

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
30 September 2021 (30.09.2021)



(10) International Publication Number
WO 2021/195040 A2

- (51) International Patent Classification:
H01Q 21/00 (2006.01)
- (21) International Application Number:
PCT/US2021/023617
- (22) International Filing Date:
23 March 2021 (23.03.2021)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
- | | | |
|------------|--------------------------------|----|
| 62/993,925 | 24 March 2020 (24.03.2020) | US |
| 63/075,344 | 08 September 2020 (08.09.2020) | US |
| 63/082,265 | 23 September 2020 (23.09.2020) | US |
| 63/124,442 | 11 December 2020 (11.12.2020) | US |
| 63/136,757 | 13 January 2021 (13.01.2021) | US |
| 17/209,562 | 23 March 2021 (23.03.2021) | US |
- (71) Applicant: **COMMScope TECHNOLOGIES LLC**
[US/US]; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US).
- (72) Inventors: **HOU, XiaoHua**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **XU, YongJie**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **LI, Xiang**; 1100 CommScope Place, SE, Hickory,

North Carolina 28602 (US). **BISIULES, Peter J.**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **MERTA, Samantha**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **LI, Haifeng**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **VARNOOSFADERANI, Mohammad Vatankhah**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **WU, Bo**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **TIAN, Xiaohua**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **YU, Junfeng**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **WANG, Dongmin**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **ZHANG, Shanguang**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US). **LIU, Jian**; 1100 CommScope Place, SE, Hickory, North Carolina 28602 (US).

(74) Agent: **RICHARDSON, Julie, H.**; MYERS BIGEL, P.A., PO Box 37428, Raleigh, North Carolina 27627 (US).

(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, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD,

(54) Title: BASE STATION ANTENNAS HAVING AN ACTIVE ANTENNA MODULE AND RELATED DEVICES AND METHODS

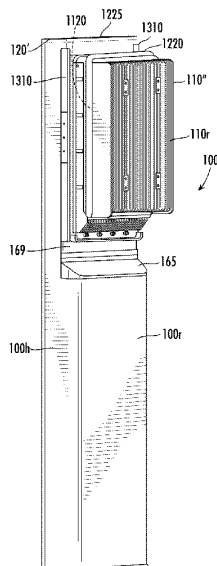


FIG. 16B

(57) Abstract: Base station antennas include an externally accessible active antenna module releasably coupled to a recessed segment that is over a chamber in the base station antenna and that is longitudinally and laterally extending along and across a rear of a base station antenna housing. The base station antenna housing has a passive antenna assembly that cooperates with the active antenna module.

WO 2021/195040 A2

[Continued on next page]

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, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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, 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:

— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*