



January 14, 2009

RE: Limited Modular Approval

FCC ID: TVK-WPLS

Dear Application Examiner:

Regarding the licensed Modular Transmitter Approval, the following requirements called out in FCC Public Notice DA 00-1407 are noted:

**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 FCC 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 C.E.R.G. STD-302 is a completely self contained radio which has its own RF shielding on the RF section. No other RF shielding is required or implemented.***

**2) The modular transmitter must have buffered modulation/data inputs** (if such inputs are provided) to ensure that the module will comply with FCC requirements under conditions of excessive data rates or over-modulation.

***The C.E.R.G. STD-302 is a completely self contained radio which modulates its own RF transmitter. It controls the data flow to the transmitter section compliant with FCC requirements.***

**3) The modular transmitter must have its own power supply regulation.** This is intended to ensure that the module will comply with FCC requirements regardless of the design of the power supplying circuitry in the device into which the module is installed.

***The module itself has no self-contained power regulator, thus the "Limited" scope of this request. However, the C.E.R.G. STD-302 is a radio module designed by Computer Electronics Research Group, and it is intended for use in Computer Electronics Research Group products ONLY. Therefore, in all its designs, Computer Electronics Research Group will always ensure that the radio receives 3.3 VDC to the power input port of the module in order to comply with the scope of this certification.***

**4) The modular transmitter must comply with the antenna requirements of FCC Rules.** 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 may not be applied to modules.

***The C.E.R.G. STD-302 employs a reverse threaded SMA antenna connector.***

**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 FCC 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 FCC Rules. 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. 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.

***The C.E.R.G. STD-302 was tested as a stand-alone unit***

**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 C.E.R.G. STD-302 consists of a printed circuit board, which is labeled with the FCC identification number. This PCB can be mounted in a host of devices and each device that this PCB utilizes will have the FCC ID number visible to the consumer.***

**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 FCC Rules. 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 C.E.R.G. STD-302 comes equipped with embedded firmware that controls these parameters.***

**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 FCC Rules, 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 C.E.R.G. STD-302 complies with RF exposure requirements for Mobile Equipment.***

Regards,

Sandi McEnergy  
US Tech  
Agent for Computer Electronics Research Group (C.E.R.G.), LLC