

December 14, 2007

AmericanTCB
6731 Whittier Avenue
McLean VA 22101

Attn: Director of Certification

RE: FCC ID: GDI-SCRDTX / IC: 889B-SCRDTX submittal as modular device

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.

Not required per exceptions in FCC form DA 00-1407 June 26, 2000 "Limited Modular Approval" (Grantee demonstrates that it will retain control over the final installation of the device).

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.

Not required per exceptions in FCC form DA 00-1407 June 26, 2000 "Limited Modular Approval" (Grantee demonstrates that it will retain control over the final installation of the device).

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.

Not required per exceptions in FCC form DA 00-1407 June 26, 2000 "Limited Modular Approval" (Grantee demonstrates that it will retain control over the final installation of the device).

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.

Antenna employs a "unique" antenna coupler (at all connections between the module and the antenna, including the cable). And has been tested with module (SCRDTX)

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 a length typical of actual use or, if that length is unknown, at least 10 centimeters to ensure that there is no coupling between the case of the module and any 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)).

Test procedures used comply with these requirements per test report

6. The modular transmitter must be labeled with its own FCC ID number, and, if the FCCID 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.

Label conforms to this requirement (See drawing provided)

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.

Not required per exceptions in FCC form DA 00-1407 June 26, 2000 "Limited Modular Approval" (Grantee demonstrates that it will retain control over the final installation of the device).

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), 15.255(g) and 15.257(g) require that applicants for authorization of Unlicensed PCS, U-NII and millimeter wave devices perform a routine environmental evaluation for RF exposure to demonstrate compliance. In addition, applicants for authorization of spread spectrum transmitters operating under Section 15.247 are required to address RF exposure compliance in accordance with Section 15.247(i). Applicants for authorization of 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, installer and other interested parties to ensure compliance.

Not required per exceptions in FCC form DA 00-1407 June 26, 2000 "Limited Modular Approval" (Grantee demonstrates that it will retain control over the final installation of the device).

(a) Single modular transmitters consist of a completely self-contained radiofrequency transmitter device that is typically incorporated into another product, host or device. Split modular transmitters consist of two components: a radio front end with antenna (or radio devices) and a transmitter control element (or specific hardware on which the software that controls the radio operation resides). All single or split modular transmitters are approved with an antenna. All of the following requirements apply, except as provided in paragraph (b) of this section.

Our Device is a "Single Modular Transmitter"

(1) Single modular transmitters must meet the following requirements to obtain a modular transmitter approval.

(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.

Not required per exceptions in FCC form DA 00-1407 June 26, 2000 "Limited Modular Approval" (Grantee demonstrates that it will retain control over the final installation of the device).

(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.

Not required per exceptions in FCC form DA 00-1407 June 26, 2000 "Limited Modular Approval" (Grantee demonstrates that it will retain control over the final installation of the device).

(iii) The modular transmitter must have its own power supply regulation.

Not required per exceptions in FCC form DA 00-1407 June 26, 2000 "Limited Modular Approval" (Grantee demonstrates that it will retain control over the final installation of the device).

(iv) The modular transmitter must comply with the antenna and transmission system requirements of Sections 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 Section 15.203 is not applicable to modules but can apply to limited modular approvals under paragraph (b) of this section.

Antenna employs a "unique" antenna coupler (at all connections between the module and the antenna, including the cable). And has been tested with module (SCRDTX)

(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 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 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 Section 15.31(i)).

Test procedures used comply with these requirements per test report

(vi)The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number.

Transmitter complies with option (A)

(A) If using a permanently affixed label, the modular transmitter must be labeled with its own FCC identification number, and, if the FCC identification number 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.

(B) If the modular transmitter uses an electronic display of the FCC identification number, the information must be readily accessible and visible on the modular transmitter or on the device in which it is installed. If the module is installed inside another device, then the outside of the device into which the module is installed must display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC certified transmitter module(s)." Any similar wording that expresses the same meaning may be used. The user manual must include instructions on how to access the electronic display. A copy of these instructions must be included in the application for equipment authorization.

(viii)The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.

Not required per exceptions in FCC form DA 00-1407 June 26, 2000 "Limited Modular Approval" (Grantee demonstrates that it will retain control over the final installation of the device).

(2)Split modular transmitters must meet the requirements in paragraph (a)(1)of this section, excluding paragraphs (a)(1)(i)and (a)(1)(v), and the following additional requirements to obtain a modular transmitter approval.

NA, "Single ModularTransmitter"

(i)Only the radio front end must be shielded. The physical crystal and tuning capacitors may be located external to the shielded radio elements. The interface between the split sections of the modular system must be digital with a minimum signaling amplitude of 150 mV peak-to-peak.

(ii)Control information and other data may be exchanged between the transmitter control elements and radio front end.

NA, "Single Modular Transmitter"

(iii)The sections of a split modular transmitter must be tested installed in a host device(s) similar to that which is representative of the platform(s) intended for use.

NA, "Single Modular Transmitter"

(iv)Manufacturers must ensure that only transmitter control elements and radio front end components that have been approved together are capable of operating together. The transmitter module must not operate unless it has verified that the installed transmitter control elements and radio front end have been authorized together. Manufacturers may use means including, but not limited to, coding in hardware and electronic signatures in software to meet these requirements, and must describe the methods in their application for equipment authorization.

NA, "Single Modular Transmitter"

(b)A limited modular approval may be granted for single or split modular transmitters that do not comply with all of the above requirements, e.g. shielding, minimum signaling amplitude, buffered modulation/data inputs, or power supply regulation, if the manufacturer can demonstrate by alternative means in the application for equipment authorization that the modular transmitter meets all the applicable Part 15 requirements under the operating conditions in which the transmitter will be used. Limited modular approval also may be granted in those instances where compliance with RF exposure rules is demonstrated only for particular product configurations. The applicant for certification must state how control of the end product into which the module will be installed will be maintained such that full compliance of the end product is always ensured.

Not required per exceptions in FCC form DA 00-1407 June 26, 2000 "Limited Modular Approval" (Grantee demonstrates that it will retain control over the final installation of the device).