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October 4, 2011

Federal Communications Commission
Equipment Approval Services
P.O. Box 35815
Pittsburgh, PA 15251-3315

Industry Canada
Head, Equipment Approval Unit
Department of Communications
1241 Clyde Avenue
Ottawa, Ontario
K2C 1Y3

Applicant: ARC Wireless LLC
6330 N. Washington St., Unit 13
Denver, CO 80216

Equipment: ARCFlex 802.11bgn Module FCC ID: Z2B-AFM1
CFR Rules: Part 2 and 15.247 (Modular Transmitter)

Re: Modular transmitter approval

Gentlemen:

As required in CFR 47 15.212 and Industry Canada RSS-GEN regarding unlicensed modular transmitter approval, the following information has been addressed. The transmitter module is a complete RF transmitter containing its own reference oscillator, antenna etc. The connections available on the module are for power and data interface only. Below please find information, addressing each requirement from RSS-GEN and CFR 47 15.212.

Per RSS-GEN

(a) The module must be a complete radio transmitter with its own reference oscillator, antenna, etc. The only connectors to the module, if any, are power supply and modulation/data inputs.
Clarification: The ARCFlex 802.11bgn Module offers connection for power supply and modulation/data inputs only.

(b) The module has its own RF shielding.
Clarification: The ARCFlex 802.11bgn Module is produced with permanently attached RF shield during production.

(c) The module must have buffered modulation/data input(s) (if such inputs are provided) to ensure that the module will comply with RSS-210 requirements under conditions of excessive data rates or over-modulation.
Clarification: The ARCFlex 802.11bgn Module buffers the modulation and data inputs ensuring compliance with regulations.

(d) The module has its own power supply regulation. This is to ensure that the module will comply with RSS-210 requirements regardless of the design of the power supplying circuitry in the host device, which houses the module.
Clarification: The ARCFlex 802.11bgn Module incorporates regulators to ensure operation in specified range.

(e) The certification submission contains a detailed description of the configuration of all antennas that will be used with the module.
Clarification: The ARCFlex 802.11bgn Module incorporates unique antenna connector compliant with regulations.

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Per CFR 47 15.212

(i) The radio elements of the modular transmitter must have their own shielding. The physical crystal and tuning capacitors may be located external to the shielded radio elements.
Clarification: The ARCFlex 802.11bgn Module is produced with permanently attached RF shield during production.

(ii) 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 over-modulation.
Clarification: The ARCFlex 802.11bgn Module buffers the modulation and data inputs ensuring compliance with regulations.

(iii) The modular transmitter must have its own power supply regulation.
Clarification: The ARCFlex 802.11bgn Module incorporates regulators to ensure operation in specified range.

(iv) The modular transmitter must comply with the antenna and transmission system requirements of §§ 15.203, 15.204(b) 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). The ''professional installation'' provision of § 15.203 is not applicable to modules but can apply to limited modular approvals under paragraph (b) of this section.
Clarification: The ARCFlex 802.11bgn Module incorporates compliant unique antenna connector and/or integral antenna system.

(v) The modular transmitter must be tested in a stand-alone configuration. *i.e.*, the module must not be inside another device during testing for compliance with part 15 requirements. Unless the transmitter module will be battery powered, it must comply with the AC line conducted requirements found in § 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 § 15.27(a)). The length of these lines shall be the 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 and commercially available (see § 15.31(i)).
Clarification: The ARCFlex 802.11bgn Module was tested in a stand-alone configuration (placed on development/interface fixture) without enclosure.

(vi) The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number.
Clarification: The ARCFlex 802.11bgn Module has required labeling placed on the module and instruction for placement on exterior of end product.

(vii) The modular transmitter must comply with any specific rules or operating requirements that ordinarily apply to complete transmitter and manufacturer must provide adequate instructions along with module to explain any such requirements.
Clarification: The ARCFlex 802.11bgn Module complies with all specific applicable rules and regulatory precautions are addressed in manual.

(viii) The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.
Clarification: The ARCFlex 802.11bgn Module complies with applicable RF exposure requirements. Installation and RF exposure precautions are addressed in manual.

Sincerely

Harold R Bledsoe
President/CTO