



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Features:

- **2.4GHz frequency hopping spread spectrum technology**
- **460Kbps over the air and 115Kbps I/O data rates**
- **64 hopping patterns**
- **FCC certified and CE marked**
- **Integral 6dB patch antenna**
- **RS-232 asynchronous or USB serial interface**

Benefits:

- **Exceptional immunity to multipath fading and jamming**
- **Supports high speed applications needing long range**
- **Co-location of multiple networks without interference**
- **License-free application worldwide**
- **Cost-effective, simple installation**
- **Connects to PC serial ports**

HN-210

2.4 GHz Frequency Hopping Wireless Data Modem

The HN-210 is a versatile, low cost, multi-purpose 2.4 GHz frequencyhopping wireless data modem. The HN-210 communicates through a serial port with over the air of 460.8Kbps and supports both point-to-point and point-to-multipoint networks.

**Specifications**

	HN-210	HN-210X	HN-214
Frequency Band	2401 - 2471 MHz (USA) — 2448 - 2480 MHz (France, Spain) 2473 - 2495 MHz (Japan) — 2452 - 2478 MHz (Canada)		
Licensing	Unlicensed under FCC Part 15, ETSI 300.328		
Number of Channels	75 USA; 25 Canada, France, Spain & Japan		
Hopping Patterns	User configurable, 64 patterns (networks) available		
I/O Data Rates	Up to 115.2 Kbps Asynchronous		
RF Channel Rate	460 Kbps		
Line of Site Range	> 5 miles		
RF Bandwidth	750 KHz		
Modulation Type	GFSK		
Output Impedance	50 ohms		
Network Protocol	Dynamically assigned TDMA with ARQ		
Transmit Power	EIRP: +16dBm/+24dBm	+18dBm	EIRP: +16dBm/+24dBm
Receive Sensitivity	-99dBm for 10 ⁻⁵ BER	-93 dBm for 10 ⁻⁵ BER	-99dBm for 10 ⁻⁵ BER
Power Requirements	9 Vdc 160mA typ. 750mA surge		
Serial Data Interface	Async. RS-232		

Mechanical Specifications

	HN-210	HN-210X	HN-214
Antenna	Integrated 6dB patch	n/a	Integrated 6dB patch
Case Materials	Polycarbonate, NEMA 4X		
Dimensions (mm)	130 x 79 x 35 (excl. flange)		
Weight excl. cable	235g		
Antenna Connector	n/a	TNC	male n/a
Data Connector	9-pin D/USB B		
Power Connector	2 pin DIN		

Environmental Specifications

Temperature Range	-30°C to +70°C (radio enclosure)
Humidity	95% at +40°C, Non-condensing



Built around the WIT2410 radio, the HN-210 has an integral 6dB patch antenna creating a "single piece" modem. Communication with the HN-210 is through a 115.2Kbps asynchronous serial port supporting a standard RS-232 interface; a USB version is also available. The HN-210 communicates over the air at 460.8Kbps and supports both point-to-point and point-to-multipoint networks. With a NEMA 4X weatherproof enclosure and aluminum mounting flange, the HN-210 is simple to install on the side of a building or attached to a mast. With no antenna to connect, the HN-210 is simply mounted where the antenna would ordinarily be mounted. This removes the need for long antenna cable runs, expensive in terms of both cost and performance.

The HN-210 comes with a 50-foot cable that connects to an indoor serial adapter box (included) that provides a standard RS-232 serial 9-pin D connection. The HN-214 comes with a 4-foot cable for use when long cable runs are not needed. The serial adapter box also provides power to the HN-210 through a universal 110/220 50/60 wall-mount power supply (also included).

The integral 6dB patch antenna provides a line-of-site range of several miles, making the HN-210 ideal for a variety of "last mile" applications. For applications requiring more antenna gain, the HN-210X replaces the built-in patch antenna with an external TNC connector.

When paired with the Murata SNAP2410 family of products, the HN-210 provides a cost-effective link from remote devices to Ethernet/IP-based applications. These applications include Intranet-based applications as well as Internet access. The HN-210 also is ideal for use in SCADA applications as remote modems in multipoint configurations and is an extremely cost-effective solution for point-to-point installations. Selectable transmit power levels of 10mW and 100mW allow the HN-210 to be used worldwide, even with the gain of the patch antenna.

Based on the M WIT2410 spread spectrum frequency-hopping radio, the HN-210 has exceptional multipath fade rejection as well as immunity to jamming. The WIT2410 is a field proven performer that delivers robust, reliable, real-world performance.

The HN-210 is both FCC and CE marked. Operating in the 2.4GHz ISM band, the HN-210 can be deployed around the world without a license.