

Fig. 1 Effect of  $Cl_2$  and HBr dilution on etch rate per ALE cycle (all with chamber pressure of 50 mTorr, total gas flow of 50 sccm and platform temperature of 20°C)



Fig. 2 Effect of RF power of Ar plasma in the the surface removal step on etch rate per ALE cycle for  $Cl_2$  and HBr as surface modification processes gasses (all with chamber pressure of 50 mTorr, total gas flow of 50 sccm and platform temperature of 20°C)



Fig.3 Effect of Ar plasma RF power on sheet resistance, electron mobility and channel carrier concentration of an AlGaN/GaN HEMT structure after exposing the Van der Pauw device to an Ar plasma for 60secs