**Summary**

The limitation of the single-sideband rejection ratio (SSRR) performance of transmitters based on I/Q mismatching due to high frequency signals has been investigated. The proposed single-sideband radio frequency-modulator (SSM) is capable of generating a single sideband frequency without implementing a local oscillator which displaces a phase of a local oscillating signal by 90deg at a high frequency.

This technique is promising for radio transmission with a SSRR of more than 60 dBc and will be a fundamental one for creating “smart radio wave environment” and keeping the system cost low even if demand of broadband wireless access increases in the future. In addition, the architecture of digital-intermediate frequency transmitter using the proposed SSM can be applied for a future software defined radio solution supporting multiband and multimode wireless communications.

**Hypothesis Test**

90 degree high frequency

H0: μ = 90

Wireless access with radio wave shows exponential increase of demand and will be surely taking an important role in ubiquitous networks in future.

Ha: μ ≠ 90

Wireless access with radio wave shows exponential increase of demand and will not take on an important role in ubiquitous networks in future.

Probability an event may occur P(A) 0.5

Probability an event may not occur P(A) 0.5

The null hypothesis has been accepted.

Start by identifying and summarizing the hypothesis described in the article. Then explain whether the hypothesis was rejected or accepted, and what the implications of this finding are for the study.