

Title (en)  
RF SYNTHESIZER AND RF TRANSMITTER OR RECEIVER INCORPORATING THE SYNTHESIZER

Title (de)  
HF-SYNTHESIZER UND DEN SYTHESIZER ENTHALTENDER HF-SENDER ODER -EMPFÄNGER

Title (fr)  
SYNTHETISEUR RF ET EMETTEUR RF OU RECEPTEUR EQUIPE DU SYNTHETISEUR

Publication  
**EP 1929676 A2 20080611 (EN)**

Application  
**EP 06790049 A 20060825**

Priority  
• US 2006033611 W 20060825  
• GB 0518215 A 20050908

Abstract (en)  
[origin: GB2430090A] An RF (radio frequency) synthesizer (200) includes a VCO (voltage controlled oscillator) (120) operable to provide an output signal at a desired frequency, a phase locked loop (130) including (i) the VCO; (ii) a variable frequency divider (114) operable to receive an output signal of the VCO and to provide a feedback signal which is divided in frequency relative to the output signal of the VCO; and (iii) a phase frequency detector (110) operable to receive the feedback signal produced by the VCO and to compare a phase and frequency of the feedback signal with the phase and frequency of a reference signal; and is characterised by (iv) a further control loop (230) inside the phase locked loop (130); and (v) a phase rotator (205) connected to an output of the VCO and operable to equalise a phase error of an output signal produced by the VCO, the further control loop being connected to the phase rotator to provide a control signal to the phase rotator. The synthesizer may beneficially include an integrated circuit which incorporates at least part of the VCO, the phase locked loop and the further control loop. Also described is a RE transmitter or receiver, e.g. for use in a base transceiver station, which incorporates the synthesizer.

IPC 8 full level  
**H03L 7/087** (2006.01); **H04H 20/67** (2008.01); **H03L 7/081** (2006.01); **H03L 7/23** (2006.01)

CPC (source: EP GB)  
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