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Federal Communications Commission
Authorization and Evaluation Division

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Date: January 25th, 2013
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Modular Approval Request
Applicant: EnOcean GmbH
FCC ID: SZV-STM300U

Module Difference Description between STM 300U, TCM300U and TCM 310U

EnOcean is intending to offer three product variations on exactly the same hardware platform. The product variations carry different firmware, which offers different functionality for the end user. The parts of the firmware, which define the radio properties, are the same in all firmware variations.

The Sensor Transceiver Module STM 300U enables the realization of wireless and maintenance free sensors and actuators such as room operating panels, motion sensors or valve actuators for heating control. It's Power supply is typically provided by an external energy harvester, e.g. a small solar cell (e.g. EnOcean ECS 3x0) or a thermal harvester. An energy storage device can be connected externally to bridge periods with no supply from the energy harvester. A voltage limiter avoids damaging of the module when the supply from the energy harvester gets too high. The module provides a user configurable cyclic wake up. After wake up a radio telegram (input data, unique 32 bit sensor ID, checksum) will be transmitted in case of a change of any digital input value compared to the last sending or in case of a significant change of measured analogue values (different input sensitivities can be selected). In case of no relevant input change a redundant retransmission signal is sent after a user configurable number of wake-ups to announce all current values. In addition a wake up can be triggered externally.

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The Transceiver Module TCM 300U enables the realization of highly efficient RF repeaters and transceivers for the EnOcean radio systems. The module provides several built-in operating modes, like unidirectional / bidirectional communication, 1-channel / 4 channel relay mode, 1-channel dimming mode. In addition, repeater functionality (1 or 2 level) can be activated. Using the Dolphin API library it is possible to write custom software for the module.

The Transceiver Module TCM 310U is a radio transmitter module enabling the realization of gateways for EnOcean 902 MHz radio systems. It provides a bi-directional radio interface and a bi-directional serial interface. Radio messages are sent transparently through the serial interface in both directions from and to an externally connected host processor or host PC. In addition, control commands can be sent from the host, e.g. to configure the repeater functionality or to manage Smart Ack functions. TCM 310U can act as postmaster for up to 20 bi-directional sensors using Smart Ack technology.

Sincerely,



(Oliver Szesny)



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