

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 February 2006 (02.02.2006)

PCT

(10) International Publication Number
WO 2006/011133 A1

(51) International Patent Classification⁷: **H01Q 1/42**, 1/00,
F41H 5/04, B32B 3/22, H01Q 15/00

(21) International Application Number:
PCT/IL2005/000771

(22) International Filing Date: 20 July 2005 (20.07.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
163183 25 July 2004 (25.07.2004) IL

(71) Applicant (for all designated States except US):
ANAFI-ELECTROMAGNETIC SOLUTIONS LTD.
[IL/IL]; 1/19 Haganim St., P.O.B. 5301, 27206 Kiriath
Bialik (IL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **FRENKEL, Avraham**
[IL/IL]; 1/19 Haganim St., 27206 Kiriath Bialik (IL).

(74) Agent: **TSIVION, Yoram**; P.O.Box 1307, 37111 Pardes
Hanna (IL).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ,
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,
SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
VN, YU, ZA, ZM, ZW.

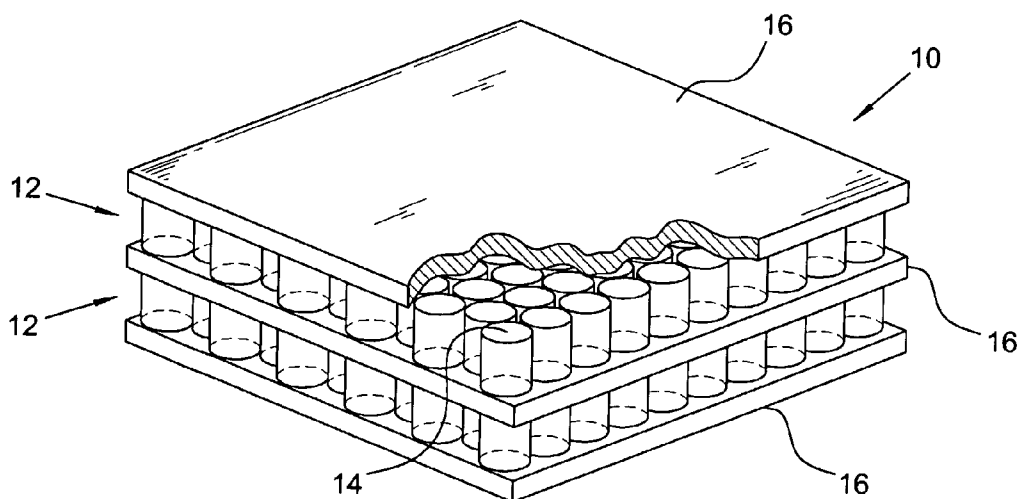
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,
RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: BALLISTIC PROTECTIVE RADOME



(57) Abstract: A ballistic protective radome (10) consisting of substantially longitudinal layer members (14) firmly and densely packed in a uniform array, forming a main protective layer (12). The layer members (14) are mutually spaced apart and electrically isolated such that a continuous gap (18) is formed in the main protective layer (12). The layer members (14) are made of mechanical energy absorbing and high tensile strength materials such as ceramics, metallic alloys, nanoparticulate ceramics and nanoparticulate metallic alloys. The surface of the layer members is electrically conducting, optionally by plating with a layer of highly electrically conducting materials having a width of a few skin depths. Optionally a dielectric layer (16) is attached to at least one surface border of the main protective layer for promoting the ballistic features of the radome and providing for impedance matching. A method for tuning the operational frequency of the radome is provided by grouping the layer members in pairs (12A-12C) of layer members having collinear main axes. Optionally discs (26D-26F) having electrically conducting surface are inserted into the gaps between the paired layer members.

WO 2006/011133 A1