621. Patent Number(s): FR2969835-A1; US2012163425-A1

Title: Phase shifting device for antenna array utilized for wireless electronic system to exchange e.g. Terahertz wavelength signal, has processing units comprising control units to adjust coefficient and order digital all-pass filters

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Abstract: NOVELTY - The device (D) has a set transmission channels (VE1-VEn), and a set transmission antennas (A11-A1n) associated with the transmission channels. A set digital-analog converters (DAC), and a set phase-shifting units (MD1-MDn) are associated with the transmission channels. The phase-shifting units are arranged between processing units (MT) and respective digital-analog converters. The processing units comprise control units (MC) to adjust coefficient and order digital all-pass filters finite impulse response (FIR) type.

USE - Phase shifting device for an antenna array that is utilized for a wireless electronic system to exchange microwave, millimetric and Terahertz wavelength signals.

ADVANTAGE - The control units adjust coefficient and order digital all-pass filters FIR type, thus reducing bandwidth consumption while reducing size the phase shifting device and requiring less amplification. The device allows the antenna array to distribute power over different channels, and limits constraints on power amplifiers. The filters provide greater phase-shifting accuracy, and induce constant delay over a frequency band interest without requiring approximation between the phase shift and delay.

DESCRIPTION DRAWING(S) - The drawing shows a block diagram a phase shifting device for an antenna array. '(Drawing includes non-English language text)'

Transmission antennas (A11-A1n)

Phase shifting device (D)

Digital-analog converters (DAC)

Control units (MC)

Phase-shifting units (MD1-MDn)

Processing units (MT)

Transmission channels (VE1-VEn)

Drawing:

Derwent Class Code(s): U22 (Pulse Generation and Manipulation, Rectangular wave oscillators); W02 (Broadcasting, Radio and Line Transmission Systems)

Derwent Manual Code(s): U22-G01A3; U22-G01B2; W02-B06B; W02-B08P8J

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