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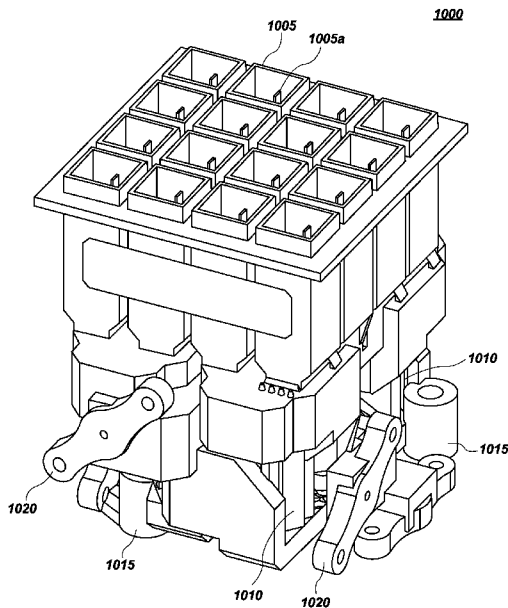


FIG. 10A

(57) Abstract: An antenna array is provided that includes a plurality of radiating elements and one or more combiners. The plurality of radiating elements and the combiners are formed as a single indivisible metal element by use of additive manufacturing processes.



INTERNATIONAL SEARCH REPORT

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PCT/US 18/66918

A. CLASSIFICATION OF SUBJECT MATTER  
IPC(8) - B33Y 50/02; H01Q 1/24; B33Y 80/00 (2019.01)  
CPC - H01Q 1/244; B33Y 10/00; B33Y 80/00; B33Y 50/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
See Search History Document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
See Search History Document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
See Search History Document

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2017/0077610 A1 (VIASAT, INC.) 16 March 2017 (16.03.2017) entire document, especially: Fig. 2, 3, 5, 6, 8A, 8B, para [0006], [0030], [0033], [0038], [0040],[0041], [0043], [0046]-[0049], [0060], [0063], [0065], [0073], [0086]	1-2, 4-7, 9-18, 21, 24-25, 29, 31 ----- 3, 8, 19-20, 22-23, 26-28, 30, 32-33
Y	US 7,564,421 B1 (Edwards et al.) 21 July 2009 (21.07.2009) entire document, especially: Fig. 4a, col 3 ln 62- col 4 ln 6, col 4 ln 29-40, col 6 ln 33-36	3, 26-28
Y	US 2017/0256864 A1 (VIASAT, INC) 7 September 2017 (07.09.2017) para [0025], [0080]	8, 23
Y	US 9,450,308 B1 (ViaSat, Inc.) 20 Septemeber 2016 (20.09.2016) col 3 ln 1-14, col 3 20-36, col 8 ln 1-7	19, 20
Y	US 2009/0206473 A1 (Lopez et al.) 20 August 2009 (20.09.2009) para [0033]-[0035], [0051]	22, 32-33
Y	US 2016/0036113 A1 (Nuvotronics, LLC) 04 February 2016 (04.02.2016) para [0013]	30

Further documents are listed in the continuation of Box C.       See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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