



Innovative Wireless Technologies, Inc.
1100 Main Street
Lynchburg, Virginia 24504

January 15, 2025

To Whom It May Concern,

Please be advised that Innovative Wireless Technologies, Inc. is requesting Part 15.247 Unlicensed Digital Modulation approval for its Battery Mesh Node, Wireless Gas Monitor and Wireless Gas Monitor Plus (BMN, WGM and WGM+ respectively) which incorporate the identical radio hardware with slight mechanical variations for the number of sensor modules and internal versus external batteries. The products listed below will be submitted for FCC ID: SP8-FAP4913040.

IWT Product Number	Acronym	Sensor Module Qty	Battery Configuration
FAP4213-093	BMN	0	Internal
FAP4213-090	BMN	0	External
FAP4913-030	WGM	1	Internal
FAP4913-032	WGM	2	Internal
FAP4913-040	WGM+	1	Internal
FAP4913-090	WGM+	1	External

The below statements outline Innovative Wireless Technologies' responses to part 15.203 concerning antennas and professional installation.

A. ANTENNA REQUIREMENTS—Section 15.203

2) c) Professional Installation

i) Requirement: Professional installation must be justified in the filing, and grant condition must state "This device must be professionally installed."

IWT Response: The device must be professionally installed by IWT installation team or IWT trained personnel.

ii) Requirement: Professional installation does not permit use of any external antenna with the transmitter; the permitted types of antenna must be specified.

IWT Response: The only allowed antennas are specified in Product Manual:

1. IWT part number FAA9100-017 (Yagi 11 dBi)
2. IWT part number FAA9100-068 (NMO monopole 3 dBi)

These antennas have been tested to comply with FCC EIRP limits.

iii) The applicant should address the following items when justifying professional installation.

(1) Requirement: To qualify for professional installation, the applicant must explain why the hardware is not readily available to average consumer.

IWT Response: IWT equipment can only be purchased through an IWT sales agent.

(2) Requirement: Marketing—Device cannot be sold via retail to the general public or by mail order; it must be sold to authorized dealers or installers only.

IWT Response: IWT equipment is not sold via retail to the general public, nor would the equipment have any utility for the general consumer. It can only be purchased through an IWT sales agent.

(3) Requirement: Filing must show that intended use is not for consumers and general public; rather device is generally for industrial/commercial use.

IWT Response: This equipment is specifically designed and optimized to meet the wireless needs of underground mining.

(4) Requirement: Explain what is unique, sophisticated, complex, or specialized about the equipment that REQUIRES it to be installed by a professional installer?

IWT Response: IWT mesh equipment must be strategically placed to ensure a stable reliable wireless network. The network is commissioned, monitored, and managed through an onsite IWT computer server with preinstalled IWT application software that is tied to the server MAC ID or a license key dongle. This software cannot be downloaded from the internet, nor can it be copied from the onsite server.

iv) Other professional installation requirements.

(1) Requirement: Installation must be controlled.

IWT Response: In a typical deployment IWT personnel perform a site survey to determine the appropriate equipment and preplan equipment placement to meet the customer's specified wireless coverage and functionality requirements.

(2) Requirement: Installed by licensed professionals (e.g., device sold to dealer who hire installers).

IWT Response: An IWT installation team installs and verifies the system.

(3) Requirement: Installation requires special training (e.g., special programming, access to keypad, field strength measurements made).

IWT Response: IWT trains key customer personnel (e.g. engineers, technicians, and dispatchers) in the operation and maintenance of the system. In underground mining operations the system is gradually expanded as the mine tunnels extend. During mine expansion IWT-trained mine personnel install additional mesh nodes.

Innovative Wireless Technologies, Inc. certifies that the above statements are true to the best of our knowledge. Thank you for your attention to this matter.

Sincerely,



Gary Raulerson
Director of Operations
Innovative Wireless Technologies, Inc.
