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Inventors:  
• SESTO GORELLA, Nicholas  
34123 Trieste (TS) (IT)  
• PAGANA, Enrico  
10023 Chieri (TO) (IT)
- (74)

Representative: Provvisionato, Paolo  
Provvisionato & Co S.r.l.  
Piazza di Porta Mascarella 7  
40126 Bologna (IT)
- (30)

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Applicant: PICOSATS S.R.L.  
34149 Trieste (TS) (IT)

(54)

ANTENNA

- (57)

An antenna of the ADE type, operating at frequencies between approximately 59 GHz and 71 GHz, comprises a main reflector (12, 112), a feeder (16, 116) and a sub-reflector (14, 114), which is kept at a prede-
- termined distance from the feeder by a sub-reflector support (18, 118) and has such dimensions that the total spatial requirement thereof is less than 10x10x10 cm.

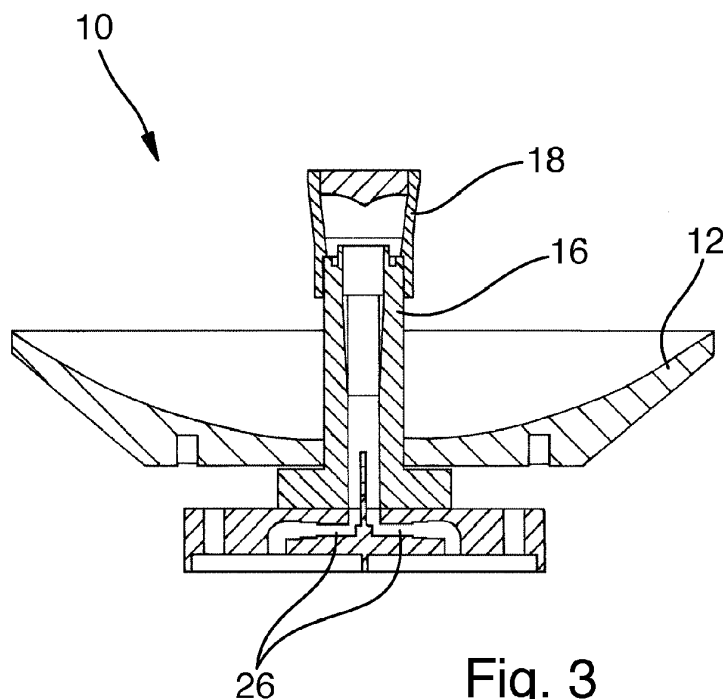


Fig. 3



## EUROPEAN SEARCH REPORT

Application Number

EP 23 21 4600

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## DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WANG YANXUN ET AL: "Design of the axially displaced ellipse antenna with low profile at W band", 2015 INTERNATIONAL WORKSHOP ON ANTENNA TECHNOLOGY (IWAT), IEEE, 4 March 2015 (2015-03-04), pages 231-233, XP032837737, DOI: 10.1109/IWAT.2015.7365339	1	INV. H01Q1/28 H01Q15/16 H01Q19/19 H01Q19/13 H01Q19/02
A	* figures 2,4 * * page 1, right-hand column *	2-4	
X	PENCHEL RAFAEL A ET AL: "Design of Wideband Omnidirectional Dual-Reflector Antennas in Millimeter Waves", IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS, IEEE, PISCATAWAY, NJ, US, vol. 18, no. 5, 3 May 2019 (2019-05-03), pages 906-910, XP011722804, ISSN: 1536-1225, DOI: 10.1109/LAWP.2019.2905602 [retrieved on 2019-05-02]	1,2	
A	* figure 1 * * Section A. Classical Omnidirectional Dual-Reflector Antennas; page 2, right-hand column *	3,4	TECHNICAL FIELDS SEARCHED (IPC) H01Q
A	PRATA A ET AL: "Displaced-axis-ellipse reflector antenna for spacecraft communications", MICROWAVE AND OPTOELECTRONICS CONFERENCE, 2003. IMOC 2003. PROCEEDINGS OF THE 2003 SBMO/IEEE MTT-S INTERNATIONAL 20-23 SEPT. 2003, PISCATAWAY, NJ, USA, IEEE, US, vol. 1, 20 September 2003 (2003-09-20), pages 391-395, XP010669618, DOI: 10.1109/IMOC.2003.1244891 ISBN: 978-0-7803-7824-7 * figure 3 * * page 3, right-hand column *	1-4	
-The present search report has been drawn up for all claims			

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Place of search

Date of completion of the search

Examiner

The Hague

24 April 2024

Niemeijer, Reint

## CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone  
Y : particularly relevant if combined with another document of the same category  
A : technological background  
O : non-written disclosure  
P : intermediate document

T : theory or principle underlying the invention  
E : earlier patent document, but published on, or after the filing date  
D : document cited in the application  
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03/82 (P04C01)



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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1 - 4

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number

EP 23 21 4600

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

**1. claims: 1-4**

ADE antenna with a clearance angle  
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**2. claims: 5-8**

ADE antenna with a foldable reflector  
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