

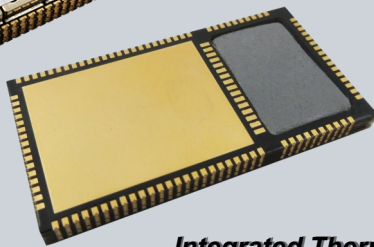
## Hexa-Band Wireless Digital Data Link

The 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 six frequency band between 1.6 and 2.5 GHz. The Pico MIMO DDL features 2x2 MIMO, 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, USB and Serial Data Communications.

**Only 15 grams!**



**1.05" X 2.0" X 0.22"**



**Integrated Thermal Pad!**

**New Dynamic Frequency Selection on OFDM overlay and Frequency Hopping provide robust interference and antijam immunity!**

### 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 Pending
- Up to 21 Mbps Iperf Throughput @ 8 MHz channel (-78 dBm)  
Up to 2 Mbps IPerf Throughput @ 4 MHz channel (-102 dBm)
- Dual 10/100 Ethernet Ports (LAN/WAN)
- Supports Point-to-Point, Point-to-Multipoint & MESH Networks
- Master, Remote, Relay & MESH Operating Modes.
- Adjustable transmit power (up to 2W\* total)
- Local and remote wireless firmware upgrading through FTP

*\* In Frequency Hopping mode power is limited to 1W*

**2X2 MIMO, Up to 21 Mbps**

**Hexa-Band Frequency**

**Dual Ethernet, USB, Serial**

**PTP | PMP | Relay | MESH**

**DFS & Frequency Hopping\***

**Real Time Spectrum Analyzer**

**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)	
<b>Frequency Band: 1625 - 1725 MHz</b>										
BPSK_1/2	3.1	-99.5	1.57	-102.5	33dBm*	3.1	-96.5	1.57	-99.5	30dBm
QPSK_1/2	6.0	-98	3.0	-101	33dBm*	6.0	-95	3.0	-98	30dBm
QPSK_3/4	8.4	-96	4.3	-99	33dBm*	8.4	-93	4.3	-96	30dBm
16QAM_1/2	10.7	-92	5.4	-95.5	33dBm*	10.7	-89	5.4	-92.5	30dBm
16QAM_3/4	14.8	-90	7.4	-93	33dBm*	14.8	-87	7.4	-90	30dBm
64QAM_2/3	18.1	-85	7.8	-88	32dBm*	18.1	-82	7.8	-85	30dBm
64QAM_3/4	19.0	-83.5	8.0	-86	31dBm*	19.0	-80.5	8.0	-83	29dBm
64QAM_5/6	21.0	-81	10.0	-83.5	30dBm	21.0	-78	10.0	-80.5	28dBm
<b>Frequency Band: 1780 - 1850 MHz</b>										
BPSK_1/2	3.1	-99.5	1.57	-102.5	33dBm*	3.1	-96.5	1.57	-99.5	30dBm
QPSK_1/2	6.0	-98	3.0	-101	33dBm*	6.0	-95	3.0	-98	30dBm
QPSK_3/4	8.4	-96	4.3	-99	33dBm*	8.4	-93	4.3	-96	30dBm
16QAM_1/2	10.7	-92	5.4	-95.5	33dBm*	10.7	-89	5.4	-92.5	30dBm
16QAM_3/4	14.8	-90	7.4	-93	33dBm*	14.8	-87	7.4	-90	30dBm
64QAM_2/3	18.1	-85	7.8	-88	32dBm*	18.1	-82	7.8	-85	30dBm
64QAM_3/4	19.0	-83.5	8.0	-86	31dBm*	19.0	-80.5	8.0	-83	29dBm
64QAM_5/6	21.0	-81	10.0	-83.5	30dBm	21.0	-78	10.0	-80.5	28dBm
<b>Frequency Band: 2020 - 2110 MHz</b>										
BPSK_1/2	3.1	-99.5	1.57	-102.5	33dBm*	3.1	-96.5	1.57	-99.5	30dBm
QPSK_1/2	6.0	-98	3.0	-101	33dBm*	6.0	-95	3.0	-98	30dBm
QPSK_3/4	8.4	-96	4.3	-99	33dBm*	8.4	-93	4.3	-96	30dBm
16QAM_1/2	10.7	-92	5.4	-95.5	33dBm*	10.7	-89	5.4	-92.5	30dBm
16QAM_3/4	14.8	-90	7.4	-93	33dBm*	14.8	-87	7.4	-90	30dBm
64QAM_2/3	18.1	-85	7.8	-88	32dBm*	18.1	-82	7.8	-85	30dBm
64QAM_3/4	19.0	-83.5	8.0	-86	31dBm*	19.0	-80.5	8.0	-83	29dBm
64QAM_5/6	21.0	-81	10.0	-83.5	30dBm	21.0	-78	10.0	-80.5	28dBm
<b>Frequency Band: 2200 - 2300 MHz</b>										
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
<b>Frequency Band: 2300 - 2390 MHz</b>										
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
<b>Frequency Band: 2400 - 2500 MHz</b>										
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)

\* Power limited to 1W when in frequency hopping modes.

# Specifications

<b>Frequency (Software Selectable)</b>	1625 to 1725 MHz 1780 to 1850 MHz 2020 to 2110 MHz 2200 to 2300 MHz 2300 to 2390 MHz 2400 to 2500 MHz	<b>Weight</b>	OEM Enclosed	~15 grams ~275 grams
		<b>Dimensions</b>	OEM Enclosed	~1.05" x 2.0" x .22" (26.5mm x 51mm x 5.6mm) ~3.20" x 3.50" x 1.35" (81mm x 88mm x 35mm)
<b>Error Detection</b>	32 bits of CRC, ARQ			
<b>Encryption (Requires Export Permit)</b>	256-bit AES			
<b>Order Options</b>				
<b>Ports</b> Serial Data/Console Ethernet USB	RS232 TTL level (300bps to 921kbps) Dual 10/100 IEEE802.3 (LAN/WAN) 2.0	<b>MHK185420</b> <b>MHK185470</b>	2X2 MIMO Hexa-Band OEM Data Link 2X2 MIMO Hexa-Band Enclosed Data Link	
<b>Firewall</b>	Port Forwarding, Access Control, IP/ MAC List.			
<b>Operating Modes</b>	Point-to-Point, Point-to-Multipoint, Repeater, Mesh			
<b>Diagnostics</b>	Remote Diagnostics, Ping, Trac- eroute, ARP table, DHCP active leas- es, IPerf, RSSI			
<b>Management</b>	Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)			
<b>Rejection</b>	Excellent strong signal interference & rejection characteristics			
<b>Input Voltage</b>	OEM	Digital Voltage = 3.3VDC RF Voltage = 5VDC		
<b>Connectors:</b>	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)		
<b>Environmental</b> Temperature Humidity	-40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing			

## Contact Information

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

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



[www.microhardcorp.com](http://www.microhardcorp.com)