



**Re: Limited Modular Approval**

**To Whom It May Concern:**

Banner Engineering Corp. would like to apply for limited Modular Approval for the RM7023 radio transceiver product. This letter is our application for such according to FCC public notice DA 00-1407. Banner Engineering will retain complete control of the use and installation of this product such that full compliance of all end products is assured.

The following table contains the criteria for a full modular approval and addresses how the RM7023 plus its carrier board address each requirement. The criteria are excerpted and summarized from the FCC Public Notice DA 00-1407.

The RM7023 is the device that will carry the limited Modular Approval, the DX180 carrier board is the board onto which the RM7023 was installed for testing.

<b>Criteria</b>		<b>RM7023 satisfaction of requirements.</b>	<b>RM7023 plus DX180 carrier board satisfaction of requirements.</b>
1.	The modular transmitter must have its own RF shielding.	The RM7023 includes a brass shield over the entire device.	
2.	The modular transmitter must have buffered modulation/data inputs.	The Analog Devices AD7023 single chip radio transceiver ASIC contains its own data registers and does not permit direct modulation of the carrier. Maximum data rate is hardware limited by the AD7023.	
3.	The modular transmitter must have its own power supply regulation.	The RM7023 contains all necessary bypass components on DC supply planes. The AD7023 contains two internal voltage regulators for its analog and digital sections.	The voltage regulator function for the power amplifier is performed on the carrier board, which is under Banner design control.
4.	The modular transmitter must employ a unique connector	The RM7023 RF connector is a solderable connection only and not accessible without proper board construction and soldering techniques.	The DX180 carrier board contains the unique antenna connector (reverse polarity SMA).
5.	The modular transmitter must be tested in stand-alone configuration	The RM7023 was tested installed upon the DX180 carrier board which is only responsible for providing power and for loading the configuration registers on the AD7023.	
6.	The modular transmitter must be labeled with its own FCC number.	RM7023 will be labeled directly at the time of manufacture, or will be labeled on the exterior of the housing, depending on application.	

**Banner Engineering Corporation**

9714 Tenth Avenue North • Minneapolis, MN 55441 • Phone 763.544.3164 • Fax 763.544.3213 • [www.bannerengineering.com](http://www.bannerengineering.com)



7.	The modular transmitter must comply with any specific rules.	The RM7023 complies with all operating requirements as tested; no user intervention is required.	
8.	The modular transmitter must comply with exposure requirements.	The RM7023 complies with all exposure requirements as tested.	

Banner Engineering will manufacture these units for use within its own products. Banner will control the manufacture of the product and thereby assure the module is not altered in any non-conforming manner.