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Compliance document for optional repeater capability

regarding limited modular approval of the product(s) stated below:

Applicant: EnOcean, GmbH

Product: EnOcean TCM300C, STM300C and TCM320C radio transmitter

Model: TCM300C, STM300C and TCM320C

FCC ID: SZV-STM300C for STM300C, TCM300C
SZV-TCM320C for TCM320C

Re: FCC – OET knowledge base publication number 602159

Question: What are the special requirements for Part 15 repeaters?

Answer: A Part 15 repeater is a device that is intended to re-radiate an input signal by demodulating, re-shaping or re-timing the signal; and/or perform a combination of any of these functions, on a radio frequency input signal. A Part 15 repeater is a device intended for re-transmission of information that ensures the elimination of re-transmissions of any input noise or any other unwanted signals. These devices can be approved under the following conditions:

1. A Part 15 repeater must be certified with a unique FCC ID, and used with transmitters that operate compliant to a specific Part 15 rule, or set of rules (as a composite device). The repeater must only re-transmit signals that are uniquely identified as originating from a transmitter, or set of transmitters, with which the repeater is authorized to operate.

The modular transmitter/repeater is certified and has a unique FCC ID. It operates exclusively with FCC Part 15 compliant and listed EnOcean transmitters. Telegrams received from these transmitters are uniquely identified and will be re-transmitted. Any other signals received will be discarded.

2. The Grant of Equipment Authorization for a Part 15 repeater must list the FCC IDs for all transmitters with which the repeater is authorized to operate. Additional transmitters can be added through a Class II permissive change, provided that test data is submitted for each new transmitter. A Grant of Authorization will then be issued approving the additional transmitter(s) with the listed FCC IDs.

The modular transmitter/repeater operates exclusively with the following FCC Part 15 compliant and listed EnOcean transmitters:

■ PTM200C	FCC ID:SZV-PTM200C, IC:5731A-PTM200C
■ STM110C	FCC ID:SZV-STM110C, IC:5731A-STM110C
■ TCM200C	FCC ID:SZV-TCM2XXC, IC:5731A-TCM2XXC
■ TCM220C	FCC ID:SZV-TCM2XXC, IC:5731A-TCM2XXC
■ TCM300C	FCC ID:SZV-STM300C, IC:5731A-STM300C
■ STM300C	FCC ID:SZV-STM300C, IC:5731A-STM300C
■ TCM320C	FCC ID:SZV-TCM320C, IC:5731A-TCM320C

3. Part 15 repeaters designed to be interoperable with open source or industry standard transmitters, must provide test data demonstrating compliance with a certified transmitter. The Grant of Equipment Authorization must note the FCC ID of the transmitter used for the interoperable test.

The modular transmitter/repeater is designed to work exclusively with the EnOcean transmitters listed above.

4. A Part 15 repeater must comply with all requirements in the rule part under which the Grant of Equipment Authorization is requested, including technical, operational and all other limitations set forth in the applicable rules, regardless of the input signal conditions. For example, a Part 15 repeater Frequency Hopping Spread Spectrum (FHSS) system operating under Section 15.247 must meet the receiver requirements in Section 15.247(a)(1) with the input bandwidths that match the FHSS transmit bandwidth, and must hop in synch with the FHSS transmitter.

The modular transmitter/repeater complies with all applicable Part 15 requirements. Moreover, the OEM must agree, in writing, to operate the modular transmitter/repeater so as to comply with Part 15 requirements.

5. Tests must show compliance with maximum input levels, for each transmitter with which the repeater is authorized to operate.

The modular transmitter/repeater has been tested and is compliant with maximum input levels of EnOcean transmitters as listed above.

A stand alone Part 15 amplifier or device that does not uniquely identify the specific signals from transmitters with which it is authorized to operate can only be authorized as a complete transmission system per Section 15.204. Such a device can only be operated in the configuration in which it was authorized, and an equipment authorization for the device will not be issued with a unique FCC ID.

Re: FCC – OET knowledge base publication number 133857

Question: What is the policy regarding approval of Part 15 repeaters?

Answer: The following is the Commission's general policy on all Part 15 repeaters:

(1) A repeater must be tested with a specific transmitter. The FCC identifier of the transmitter and the rule section applied for will be placed on the grant.

The modular transmitter/repeater has been tested with an EnOcean PTM200C transmitter (FCC ID: SZV-PTM200C).

(2) The repeater only transmits when it demodulates and decodes (validates) an incoming signal from the specific transmitter.

The modular transmitter/repeater demodulates, decodes and validates incoming signals from the EnOcean transmitters listed above. Only if the received signal is identified and valid it will be re-transmitted, any other signals are discarded.

(3) The repeater must meet the output level limits regardless of the input levels. A Part 15 amplifier and antenna system cannot be authorized.

The modular transmitter/repeater is not an amplifier and has been tested to meet the output level requirements. It demodulates, decodes and validates incoming signals before re-transmitting them.