

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
30 April 2020 (30.04.2020)



(10) International Publication Number
WO 2020/085887 A1

- (51) **International Patent Classification:**
H03F 1/02 (2006.01) *H03F 3/24* (2006.01)
- (21) **International Application Number:**
PCT/KR2019/014309
- (22) **International Filing Date:**
28 October 2019 (28.10.2019)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
10-2018-0129271 26 October 2018 (26.10.2018) KR
- (71) **Applicant: SAMSUNG ELECTRONICS CO., LTD.**
[KR/KR]; 129, Samsung-ro, Yeongtong-gu, Suwon-si,
Gyeonggi-do 16677 (KR).
- (72) **Inventors: KIM, Jooseung;** 129, Samsung-ro, Yeong-
tong-gu, Suwon-si, Gyeonggi-do 16677 (KR). **YANG,**
Dongil; 129, Samsung-ro, Yeongtong-gu, Suwon-si,
Gyeonggi-do 16677 (KR). **LEE, Youngmin;** 129, Sam-

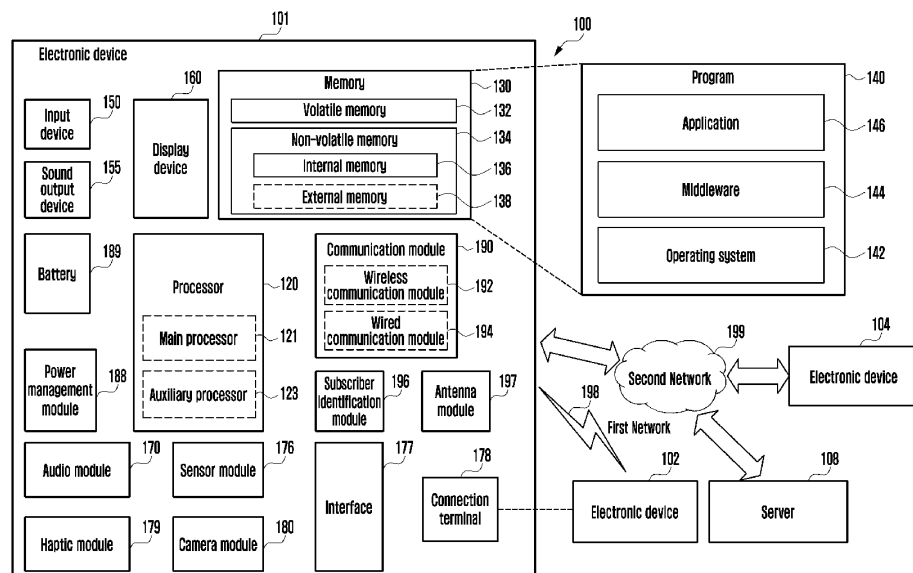
sung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do 16677
(KR).

(74) **Agent: YOON & LEE INTERNATIONAL PATENT &
LAW FIRM;** 3rd Fl, Ace Highend Tower-5, 226, Gasan
Digital 1-ro, Geumcheon-gu, Seoul 08502 (KR).

(81) **Designated States** (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP,
KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG,
MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,
PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC,
SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) **Designated States** (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ,

(54) **Title:** METHOD AND DEVICE FOR SELECTIVELY SUPPLYING VOLTAGE TO MULTIPLE AMPLIFIERS USING SWITCHING REGULATOR



(57) **Abstract:** Various embodiments disclose a method and a device including: an antenna, a switching regulator, communication chip including an amplifier and a linear regulator operably connected to the amplifier and the switching regulator, the communication chip configured to transmit a radio-frequency signal from the electronic device through the antenna, and control circuitry configured to control the communication chip such that the linear regulator provides the amplifier with a voltage corresponding to an envelope of an input signal input to the amplifier, the input signal corresponding to the radio-frequency signal.

[Continued on next page]

UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*