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For a positive measure  $\mu$  on the unit disk  $\mathbb{D}$ , The  $\mu$ -weighted Bergman space  $A_\mu$  is defined as the closure of analytic polynomials in  $L^2(\mathbb{D}, \mu)$ . For a  $\mu$  measurable function  $u$  on  $\mathbb{D}$  and an analytic self-map  $\varphi$  of  $\mathbb{D}$ , the operator  $uC_\varphi : f \mapsto uf \circ \varphi$  on  $A_\mu$  is called a weighted composition operator with weight  $u$  and symbol  $\varphi$ . Suppose every point in  $\mathbb{D}$  is an analytic bounded point evaluation for  $\mu$ . Under certain condition, we characterize the compactness of the difference of two weighted composition operators in terms of the weights, symbols and the reproducing kernel of  $A_\mu$ . We also calculate the Hilbert-Schmidt norm of the difference operators. (Received February 11, 2018)