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(19) **United States**(12) **Patent Application Publication**  
**PATEL et al.**(10) **Pub. No.: US 2024/0214016 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **SPUR SUPPRESSION FOR MILLIMETER WAVE (MMW) RECEIVER**(52) **U.S. Cl.**CPC ..... **H04B 1/10** (2013.01); **H04B 1/16** (2013.01)(71) Applicant: **QUALCOMM Incorporated**, San Diego, CA (US)(72) Inventors: **Chirag Dipak PATEL**, San Diego, CA (US); **Gary Lee BROWN, JR.**, Carlsbad, CA (US); **Rajagopalan RANGARAJAN**, San Diego, CA (US); **Mustafa KESKIN**, San Diego, CA (US)

(57)

**ABSTRACT**

Aspects of the disclosure relate to devices, wireless communication apparatuses, methods, and other aspects of spur suppression in millimeter wave receivers. In one aspect a local oscillator (LO) source is coupled to a quadrature generation circuit having a first output for a first LO signal, and a second output for a second LO signal 90 degrees out of phase with the first LO signal. Each output is coupled to an LO driver, and outputs of the LO drivers are coupled to a first power connection to provide spur suppression associated with a phase difference between the first LO signal and the second LO signal. Similar connections are provided at outputs of first and second mixers for spur suppression.

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