

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0235490 A1 **IMAI**

Jul. 11, 2024 (43) **Pub. Date:**

(54) **POWER AMPLIFIER CIRCUIT**

Applicant: Murata Manufacturing Co., Ltd., Kyoto (JP)

Inventor: Shohei IMAI, Kyoto (JP)

Appl. No.: 18/405,258

(22)Filed: Jan. 5, 2024

(30)Foreign Application Priority Data

Jan. 5, 2023 (JP) 2023-000582

Publication Classification

(51)	Int. Cl.	
	H03F 1/02	(2006.01)
	H03F 1/56	(2006.01)
	H03F 3/24	(2006.01)
	H03F 3/60	(2006.01)

(52) U.S. Cl.

CPC H03F 1/0288 (2013.01); H03F 1/565 (2013.01); H03F 3/245 (2013.01); H03F 3/602 (2013.01); H03F 2200/451 (2013.01)

(57)ABSTRACT

A divider circuit divides an input signal into first, second, third, and fourth input signals. A first carrier amplifier amplifies the first input signal and outputs a first output signal. A first peak amplifier amplifies the second input signal and outputs a second output signal. A first converter inputs the first and second output signals. A second carrier amplifier amplifies the third input signal and outputs a third output signal, the first and second carrier amplifiers forming a differential pair. A second peak amplifier amplifies the fourth input signal and outputs a fourth output signal, the first and second peak amplifiers forming a differential pair. A second converter inputs the third output signal and is electrically connected to the first converter. A combiner is electrically connected to an output terminal or a ground and to the first and second converters.

