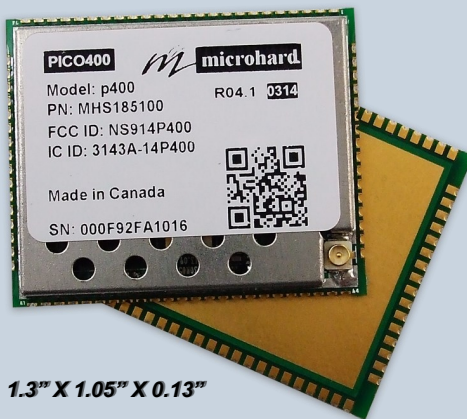


## Multi-Frequency 900 & 400 MHz Wireless Modem

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!

**Weighs only 5 grams!**



400 MHz Licensed

900 MHz ISM

Up to 2 Watts

Extended Temperature

Dual Serial Ports

Excellent Sensitivity

### 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
- 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
- Compatible with Microhard 920F



<b>Spreading Method / Modulation Scheme</b>	Frequency Hopping, GMSK, 2GFSK, 4GFSK, QPSK						
<b>Forward Error Correction</b>	Hamming, BCH, Golay, Reed-Solomon, Viterbi						
<b>Error Detection</b>	32 bits of CRC, ARQ						
<b>Encryption</b>	Optional (see –AES option)						
<b>Range</b>	60 miles (100 km)						
<b>Serial Interface</b>	3.3V CMOS RS232/485 (Selectable)						
<b>Serial Baud Rate</b>	300 bps to 230 kbps						
<b>Operating Modes</b>	Point-to-Point, Point-to-Multipoint, Store & Forward Repeater, Peer-to-Peer						
<b>Signals Interface</b>	RSSI LEDs, Tx/Rx LEDs, Reset, Config, Wake-up, RSMODE, 4 Digital Inputs/Outputs, 1 Analog Input, 1 Analog Output						
<b>Remote Diagnostics</b>	Battery Voltage, Temperature, RSSI, Packet Statistics						
<b>Rejection</b>	Adjacent Channel @ 400 MHz: 60 dB Alternate Channel @ 400 MHz: 70 dB Adjacent Channel @ 900 MHz: 57 dB Alternate Channel @ 900 MHz: 65 dB						
<b>Core Voltage</b>	<table border="0"> <tr> <td><b>OEM</b></td> <td>3.3VDC is required for 1W 3.6VDC is required for 2W</td> </tr> <tr> <td><b>Enclosed</b></td> <td>9-30 VDC</td> </tr> <tr> <td><b>SWP</b></td> <td>7-30 VDC</td> </tr> </table>	<b>OEM</b>	3.3VDC is required for 1W 3.6VDC is required for 2W	<b>Enclosed</b>	9-30 VDC	<b>SWP</b>	7-30 VDC
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<b>Enclosed</b>	9-30 VDC						
<b>SWP</b>	7-30 VDC						
<b>Power Consumption (3.3V)</b>	Sleep: < 1mA (Future) Idle: 20mA Rx: 45mA to 98mA Tx Peak: 2A						
<b>Connectors:</b>	<table border="0"> <tr> <td><b>OEM</b></td> <td>Antenna: UFL Data: 80 Pin SMT</td> </tr> <tr> <td><b>Enclosed</b></td> <td>Antenna: RP-SMA Female Bulkhead Data: DB9-F</td> </tr> <tr> <td><b>SWP</b></td> <td>Antenna: MMCX Power, Data: 10-Pin (GHR-10V-S)</td> </tr> </table>	<b>OEM</b>	Antenna: UFL Data: 80 Pin SMT	<b>Enclosed</b>	Antenna: RP-SMA Female Bulkhead Data: DB9-F	<b>SWP</b>	Antenna: MMCX Power, Data: 10-Pin (GHR-10V-S)
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<b>SWP</b>	Antenna: MMCX Power, Data: 10-Pin (GHR-10V-S)						
<b>Environmental</b>	-55°C to +85°C 5-95% humidity, non-condensing						
<b>Weight</b>	<table border="0"> <tr> <td><b>OEM</b></td> <td>~ 5 grams</td> </tr> <tr> <td><b>Enclosed</b></td> <td>~ 120 grams</td> </tr> <tr> <td><b>SWP</b></td> <td>~ 37 grams</td> </tr> </table>	<b>OEM</b>	~ 5 grams	<b>Enclosed</b>	~ 120 grams	<b>SWP</b>	~ 37 grams
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<b>Approvals</b>	FCC Part 15.247 IC RSS210 FCC Part 15.90 IC RSS119 RoHS Compliant						

Frequency 410 to 480 MHz (Licensed Band)				
Rate (kbps)	Power	Sensitivity (dBm)	Bandwidth (kHz)	Regulatory
3.6	2W	-118	6.25	FCC / IC
4.8	2W	-117	12.5	FCC / IC
9.6	2W	-115	12.5	FCC / IC
19.2	2W	-114	25	IC
Frequency 410 to 480 MHz (Frequency Hopping)				
56	2W**	-113	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*
Frequency 902 to 928 MHz (Frequency Hopping)				
19.2	1W	-116	25	FCC / IC
56	1W	-113	60	FCC / IC
115.2	1W	-109	150	FCC / IC
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				
<b>P400</b>	Base Model (1W 900MHz & 2W 400MHz Licensed Operation).*			
<b>-AES</b>	128-bit AES Encryption.**			
<b>-C2S</b>	2W 900MHz, 2W 400MHz Frequency Hopping, 2W 400MHz Licensed & 128-bit AES.**			
<b>-C1S</b>	1W 900MHz, 1W 400MHz Frequency Hopping, 2W 400MHz Licensed & 128-bit AES.**			
<b>-ENC</b>	Enclosed Model			
<b>-SWP</b>	SWP Series			
*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 applicable radio regulatory bodies and Canadian export laws. Extra cost/activation/proof of Regulatory Compliance is required.				
**AES encryption, 2W frequency hopping operation requires an Export Permit.				