

Title (en)
RADIOFREQUENCY INTERCONNECTION BETWEEN A PRINTED CIRCUIT BOARD AND A WAVEGUIDE

Title (de)
FUNKFREQUENZVERBINDUNG ZWISCHEN EINER LEITERPLATTE UND EINEM WELLENLEITER

Title (fr)
INTERCONNEXION DE RADIOFRÉQUENCE ENTRE UNE CARTE DE CIRCUIT IMPRIMÉ ET UN GUIDE D'ONDES

Publication
EP 3240101 A1 20171101 (EN)

Application
EP 16166973 A 20160426

Priority
EP 16166973 A 20160426

Abstract (en)
According to one aspect the present invention refers to a system comprising a waveguide having a body with a first end having an opening, and a printed circuit board, PCB, having a bottom side and a opposed top side, wherein the PCB comprises a ground layer, a dielectric material layer and a signal layer arranged in a layer stack from the bottom side to the top side of the PCB, wherein the dielectric material layer is arranged between the ground layer and the signal layer, wherein the signal layer comprises a coupling pad and a first and a second output transmission line both connected to the coupling pad, further comprising a non-conducting slot in the ground layer, further comprising a electric wall galvanically connecting the coupling pad through the dielectric material layer to the ground layer, wherein the first end of the waveguide is arranged on the bottom side and is galvanically connected with the ground layer, wherein the opening, the non-conducting slot and the coupling pad are aligned such that in a stacking direction of the layer stack the opening, the non-conducting slot and the coupling pad at least partially overlap. In a second aspect the present invention is directed to a printed circuit board, PCB, having a bottom side and a opposed top side, wherein the PCB comprises a ground layer, a dielectric material layer and a signal layer arranged in a layer stack from the bottom side to the top side of the PCB, wherein the dielectric material layer is arranged between the ground layer and the signal layer, wherein the signal layer comprises a coupling pad and a first and a second output transmission line both connected to the coupling pad, further comprising a non-conducting slot in the ground layer, further comprising a electric wall galvanically connecting the coupling pad through the dielectric material layer to the ground layer, wherein the non-conducting slot and the coupling pad are aligned such that in a stacking direction of the layer stack the non-conducting slot and the coupling pad at least partially overlap.

IPC 8 full level
H01P 5/107 (2006.01)

CPC (source: EP)
H01P 5/107 (2013.01)

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Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3240101 A1 20171101; EP 3240101 B1 20200729; CN 109075420 A 20181221; CN 109075420 B 20201103; WO 2017186099 A1 20171102

DOCDB simple family (application)
EP 16166973 A 20160426; CN 2017081886 W 20170425; CN 201780025627 A 20170425