

ABSTRACT

MULTIPLE-RESONANT-MODE DUAL POLARIZED ANTENNA

5 A dual polarized antenna comprising: a radiating arrangement; and a feeding
element containing two feeding lines and forming two perpendicular baluns
supporting the radiating arrangement above a reflective conductive plate. The
radiating arrangement comprises two crossed dipoles electrically connected by
four outer conductors, the four outer conductors forming an outer contour of the
10 radiating arrangement, the outer contour having a shape of a circle or a polygon;
wherein each crossed dipole comprises two dipole arms, each dipole arm
comprising two equal branches connected together at a point of connection
between the dipole arm and one of the two feeding lines; wherein a first gap
between the two equal branches of each dipole arm, and a second gap between
15 adjacent branches of different dipole arms, increases towards the outer contour
of the radiating arrangement; wherein each outer conductor has a middle portion
and two end portions, the middle portion connecting adjacent branches of
different dipole arms with the two end portions, wherein one end portion is placed
between the branches of one dipole arm and the other end portion is placed
20 between the branches of an adjacent dipole arm; wherein one end portion of one
outer conductor and the other end portion of an adjacent outer conductor are
placed between the two branches of one of the dipole arms, and are separated
from each other by a third gap creating a capacitive coupling between the two
outer conductors; and wherein each dipole arm of the radiating arrangement
25 contains third short branch placed between the two equal branches of each
dipole arm and connected to the point of connection.

Fig. 2a