One of the most important predictions in magnetohydrodynamics (MHD) is that in the presence of a uniform magnetic field $\mathbf{b}_0$ a transition from weak to strong wave turbulence should occur when going from large to small perpendicular scales. This transition is believed to be a universal property of several anisotropic turbulent systems. I will present for the first time direct evidence of such a transition thanks to a three-dimensional direct numerical simulation of incompressible balanced MHD turbulence with a grid resolution of $3072^2 \times 256$. From large to small-scales, the change of regime is characterized by i) a change of slope in the energy spectrum going from approximately -2 to $-3/2$; ii) an increase of the ratio between the wave and nonlinear times, with a critical ratio of $\chi_c \sim 0.35$; iii) an absence followed by a dramatic increase of the communication between Alfvén modes; and iv) a modification of the iso-contours of energy revealing a transition from a purely perpendicular cascade to a cascade compatible with the critical balance type phenomenology. All these changes happen at approximately the same transition scale and therefore can be seen as manifest signatures of the transition from weak to strong wave turbulence.