



Attention:

FCC Application Examiner
FCC Reviewing Engineer

Re: Request for Part 15 Unlicensed Modular Transmitter Approval Per FCC Public Notice DA 00-1407

Applicant: RevFire Corporation
RevFire Model #: T1
FCC ID: UDJ-T1

To whom it may concern,

Request is hereby submitted by RevFire Corporation for approval of the RevFire Model T1 as a Modular Transmitter as outlined in FCC Public Notice DA 00-1407.

Each of the numbered requirements outlined in FCC Public Notice DA 00-1407 are addressed below:

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.

The RevFire T1 module has its own shielding. It does not 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. Coupling between the RF Circuitry of the module and the device into which the T1 module is installed can not occur.

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.

The RevFire T1 module does not have power, modulation, or data inputs.

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.

The RevFire T1 module operates from its own captive battery that can not be removed, substituted, or replaced.

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.

The RevFire T1 module antenna is permanently attached and can not be removed or substituted.

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)).

The RevFire T1 module was tested in a stand-alone configuration, i.e., it was not embedded inside of another device during testing. There are no AC or DC power lines or data input or output lines emanating from the module.

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.

The exterior of the device into which the RevFire T1 module is installed will be printed with the following: “Contains FCC ID: UDJ-T1”. An example of such a label is included in the application for equipment authorization.

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.

The RevFire T1 module conforms to all rules for applicable FCC Part 15 regulations. The manufacturer that uses the RevFire T1 module is not able to



change any of the characteristics of the T1 module transmissions.

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.

The RevFire T1 module is tested under Section 15.249 which does not specify RF Exposure requirements.



DA 00-1407 also identifies several factors that should be considered when seeking an equipment authorization for modular transmitters:

- a) In order to be considered a transmitter module, the device must be a complete RF transmitter, i.e., it must have its own reference oscillator (e.g., VCO), antenna, etc. The only connectors to the module, if any, may be power supply and modulation/data inputs.

The RevFire T1 module is a complete RF transmitter with its own reference oscillator, antenna, etc.. There are no external connectors to the module.

- b) Compliance with FCC RF Exposure requirements may, in some instances, limit the output power of a module and/or the final applications in which the approved module may be employed.

The RevFire T1 module is tested to Section 15.249 for low power unlicensed transmitters. Section 15.249 does not specify an RF Exposure requirement. Also, there is no means to change the output power of the T1 module

- c) While the applicant for a device into which an authorized module is installed is not required to obtain a new authorization for the module, this does not preclude the possibility that some other form of authorization or testing may be required for the device (e.g., a WLAN into which an authorized module is installed must still be authorized as a PC peripheral, subject to the appropriate equipment authorization).

All applicable authorizations and testing will be applied to the devices into which the RevFire T1 authorized module is installed.

- d) In the case of a modular transceiver, the modular approval policy only applies to the transmitter portion of such devices. Pursuant to Section 15.101(b), the receiver portion will either be subject to Verification, or it will not be subject to any authorization requirements (unless it is a Scanning Receiver, in which case it is also subject to Certification, pursuant to Section 15.101(a)).

Only the RevFire T1 transmitter is submitted for approval as a modular transmitter.

- e) The holder of the grant of equipment authorization (Grantee) of the module is responsible for the compliance of the module in its final configuration, provided that the OEM, integrator, and/or end user has complied with all of the instructions provided by the Grantee which indicate installation and/or operating conditions necessary for compliance.

RevFire Corporation recognizes and accepts this responsibility.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Marinelli", is written over a horizontal line.

Dave Marinelli
President
RevFire Corporation
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