

## Miniature High Power 840 - 845 MHz Wireless Modem

The all new hp840, which is 1/2 the size of our standard Pico Series Radio, delivers the ultimate solution for cost and size sensitive applications. The hp840 offers a miniature 840 MHz serial radio with the reliability, features, and performance of our larger modems! The hp840 features high power operation with a total of 2W available when transmitting on a fixed channel.

*High Power*

*Very Low Cost*

*PMP | PTP*

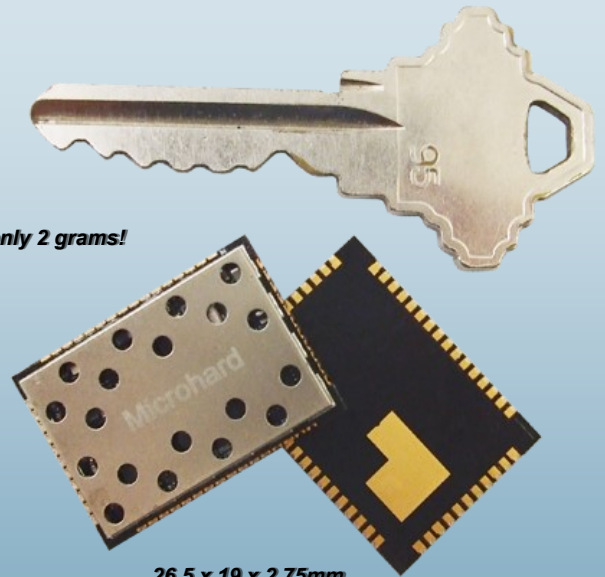
*1W Hopping / 2W Fixed*

*Only 2 grams!*

*Excellent Sensitivity*

*-122 dBm @ 19.2 kbps*

**Weights only 2 grams!**



**26.5 x 19 x 2.75mm**

## Features of the hp840

- Very Low Cost
- 840 - 845 MHz Frequency Hopping or Fixed Channel Operation
- Supports from 19.2 kbps to 500 kbps!
- Multi Stage, SAW Filters provide Extreme Noise and Interference Rejection
- Point-to-Multipoint & Point-to-Point Network Topology
- Master & Remote Operating Modes
- Industrial Temperature (-55°C to +85°C)
- Tx Power of up to 2W on a Fixed Channel
- Low Power consumption in Sleep and Sniff modes
- 32 bits of CRC, selectable Forward Error Correction with retransmit



**hp840 Motherboard**

**hp840 Test Jig**

# hp840

# Specifications

<b>Frequency</b>	840 - 845 MHz	<b>Current Consumption</b>			
<b>Spreading Method</b>	Frequency Hopping, Fixed Channel	<b>Tx Power (dBm)</b>	<b>Vcc (Voc)</b>	<b>VRF (mA)</b>	<b>Vdd (mA)</b>
<b>Error Detection</b>	32 bits of CRC, ARQ, FEC	21	3.6	520	30
<b>Encryption</b>	Optional (see -AES option)	25	3.6	720	33
<b>Range</b>	Up to 100 miles (160 km)	28	3.6	990	36
<b>Sensitivity (@10<sup>-4</sup>/FEC)</b>	-122 dBm @ 19.2 kbps -119 dBm @ 38.4 kbps -115 dBm @ 115.2 kbps -112 dBm @ 172.8 kbps -111 dBm @ 230.4 kbps -109 dBm @ 345.6 kbps -108 dBm @ 500 kbps	30	3.6	1290	38
<b>Output Power</b>	Up to 1W Frequency Hopping Up to 2W Fixed Channel	33	3.6	1800	54
<b>Serial Interface</b>	3.6V CMOS	Rx	3.6	0	47
<b>Serial Baud Rate</b>	Up to 230.4 kbps asynchronous	Rx (link)	3.6	0	47-56
<b>Link Rate</b>	19.2 to 500 kbps	<b>Order Options</b>			
<b>Operating Modes</b>	Master, Remote	<b>hp840</b>	840 - 845 MHz Miniature OEM Wireless Modem		
<b>Signals Interface</b>	RxD, TxD, RTS, CTS, DCD, DSR, DTR, RSSI, Tx/Rx, Reset, Config	<b>-AES</b>	128-bit AES Encryption. Requires Export Permit.		
<b>Blocking</b>	+/- 1 MHz > 50 dBc +/- 2.5 MHz > 55 dBc +/- 5 MHz > 60 dBc				
<b>Core Voltage</b>	3.3 to 3.6 VDC				
<b>Connectors:</b>	54 Pin SMT				
<b>Environmental</b>	-55°C to +85°C 5 to 95% humidity, non-condensing				
<b>Weight</b>	Approx. 2 grams				
<b>Dimensions</b>	Approx. 1.05" x 0.75" x .11" (26.5mm x 19mm x 2.75mm)				
<b>Approvals</b>	RoHS Compliant				

## Contact Information

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For more information please contact:



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

## Miniature High Power 900 MHz Wireless Modem

The all new hp900, which is 1/2 the size of our standard Pico Series Radio, delivers the ultimate solution for cost and size sensitive applications. The hp900 offers a 900 MHz ISM Band, low cost, serial radio with the reliability, features, and performance of our larger modems!

*High Power*

*Very Low Cost*

*PMP | PTP*

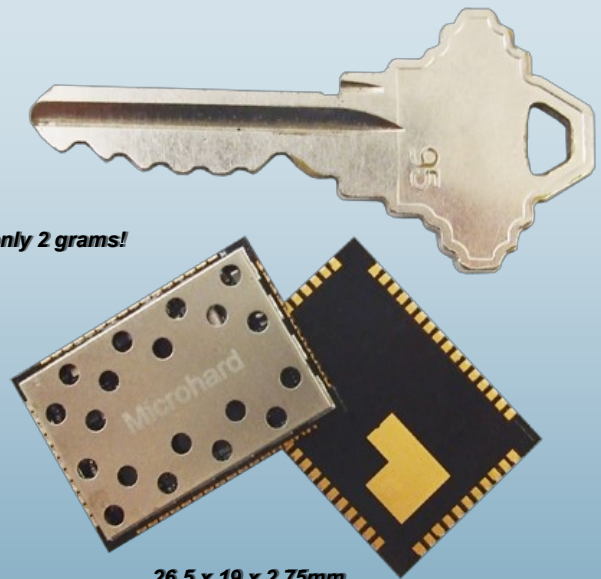
*Extended Temperature*

*Only 2 grams!*

*Excellent Sensitivity*

*-122 dBm @ 19.2 kbps*

**Weights only 2 grams!**



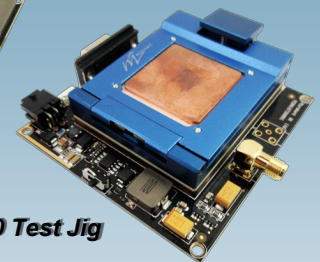
**26.5 x 19 x 2.75mm**

## Features of the hp900

- Very Low Cost
- Link Rates from 19.2 kbps to 500 kbps!
- Multi Stage, SAW Filters provide Extreme Noise and Interference Rejection
- Point-to-Multipoint & Point-to-Point Network Topology
- Master & Remote Operating Modes
- Industrial Temperature (-55°C to +85°C)
- Maximum allowable Tx power (up to 1W)
- Low Power consumption in Sleep and Sniff modes
- 32 bits of CRC, selectable Forward Error Correction with retransmit
- Extremely Small Footprint (26.5 x 19 x 2.75mm | 1.05 x .75 x .11")



**hp900 Motherboard**



**hp900 Test Jig**

# hp900

# Specifications

<b>Frequency</b>	902-928 MHz	<b>Current Consumption</b>			
<b>Spreading Method</b>	Frequency Hopping	<b>Tx Power (dBm)</b>	<b>Vcc (Voc)</b>	<b>VRF (mA)</b>	<b>Vdd (mA)</b>
<b>Forward Error Detection</b>	Hamming BCH Golay Reed-Solomon	21	3.6	520	30
<b>Error Detection</b>	32 bits of CRC, ARQ	25	3.6	720	33
<b>Encryption</b>	Optional (see -AES option)	28	3.6	990	36
<b>Range</b>	40 miles (60 km)	30	3.6	1290	38
<b>Sensitivity (@10<sup>-4</sup>)</b>	-122 dBm @ 19.2 kbps -119 dBm @ 38.4 kbps -115 dBm @ 115.2 kbps -112 dBm @ 172.8 kbps -111 dBm @ 230.4 kbps -109 dBm @ 345.6 kbps -108 dBm @ 500 kbps	33	3.6	1800	54
<b>Output Power</b>	Up to 1W Frequency Hopping	Rx	3.6	0	47
<b>Serial Interface</b>	3.6V CMOS	Rx (link)	3.6	0	47-56
<b>Serial Baud Rate</b>	Up to 230.4 kbps asynchronous	<b>Order Options</b>			
<b>Link Rate</b>	19.2 to 500 kbps	<b>hp900</b>	900 MHz Miniature OEM Wireless Modem		
<b>Operating Modes</b>	Master, Remote	<b>-AES</b>	128-bit AES Encryption. Requires Export Permit.		
<b>Signals Interface</b>	RxD, TxD, RTS, CTS, DCD, DSR, DTR, RSSI, Tx/Rx, Reset, Config				
<b>Blocking</b>	+/- 1 MHz > 55 dBc +/- 2.5 MHz > 60 dBc +/- 5 MHz > 65 dBc > 930 MHz > 70 dBc < 890 MHz > 70 dBc				
<b>Remote Diagnostics</b>	Battery Voltage, Temperature, RSSI, Packet Statistics				
<b>Core Voltage</b>	3.3 - 3.6VDC				
<b>Connectors:</b>	54 Pin SMT				
<b>Environmental</b>	-55°C - +85°C				
<b>Weight</b>	Approx. 2 grams				
<b>Dimensions</b>	Approx. 1.05" x 0.75" x .11" (26.5mm x 19mm x 2.75mm)				
<b>Approvals</b>	FCC IC				

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