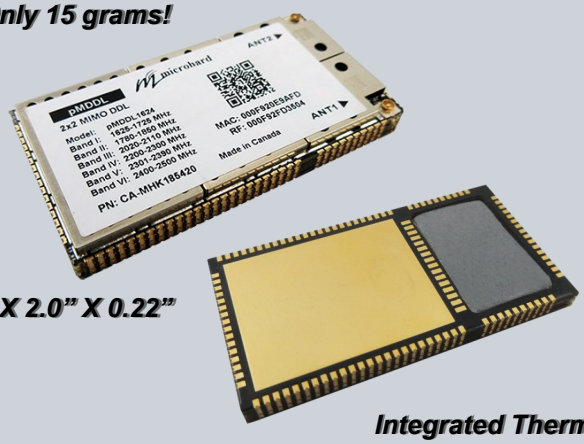
pMDDL1624

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"

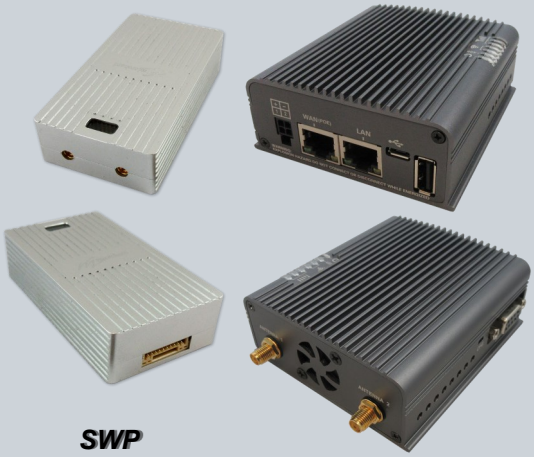
Integrated Thermal Pad!

- ***2X2 MIMO, Up to 21 Mbps***
- ***Hexa-Band Frequency***
- ***Dual Ethernet, USB, Serial***
- ***PTP | PMP | Relay | MESH***
- ***DFS & Frequency Hopping****
- ***Real Time Spectrum Analyzer***

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



SWP

Enclosed

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

◆ Video ◆ 2X2 MIMO ◆ Ethernet ◆ Serial ◆ USB

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	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
Frequency Band: 1780 - 1850 MHz										
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
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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
Frequency Band: 2020 - 2110 MHz										
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
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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
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: 2400 - 2500 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)
* Power limited to 1W when in frequency hopping modes.

Specifications

Frequency (Software Selectable)	1625 to 1725 MHz 1780 to 1850 MHz 2020 to 2110 MHz 2200 to 2300 MHz 2300 to 2390 MHz 2400 to 2500 MHz
Error Detection	32 bits of CRC, ARQ
Encryption *(Requires Export Permit)*	256-bit AES
Ports	
Serial Data/Console	RS232 TTL level (300bps to 230kbps)
Ethernet	Dual 10/100 IEEE802.3 (LAN/WAN)
USB	2.0
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, 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 = 3.3VDC RF Voltage = 5VDC
ENC/SWP	9-30VDC
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	-40°F to 185°F (-40°C to +85°C)
Humidity	5-95%, non-condensing

Weight OEM	~15 grams
Enclosed	~275 grams
SWP	~59 grams
Dimensions OEM	~1.05 x 2.0 x .22” (26.5 x 51 x 5.6 mm)
Enclosed	~3.20 x 3.50 x 1.35” (81 x 88 x 35 mm)
SWP	~ 1.42 x 2.6 x 0.63” (36 x 66 x 16 mm)

Order Options

MHK185420	2X2 MIMO Hexa-Band OEM Data Link
MHK185470	2X2 MIMO Hexa-Band Enclosed Data Link

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