



(51) International Patent Classification:

G01N 24/10 (2006.01) G01R 33/032 (2006.01)
G01N 24/00 (2006.01) G01R 33/26 (2006.01)

(21) International Application Number:

PCT/IL2024/050217

(22) International Filing Date:

26 February 2024 (26.02.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

301049 28 February 2023 (28.02.2023) IL

(71) Applicant: **ELTA SYSTEMS LTD.** [IL/IL]; 100 Yitzhak Hanassi Blvd., P.O.B. 330, 7710201 Ashdod (IL).

(72) Inventors: **BEN SHALOM, Yechel**; 68 Costa Rica St., 9662559 Jerusalem (IL). **BAR-GILL, Nir**; 211 Bnei Ephraim St., 6998422 Tel Aviv (IL). **MASKIL, Nissan**; 6 Nahemia St., 4637106 Herzliya (IL).

(74) Agent: **TAUBER, Gilad**; REINHOLD COHN GROUP, 26A Habarzel St., 6971037 Tel Aviv (IL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,

HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: A SENSOR UNIT AND RESONATOR CIRCUIT THEREOF

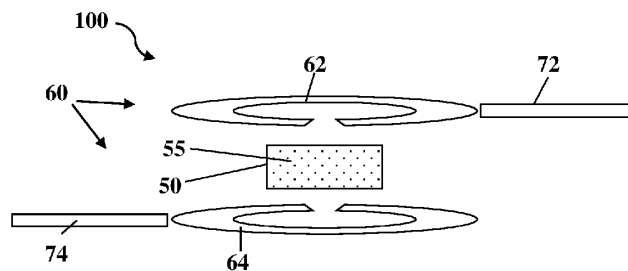


FIG. 1

(57) Abstract: A sensor unit and resonator circuit are described. The sensor unit comprising at least one crystal structure comprising an ensemble of color centers, and a resonator arrangement for applying selected magnetic field on the ensemble of color centers. The resonator arrangement comprises a first split ring having a first diameter and a second split ring having a second diameter. The first split ring and the second split ring are positioned within first and second parallel planes, and wherein the at least one crystal structure is located in an intermediate plane between said first and second parallel planes.

