

**Secretariat**Distr.: General
1 December 2021

Original: English

**Committee on the Peaceful
Uses of Outer Space****Information furnished in conformity with the Convention
on Registration of Objects Launched into Outer Space****Note verbale dated 25 November 2021 from the Permanent
Mission of Hungary to the United Nations (Vienna) addressed to
the Secretary-General**

The Permanent Mission of Hungary to the United Nations (Vienna), in accordance with article IV of the Convention on Registration of Objects Launched into Outer Space (General Assembly resolution 3235 (XXIX), annex), has the honour to transmit information concerning the Hungarian space objects SMOG-1 and RadCube (see annex).¹

¹ The data on the space objects referenced in the annex were entered into the Register of Objects Launched into Outer Space on 27 November 2021.



Annex

Registration data on space objects launched by Hungary*

SMOG-1

Information provided in conformity with the Convention on Registration of Objects Launched into Outer Space

Committee on Space Research international designator	2021-022AJ
Name of the space object	SMOG-1
Type	5x5x5-cm 1U PocketQube-class satellite
State of registry/launching State	Hungary
Date and territory or location of the launch	22 March 2021 Baikonur, Kazakhstan
Basic orbital parameters	
Nodal period	95 minutes
Inclination	97.5463 degrees
Apogee	557 kilometres
Perigee	532 kilometres
General function of the space object	University student and amateur radio satellite for digital video broadcasting – terrestrial (DVB-T) band spectrum monitoring

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Space object owner or operator	Budapest University of Technology and Economics
Website	https://gnd.bme.hu/smog
Launch vehicle	Soyuz-2
Eccentricity	0.0018137
Two-line element	1 47964U 21022AJ 21276.51514586 .00002379 00000-0 16089-3 0 9998 2 47964 97.5463 176.8372 0018152 299.3985 60.5430 15.07383892 28152
Other names used for the space object	HA5BME
Detailed function of space object	Amateur radio telemetry beacon; DVB-T band spectrum monitoring (electromagnetic pollution measurement); total ionizing dose measurement; application of a special ferromagnetic material to minimize the space object's lifetime as potential space debris
Other information	437.345 MHz (ultra-high frequency (UHF) band)

* The registration data are reproduced in the form in which they were received.

RadCube

Information provided in conformity with the Convention on Registration of Objects Launched into Outer Space

Name of the space object	RadCube
Type	10x10x30-cm 3U CubeSat-class satellite
North American Aerospace Defense Command Catalogue Number (NORAD ID)	49067
State of registry/launching State	Hungary
Date and territory or location of the launch	17 August 2021 at 0147 hours and 6 minutes UTC+2:00; Guiana Space Centre, France
Basic orbital parameters	
Epoch	21 September 2021
Nodal period	5,732 seconds
Inclination	97.55 degrees
Apogee	524.34 kilometres
Perigee	565.08 kilometres
General function of the space object	In-orbit demonstration mission for space weather monitoring

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Space object owner or operator	C3S Electronics Development LLC
Website	www.c3s.hu
Launch vehicle	Vega VV19
Eccentricity	0.002943
Two-line element	0 RADCUBE 1 49067U 21073B 21263.86471014 .00001037 00000-0 72342-4 0 9997 2 49067 97.5560 336.9984 0029426 134.2014 226.1638 15.07228407 5212
Detailed function of space object	RadCube is C3S's 3U CubeSat-platform in-orbit technology demonstration mission, carrying a space radiation environment monitoring payload called RadMag as the primary payload. The satellite is the sixth among the nanosatellites launched into low Earth orbit for in-orbit technology demonstration purposes within the framework of the General Support Technology Programme (GSTP) of the European Space Agency (ESA). RadCube, in particular, is funded from the GSTP contributions of Hungary, Poland and the United Kingdom of Great Britain and Northern Ireland. C3S leads the international consortium for the ESA RadCube mission. In addition to the Hungarian Centre for Energy Research, which is responsible for the

development of the space radiation environment monitoring payload, other members of the consortium are Imperial College London (responsible for the development of the magnetometer payload) and the Polish company Astronika (responsible for the boom mechanism used to deploy the magnetometer away from the satellite body to reduce electromagnetic noise in the measurements). The secondary payload is an experiment developed by ESA to show how radiation in space damages electronics
