



# Microhard Systems Inc.

*Leaders in Wireless Telecom*

#17, 2135-32nd Ave N.E.  
Calgary, Alberta T2E 6Z3

Tel: (403) 248-0028

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Website: <http://www.microhardcorp.com>

December 20, 2005

**FEDERAL COMMUNICATIONS COMMISSION**

7435 Oakland Mills Road

Columbia, MD 21046

U.S.A.

**Subject: Request for Modular Approval**

**Applicant:** Microhard Systems Inc.  
**Product:** 900MHz OEM Frequency Hopping Module  
**Model:** MHX920A  
**FCC ID:** NS905P20

Dear Sir/Madam,

We, **Microhard Systems Inc.**, request modular approval included below is a clarification on the modular compliance.

Hany Shenouda  
Director of Engineering  
Microhard Systems Inc.



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	<b>Requirements for Modular Transmitters</b>	<b>Manufacturer's Clarification</b>
(a)	In order to be considered a transmitter module, the device must be complete RF transmitter, i.e., it must have its own reference oscillator (e.g., VCO), antenna, etc.... The only connectors to the module, if any, may be power supply and modulation/data inputs	The transmitter is completed with its own reference oscillator, antenna. Only connectors provide are dc supply, data and rf ports are provided with the modular transmitter
(b)	Compliance with FCC RF Exposure requirements may, in some instances, limit the output power of a module and/or the final applications in which the approved module may be employed	The radio is intended for use in all applications (portable, mobile and base). It complies with SAR test with body tissue. The radio is intended for use with mobile or fixed base stations only. It complies with MPE per 2.1091 & 1.1307
(c)	While the applicant for a device into which an authorized module is installed is not required to obtain a new authorization for the module, this does not preclude the possibility that some other form of authorization or testing may be required for the device (e.g., a WLAN into which the authorized module is installed still be authorized as PC peripheral, subject to the appropriate equipment authorization)	The equipment under complies with FCC Part15, Subpart B, Class B – Unintentional radiators
(d)	In the case of a modular transceiver, the modular approval policy only applies to the transmitter portion of such devices. Pursuant to section 15.101(b), the receiver portion will either be subject to Verification, or it will not be subject to any authorization requirements (unless if is a Scanning Receiver, in which case it is also subject to Certification, pursuant to Section 15.101(a)	The receiver operates in the band above 960 MHz; therefore, the FCC authorization for the receiver is exempted.
(e)	The holder of the grant of equipment authorization (Grantee) of the module is responsible for the compliance of the module in its final configuration, provided that the OEM, integrator, and /or end user has complied with all of the instructions provided by the Grantee which indicate installation and/or operating conditions necessary for compliance.	End-users must comply with the following instruction sated in the users' manual: Labeling requirement for equipment using this modular transmitter. RF Exposure Warning for compliance with FCC Rules 2.1091 and 1.1307 when the radio is used in a mobile or base system
	<b>Requirements for Modular Transmitters</b>	<b>Manufacturer's Clarification</b>
1.	The modulator transmitter must have its own RF shielding. This is intended to ensure that the module does not have to rely upon the shielding provided by the device into which it is installed in order for all modular transmitter emissions to comply with Part 15 limits. It is also intended to prevent coupling between the RF circuitry of the module and any wires or circuits in the device	The modular transmitter has its own RF shielding



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	into which the module is installed. Such coupling may result in noncompliant operation.	
2.	The modular transmitter must have buffered modulation/data inputs (if such inputs are provided) to ensure that the module will comply with Part 15 requirements under conditions of excessive data rates or overmodulation.	The modular transmitter has buffered modulation/data inputs
3.	The modular transmitter must have its own power supply regulation. This is intended to ensure that the module will comply with Part 15 requirements regardless of the design of the power supplying circuitry in the device into which the module is installed.	The modular transmitter has its own power supply regulation.
4.	The modular transmitter must comply with the antenna requirements of section 15.203 and 15.204(c). The antenna must either be permanently attached or employ a "unique" antenna coupler (at all connections between the module and the antenna, including the cable). Any antenna used with the module must be approved with the module, either at the time of initial authorization or through a Class II permissive change. The "professional installation" provision of Section 15.203 may not be applied to modules.	The radio and its associated antennas are provided with the special coupling antenna connectors (MCX or reversed SMA).
5.	The modular transmitter must be tested in a stand-alone configuration, i.e., the module must not be inside another device during testing. This is intended to demonstrate that the module is capable of complying with Part 15 emission limits regardless of the device into which it is eventually installed. Unless the transmitter module will be battery powered, it must comply with the AC conducted requirements found in Section 15.207. AC or DC power lines and data input/output lines connected to the module must not contain ferrites, unless they will be marketed with the module (see Section 15.27(a)). The length of these lines shall be length typical of actual use or, if that length is unknown, at least 10 centimeters to insure that there is no coupling between the case of the module and supporting equipment. Any accessories, peripherals, or support equipment connected to the module during testing shall be unmodified or commercially available (See Section 15.31(I)).	The modular transmitter was tested in a stand-alone configuration