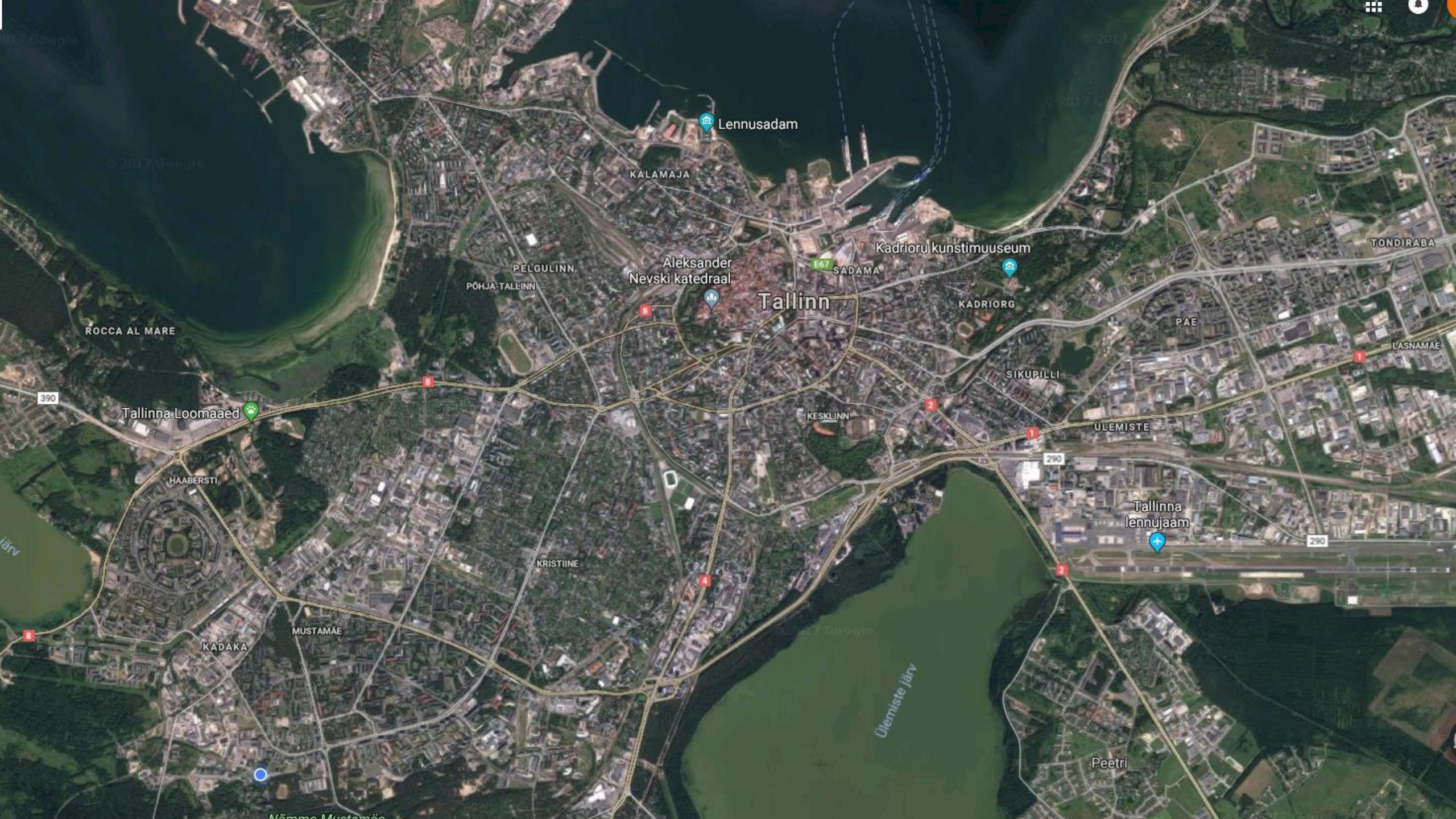




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Lennusadam

KALAMAJA

PELGULINN
PÕHJA-TALLINN

Aleksander
Nevski katedraal

Tallinn

SADAMA

Kadrioru kunstimuuseum

KADRIORG

PAE

TONDIRABA

LASNAMÄE

SIKUPILLI

ÜLEMISTE

Tallinna
lennujaam

ROCCA AL MARE

Tallinna Loomaaed

HAABERSTI

KRISTIINE

KADAKA

MUSTAMÄE

Peetri



1U 1.4 kg

Orbit: 500 km polar SSO

Launch: ESA Vega p-o-c flight
mid-2019



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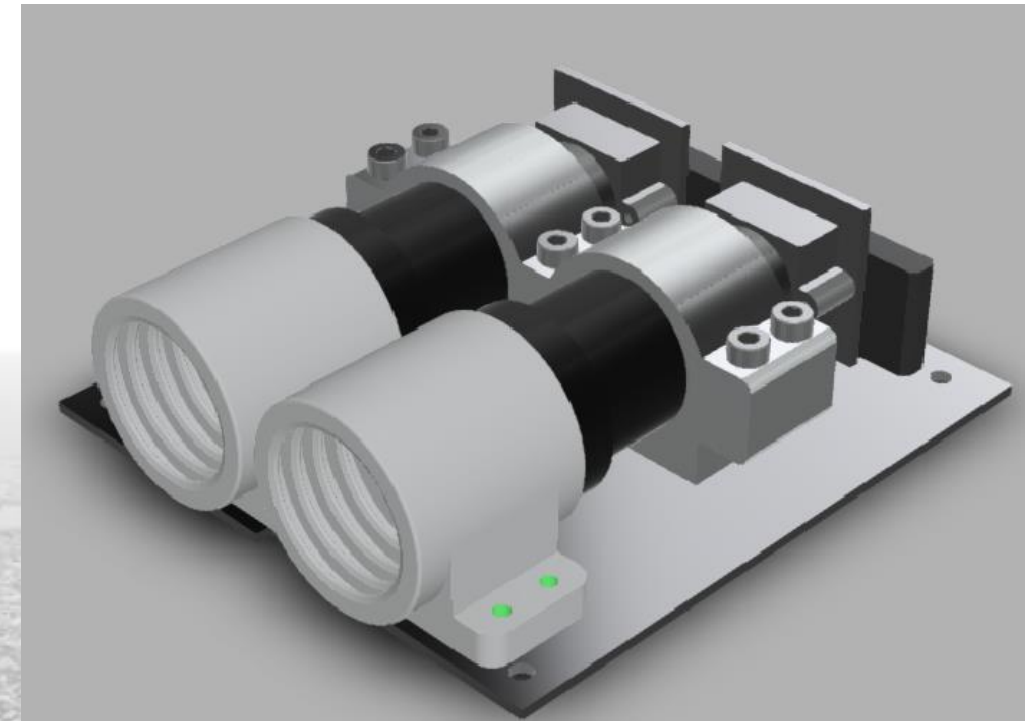
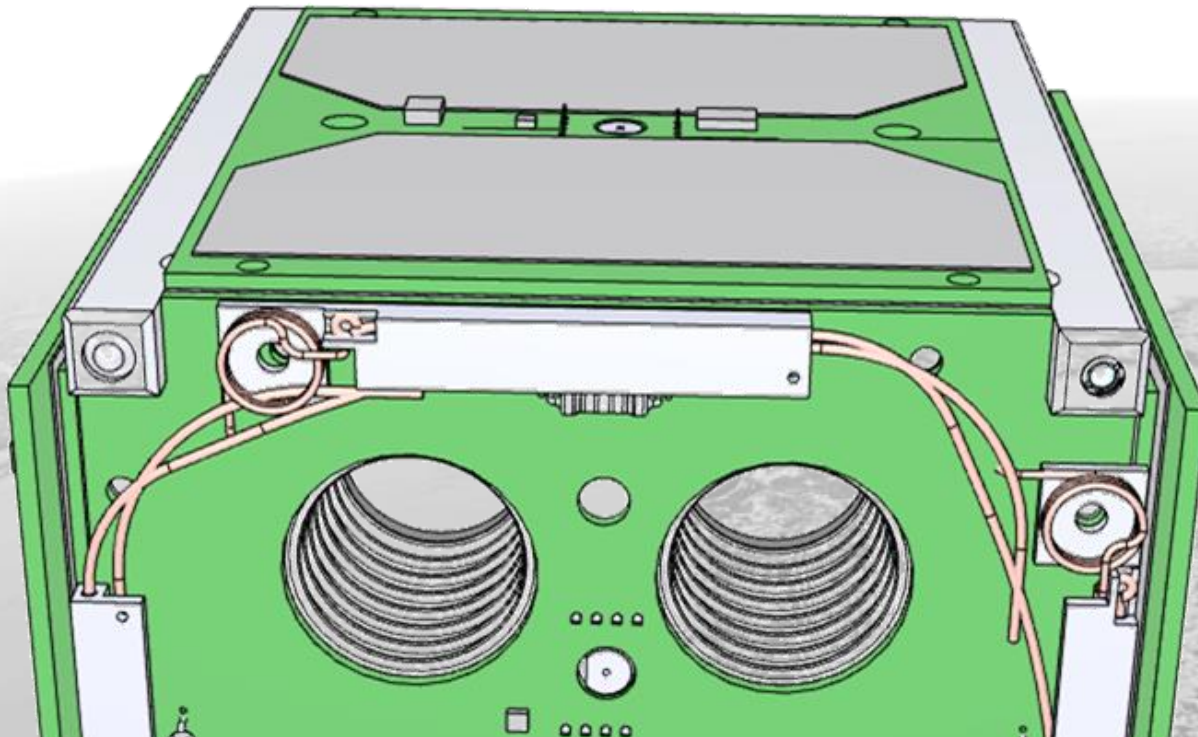
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- Image sensor mono/RGB Aptina MT9P031, 5 Mpixels, pixel size 2,2 μm
- Pix size on ground 26x26 m
- Lens L-M12-1M50020S20 $f = 50 \text{ mm}$. Aperture 2

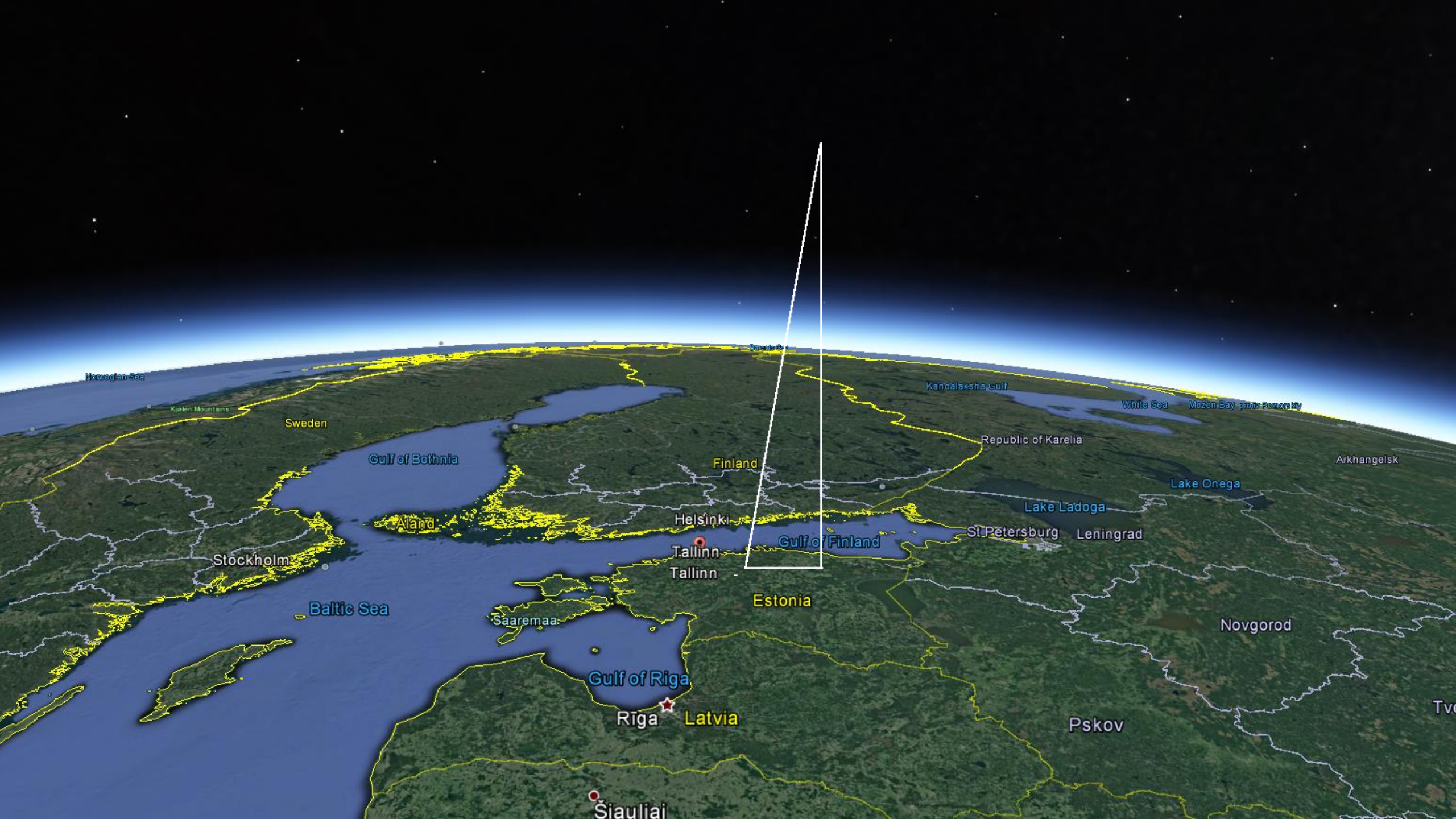
Earth observation:
RGB camera
NIR camera

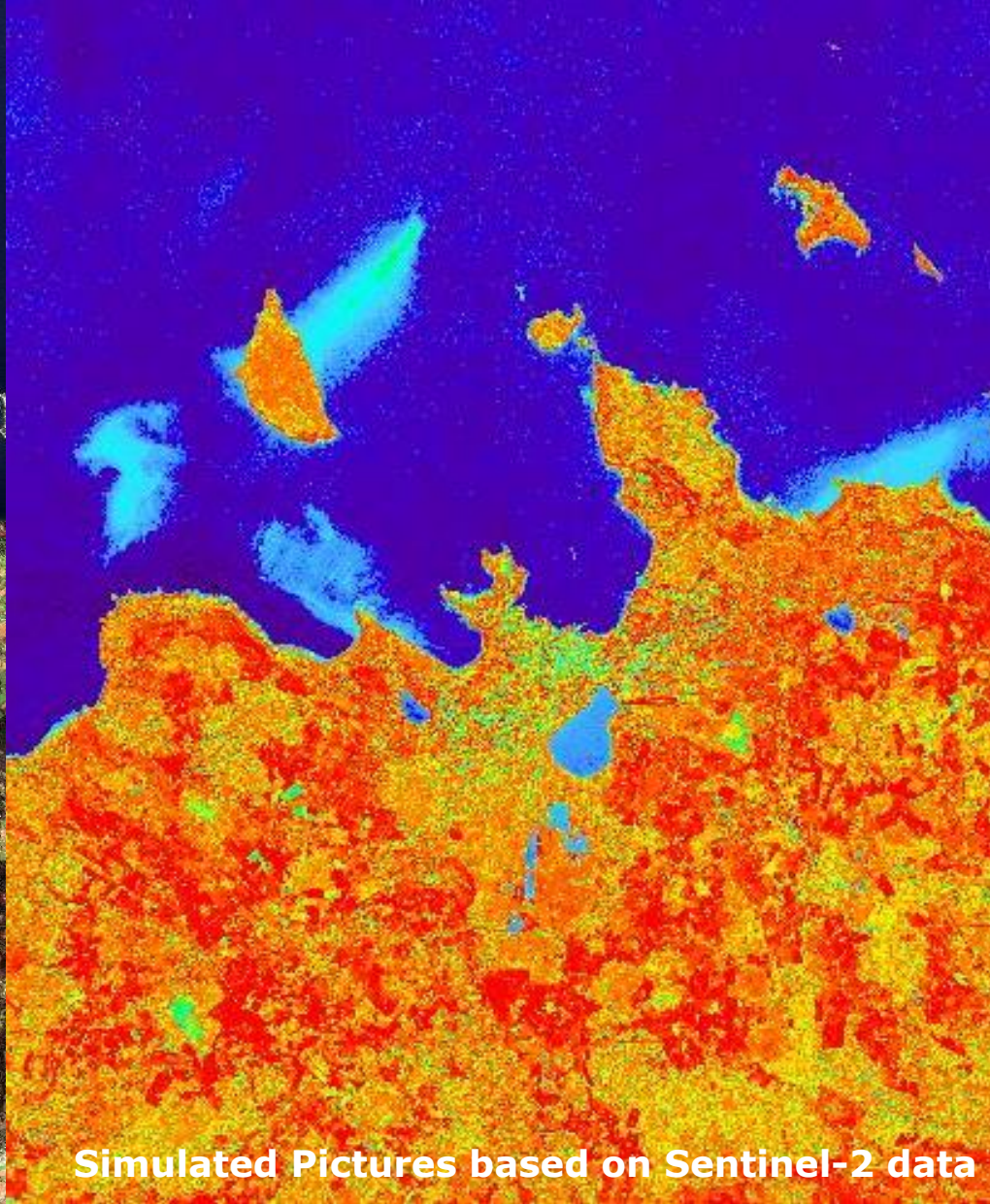


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Simulated Pictures based on Sentinel-2 data

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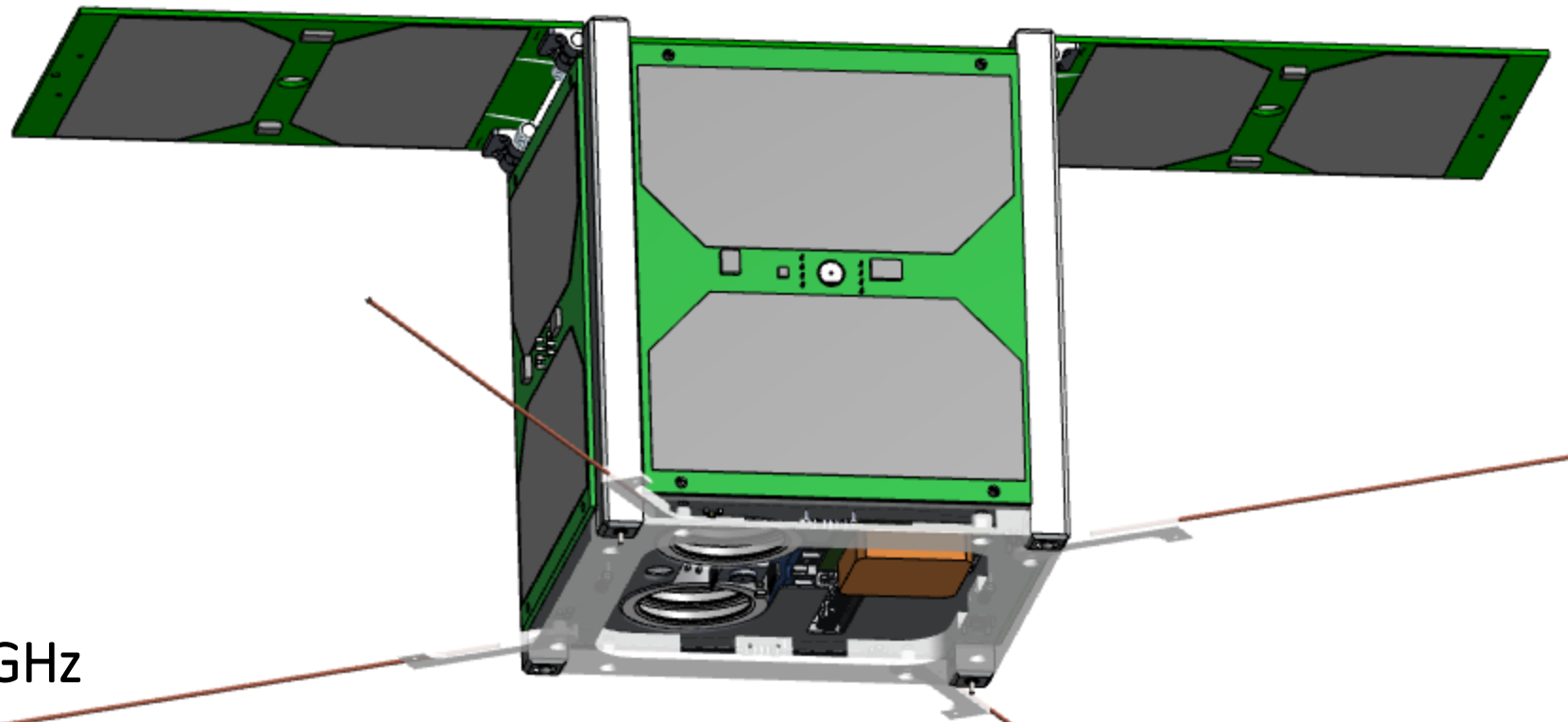
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Simulated Pictures based on Sentinel-2 data

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Comm:
Amateur band 430 MHz,
Experimental x-band 10.5 GHz

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Ground Station
in TTÜ campus



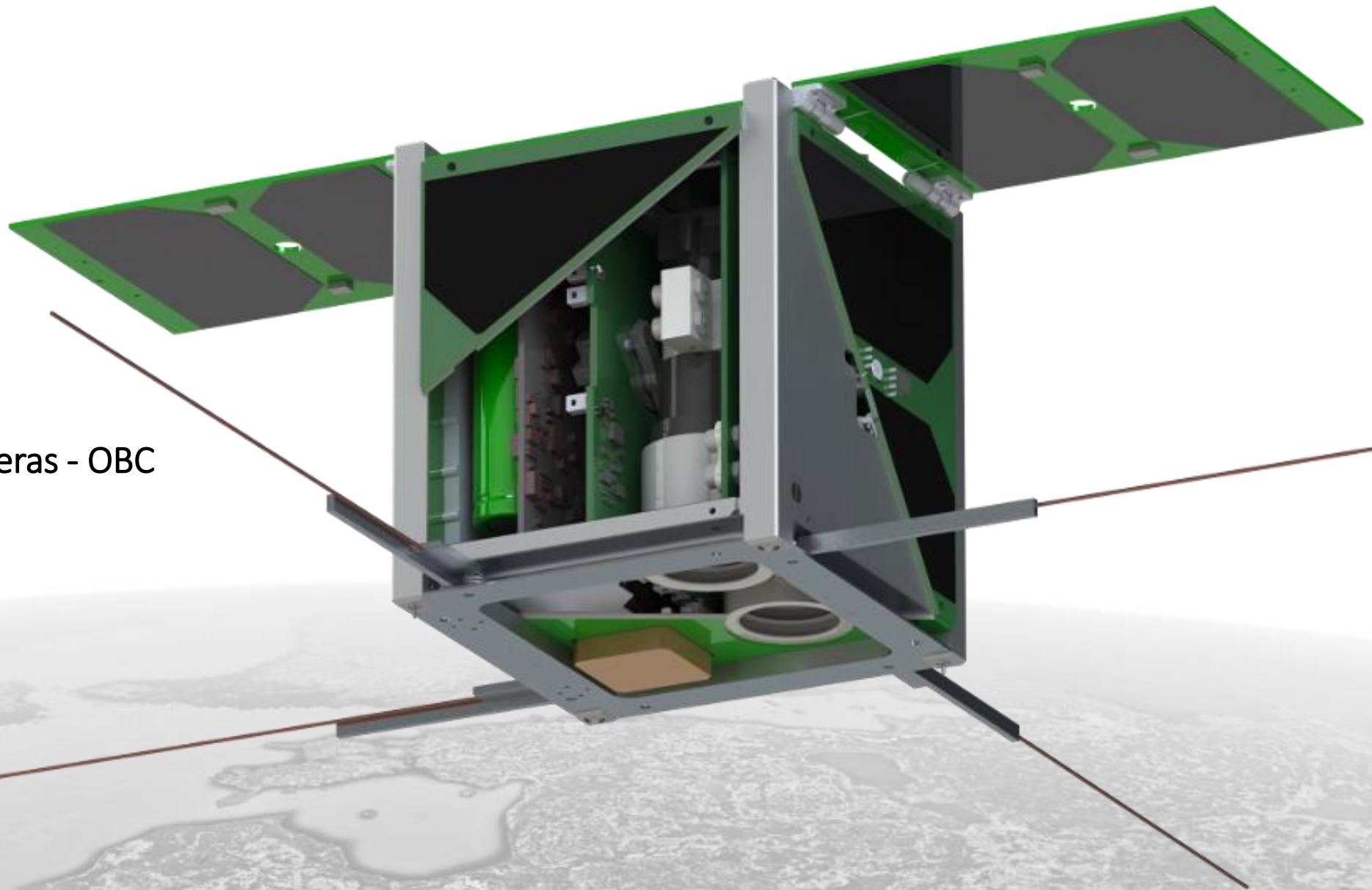
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From left:
Radio – EPS – ADCS – cameras - OBC



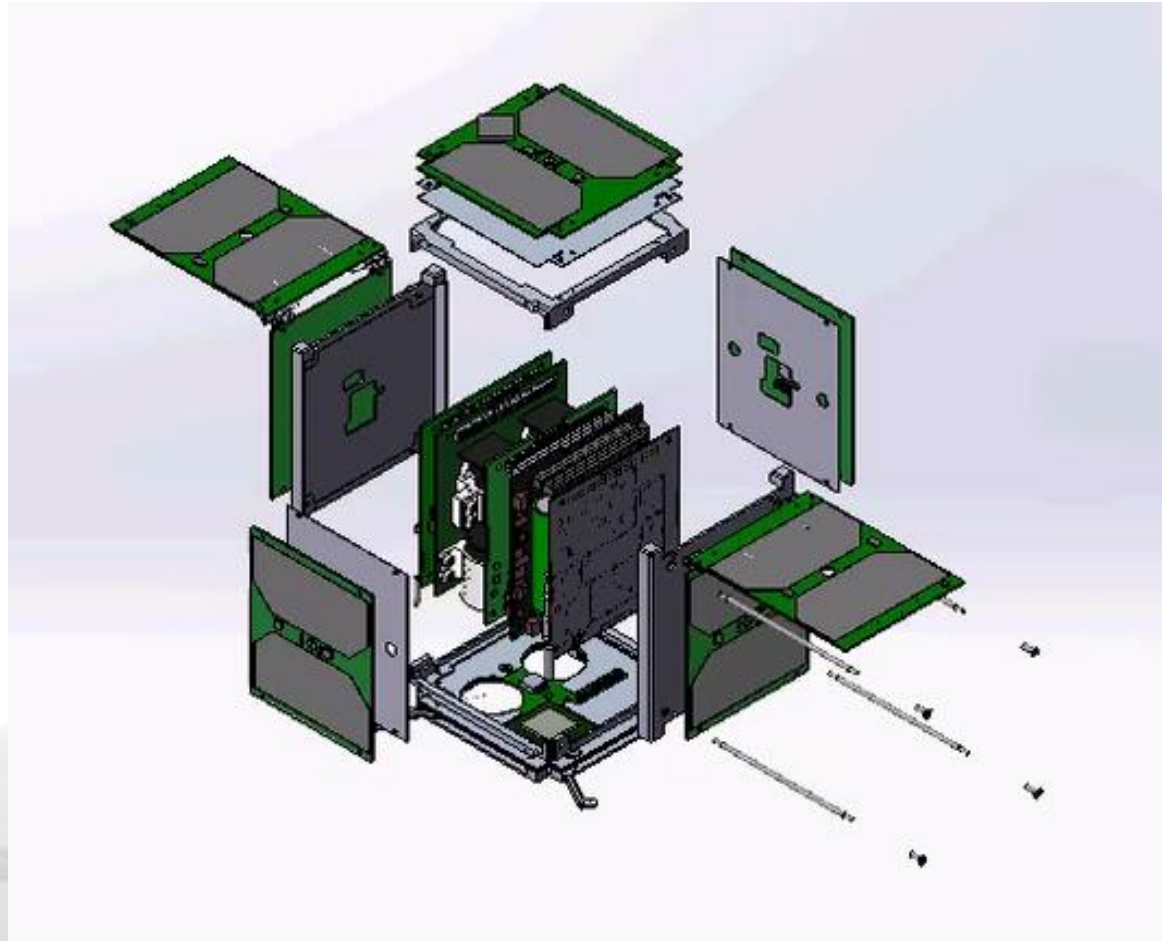
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Assembly



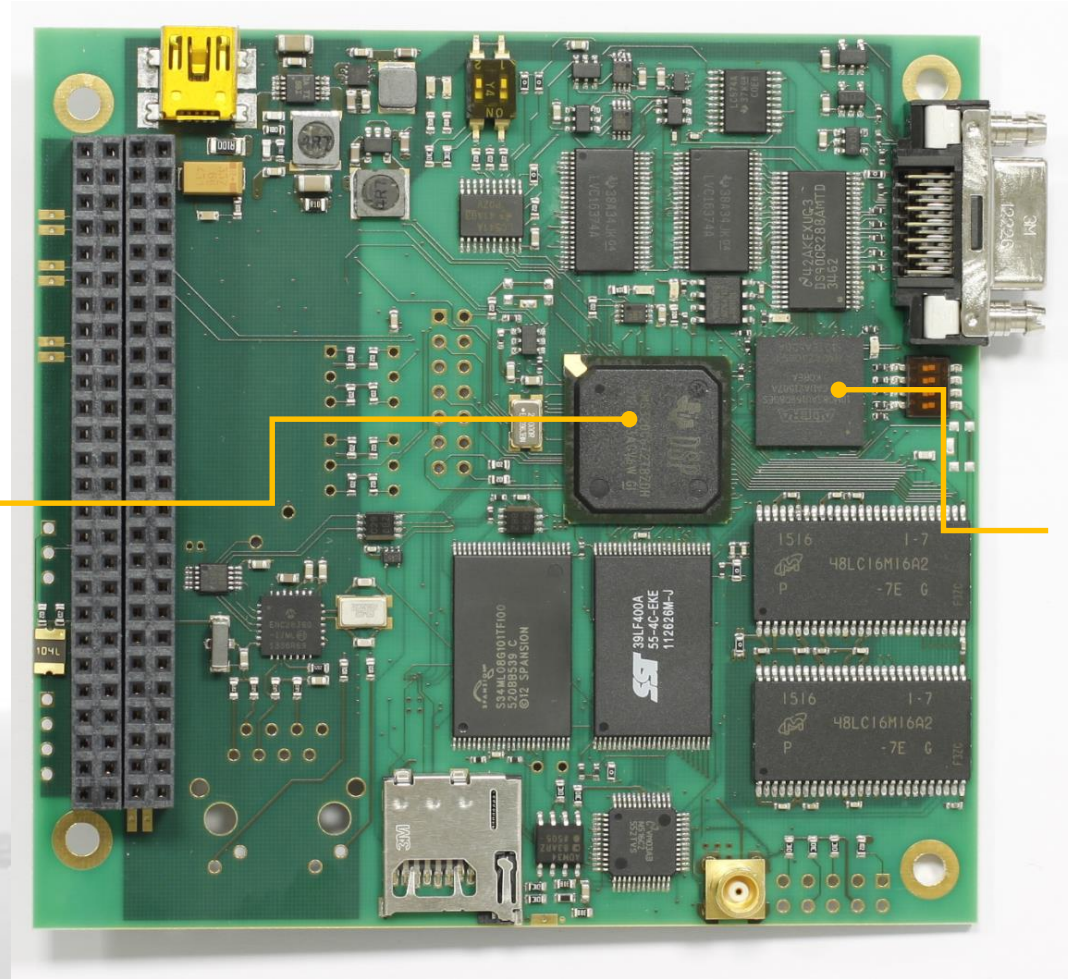
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Texas Instruments 320C6727
64-bit Double-Precision
Floating-Point DSP processor
max 300 MHz, adjustable
Performance: 2400 MIPS/1800 MFLOPS



FPGA for:
Image buffering
computational architecture
reliability experiment,
space GPS,
real time video compression

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Optical comm experiment:

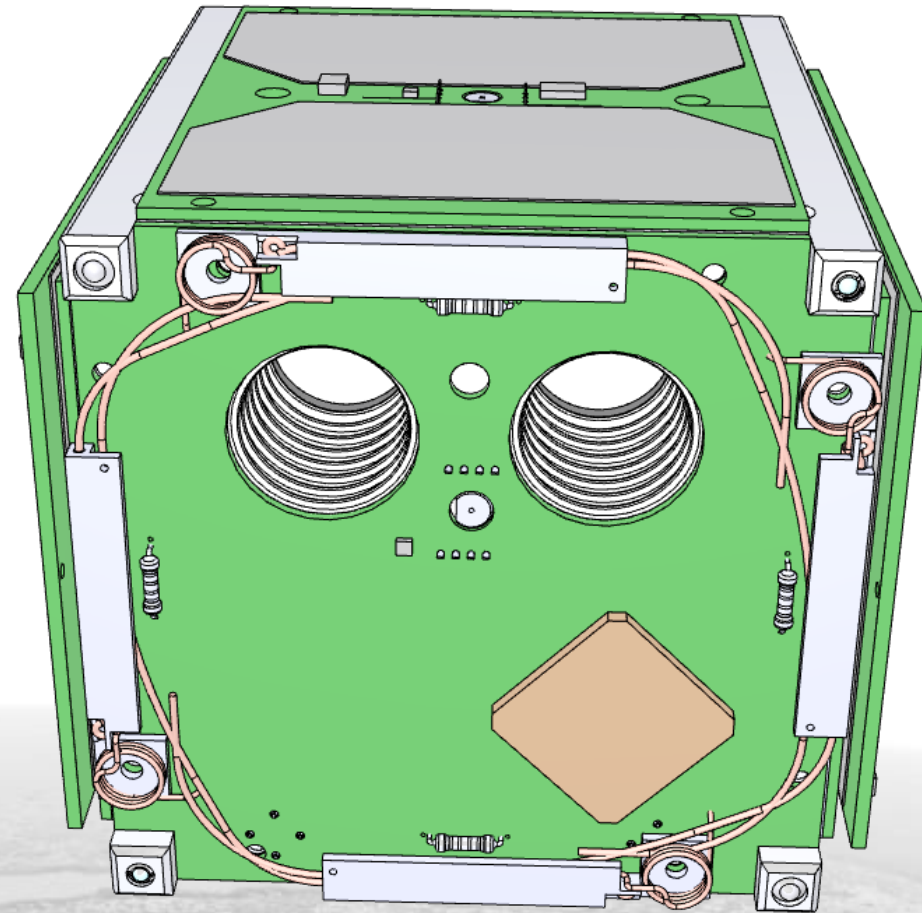
Laser-diodes:

red, 300 mW, spread.

infrared, impulse 400W, spread.

LED's:

red, spread.



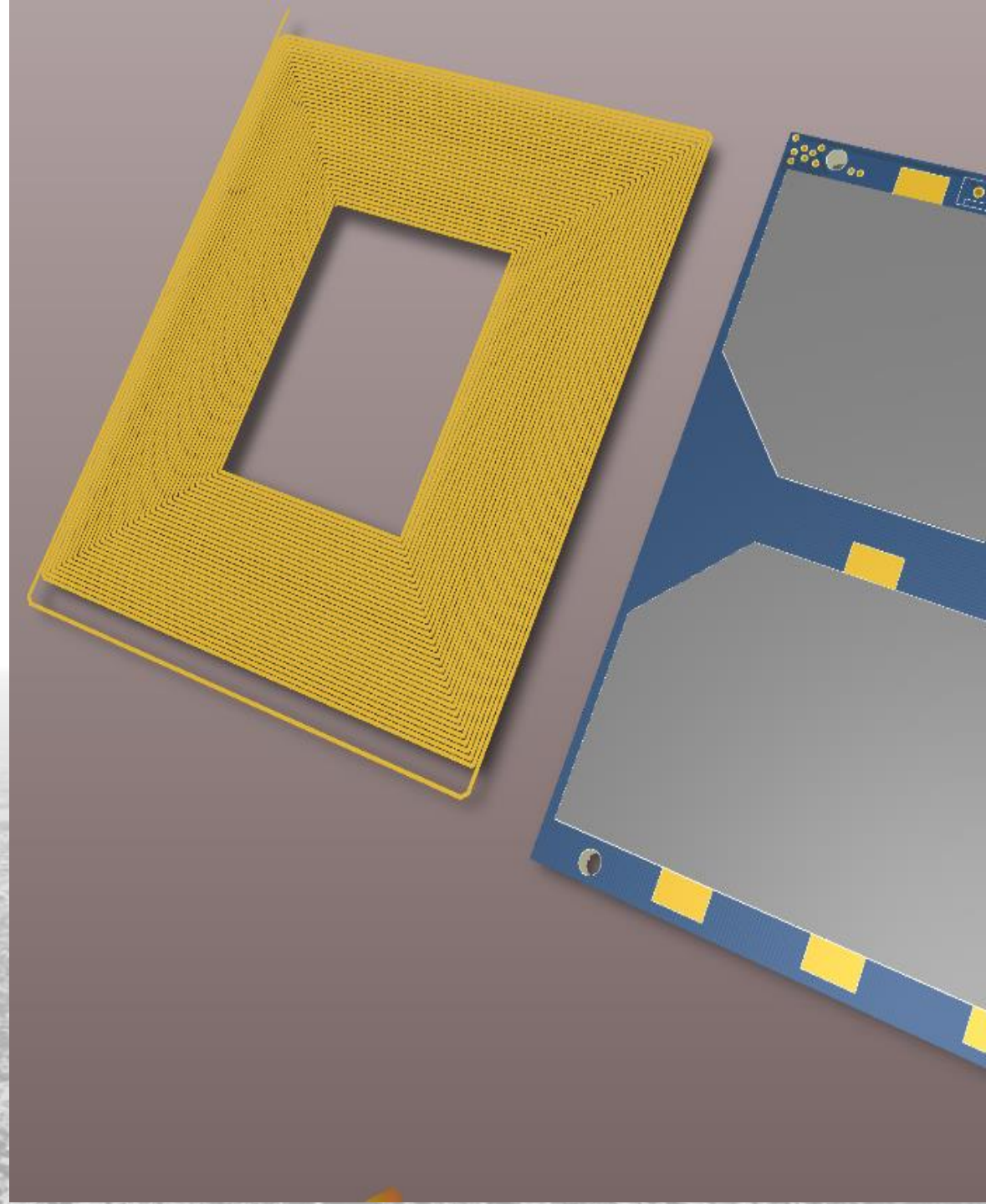
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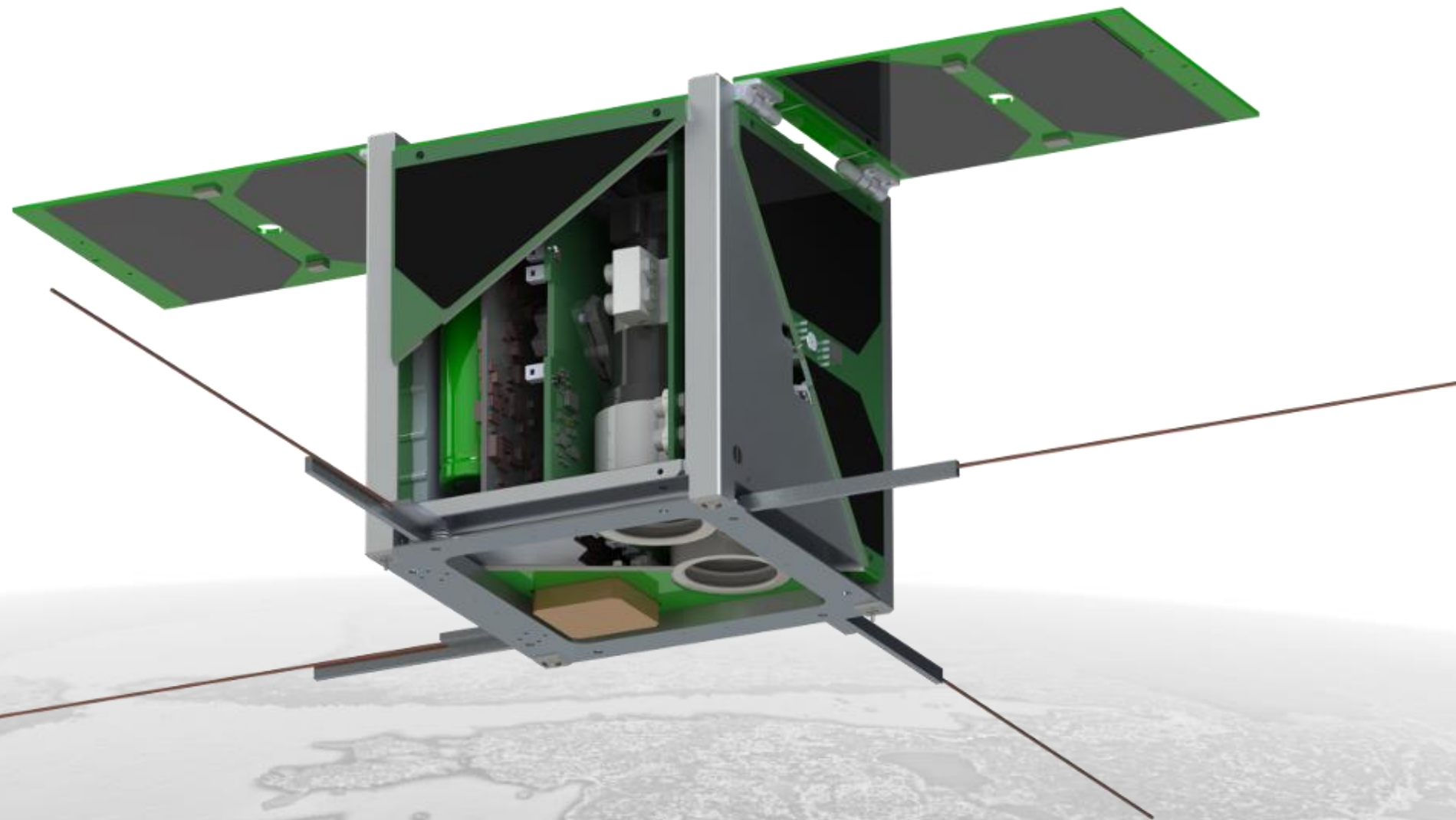
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ULF experiment
Ultra Low Frequency comm





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