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(54) **APPARATUS FOR ANALOG-TO-DIGITAL  
CONVERSION, RECEIVER, BASE STATION,  
MOBILE DEVICE AND METHOD FOR  
ANALOG-TO-DIGITAL CONVERSION**

(52) **U.S. Cl.**  
**CPC** ..... **H03M 1/0604** (2013.01)

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(57) **ABSTRACT**

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Provided is an apparatus for analog-to-digital conversion. The apparatus comprises a plurality of first analog-to-digital converter, ADC, cores configured to receive an analog input signal and to generate respective first digital data based on the analog input signal. Further, the apparatus comprises a second ADC core configured to receive the analog input signal and to generate second digital data based on the analog input signal. In addition, the apparatus comprises a plurality of correction circuits each coupled to a respective one of the plurality of first ADC cores, wherein the plurality of correction circuits is configured to receive the second digital data and to modify the respective first digital data based on the second digital data.

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1110

**RECEIVING AN ANALOG INPUT SIGNAL AT A PLURALITY OF FIRST  
ANALOG-TO-DIGITAL CONVERTER, ADC, CORES TO GENERATE,  
AT EACH OF THE PLURALITY OF FIRST ADC CORES, FIRST  
DIGITAL DATA BASED ON THE ANALOG INPUT SIGNAL**

1120

**RECEIVING THE ANALOG INPUT SIGNAL AT A SECOND ADC CORE  
TO GENERATE SECOND DIGITAL DATA BASED ON THE ANALOG  
INPUT SIGNAL**

1130

**CORRECTING THE FIRST DIGITAL DATA AT A PLURALITY OF  
CORRECTION CIRCUITS, EACH OF WHICH BEING COUPLED TO A  
RESPECTIVE ONE OF THE PLURALITY OF FIRST ADC CORES,  
WHEREIN THE PLURALITY OF CORRECTION CIRCUITS RECEIVES  
THE SECOND DIGITAL DATA AND MODIFIES THE RESPECTIVE  
FIRST DIGITAL DATA BASED ON THE SECOND DIGITAL DATA**

**1100**