

OMNIDIRECTIONAL ANTENNA UTILIZING AN ASYMMETRICAL BICONE AS A PASSIVE FEED FOR A RADIATING ELEMENT

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Abstract

An antenna assembly comprising a radiating element which passively receives a signal fed by a vertically-stacked pair of asymmetrically-shaped, conductive cone elements mounted below the radiating element. The cone elements are centrally fed by a coaxial cable input at a common junction formed the apex of each cone element. This antenna assembly provides a low-profile antenna to transmit and receive radio frequency (RF) energy with high gain and desirable antenna patterns for data transmission in an in-building, wireless local area network.

15 The antenna assembly can be mounted in a standard ceiling or wall-mounted enclosure, with the low-profile antenna extending beneath the surface of a conductive enclosure cover that serves as the ground plane for the antenna element. This configuration achieves high antenna gain with a downtilt-beam, omnidirectional radiation pattern, which is highly desirable in an in-building

20 wireless local area network (WLAN) application.

Figure 1