

July 31, 2006

The 2.4GHz Frequency ZigBee™ module (PAN4570 and ETRX2), **FCC ID: T7VEM250A** is seeking FCC Authorization as a modular transmitter. The EUT meets the requirements for modular approval as detailed in FCC public Notice DA00-1407. Compliance to each of the requirements is described below:

1. **“The modular transmitter must have its own RF shielding.”** - The radio portion of the Z-Wave module has its own RF shielding. The shielding is installed at the factory.

Please see for photographs of the shielding, found e.g. in file PAN4570-LabelLoc.pdf and ETRX2-LabelLoc.pdf

2. **“The modular transmitter must have buffered modulation/data inputs.”** - The EUT has its own buffered data inputs.

Please see schematics of the module, found in file PAN4570-Schem.pdf and ETRX2-Schem.pdf

3. **“The modular transmitter must have its own power supply regulation.”** - The EUT has its own power supply regulation, it's integrated in the IC EM250.

Please refer to chapter Related Documents under [2] in file PAN4570-UserMan.pdf or ETRX2-UserMan.pdf

4. **“The modular transmitter must comply with the antenna requirements of section 15.203 and 15.204(c).”** - The EUT meets the FCC antenna requirements, the ceramic antenna is permanently mounted.

Please see for photographs of the antenna, found e.g. in file PAN4570-LabelLoc.pdf and ETRX2-LabelLoc.pdf

5. **“The modular transmitter must be tested in a stand-alone configuration.”** - EUT was tested in a stand-alone configuration. It was mounted on a PCB called base board. Placed on the base board are only level shifters for translating the serial TTL signals to RS232 level, so that a connection to a PC COM port could be made, and further a connector for a mains plug adaptor for having supply.

Please see for details the photos from the test setup in the test report.

6. **“The modular transmitter must be labeled with its own FCC ID number.”** – The EUT is labeled with FCC ID: T7VEM250A. Label must be visible for the user in the end product. If the module is inside of an end product, the label will not be visible. In this case the end product will be labeled exterior with "Contains FCC ID: T7VEM250A"

Please see for details the file [PAN4570-LabelSmpl.pdf](#) and/or [PAN4570-LabelLoc.pdf](#) and [ETRX2-LabelSmpl.pdf](#) and/or [ETRX2-LabelLoc.pdf](#)

7. **“The modular transmitter must comply with any specific rule or operating requirements applicable to the transmitter and the manufacture must provide adequate instruction along with the module to explain any such requirements.”**
- The EUT is compliant with all applicable FCC rules.

*Please see test report for the detailed RF Exposure.
Instructions for maintaining compliance are given in the Users Manual.*

8. **“The modular transmitter must comply with any applicable RF exposure requirements.”** - The EUT meets the requirements of FCC section 15.249, even if the EUT transmitted at the maximum allowed field strength (50,000 uV/m), which the equivalent e.i.r.p would be 0.75 mW.
End users may not be provided with the module installation instructions.
OEM integrators and end users must be provided with transmitter operating conditions for satisfying RF exposure compliance.

*Please see test report for the detailed RF Exposure.
OEM manufactures are given instructions in the Users Manual for maintaining compliance to RF exposure requirements.*