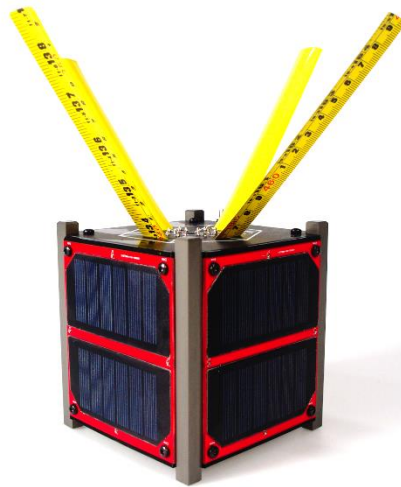


For more information,  
please visit:

<https://kitsat.fi>

## Kitsat, 1-U Cubesat



### Product features

- RoHS compliant
- ARM®32-bit Cortex®-M4 CPU with FPU
- 512kB Flash Memory + 96kB SRAM
- Support for following protocols:
  - 433 (915) MHZ RFM69
  - Bluetooth Low Energy v4.1
- 2600 mAh li-ion battery (included)
- Operating temperature:
  - Recommended: -30 °C to +60 °C
- SAM-M8Q GPS
- MMC5633NJL magnetometer
- ICM-20608-G Accelerometer & Gyroscope
- Bosch BMP384 temperature and pressure sensor
- ArduCAM OV2640 2MP camera
- Piezoelectric buzzer
- RBF switch
- Dimensions:
  - 113 mm x 116 mm x 106 mm
  - 0.7 kg
- Connect to PC with USB Mini B
- Handheld Ground segment unit

Stock codes	
<b>Kitsat v1.0</b>	
SQ6766849	SQ0213714
SQ0362856	SQ1687465
SQ4485121	SQ5975265
SQ3687193	SQ6559617
SQ4749632	SQ1182371
SQ8466715	SQ5922230

### Description

*Who says the space technology is complicated and mind-bogglingly expensive? Definitely that's not us.*

*Kitsat is a fully functional satellite made for anyone who wants to learn more about space science. You can fly it to the stratosphere, leave it in the classroom or use it everywhere in between. Kitsat has been designed for use at the schools, science centres and space-related educational organisations, but also curious individual just like you.*

## Product configuration

Please refer to Table 1 for product configuration. You can find detailed description of each product by referring to its user manual on the product web page.

**Table 1. List of available products**

Order code	User manual	Localisation	Solar panel color	Antenna type
KITSAT-XXXX-YY-011	<a href="#">kitsat_manual.pdf</a>	<i>Please see <a href="#">Table 2</a> for localisation options</i>	Red	Measure tape
KITSAT-XXXX-YY-021			Blue	Measure tape
KITSAT-XXXX-YY-031			Green	Measure tape
KITSAT-XXXX-YY-041			Yellow	Measure tape
KITSAT-XXXX-YY-051			Black	Measure tape
KITSAT-XXXX-YY-061			White	Measure tape
KITSAT-XXXX-YY-012			Red	Rigid
KITSAT-XXXX-YY-022			Blue	Rigid
KITSAT-XXXX-YY-032			Green	Rigid
KITSAT-XXXX-YY-042			Yellow	Rigid
KITSAT-XXXX-YY-052			Black	Rigid
KITSAT-XXXX-YY-062			White	Rigid

## Codification

The meaning of codification is explained in Table 2.

**Table 2. Codification explanation**

KITSAT-XXXX-YY-ZZW	Description	Example: KITSAT-0100-02-061
XXXX	Version number XX.XX	Kitsat V01.00
YY	Localisation	02: Non-EU Eurasia (excl. Japan)  Complete table: 01: EU 02: Non-EU Eurasia (excl. Japan) 03: North America 04: South America 06: Africa 07: Australia / Oceania 08: Japan
ZZ	Solar panel color	White
W	Antenna type	Measure tape

The order code is mentioned on a sticker placed on top side of the board.

## System requirements

Access of Kitsat Ground Station PC Client requires the following:

- Windows® OS 7, 8 or 10
- USB Type-A to Mini-B cable (included)

On Linux and Mac OS X, Kitsat and Kitsat Groundstation can be accessed textually through terminal with ie. screen (found typically at /dev/ttyACM0). Install the Kitsat CLI with the following command:

```
$ pip install kitsat
```

The client GUI has not been ported yet for Linux or Mac OS X.

## Client software

Groundstation PC client for Windows can be downloaded from our website at <https://kitsat.fi/downloads>.

Groundstation CLI can be accessed on machines that read COM serial port via USB: <https://pypi.org/project/kitsat/>

## Flight software

Kitsat is equipped with preloaded flight demo software to demonstrate its use when assembled. The latest version of the flight software is available on our website at <https://kitsat.fi/downloads>.

For usage of the flight mode, refer to the [Kitsat Flight mode manual](#).

## For developers

Kitsat can be developed in various toolchains, including:

- GCC-based IDEs
- ARM® Mbed™ Online

Kitsat is based on Nucleo-F401RE, which is compatible with many Arduino libraries. Please read more from [Nucleo-F401RE user manual](#).

## Revision history

Date	Version	Notes
06-June-2019	1	Initial release.
27-June-2019	1.01	Added further instructions for Kitsat CLI
24-Oct-2023	1.20	Updated hardware information to match v1.4

## Important notice – please read carefully

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