

2X2 MIMO Digital Data Link w/LTE

The all new pMLTE-4GL-2450 combines our high powered Digital Data Link and a robust LTE Connection into a single compact OEM package. The Data Link features 2.4 GHz 2x2 MIMO, Maximal Ratio Combining (MRC), Maximal Likelihood (ML) decoding and Low-Density Parity Check (LDPC) to achieve robust RF performance. The LTE Connection provides globally supported LTE Bands with 3G/HSPA Fallback and delivers up to 150 Mbps. The pMLTE features Dual Ethernet, USB, Dual RS232 Serial/Console and GPS!

150 Mbps LTE w/Fallback

25 Mbps Digital Data Link

Compact Size

Ethernet | Serial | USB

PTP | PMP | MESH



Only 30 grams!

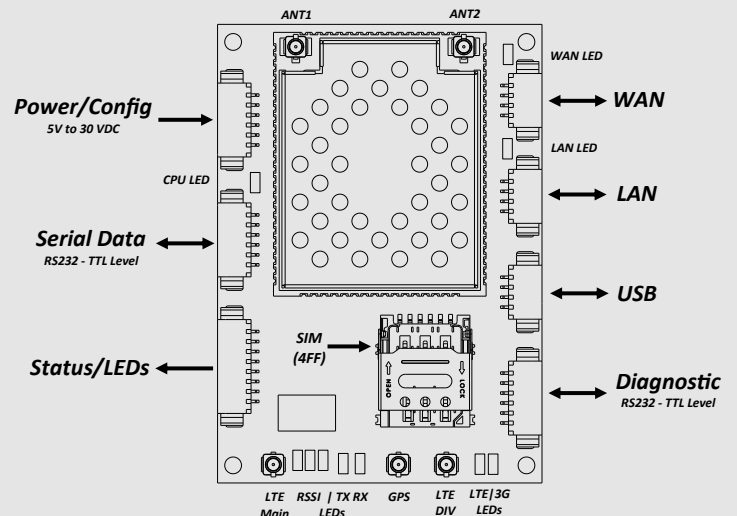
1.6" X 2.25" X



Optional Motherboard for Easy Testing & Evaluation!

pMLTE Features

- Robust 2X2 MIMO 2.4 GHz Digital Data Link
- 150 Mbps (DL) 4G/LTE Operation w/Global Band Support
- Data Link: 25 Mbps Iperf Throughput @ 8 MHz channel (-78 dBm)
- Dual RS232 Serial Communication Ports (Data/Console)
- Dual 10/100 Ethernet Ports (LAN/WAN)
- Supports Point-to-Point and Point-to-Multipoint Networks
- Master, Remote, Relay, Mesh Operating Modes.
- Adjustable total transmit power (up to 1W)
- Standalone GPS
- Interface through local console, telnet, and web browser
- Local and remote wireless firmware upgrades



pMLTE Series Specifications

Digital Data Link Specifications		Optimal Performance Specifications (Digital Data Link)			
Operating Frequency	pMLTE-4GL-2450: 2.402 - 2.478 GHz pMLTE-4GL-2350: 2.304 - 2.390 GHz pMLTE-4GL-2550: 2.500 - 2.570 GHz	Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB
Error Detection	32 bits of CRC, ARQ	8 MHz (2X2 MIMO ON)			
Encryption (Requires Export Permit)	128-bit AES (Optional 256-bit)	BPSK_1/2	3	-99.5	30dBm
Operating Modes	Point-to-Point, Point-to-Multipoint, Relay, Mesh	QPSK_1/2	5.9	-98	30dBm
Rejection	Excellent strong signal interference & rejection characteristics	QPSK_3/4	8.8	-96	30dBm
Cellular Specifications		16QAM_1/2	11.6	-92	30dBm
Cellular Supported Bands	LTE FDD: B1,B2,B3,B4,B5,B7,B8,B12,B13, B18,B19,B20,B26,B28 TDD: B38,B39,B40,B41 WCDMA: B1,B2,B4,B5,B8,B6,B19 GSM: B2/B3/B5/B8	16QAM_3/4	17.1	-90	30dBm
Cellular Data Features*	LTE FDD: Up to 150 Mbps DL, 50 Mbps UL LTE TDD: Up to 130 Mbps DL, 35 Mbps UL DC-HSPA+: Up to 42 Mbps DL, 5.7 Mbps UL WCDMA: Up to 384 Kbps DL, 384 Kbps UL EDGE: Up to 296 Kbps DL, 236.8 Kbps UL GSM: Up to 107 Kbps DL, 85.6 Kbps UL	64QAM_2/3	22.8	-85	30dBm
<small>*Module Standalone Lab Performance</small>		64QAM_3/4	25.5	-83.5	30dBm
General Specifications		64QAM_5/6	27.8	-81	30dBm
Ports	2x RS232 (300bps to 921kbps) (Serial/Console) 2x 10/100BaseT IEEE802.3 (LAN/WAN) USB 2.0	4 MHz (2X2 MIMO ON)			
Firewall	Port Forwarding, Access Control, IP/MAC List, VPN/GRE, DMZ, NAT	BPSK_1/2	1.51	-102.5	30dBm
Diagnostics	Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, IPerf, RSSI	QPSK_1/2	2.98	-101	30dBm
Management	Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, AT Commands	QPSK_3/4	4.4	-99	30dBm
Input Voltage	7 - 30 VDC	16QAM_1/2	5.8	-95.5	30dBm
Connectors:	DDL Antenna: UFL x2 (ANT1, ANT2) LTE Antenna: UFL x3 (Main, Div, GPS) Power: 6-Pin Quick Connect Serial/Console: 2x 6-Pin Quick Connect Status/LEDs: 8-Pin Quick Connect WAN/LAN: 2x 4-Pin Quick Connect USB: 4-Pin Quick Connect SIM Slot: Nano(4FF)	16QAM_3/4	8.6	-93	30dBm
Environmental	Temperature: -40°F to 185°F (-40°C to +85°C) Humidity: 5-95%, non-condensing	64QAM_2/3	11.4	-88	30dBm
Weight	Modem: Approx. 30 grams Motherboard: 55 grams	64QAM_3/4	12.8	-86	30dBm
Dimensions	Modem: 1.60" x 2.25" x 0.35" (40x57x9mm) Motherboard: 2.6" x 3.56" x 0.58" (70x90x14.5mm)	64QAM_5/6	14	-83.5	30dBm
Approvals	pMLTE-4GL-2450: FCC/IC pMLTE-4GL-2350: N/A pMLTE-4GL-2550: N/A	8 MHz (MIMO OFF)			
Order Options		BPSK_1/2	3	-96.5	30dBm
pMLTE-4GL-2450 (MHK186500)	2.4 GHz 2X2 MIMO Digital Data Link with LTE	QPSK_1/2	5.8	-95	30dBm
pMLTE-4GL-2350 (MHK186600)	2.3 GHz 2X2 MIMO Digital Data Link with LTE	QPSK_3/4	8.6	-93	30dBm
pMLTE-4GL-2550 (MHK186700)	2.5 GHz 2X2 MIMO Digital Data Link with LTE	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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Miniature Dual Frequency OEM Digital Data Link

The all new pMDDL5824 is a miniature OEM, high power, software selectable 2.4GHz & 5 GHz wireless digital data link solution. The Pico MIMO DDL features a 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.

2.4 & 5 GHz

Up to 25Mbps

2X2 MIMO

Ethernet + Serial

PTP | Multipoint | Relay



Only 20 grams!

1.25" X 2.25" X 0.2"

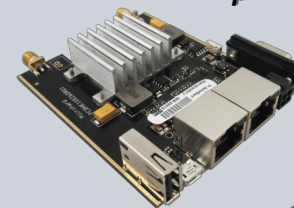


pMDDL5824 Features

- Robust 2X2 MIMO with Selectable 2.4 GHz or 5 GHz Operation
- Maximal Ratio Combining (MRC), Maximal Likelihood (ML) decoding
- Low-Density Parity Check (LDPC)
- Up to 25 Mbps Iperf Throughput @ 8MHz channel (-78dBm)
Up to 2 Mbps IPerf Throughput @ 2MHz channel (-102dBm)
- Extremely small foot print and very lightweight
- Dual 10/100 Ethernet Ports (LAN/WAN)
- Supports Point-to-Point, Point-to-Multipoint, Mesh Networks
- Master, Remote, Relay Operating Modes.
- Adjustable total transmit power (up to 1W)
- Interface through local console, telnet, and web browser

Interface Options

pMDDL5824 Motherboard



pMDDL5824 Enclosed



Specifications

Frequency (Selectable)		Optimal Performance Specifications			
Error Detection		Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB
2.402 - 2.478 GHz 5.000 - 5.900 GHz		8 MHz (2X2 MIMO ON)			
32 bits of CRC, ARQ		QPSK_1/2	5.9	-98	30dBm
128-bit AES		QPSK_3/4	8.8	-96	30dBm
128-bit AES <i>(Requires Export Permit)</i>		16QAM_1/2	11.6	-92	30dBm
Serial Data/Console Ethernet USB		16QAM_3/4	17.1	-90	30dBm
RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 (Future Development)		64QAM_2/3	22.8	-85	30dBm
Port Forwarding, Access Control, IP/MAC List.		64QAM_3/4	25.5	-83.5	30dBm
Point-to-Point, Point-to-Multipoint, Relay, Mesh		64QAM_5/6	27.8	-81	30dBm
Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, IPerf, RSSI		4 MHz (2X2 MIMO ON)			
Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)		QPSK_1/2	2.98	-101	30dBm
Excellent strong signal interference & rejection characteristics		QPSK_3/4	4.4	-99	30dBm
Digital Voltage = 3.3V / RF Voltage = 5V 7 - 30 VDC		16QAM_1/2	5.8	-95.5	30dBm
Antenna(s): UFL x2 Data: 100 pin OEM Header		16QAM_3/4	8.6	-93	30dBm
Antenna: RS-SMA Female x2 Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin)		64QAM_2/3	11.4	-88	30dBm
Temperature Humidity		64QAM_3/4	12.8	-86	30dBm
-40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing		64QAM_5/6	14	-83.5	30dBm
Approx. 20 grams Approx. 230 grams		8 MHz (MIMO OFF)			
Approx. 1.25" x 2.25" x 0.2" (32mm x 57mm x 5mm) Approx. 3.20" x 3.50" x 1.15" (81mm x 88mm x 29mm)		QPSK_1/2	5.8	-95	30dBm
Order Options		QPSK_3/4	8.6	-93	30dBm
pMDDL5824 pMDDL5824-ENC		16QAM_1/2	11.5	-89	30dBm
2X2 MIMO 2.4 / 5 GHz OEM DDL Module 2X2 MIMO 2.4 / 5 GHz Enclosed DDL Module		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)			
		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

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Miniature OEM Wireless Digital Data Link

The all new pMDDL1621 is a miniature OEM, high power, wireless OEM solution that provides the bandwidth and range needed for complex data intensive applications. The pMDDL1621 offers software selectable operation in the 1.6 GHz, 1.8 GHz or 2.0 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 pMDDL1621 features secure and simultaneous Ethernet and Serial Data Communications.

2X2 MIMO

Up to 21 Mbps

Small Footprint

Ethernet + Serial

PTP | Multipoint | Relay

Only 15 grams!



1.05" X 2.0" X 0.22"

Integrated Thermal Pad!

pMDDL Features

- Robust 2X2 MIMO 1.6 GHz, 1.8 GHz or 2.0 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

pMDDL1621 Motherboard



pMDDL1621 Enclosed



Specifications

Frequency (Software Selectable)	1625 to 1725 MHz 1780 to 1850 MHz 2015 to 2110 MHz		Optimal Performance Specifications				
			Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB	
Error Detection	32 bits of CRC, ARQ		8 MHz (2X2 MIMO ON)				
Encryption (Requires Export Permit)	256-bit AES		BPSK_1/2	3.1	-99.5	30dBm	
Ports Serial Data/Console Ethernet USB	RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 (Future Development)		QPSK_1/2	6.0	-98	30dBm	
			QPSK_3/4	8.4	-96	30dBm	
			16QAM_1/2	10.7	-92	30dBm	
			16QAM_3/4	14.8	-90	30dBm	
Firewall	Port Forwarding, Access Control, IP/MAC List.		64QAM_2/3	18.1	-85	30dBm	
			64QAM_3/4	19.0	-83.5	30dBm	
Operating Modes	Point-to-Point, Point-to-Multipoint, Relay		64QAM_5/6	21.0	-81	30dBm	
Diagnostics	Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, IPerf, RSSI		4 MHz (2X2 MIMO ON)				
Management	Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)		BPSK_1/2	1.57	-102.5	30dBm	
			QPSK_1/2	3.0	-101	30dBm	
			QPSK_3/4	4.3	-99	30dBm	
			16QAM_1/2	5.4	-95.5	30dBm	
Rejection	Excellent strong signal interference & rejection characteristics		16QAM_3/4	7.4	-93	30dBm	
			64QAM_2/3	7.8	-88	30dBm	
Input Voltage	OEM	Digital Voltage = 3.3V / RF Voltage = 4.2V 7 - 30 V _{DC}	64QAM_3/4	8.0	-86	30dBm	
	Enclosed		64QAM_5/6	10.0	-83.5	30dBm	
Connectors:	OEM	Antenna: UFL x2 (ANT1, ANT2) Data: 116 Pin SMT	Modulation IPerf Throughput (Mbps) Optimal MRC Sensitivity (dBm) Total Tx Power (dBm) +/- 1dB				
	Enclosed		Antenna: RS-SMA Female x2 Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin)	8 MHz (MIMO OFF)			
Environmental Temperature Humidity	-40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing		BPSK_1/2	3.1	-96.5	30dBm	
			QPSK_1/2	6.0	-95	30dBm	
			QPSK_3/4	8.4	-93	30dBm	
			16QAM_1/2	10.7	-89	30dBm	
Weight	OEM	Approx. 15 grams	16QAM_3/4	14.8	-87	30dBm	
	Enclosed		Approx. 240 grams	64QAM_2/3	18.1	-82	28dBm
				64QAM_3/4	19.0	-80.5	28dBm
Dimensions	OEM	Approx. 1.05" x 2.0" x .22" (26.5mm x 51mm x 5.6mm)	64QAM_5/6	21.0	-78	27dBm	
	Enclosed		Approx. 3.20" x 3.50" x 1.15" (81mm x 88mm x 29mm)	4 MHz (MIMO OFF)			
Order Options	pMDDL1621 pMDDL1621-ENC	2X2 MIMO 1600-2100 MHz OEM DDL Module 2X2 MIMO 1600-2100 MHz Enclosed DDL Module	BPSK_1/2	1.57	-99.5	30dBm	
			QPSK_1/2	3.0	-98	30dBm	
			QPSK_3/4	4.3	-96	30dBm	
			16QAM_1/2	5.4	-92.5	30dBm	
			16QAM_3/4	7.4	-90	30dBm	
			64QAM_2/3	7.8	-85	28dBm	
			64QAM_3/4	8.0	-83	28dBm	
			64QAM_5/6	10.0	-80.5	27dBm	

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Miniature OEM Wireless Digital Data Link

The all new pMDDL900 Digital Data Link is a miniature OEM, high power, 2x2 MIMO 900 MHz 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 21 Mbps

Small Footprint

Ethernet + Serial

PTP | Multipoint | Relay

Only 7 grams!



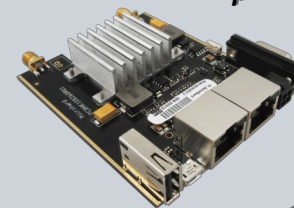
1.05" X 2.0" X 0.11"

pMDDL Features

- Robust 2X2 MIMO 900 MHz 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

pMDDL900 Motherboard



pMDDL900 Enclosed



Specifications

Frequency	902 - 928 MHz		Optimal Performance Specifications					
Error Detection	32 bits of CRC, ARQ		Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB		
Encryption (Requires Export Permit)	128-bit AES (Optional 256-bit)		8 MHz (2X2 MIMO ON)					
Ports Serial Data/Console Ethernet USB	RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 (Future Development)	BPSK_1/2	3.1	-99.5	30dBm			
		QPSK_1/2	6.0	-98	30dBm			
		QPSK_3/4	8.4	-96	30dBm			
		16QAM_1/2	10.7	-92	30dBm			
Firewall	Port Forwarding, Access Control, IP/MAC List.	16QAM_3/4	14.8	-90	30dBm			
		64QAM_2/3	18.1	-85	30dBm			
Operating Modes	Point-to-Point, Point-to-Multipoint, Relay		64QAM_3/4	19.0	-83.5	30dBm		
Diagnostics	Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, IPerf, RSSI		64QAM_5/6	21.0	-81	30dBm		
Management	Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)	4 MHz (2X2 MIMO ON)						
		BPSK_1/2	1.57	-102.5	30dBm			
		QPSK_1/2	3.0	-101	30dBm			
		QPSK_3/4	4.3	-99	30dBm			
Rejection	Excellent strong signal interference & rejection characteristics	16QAM_1/2	5.4	-95.5	30dBm			
		16QAM_3/4	7.4	-93	30dBm			
		64QAM_2/3	7.8	-88	30dBm			
		64QAM_3/4	8.0	-86	30dBm			
Input Voltage	OEM Enclosed Digital Voltage = 3.3V / RF Voltage = 4.2V 7 - 30 VDC	64QAM_5/6	10.0	-83.5	30dBm			
		Connectors:	OEM Enclosed Antenna: UFL x2 (ANT1, ANT2) Data: 116 Pin SMT Antenna: RS-SMA Female x2 Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin)	Modulation				IPerf Throughput (Mbps)
8 MHz (MIMO OFF)								
BPSK_1/2	3.1			-96.5	30dBm			
QPSK_1/2	6.0			-95	30dBm			
QPSK_3/4	8.4	-93	30dBm					
Environmental	Temperature Humidity -40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing	16QAM_1/2	10.7	-89	30dBm			
		16QAM_3/4	14.8	-87	30dBm			
Weight	OEM Enclosed Approx. 7 grams Approx. 230 grams	64QAM_2/3	18.1	-82	28dBm			
		64QAM_3/4	19.0	-80.5	28dBm			
Dimensions	OEM Enclosed Approx. 1.05" x 2.0" x .11" (26.5mm x 51mm x 2.8mm) Approx. 3.20" x 3.50" x 1.15" (81mm x 88mm x 29mm)	64QAM_5/6	21.0	-78	27dBm			
		4 MHz (MIMO OFF)						
Approvals	FCC / IC RoHS Compliant	BPSK_1/2	1.57	-99.5	30dBm			
		QPSK_1/2	3.0	-98	30dBm			
QPSK_3/4	4.3	-96	30dBm					
16QAM_1/2	5.4	-92.5	30dBm					
16QAM_3/4	7.4	-90	30dBm					
64QAM_2/3	7.8	-85	28dBm					
64QAM_3/4	8.0	-83	28dBm					
64QAM_5/6	10.0	-80.5	27dBm					

Order Options

pMDDL900	2X2 MIMO 900 MHz OEM DDL Module
pMDDL900-ENC	2X2 MIMO 900 MHz Enclosed DDL Module

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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.

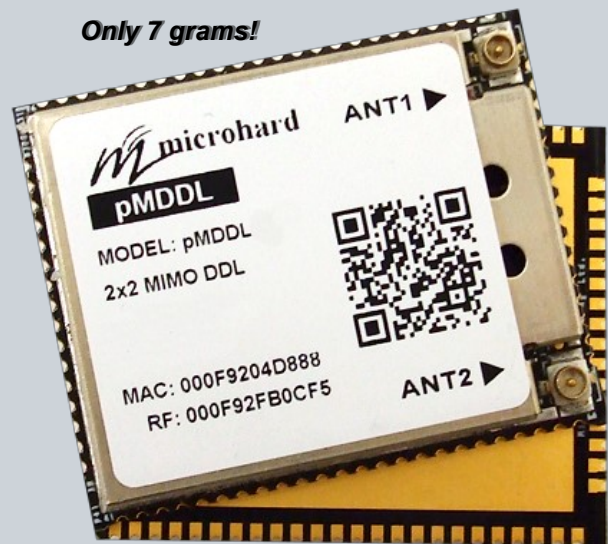
2X2 MIMO

Up to 25 Mbps

Small Footprint

Ethernet + Serial

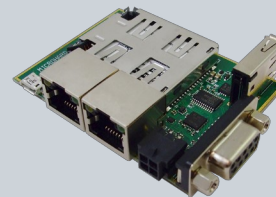
PTP | Multipoint | Relay



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



Specifications

Frequency		Optimal Performance Specifications			
Error Detection		Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB
2.500 - 2.570 GHz		8 MHz (2X2 MIMO ON)			
32 bits of CRC, ARQ		BPSK_1/2	3	-99.5	30dBm
128-bit AES (Optional 256-bit)		QPSK_1/2	5.9	-98	30dBm
Encryption (Requires Export Permit)		QPSK_3/4	8.8	-96	30dBm
Ports Serial Data/Console Ethernet USB		16QAM_1/2	11.6	-92	30dBm
RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 (Future Development)		16QAM_3/4	17.1	-90	30dBm
Firewall		64QAM_2/3	22.8	-85	30dBm
Port Forwarding, Access Control, IP/MAC List.		64QAM_3/4	25.5	-83.5	30dBm
Operating Modes		64QAM_5/6	27.8	-81	30dBm
Point-to-Point, Point-to-Multipoint, Relay		4 MHz (2X2 MIMO ON)			
Diagnostics		BPSK_1/2	1.51	-102.5	30dBm
Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, IPerf, RSSI		QPSK_1/2	2.98	-101	30dBm
Management		QPSK_3/4	4.4	-99	30dBm
Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)		16QAM_1/2	5.8	-95.5	30dBm
Rejection		16QAM_3/4	8.6	-93	30dBm
Excellent strong signal interference & rejection characteristics		64QAM_2/3	11.4	-88	30dBm
Input Voltage OEM Motherboard/ENC		64QAM_3/4	12.8	-86	30dBm
Digital Voltage = 3.3V / RF Voltage = 5V 7 - 30 VDC		64QAM_5/6	14	-83.5	30dBm
Connectors: OEM Motherboard/ENC		8 MHz (MIMO OFF)			
Antenna: UFL x2 (ANT1, ANT2) Data: 80 Pin SMT		BPSK_1/2	3	-96.5	30dBm
Antenna (ENC): RP-SMA Female Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin)		QPSK_1/2	5.8	-95	30dBm
Environmental Temperature Humidity		QPSK_3/4	8.6	-93	30dBm
-40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing		16QAM_1/2	11.5	-89	30dBm
Weight OEM Motherboard Enclosed		16QAM_3/4	16.9	-87	30dBm
Approx. 7 grams Approx. 50 grams Approx. 175 grams		64QAM_2/3	22.2	-82	28dBm
Dimensions OEM Motherboard Enclosed		64QAM_3/4	24.7	-80.5	28dBm
Approx. 1.05" x 1.3" x .15" (27mm x 33mm x 4mm) Approx. 2.0" x 3.0" x 0.70" (50mm x 76mm x 18mm) Approx. 3.05" x 2.2" x 1.1" (77mm x 55mm x 28mm)		64QAM_5/6	27.4	-78	27dBm
Order Options		4 MHz (MIMO OFF)			
pMDDL2550	MHK185700	BPSK_1/2	1.5	-99.5	30dBm
2X2 MIMO 2.5 GHz OEM DDL Module (1W)		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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Miniature OEM Wireless Digital Data Link

The all new Pico MIMO Digital Data Link is a miniature OEM, high power, 2x2 MIMO 2.4 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.

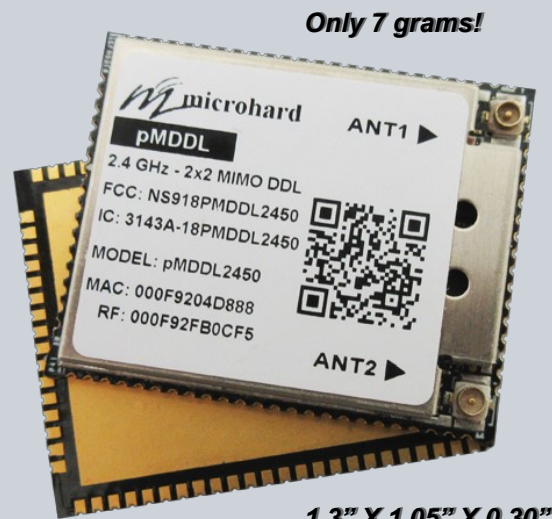
2X2 MIMO

Up to 25 Mbps

Small Footprint

Ethernet + Serial

PTP | Multipoint | Relay



pMDDL Features

- Robust 2X2 MIMO 2.4 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



Pico Motherboard

Specifications

Frequency		2.402 - 2.478 GHz	Optimal Performance Specifications							
Error Detection		32 bits of CRC, ARQ	Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB				
Encryption (Requires Export Permit)		128-bit AES (Optional 256-bit)								
Ports		Serial Data/Console Ethernet USB RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 (Future Development)	8 MHz (2X2 MIMO ON)							
Serial Data/Console Ethernet USB	RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 (Future Development)		BPSK_1/2	3	-99.5	30dBm				
			QPSK_1/2	5.9	-98	30dBm				
		QPSK_3/4	8.8	-96	30dBm					
Firewall		Port Forwarding, Access Control, IP/MAC List.	16QAM_1/2	11.6	-92	30dBm				
Operating Modes		Point-to-Point, Point-to-Multipoint, Relay	16QAM_3/4	17.1	-90	30dBm				
Diagnostics		Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, IPerf, RSSI	64QAM_2/3	22.8	-85	30dBm				
Management	Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)	64QAM_3/4	64QAM_3/4	25.5	-83.5	30dBm				
			64QAM_5/6	27.8	-81	30dBm				
			4 MHz (2X2 MIMO ON)							
Rejection		Excellent strong signal interference & rejection characteristics	BPSK_1/2	1.51	-102.5	30dBm				
Input Voltage	OEM Motherboard	Digital Voltage = 3.3V / RF Voltage = 5V 7 - 30 VDC	QPSK_1/2	2.98	-101	30dBm				
			QPSK_3/4	4.4	-99	30dBm				
			16QAM_1/2	5.8	-95.5	30dBm				
Connectors:		OEM Motherboard Antenna: UFL x2 (ANT1, ANT2) Data: 80 Pin SMT Antenna: UFL x2 (ANT1, ANT2) Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin)	16QAM_3/4	8.6	-93	30dBm				
OEM Motherboard	Antenna: UFL x2 (ANT1, ANT2) Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin)		64QAM_2/3	11.4	-88	30dBm				
			64QAM_3/4	12.8	-86	30dBm				
			64QAM_5/6	14	-83.5	30dBm				
			Environmental		Temperature Humidity	-40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing	8 MHz (MIMO OFF)			
			OEM Motherboard	Approx. 7 grams Approx. 50 grams			BPSK_1/2	3	-96.5	30dBm
		QPSK_1/2					5.8	-95	30dBm	
QPSK_3/4	8.6	-93			30dBm					
Dimensions		OEM Motherboard	Approx. 1.05" x 1.3" x .15" (27mm x 33mm x 4mm) Approx. 2.0" x 3.0" x 0.70" (50mm x 76mm x 18mm)	16QAM_1/2	11.5	-89	30dBm			
OEM Motherboard	Approx. 1.05" x 1.3" x .15" (27mm x 33mm x 4mm) Approx. 2.0" x 3.0" x 0.70" (50mm x 76mm x 18mm)			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					
Approvals		FCC Industry Canada	4 MHz (MIMO OFF)							
pMDDL2450 pMDDL2450LC	MHK185500 MHK118510	2X2 MIMO 2.4 GHz OEM DDL Module (1W) 2X2 MIMO 2.4 GHz Low Cost DDL Module (25dBm)	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							

Order Options

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www.microhardcorp.com

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Miniature OEM Wireless Digital Data Link

The all new Pico MIMO Digital Data Link is a miniature OEM, high power, 2x2 MIMO 2.3GHz 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.

Only 7 grams!

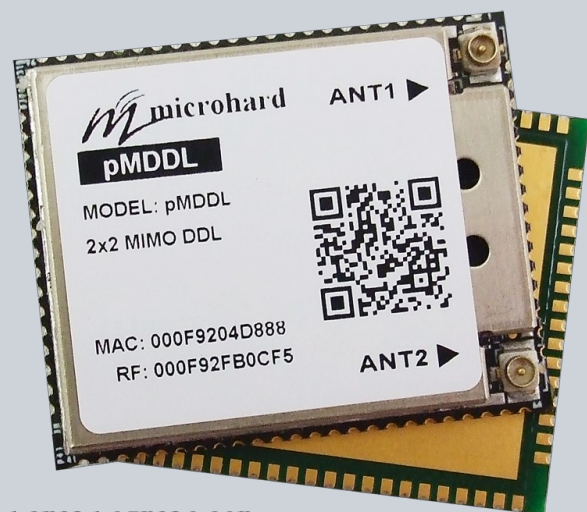
2X2 MIMO

Up to 25Mbps

Small Footprint

Ethernet + Serial

PTP | Multipoint | Relay



1.3" X 1.05" X 0.30"

pMDDL2350 Features

- Robust 2X2 MIMO 2.3 GHz Operation
- Maximal Ratio Combining (MRC), Maximal Likelihood (ML) decoding
- Low-Density Parity Check (LDPC)
- Up to 25 Mbps Iperf Throughput @ 8MHz channel (-78dBm)
Up to 2 Mbps IPerf Throughput @ 4 MHz channel (-102dBm)
- 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



pMDDL Motherboard

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

Specifications

Frequency		2.304 - 2.39 GHz	Optimal Performance Specifications			
Error Detection		32 bits of CRC, ARQ	Modulation	IPerf Throughput (Mbps)	Optimal MRC Sensitivity (dBm)	Total Tx Power (dBm) +/- 1dB
Encryption (Requires Export Permit)		128-bit AES (Optional 256-bit)	8 MHz (2X2 MIMO ON)			
Ports	Serial Data/Console Ethernet USB	RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 (Future Development)	BPSK_1/2	3	-99.5	30dBm
			QPSK_1/2	5.9	-98	30dBm
			QPSK_3/4	8.8	-96	30dBm
Firewall	Port Forwarding, Access Control, IP/MAC List.		16QAM_1/2	11.6	-92	30dBm
Operating Modes	Point-to-Point, Point-to-Multipoint, Relay		16QAM_3/4	17.1	-90	30dBm
Diagnostics	Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, IPerf, RSSI		64QAM_2/3	22.8	-85	30dBm
			64QAM_3/4	25.5	-83.5	30dBm
Management	Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)		64QAM_5/6	27.8	-81	30dBm
Rejection			4 MHz (2X2 MIMO ON)			
Input Voltage	OEM Motherboard	Digital Voltage = 3.3V / RF Voltage = 5V 7 - 30 VDC	BPSK_1/2	1.51	-102.5	30dBm
			QPSK_1/2	2.98	-101	30dBm
			QPSK_3/4	4.4	-99	30dBm
Connectors:	OEM	Antenna: UFL x2 (ANT1, ANT2) Data: 80 Pin SMT	16QAM_1/2	5.8	-95.5	30dBm
			16QAM_3/4	8.6	-93	30dBm
			64QAM_2/3	11.4	-88	30dBm
	Motherboard	Antenna: UFL x2 (ANT1, ANT2) Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin)	64QAM_3/4	12.8	-86	30dBm
			64QAM_5/6	14	-83.5	30dBm
			Environmental			Modulation
Weight	OEM Motherboard	Approx. 7 grams Approx. 50 grams	8 MHz (MIMO OFF)			
			BPSK_1/2	3	-96.5	30dBm
Dimensions	OEM Motherboard	Approx. 1.05" x 1.3" x .15" (27mm x 33mm x 4mm) Approx. 2.0" x 3.0" x 0.70" (50mm x 76mm x 18mm)	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
Order Options			4 MHz (MIMO OFF)			
pMDDL2350	2X2 MIMO 2.3GHz OEM DDL Module		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

Order Options

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Miniature OEM Wireless Digital Data Link

The all new Pico Digital Data Link is a miniature OEM, high power, 2.4 GHz wireless solution that provides the bandwidth and range needed for complex data intensive applications. The Pico DDL features secure, simultaneous Ethernet and Serial Data communications. Robust digital modulation technology provides secure data transfer and long range capabilities.

Up to 25Mbps

Small Footprint

Ethernet + Serial

Diversity Antenna

PTP, PMP & Mesh

Weights only 5g!



1.3" X 1.05" X 0.15"

Features

- Low Power Consumption
- Up to 25 Mbps Iperf Throughput @ 8MHz channel (-78dBm)
- Diversity Antenna port for enhanced sensitivity
- Extremely small foot print and very lightweight
- Dual Serial Communication Ports*
- Dual 10/100 Ethernet Ports (LAN/WAN)
- Supports PTP, PMP & Mesh Networks
- Master, Remote, Repeater, Mesh Operating Modes.
- Adjustable transmit power (up to 1W)
- Interface through local console, telnet, and web browser
- Local and remote wireless firmware upgrading through FTP

* Second Com port available on IPnDDL Adapter Card

Interface Options

IPnDDL Adapter Board
(pDDL to IPnDDL)



pDDL Motherboard



pDDL
Enclosed

◆ Video ◆ Diversity ◆ Ethernet ◆ Serial ◆ Security

Specifications

Frequency		2.402 - 2.478 GHz	Performance Specifications			
Error Detection		32 bits of CRC, ARQ	Modulation	Multicast IPerf Throughput (Mbps)	Throughput @ Sensitivity (dBm)	Maximum Tx Power (dBm) +/- 1dB
Encryption (Requires Export Permit)		128-bit AES (Optional 256-bit)				
Ports		RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 Serial Data/Console Ethernet USB	8 MHz			
Firewall			Port Forwarding, Access Control, IP/MAC List.	BPSK_1/2	3	-96
Operating Modes		Point-to-Point, Point-to-Multipoint, Mesh	QPSK_1/2	6	-94	30dBm
Diagnostics		Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, CCQ, Iperf, RSSI	QPSK_3/4	9	-91	30dBm
Management		Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)	16QAM_1/2	12	-88	29dBm
Rejection		Excellent strong signal interference & rejection characteristics	16QAM_3/4	17	-85	29dBm
Input Voltage		Digital Voltage = 3.3V / RF Voltage = 5V 7 - 30 VDC	64QAM_2/3	23	-80	27dBm
Connectors:			Antenna: UFL x2 (Main, Diversity) Data: 80 Pin SMT Antenna (Enclosed): RP-SMA Female x3 Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A Micro-AB USB (Console) 4 PIN Interlock (Vin, I/O)	64QAM_3/4	25	-78
Environmental		Temperature Humidity		64QAM_5/6	28	-76
Weight			Approx. 5 grams Approx. 50 grams Approx. 165 grams	4 MHz		
Dimensions		Approx. 1.05" x 1.3" x .15" (27mm x 33mm x 4mm) Approx. 2.5" x 3.0" x 0.70" (64mm x 76mm x 18mm) Approx. 3.05" x 2.2" x 1.1" (77mm x 55mm x 28mm)		BPSK_1/2	1.5	-99
Approvals			FCC IC	QPSK_1/2	3	-98
Order Options		OEM Wireless 2.4GHz DDL Module Enclosed Wireless 2.4GHz DDL Modem	QPSK_3/4	4.5	-96	30dBm
			16QAM_1/2	6	-92	29dBm
MHS118000 - pDDL2450 MHK118050 - pDDL2450-ENC			16QAM_3/4	9	-88	29dBm
			64QAM_2/3	11.5	-83	27dBm
			64QAM_3/4	12.5	-82	27dBm
			64QAM_5/6	14	-80	27dBm
			2 MHz			
			16QAM_1/2	2.9	-93	29dBm
			16QAM_3/4	4.3	-90	29dBm
			64QAM_2/3	5.5	-86	27dBm
			64QAM_3/4	6	-84	27dBm
			64QAM_5/6	6.5	-82	27dBm

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Miniature OEM 1.8 GHz Digital Data Link

The pDDL1800 is a robust wireless Digital Data Link that operates in the 1810 - 1850 MHz frequency band. The pDDL1800 is a wireless OEM solution that provides the bandwidth and range needed for complex data intensive applications. The pDDL1800 features secure, simultaneous Ethernet and Serial Data communications. Robust digital modulation technology provides secure data transfer and long range capabilities.

Up to 25Mbps

1.8 GHz

Ethernet + Serial

Up to 1 Watt

PTP & Multipoint

Weights only 10g!

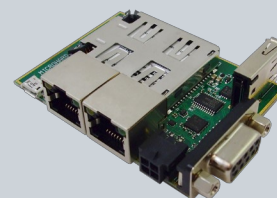


1.3" X 1.05" X 0.30"

Features

- 1810 - 1850 MHz Operation
- Up to 25 Mbps Iperf Throughput @ 8MHz channel (-78dBm)
- 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 Operating Modes.
- Adjustable 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

Specifications

Frequency		1810 – 1850 MHz	Performance Specifications			
Error Detection		32 bits of CRC, ARQ	Modulation	Multicast IPerf Throughput (Mbps)	Throughput @ Sensitivity (dBm)	Maximum Tx Power (dBm) +/- 1dB
Encryption (Requires Export Permit)		128-bit AES, Optional 256-bit AES				
Ports		Serial Data/Console Ethernet USB RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 (Future Development)	8 MHz			
Firewall			Port Forwarding, Access Control, IP/MAC List.	BPSK_1/2	3	-96
Operating Modes		Point-to-Point, Point-to-Multipoint, Mesh (future)	QPSK_1/2	6	-94	30dBm
Diagnostics		Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, SNR, RSSI	QPSK_3/4	9	-91	30dBm
Management		Local Serial Port Console, Telnet, WebUI, SNMP, FTP Upgrade, TFTP, CLI (Command Line Interface)	16QAM_1/2	12	-88	29dBm
Rejection		Excellent strong signal interference & rejection characteristics	16QAM_3/4	17	-85	29dBm
Input Voltage		Digital Voltage = 3.3V / RF Voltage = 5V 7 - 30 VDC	64QAM_2/3	23	-80	27dBm
Connectors:			Antenna: UFL Data: 80 Pin SMT Antenna (Enclosed): RP-SMA Female Data: RJ-45 x2 (Ethernet) Female DB9 (Serial) USB Type A (Future) 4 PIN Interlock (Vin, I/O)	64QAM_3/4	25	-78
Environmental		Temperature Humidity -40°F to 185°F (-40°C to +85°C) 5-95%, non-condensing		64QAM_5/6	28	-76
Weight			Approx. 10 grams Approx. 50 grams Approx. 175 grams	4 MHz		
Dimensions		Approx. 1.05" x 1.3" x .30" (27mm x 33mm x 8mm) Approx. 2.0" x 3.0" x 0.70" (50mm x 76mm x 18mm) Approx. 3.05" x 2.2" x 1.1" (77mm x 55mm x 28mm)		BPSK_1/2	1.5	-99
Frequency Options			Model pDDL1800	QPSK_1/2	3	-98
		QPSK_3/4		4.5	-96	30dBm
		16QAM_1/2		6	-92	29dBm
		16QAM_3/4		9	-88	29dBm
		64QAM_2/3		11.5	-83	27dBm
		64QAM_3/4		12.5	-82	27dBm
		64QAM_5/6		14	-80	27dBm
			2 MHz			
			BPSK_1/2	0.78	-101	30dBm
			QPSK_1/2	1.5	-100	30dBm
			QPSK_3/4	2.2	-97	30dBm
			16QAM_1/2	2.9	-93	29dBm
		16QAM_3/4	4.3	-90	29dBm	
		64QAM_2/3	5.5	-86	27dBm	
		64QAM_3/4	6	-84	27dBm	
		64QAM_5/6	6.5	-82	27dBm	

Contact Information

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Specifications subject to change without notice.

For more information please contact:



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Miniature OEM 900MHz/2.4 GHz Digital Data Link

The Pico Digital Data Link is a dual frequency, software selectable 900 MHz & 2.4 GHz wireless OEM solution that provides the bandwidth and range needed for complex data intensive applications. The pDDL900 features secure, simultaneous Ethernet and Serial Data communications. Robust digital modulation technology provides secure data transfer and long range capabilities.

Up to 25Mbps

900 MHz & 2.4 GHz

Ethernet + Serial

Up to 1 Watt

PTP & Multipoint

Weights only 10g!



1.3" X 1.05" X 0.30"

Features

- Software Selectable 900 MHz & 2.4 GHz
- Up to 25 Mbps Iperf Throughput @ 8MHz channel (-78dBm)
- 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 Operating Modes.
- Adjustable transmit power (up to 1W)
- Interface through local console, telnet, and web browser
- Local and remote wireless firmware upgrading through FTP

Interface Options



pDDL Motherboard



pDDL Enclosed

Specifications

Frequencies (selectable)		902 - 928 MHz / 2.402 - 2.478 GHz			
Error Detection		32 bits of CRC, ARQ			
Encryption (Requires Export Permit)		128-bit AES, Optional 256-bit AES			
Ports		RS232 TTL level (300bps to 921kbps) Dual 10/100BaseT IEEE802.3 (LAN/WAN) 2.0 (Future Development)			
Firewall		Port Forwarding, Access Control, IP/MAC List.			
Operating Modes		Point-to-Point, Point-to-Multipoint, Mesh (future)			
Diagnostics		Remote Diagnostics, Ping, Traceroute, ARP table, DHCP active leases, SNR, 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		Digital Voltage = 3.3V / RF Voltage = 5V 7 - 30 VDC			
Connectors:		Antenna: UFL x2 (900MHz, 2.4 GHz) Data: 80 Pin SMT			
Environmental		Temperature: -40°F to 185°F (-40°C to +85°C) Humidity: 5-95%, non-condensing			
Weight		Approx. 10 grams Approx. 55 grams Approx. 175 grams			
Dimensions		Approx. 1.05" x 1.3" x .30" (27mm x 33mm x 8mm) Approx. 2.5" x 3.0" x 0.70" (64mm x 76mm x 18mm) Approx. 3.05" x 2.2" x 1.1" (77mm x 55mm x 28mm)			
Approvals		FCC IC			
Performance Specifications					
		Modulation	Multicast IPerf Throughput (Mbps)	Throughput @ Sensitivity (dBm)	Maximum Tx Power (dBm) +/- 1dB
8 MHz					
		BPSK_1/2	3	-96	30dBm
		QPSK_1/2	6	-94	30dBm
		QPSK_3/4	9	-91	30dBm
		16QAM_1/2	12	-88	29dBm
		16QAM_3/4	17	-85	29dBm
		64QAM_2/3	23	-80	27dBm
		64QAM_3/4	25	-78	27dBm
		64QAM_5/6	28	-76	27dBm
4 MHz					
		BPSK_1/2	1.5	-99	30dBm
		QPSK_1/2	3	-98	30dBm
		QPSK_3/4	4.5	-96	30dBm
		16QAM_1/2	6	-92	29dBm
		16QAM_3/4	9	-88	29dBm
		64QAM_2/3	11.5	-83	27dBm
		64QAM_3/4	12.5	-82	27dBm
		64QAM_5/6	14	-80	27dBm
2 MHz					
		BPSK_1/2	0.78	-101	30dBm
		QPSK_1/2	1.5	-100	30dBm
		QPSK_3/4	2.2	-97	30dBm
		16QAM_1/2	2.9	-93	29dBm
		16QAM_3/4	4.3	-90	29dBm
		64QAM_2/3	5.5	-86	27dBm
		64QAM_3/4	6	-84	27dBm
		64QAM_5/6	6.5	-82	27dBm

Order Options

Model pDDL900

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