



03-27-2004

***Request for a modular approval - FCC ID: LGYBT260146***

Dear Application Examiner,  
the O'Neil Product Development Bluetooth Module BT260146 is seeking FCC authorization as a modular transmitter. The requirement of the FCC Public notice DA00-1407 are met.

The following requirements are fulfilled:

**1. The modular transmitter must have its own RF shielding**

The radio portion of the module is contained in its own RF shielding. See the external photos.

**2. The modular transmitter must have buffered modulation/data inputs**

The module has a memory management unit inside of the IC. It buffers the data inputs from UART and USB terminal.

**3. The modular transmitter must have its own power supply regulation**

The IC contains an own voltage regulation. In case of changes in the supply voltage VCC (for example caused by temperature changes or other effects), the internal voltage will be stabilized.

**4. The modular transmitter must comply with the antenna requirements of Section 15.203 and 15.204c**

The transmitter shall only be used with the tested integral antenna or with an antenna that has less antenna gain. Requirements for the use of external antennas are specified in the antenna information exhibit. (See Mitsubishi Antenna AHD1403-244ST61)

**5. The modular transmitter must be tested in a stand-alone configuration**

The EUT was tested in a stand-alone configuration. The module was fixed in test/programming board during the test. See also the test report and Test setup photos.

**6. The modular transmitter must be labeled with its own FCC ID number**

The EUT will be labeled with its own FCC ID number. If the module is installed inside of an end-product, the label will not be visible. In this case the OEM customer will be instructed to how to apply the exterior label.

**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.**

The EUT is compliant with all applicable FCC rules. Detail instructions are given in the Users Guide.



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**8. The modular transmitter must comply with any applicable RF exposure requirements.**

The maximum measured power output is 3.00 dBm (1.995 mW), the maximum antenna gain is -4.7 dBd (-2.55 dBi) = numeric gain 0.556 The maximum permissible exposure is defined in 47 CFR 1.1310 as 1 mW/cm<sup>2</sup>.

The distance from the EUT's transmitting antenna where the exposure level reaches the maximum permitted level is calculated using the general equation:

$$S = P * G / 4\pi R^2$$

$S_{max} = 1\text{mW/cm}^2$ ,  $P = 1.995\text{ mW}$ , linear power gain relative to the isotropic radiator = -2.55 dBi = 0.556 (numeric gain),  $R = \text{distance in cm}$

Solving for R, the 1mW/cm<sup>2</sup> limit is reached in a distance of 0.2971 cm to the transmitting antenna.

The module has to be integrated in a way that the minimum distance of 0.2971 cm is ensured so a statement in the users manual is not necessary.

Please contact us if you have any additional questions.

Best Regards

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