Specific heat and magnetocaloric effect of the S=1/2 spin-ladder compound $(\text{CH}_3)_2\text{CHNH}_3\text{CuCl}_3$ YOUNGHAK KIM, YASUO YOSHIDA, YASUMASA TAKANO, University of Florida, HIROYUKI TSUJII, Kanazawa University, KEISHI KANADA, TAKEHIRO SAITO, AKIRA OOSAWA, TAKAYUKI GOTO, Sophia University — $(\text{CH}_3)_2\text{CHNH}_3\text{CuCl}_3$ is the best laboratory model for the S=1/2 spin ladder comprising ferromagnetic rungs and antiferromagnetic legs [1]. We have determined the magnetic phase diagram of this compound in fields up to 18 T by means of specific-heat and magnetocaloric-effect measurements for two crystal orientations, with either the so-called B or C plane perpendicular to the field direction. For both orientations, we find power-law dependences of the critical field of the long-range antiferromagnetic order on temperature, behavior indicative of the Bose-Einstein condensation of spin triplets due to the cancellation of the energy gap by the magnetic field. [1] T. Masuda et al., Phy. Rev. Lett. 96, 047210 (2006).