CLAIMS

1. A magnetic recording medium for heat-assisted magnetic recording, comprising:

a non-magnetic substrate; and

a magnetic recording layer, wherein

the magnetic recording layer includes a lower magnetic recording layer and an upper magnetic recording layer,

the lower magnetic recording layer has a granular structure including magnetic crystal grains and a non-magnetic portion that surrounds the magnetic crystal grains and is formed from a material mainly composed of carbon, and

the upper magnetic recording layer has a granular structure including magnetic crystal grains and a non-magnetic portion that surrounds the magnetic crystal grains and is formed from a material selected from the group consisting of silicon nitride, titanium oxide, and titanium nitride~~.~~, wherein

the material of the upper non-magnetic portion having a lower thermal conductivity than carbon so that a temperature gradient dT/dx of the magnetic layer in an in-plane direction of the magnetic layer is at least 10 K/nm while maintaining magnetic separation between the upper and lower magnetic crystal grains with the upper and lower non-magnetic portions.

2. The magnetic recording medium for heat-assisted magnetic