



SPACEMANIC

# Solar panel RA

## First class panel

SM-SP-RA-1U

Using the power of mighty God RA!  
First Class solar panels for nano-satellite and small satellite missions.

### FEATURES

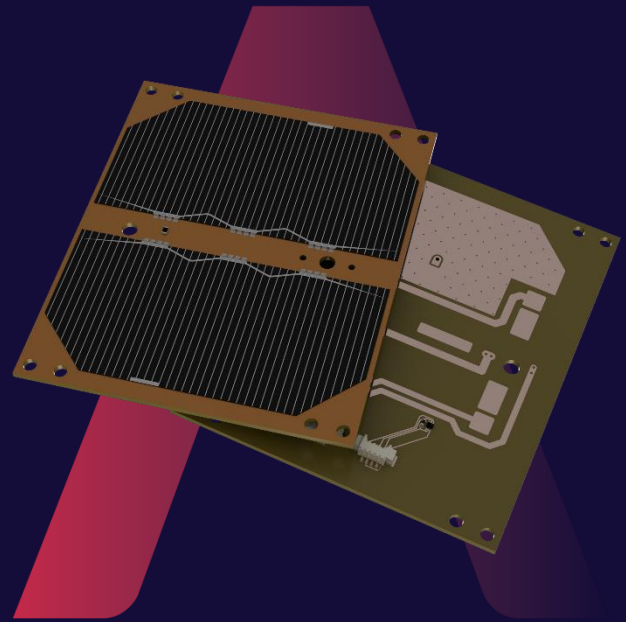
- Two AZUR Space 30% Triple Junction GaAs Junction Solar Cell in series configuration
- Compatible with several cubesat vendor structures and EPSs
- LEO rated at 2.3 Watts (1U side panel)
- Compliant to cubesat standard
- Options for sensor and interface accommodation
- Integrated temperature sensor TI TMP112
- Integrated SLCD-61N8 photodiode
- Space grade protection diode

### PRODUCT PROPERTIES

- Operating temperature:  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Mass: 50g (1U)
- Thickness:  $1.6\text{mm} \pm 10\%$
- Photodiode:  $5^{\circ}$  heading accuracy
- PCB material: FR4 with Kapton overlay

### FUNCTIONAL CHARACTERISTICS

- Open circuit voltage (Voc): 5.4V
- Short circuit current (Isc): 0.52A
- Max power voltage (Vmp): 4.82V
- Max power current (Imp): 0.5A



### INTERFACES

- Molex® PicoBlade connectors for power lines
- I2C for temperature sensor and photodiode communication

### AVAILABLE OPTIONS

- Size: 1U-12U (side, top)
- Custom design with different cell layout, sensor mounts
- Version with integrated patch antenna for S band communication, GNSS receiver or Iridium/Globalstar satellite communication system
- Version with integrated electromagnetic coil for detumbling
- Extra copper layer for radiation shielding
- Fake panel (without solar cells)
- STL model for 3D printer

### TESTING & HERITAGE

- Flight Heritage Hardware
- Vibration / Mechanical Shock / Thermal Vacuum tests
- Radiation Tolerance: 2years min in LEO
- Test reports on demand