

## **FUTURO CUBE - radio description**

FUTURO CUBE includes low power consumption radio link based on CC2500 - 2.4 GHz chip, which is supplied by output of 3 Volts single-channel low-dropout regulator with input from embedded Li-Pol battery. CC2500 is connected by standard SPI interface to the host CPU in the CUBE. Radio link enables each CUBE to be connected to others using low power and low channel occupancy proprietary RF protocol. Protocol uses short packets transferred by MSK modulation format with 250 kBaud data rate. Communication uses single frequency channel with acknowledgements schematics. In case of needs, there is possibility to choose between several allows channels. Radio link is fully compliant under FCC CFR47 Part 15(c) and ETSI EN 300 440. Frequency stability is ensured by high stable 26MHz crystal directly connected to CC2500, while timing requirements is based on 12MHz high stable crystal on host CPU in the CUBE. Radio uses embedded 2.4 GHz ceramic antenna from JOHANSON TECHNOLOGY. Embedded antenna and protocol allows robust connection up to 10 meters.