

Hexa-Band Wireless Digital Data Link

The all new pMDDL1624 is a miniature OEM, high power, Hexa-Band wireless OEM solution that provides the throughput and range needed for complex data intensive applications. The pMDDL1624 offers software selectable operation in the 1.6, 1.8, 2.0, 2.2, 2.3 or 2.4 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 pMDDL1624 features secure and simultaneous Ethernet and Serial Data Communications.

2X2 MIMO

Up to 21 Mbps

Hexa-Band

Ethernet + Serial

PTP | PMP | Relay | MESH

Only 15 grams!



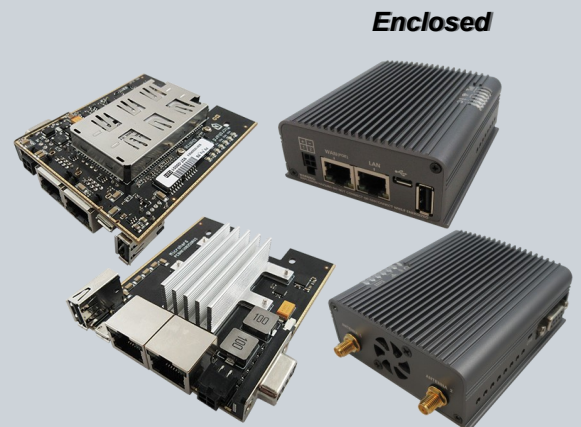
1.05" X 2.0" X 0.22"

Integrated Thermal Pad!

pMDDL1624 Features

- Software Selectable 1.6, 1.8, 2.0, 2.2, 2.3 or 2.4 GHz Operation
- Maximal Ratio Combining (MRC), Maximal Likelihood (ML) decoding
- Low-Density Parity Check (LDPC)
- FIPS140-2 Compliant
- 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, Point-to-Multipoint & MESH Networks
- Master, Remote, Relay & MESH 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

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
Frequency Band: 2300 - 2390 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
Frequency Band: 2402 - 2478 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 2300 to 2390 MHz 2402 to 2478 MHz	Weight	OEM Enclosed	Approx. 15 grams Approx. 275 grams
		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)
Error Detection	32 bits of CRC, ARQ			
Encryption (Requires Export Permit)	256-bit AES	Order Options		
Ports Serial Data/Console Ethernet USB	RS232 TTL level (300bps to 921kbps) Dual 10/100 IEEE802.3 (LAN/WAN) 2.0	pMDDL1624 pMDDL1624-ENC	2X2 MIMO Hexa-Band OEM Data Link 2X2 MIMO Hexa-Band Enclosed Data Link	
Firewall	Port Forwarding, Access Control, IP/ MAC List.			
Operating Modes	Point-to-Point, Point-to-Multipoint, Repeater, Mesh			
Diagnostics	Remote Diagnostics, Ping, Trac- eroute, ARP table, DHCP active leas- es, IPPerf, 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			

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