**Category A. Received Signal Strength Estimation  
Measurement environment and method**

This paper describes the measurement environment and method used to obtain the published measurement data.

Measurement environment

Measurements were conducted in the event hall and lobby on the second basement floor of ACROS Fukuoka. At the time of measurement, the layout accommodated a maximum of 900 seats, with many chairs lined up in the event hall and chairs arranged in a tiered fashion at the rear.

A diagram of the environment is available at the following URL. As the page is written in Japanese only, we recommend using your browser's translation function. A PDF of the diagram is available from "Layout Plan". See "900 seats", "Lobby", and "Overall view (1/200)". A side view of the event hall is also available from "Cross-section view".

Please note that when measurements are taken on the day of the ISAP2025, the tiered chairs in the event hall will be removed and many people and furniture will be present.

<https://acros.or.jp/s_facilities/event.html>

Measurement method

After placing the transmitter on a tripod, the person measuring the RSSI held the receiver (iPhone SE) in their hand at chest level in front of their body. Measurements were taken in the event hall facing right on the page, and in the lobby facing downwards on the page. The measurement time was approximately 10 seconds at each position, and the median value was derived from the RSSI results obtained using AirMac app on iOS. Note that there was no one around at the time of the measurements, except for a few people taking the measurements. During measurements, the door between the event hall and the lobby was left open. All measurement points in the event hall and lobby are line-of-sight (LoS) and non-line-of-sight (NLoS), respectively. In Fig.2, blue and red circles show the reference points and target points, respectively.

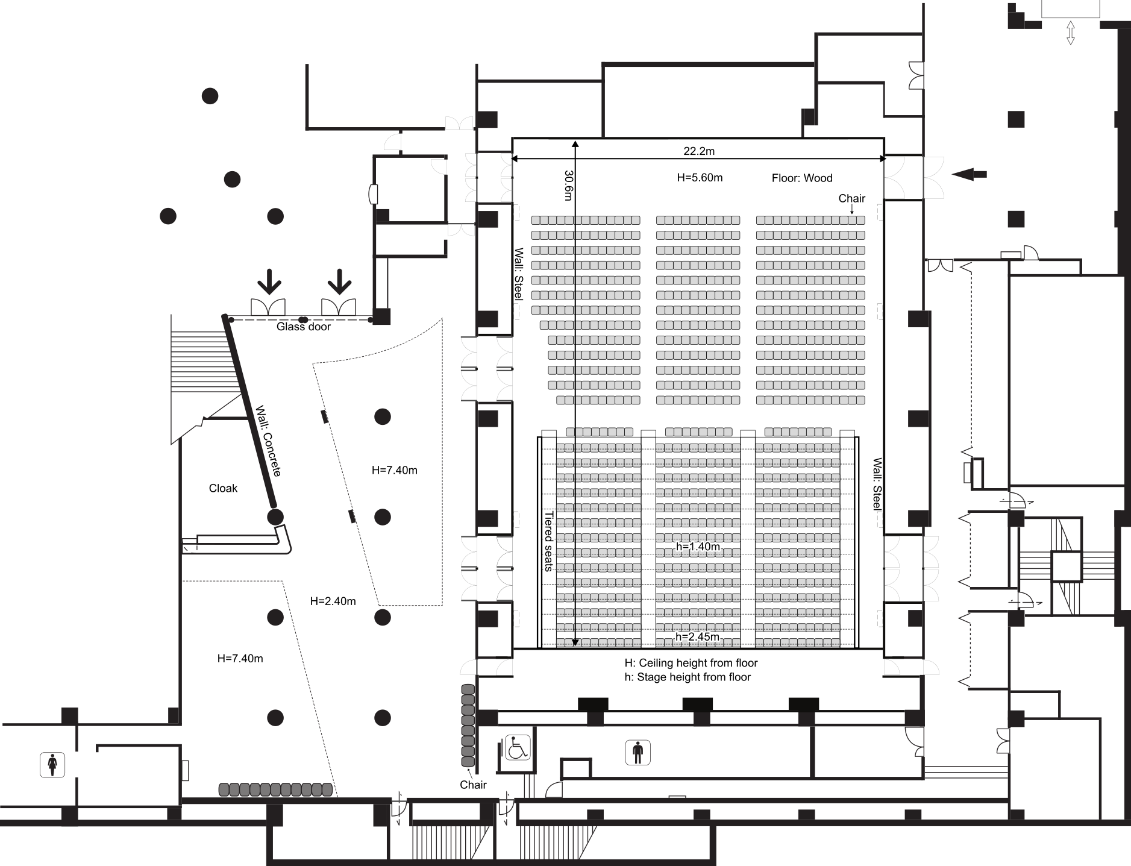


Fig.1 Floor map for measurements.

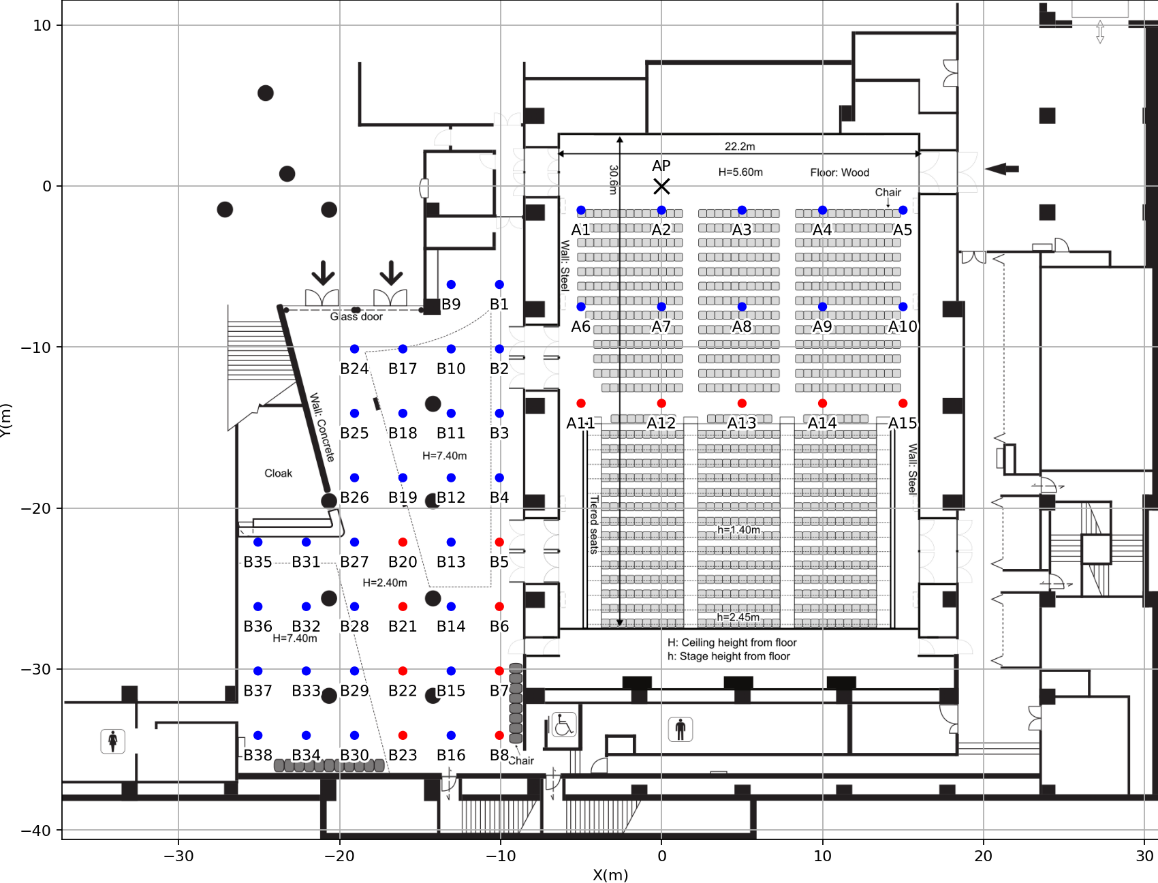


Fig.2 Measurement positions.

建物, フィールド, 覆い, 立つ が含まれている画像

自動的に生成された説明

Fig.3 Photo of the transmitter

TABLE I. The transmitter and receiver

|  |  |
| --- | --- |
| **Transmitter** |  |
| Wireless interface | IEEE802.11ac |
| Frequency | 5.2 GHz (W52) |
| Bandwidth | 20 MHz |
| Transmit power | 18 dBm |
| Antenna gain | 4 dBi |
| Antenna directivity | Omni-directional |
| **Receiver** |  |
| Product name | iPhone SE (3rd generation) |