2.4 GHz IEEE 802.15.4 Transceiver TCM 515Z

TCM 515Z enables the realization of transparent transceiver gateways and for EnOcean systems communicating based on the 2.4 GHz IEEE 802.15.4 radio standard.

TCM 515Z provides a transparent radio link between EnOcean 2.4 GHz devices and an external host connected via the standardized ESP3 interface (EnOcean Serial Protocol V3).

TCM 515Z receives and transmits radio telegrams based on a whip antenna connected to the host PCB.

TCM 515Z forwards received 2.4 GHz IEEE 802.15.4 radio telegrams to an externally connected host processor or host PC via the ESP3 interface.

IEEE 802.15.4 messages received from an external host via the ESP3 interface will be transmitted by TCM 515Z as 2.4 GHz radio telegrams.

The ESP3 interface of TCM 515Z provides the option to select a higher ESP3 interface speed (460.800 Bit per second).

TCM 515Z is implemented as 31 pin reflow-solderable module in an optimized form factor to enable size constrained applications.

TYPE	ORDERING CODE
TCM 515Z	**S3073-K515**

Features overview

Antenna	External 50 Ohm or whip antenna (connected at host board)
Supported Radio Frequency Range	Radio channel 11 … 26 according to IEEE 802.15.4 standard
Default Radio Channel	IEEE 802.15.4 radio channel 11
Receiver Sensitivity (at 25°C) (1)	Minimum: -92dBm / Typical: –95 dBm
Transmit Power (at 25°C)	Minimum: 0dBm / Typical: +2 dBm
Power Supply	3.3 V +- 10%
Serial Host Interface	UART according to ESP3 Standard with Turbo Mode Option
Current Consumption (typ, at 25°C)	Transmit: 20mA, Receive: 15 mA
Module Dimensions	19.0 x 14.7 x 3.0 mm (each dimension +-0.3 mm)
Operating Temperature	-25°C ... 85°C
Radio Regulation	RED (Europe), FCC (US, ISED (Canada)

Note (1): RX sensitivity based on the combination of 3 subtelegrams