STM 550
Multisensor Module



STM 550 enables the realization of energy harvesting wireless sensors communicating according to EnOcean Alliance radio standard. Key applications are wall-mounted or equipment-mounted sensor solutions for the measurement of temperature, humidity, illumination or acceleration / orientation.

STM 550 integrates dedicated sensors for temperature, humidity, illumination, acceleration and magnet contact. These sensors measure and transmit the current status every 60 seconds.

STM 550 will immediately wake-up and transmit an update if an acceleration event occurs (e.g. due to being moved or shaken) after a period without such change.

STM 550 contains an integrated solar cell optimized to generate the required energy based on available ambient lighting. Under typical indoor lighting scenarios (200 lux for 6 hours per day) they operate fully self-supplied. For use cases with insufficient available light, it is possible to mount a dedicated backup battery.

STM 550 provides an integrated NFC interface that can be used for device configuration and device commissioning. In addition, it contains an LRN button that can be used for simple commissioning tasks.

STM 550 is delivered as module in PTM 21x form factor for integration into OEM customer designs.

Alternatively, EMSIA is delivered as white label product (WLP) in single unit packaging containing module, wall mount, front cover, magnet and adhesive tape while STM 550 KIT provides module, wall mount, front cover, magnet and adhesive tape in one box for volume deliveries.

Order information

Type	Frequency	Variant	Order Code
STM 550	868.300 MHz	Module	S6201-K516
EMSIA		WLP	E6201-K516
STM 550 KIT		Kit	B6201-K516

Features overview

Transmission Frequency / Data Rate	868.300 MHz / 125 kbps
Transmission Power	+5 dBm
Transmission Range (for guidance only)	typ. 200 m free field / 30 m indoor environment
Temperature Measurement Range / Accuracy	-20 °C … +60 °C (NOTE 1) / ± 0.3 K
Humidity Measurement Range / Accuracy	0 … 100 % r.h. (NOTE 1) / ± 3% r.h.
Illumination Measurement Range / Accuracy	0 … 65000 Lux (NOTE 1) / ± 10 %
Acceleration Measurement Range / Accuracy	± 2 g / ± 0.03 g
Acceleration Wake Threshold	0.03 g (default, configurable via NFC)
Update Rate (excl. random offset)	Every 60 seconds (configurable via NFC)
Device Configuration	NFC (ISO 14443)
Supported EEP (selectable via NFC)	D2-14-41 (default) D2-14-40, A5-02-05, A5-04-01, A5-04-03 A5-06-02, A5-06-03, A5-14-05, D5-00-01
Power Supply	Integrated solar cell
Operating Time In Darkness (at 25°C)	4 days (after full charge)
Backup Power Supply (optional)	CR1632
Dimensions (STM 550 module)	40 mm x 40 mm x 13 mm
Operating Temperature / Humidity	-5°C … +45°C / 0 … 90% r.h. (non-condensing)

Note 1: Sensor measurement range is dependent on the selected EEP
STM 550 should only be used in the operating conditions (temperature / humidity) specified above