



US 20240213933A1

(19) **United States**(12) **Patent Application Publication**
Wan(10) **Pub. No.: US 2024/0213933 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **AMPLIFICATION DEVICE INCLUDING AN
AMPLIFICATION UNIT AND A COUPLER
USED TO REDUCE INSERTION LOSS AND
CIRCUIT AREA**(52) **U.S. Cl.**CPC *H03F 3/195* (2013.01); *H03F 1/0283*
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City (TW)(21) Appl. No.: **18/089,534**(22) Filed: **Dec. 27, 2022****Publication Classification**(51) **Int. Cl.***H03F 3/195* (2006.01)*H03F 1/02* (2006.01)*H03F 1/56* (2006.01)

(57)

ABSTRACT

An amplification device includes a signal input terminal, a signal output terminal, an amplification unit, a coupler, an inductive element and a capacitive element. The amplification unit includes an input terminal and an output terminal, where the input terminal is coupled to the signal input terminal. The coupler includes an input terminal, an output terminal and a coupling terminal, where the input terminal is coupled to the output terminal of the amplification unit, and the output terminal is coupled to the signal output terminal. The inductive element is coupled to the coupler in parallel and includes a first terminal and a second terminal, where the first terminal is coupled to the output terminal of the amplification unit, and the second terminal is coupled to the output terminal of the coupler. The capacitive element is coupled between the output terminal of the coupler and a reference voltage terminal.

