3 | 18.1 | -85 | 7.8 | -88 | 30dBm | 18.1 | -82 | 7.8 | -85 | 30dBm |
| 64QAM_3/4 | 19.0 | -83.5 | 8.0 | -86 | 30dBm | 19.0 | -80.5 | 8.0 | -83 | 30dBm |
| 64QAM_5/6 | 21.0 | -81 | 10.0 | -83.5 | 30dBm | 21.0 | -78 | 10.0 | -80.5 | 30dBm |
| Frequency Band: 2020 - 2110 MHz | | | | | | | | | | |
| BPSK_1/2 | 3.1 | -99.5 | 1.57 | -102.5 | 30dBm | 3.1 | -96.5 | 1.57 | -99.5 | 30dBm |
| QPSK_1/2 | 6.0 | -98 | 3.0 | -101 | 30dBm | 6.0 | -95 | 3.0 | -98 | 30dBm |
| QPSK_3/4 | 8.4 | -96 | 4.3 | -99 | 30dBm | 8.4 | -93 | 4.3 | -96 | 30dBm |
| 16QAM_1/2 | 10.7 | -92 | 5.4 | -95.5 | 30dBm | 10.7 | -89 | 5.4 | -92.5 | 30dBm |
| 16QAM_3/4 | 14.8 | -90 | 7.4 | -93 | 30dBm | 14.8 | -87 | 7.4 | -90 | 30dBm |
| 64QAM_2/3 | 18.1 | -85 | 7.8 | -88 | 30dBm | 18.1 | -82 | 7.8 | -85 | 27dBm |
| 64QAM_3/4 | 19.0 | -83.5 | 8.0 | -86 | 30dBm | 19.0 | -80.5 | 8.0 | -83 | 27dBm |
| 64QAM_5/6 | 21.0 | -81 | 10.0 | -83.5 | 29dBm | 21.0 | -78 | 10.0 | -80.5 | 26dBm |
| Frequency Band: 2200 - 2300 MHz | | | | | | | | | | |
| BPSK_1/2 | 3.1 | -99.5* | 1.57 | -102.5* | 30dBm | 3.1 | -96.5* | 1.57 | -99.5* | 30dBm |
| QPSK_1/2 | 6.0 | -98* | 3.0 | -101* | 30dBm | 6.0 | -95* | 3.0 | -98* | 30dBm |
| QPSK_3/4 | 8.4 | -96* | 4.3 | -99* | 30dBm | 8.4 | -93* | 4.3 | -96* | 30dBm |
| 16QAM_1/2 | 10.7 | -92* | 5.4 | -95.5* | 30dBm | 10.7 | -89* | 5.4 | -92.5* | 28dBm |
| 16QAM_3/4 | 14.8 | -90* | 7.4 | -93* | 30dBm | 14.8 | -87* | 7.4 | -90* | 28dBm |
| 64QAM_2/3 | 18.1 | -85* | 7.8 | -88* | 28dBm | 18.1 | -82* | 7.8 | -85* | 25dBm |
| 64QAM_3/4 | 19.0 | -83.5* | 8.0 | -86* | 28dBm | 19.0 | -80.5* | 8.0 | -83* | 25dBm |
| 64QAM_5/6 | 21.0 | -81* | 10.0 | -83.5* | 27dBm | 21.0 | -78* | 10.0 | -80.5* | 24dBm |

Notes:

* Rx Sensitivity for frequency bands starting at 2280 MHz and higher, subtract 1.5 ~ 3 dBm (-1.5 @ 2280 MHz, -2 @ 2290 MHz, -3 @ 2300 MHz)

Specifications

| | | | | |
|--|--|--|---|---|
| Frequency (Software Selectable) | 1625 to 1725 MHz 1780 to 1850 MHz 2020 to 2110 MHz 2200 to 2300 MHz | Weight | OEM Enclosed | Approx. 15 grams Approx. 275 grams |
| Error Detection | 32 bits of CRC, ARQ | Dimensions | OEM Enclosed | Approx. 1.05" x 2.0" x .22" (26.5mm x 51mm x 5.6mm) Approx. 3.20" x 3.50" x 1.35" (81mm x 88mm x 35mm) |
| Encryption (Requires Export Permit) | 256-bit AES | | | |
| Ports Serial Data/Console Ethernet USB | RS232 TTL level (300bps to 921kbps) Dual 10/100 IEEE802.3 (LAN/WAN) 2.0 | Order Options | | |
| Firewall | Port Forwarding, Access Control, IP/MAC List. | pMDDL1622 pMDDL1622-ENC | 2X2 MIMO 1600-2300 MHz OEM 2X2 MIMO 1600-2300 MHz Enclosed | |
| Operating Modes | Point-to-Point, Point-to-Multipoint, Repeater, 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 = 3.3V / RF Voltage = 5V | | | |
| 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) | | | |
| Environmental Temperature Humidity | -40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing | | | |

Contact Information

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