Re: FCC ID: AIERIT23-450
Correspondence Number: 30446
731 Confirmation Number: TC559275

Ritron's Response to FCC Correspondence Number 30446

To whom it may concern:

1) 47 CFR 96.651 mandates that "All transmitters used in the Personal Radio Service must be crystal controlled, except an R/C station that transmits in the 26-27 MHz band, a [*sic*] FRS unit, a [*sic*] LPRS unit, a MURS unit, a MICS transmitter, or a WMTS unit." Since GMRS is not listed as an exception, one must conclude that GMRS units must be crystal controlled. Whether our product, FCC ID: AIERIT23-450 is in compliance depends upon how one defines crystal controlled.

Historically within the two-way radio industry, crystal controlled implies that an individual channel crystal is used for each transmitter channel. Frequency multiplier stages within the unit then multiply the crystal frequency to the desired carrier frequency. Although this approach was used 20 or more years ago, it is almost never seen today being superseded by PLL frequency synthesizers. Our AIERIT23-450, as well as every GMRS unit that we can see being marketed, uses PLL frequency control. In short, by the common definition of crystal controlled, Ritron knows of no product certified by the FCC within the past few years which could be called crystal controlled.

The PLL frequency synthesizers used in our product (and all others) use a master reference oscillator to lock the transmitter oscillator on frequency. This oscillator is crystal controlled, although it always operates at one frequency regardless of channel frequency. This oscillator tends to be more stable and offer better unit frequency agility than individual channel crystals. Units using PLL synthesizers are literally crystal-controlled, although not by the common industry definition.

2) Our product FCC ID: AIERIT23-450 met all of the requirements of Part 95A when originally submitted for approval. A permissive change was requested to add Part 95A to the certificate. No changes to the design of the product were required, none were made, and therefore, there are none to report per 2.1043(b)(2).

3) The following text appears in the Users Manual concerning RF exposure:

SAFETY STANDARDS-The FCC (with its action in General Docket 79-144, March 13, 1985) has adopted a safety standard for human exposure to radio Frequency electromagnetic energy emitted by FCC regulated equipment. Ritron observes these guidelines and recommends that you do also:

- DO NOT hold the radio so that the antenna is very close to or touching exposed parts of the body, especially the face or eyes, while transmitting. Keep the radio vertical, four inches away while talking into the front panel.

- DO NOT press the Push-To-Talk except when you intend to transmit.

- DO NOT operate radio equipment near electrical blasting caps or in an explosive atmosphere.

- DO NOT allow children to play with any radio equipment that contains a transmitting device.

- Repair of Ritron products should be performed only by Ritron authorized personnel.

4) Our product FCC ID: AIERIT23-450 is marketed through distribution channels which restrict sales to business and industrial users. These users use this product as part of their business and thus, fall under the guidelines of occupational/controlled RF exposure limits. This product is not sold to, or intended to be used by, the general population.

5) Our product FCC ID: AIERIT23-450 has all of its frequency determining components located internal to the radio. In addition, special hardware, available only to certified radio dealers from Ritron, is required to program the product.

Sam L. Dulaney
Chief Engineer
Ritron, Inc.