Dräger medical
A Dräger and Siemens Company

title
M21 Reader Module: Cover Letter for da001407_ PART 15 UNLICENSED MODULAR TRANSMITTER APPROVAL

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1. Purpose

Dräger Medical's devices are to be equipped with a technology that identifies accessories connected to the devices, and enables communication between them. Specific data can be stored on an internal memory chip on the accessory.
With this features improved product functionality are provided for customers. The technology is referred to as Electronic Accessory Signature Technology (EAST).
This document proves the feasibility of the M21 Reader Module to grant approval of modular transmitter circuitry that could be used in a variety of Part 15 devices without requiring those devices to obtain subsequent and separate FCC approvals.

Such approvals have been granted in an effort to afford relief to equipment manufacturers by eliminating the requirement that a new equipment authorization be obtained for the same transmitter when it is installed in a new device. More recently, a number of manufacturers have requested information about the conditions under which such modular approvals might be granted. This Public Notice sets forth the requirements for approval of modular transmitter equipment designs. These requirements are in addition to what is normally required for an application for an intentional radiator.

2. Discussion

In order to obtain a modular transmitter approval, a cover letter requesting modular approval must be submitted and the numbered requirements identified below must be addressed in the application for equipment authorization.

1. The modular 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 into which the module is installed. Such coupling may result in non-compliant operation.

⇨ M21 Reader Module has an integrated RF shielding. The "naked" Module is tested successfully against the specified FCC requirements.

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 over-modulation.

⇨ M21 Reader Module is tested successfully against the specified FCC requirements. The cables to the M21 were exposed to transmission. No effect was detected.

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.

⇨ M21 Reader Module has an 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.

⇨ M21 Reader Module and the associated antennas are integrated parts within Draeger Medical devices. The antennas are permanently connected to the M21 via connectors. Changes or Modifications are subject to control of certified standards. Every used Antenna will be tested in the context of the applicable standards.

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 line 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)).

⇨ M21 Reader Module is tested successfully against the specified FCC requirements.

6. The modular transmitter must be labeled with its own FCC ID number, and, if the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: XYZMODEL1" or "Contains FCC ID: XYZMODEL1." Any similar wording that expresses the same meaning may be used. The Grantee may either provide such a label, an example of which must be included in the application for equipment authorization, or, must provide adequate instructions along with the module which explain this requirement. In the latter case, a copy of these instructions must be included in the application for equipment authorization.

⇨ M21 Reader Module is labeled directly. The device label of the Draeger Medical devices includes the FCC ID number of the module (Labels were submitted to notified bodies).

7. The modular transmitter must comply with any specific rule or operating requirements applicable to the transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements. A copy of these instructions must be included in the application for equipment authorization. For example, there are very strict operational and timing requirements that must be met before a transmitter is authorized for operation under Section 15.231. For instance, data transmission is prohibited, except for operation under Section 15.231(e), in which case there are separate field strength level and timing requirements. Compliance with these requirements must be assured.

⇨ M21 Reader Module has an operational manual. The programming of the Draeger Medical device is based on this document. There is no user interface to the module.

8. The modular transmitter must comply with any applicable RF exposure requirements. For example, FCC Rules in Sections 2.1091, 2.1093 and specific Sections of Part 15, including 15.319(i), 15.407(f), 15.253(f) and 15.255(g), require that Unlicensed PCS, UNII and millimeter wave devices perform routine environmental evaluation for RF Exposure to demonstrate compliance. In addition, spread spectrum transmitters operating under Section 15.247 are required to address RF Exposure compliance in accordance with Section 15.247(b)(4). Modular transmitters approved under other Sections of Part 15, when necessary,

may also need to address certain RF Exposure concerns, typically by providing specific installation and operating instructions for users, installers and other interested parties to ensure compliance.

⇨ M21 Reader Module is tested successfully against the specified FCC requirements.