

Multi-Frequency 900 & 400 MHz Wireless Modem

For the ultimate solution in design flexibility and cost/size sensitive applications, consider the Pico Series P400 radio platform. Offering software selectable ISM 900 MHz & Licensed 400MHz modes, in a single module, the P400 provides an economical solution with the design flexibility, features, and performance never seen before!

400 MHz Licensed

900 MHz ISM

Up to 2 Watts

Extended Temperature

Dual Serial Ports

Excellent Sensitivity



Weights only 5 grams!

1.3" X 1.05" X 0.13"

P400 Features

- Supports up to 345 kbps (@ 900MHz)
- Software Selectable 400 MHz & 900 MHz Bands.
- Quad Filter Stage provides Extreme Noise & Interference Rejection
- Point-to-Point, Point-to-Multipoint, Store & Forward Repeater
- Industrial Temperature (-55°C to +85°C)
- Maximum allowable transit power (Adjustable)
- Low Power consumption in Sleep and Sniff modes (Future)
- 32 bits of CRC, selectable Forward Error Correction with retransmission
- Separate diagnostics port—transparent remote diagnosis and online network control
- Extremely Small Footprint (26.5 x 33 x 3.5mm | 1.3 x 1.05 x 0.15")
- Compatible with some GPS Radio Transceivers
- Microhard compatibility with 920F

Enclosed Option



Pico Series

Specifications

Spreading Method / Modulation Scheme	Frequency Hopping, GMSK, 2GFSK, 4GFSK, QPSK	Frequency 410 to 480 MHz (Licensed Band)				
Forward Error Correction	Hamming, BCH, Golay, Reed-Solomon, Viterbi	Rate (kbps)	Power	Sensitivity (dBm)	Bandwidth (kHz)	Regulatory
Error Detection	32 bits of CRC, ARQ	3.6	2W	-118	6.25	FCC / IC
Encryption	Optional (see –AES option)	4.8	2W	-117	12.5	FCC / IC
Range	60 miles (100 km)	9.6	2W	-115	12.5	FCC / IC
Serial Interface	3.3V CMOS RS232/485 (Selectable)	19.2	2W	-114	25	IC
Serial Baud Rate	300 bps to 230 kbps	Frequency 410 to 480 MHz (Frequency Hopping)				
Operating Modes	Point-to-Point, Point-to-Multipoint, Store & Forward Repeater, Peer-to-Peer	56	2W**	-113	60	None*
Signals Interface	RSSI LEDs, Tx/Rx LEDs, Reset, Config, Wake-up, RSmode, 4 Digital Inputs/Outputs, 1 Analog Input, 1 Analog Output	115.2	2W**	-109	150	None*
Remote Diagnostics	Battery Voltage, Temperature, RSSI, Packet Statistics	172.8	2W**	-108	180	None*
Rejection	Adjacent Channel @ 400 MHz: 60 dB Alternate Channel @ 400 MHz: 70 dB Adjacent Channel @ 900 MHz: 57 dB Alternate Channel @ 900 MHz: 65 dB	230.4	2W**	-106	230	None*
Core Voltage	OEM 3.3VDC is required for 1W Enclosed 3.6VDC is required for 2W 9-30 VDC	276.4	2W**	-105	230	None*
Power Consumption (3.3V)	Sleep: < 1mA (Future) Idle: 20mA Rx: 45mA to 98mA Tx Peak: 2A	345	2W**	-103	400	None*
Connectors:	OEM Antenna: UFL Data: 80 Pin SMT Enclosed Antenna: RP-SMA Female Bulkhead Data: DB9-F	Frequency 902 to 928 MHz (Frequency Hopping)				
Environmental	-55°C - +85°C 5-95% humidity, non-condensing	19.2	1W	-116	25	FCC / IC
Weight	OEM Approx. 5 grams Enclosed Approx. 120 grams	56	1W	-113	60	FCC / IC
Dimensions	OEM Approx. 1.05" x 1.3" x .13" (26.5mm x 33mm x 3.5mm) Enclosed Approx. 1.80" x 2.60" x 1.0" (46mm x 66mm x 25mm)	115.2	1W	-109	150	FCC / IC
Approvals	FCC Part 15.247 IC RSS210 FCC Part 15.90 IC RSS119 RoHS Compliant	172.8	1W	-108	180	FCC / IC
		230.4	1W	-106	230	FCC / IC
		276.4	1W	-105	230	FCC / IC
		345	1W	-103	400	FCC / IC
		19.2	2W**	-115	25	None*
		56	2W**	-110	60	None*
		115.2	2W**	-109	150	None*
		172.8	2W**	-108	180	None*
		230.4	2W**	-106	230	None*
		276.4	2W**	-105	230	None*
		345	2W**	-103	400	None*
Order Options						
		P400	Base Model (1W 900MHz & 2W 400MHz Licensed Operation).*			
		-AES	128-bit AES Encryption.**			
		-C2S	2W 900MHz, 2W 400MHz Frequency Hopping, 2W 400MHz Licensed & 128-bit AES.**			
		-C1S	1W 900MHz, 1W 400MHz Frequency Hopping, 2W 400MHz Licensed & 128-bit AES.**			
		-ENC	Enclosed Model			
*Standard Modems are Shipped with 400MHz Licensed band operation up to 2W and 900MHz ISM FHSS operation 1W with no AES encryption. No other operation is allowed.						
Operating outside this requires compliance with applicability Radio Regulatory Bodies and Canadian Export Laws. Extra Cost/Activation/Proof of Regulatory Compliance is Required.						
**AES encryption, 2W frequency hopping operation requires Export Permit						

Contact Information

Copyright 2017 Microhard Systems Inc.
Specifications subject to change without notice.

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

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



www.microhardcorp.com