

ABSTRACT

A matching circuit (10) includes: a mismatch detection unit (20) that is electrically connected to a transmitting circuit (2) which generates a transmission signal (A) and an antenna (4) which wirelessly transmits the transmission signal (A); a computation section (28) that is electrically connected to the mismatch detection unit (20); and a matching section (30) that is electrically connected to the computation section (28) and the transmitting circuit (2).

10 The mismatch detection unit (20) includes: a first directional coupling section (22) that generates a corresponding transmission signal (A1) which is a signal corresponding to the transmission signal (A) from the transmitting circuit (2); a second directional coupling section (24) that generates a corresponding reflection signal (B1) which is a signal corresponding to a reflection signal (B) as an electrical signal to be reflected from the antenna (4) to the transmitting circuit (2) in response to the transmission signal (A); and a mismatch detection

15 section (26) that detects an amplitude ratio and a phase difference between the transmission signal (A) and the reflection signal (B) based on the corresponding transmission signal (A1) and the corresponding reflection signal (B1). The computation section (28) transmits a

20 matching section control signal (D) to the matching section (30) based on the amplitude ratio and the phase difference between the transmission signal (A) and the reflection signal (B) detected by the mismatch detection section (26) and the matching section 30 changes a signal value of the

25 reflection signal (B) by changing an impedance based on the matching section control signal (D).

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