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The CleanMag™ core has a high electrical resistivity up to 300 μΩ-cm and a high magnetic induction up to 1.9T. The combination of both properties enables a smaller, lighter, and lower magnetic (core) loss electromagnetic components such as inductors, chokes, filters, transformers and more.

	Magnetic Induction	**Core Loss Up to 500 kHz**	**Permeability**	**Cost**	**Scalability**
CleanMag™	**High**	**Low to Medium**	**Medium to Low**	**$$**	**High**
Sendust (FeSiAl)	Medium	Medium	Low	$$	Low
Amorphous	Medium	Medium	High	$	Low
Nanocrystalline	Medium	Low	High	$$$	Low
MnZn Ferrite	Low	Low	Medium	$	High
Iron Powder Core	High	High	Medium to Low	$	High
GOES M6	High	Medium	Medium to Low	$	High
FeNi50	Medium	Medium	High	$$$	Medium
FeNi80	Low	Medium	High	$$$$	Medium

Value proposition
CleanMag™ cores are 25-50% smaller with 20% lower magnetic core loss. This makes electromagnetic devices cooler and more efficient.

Impact of the technology
The CleanMag™ core would reduce the CO_2 emissions from power electronics and electric machines. It will also provide USA the technology leadership in soft magnetic and electromagnetic materials space.

Applications
Powder core (toroid): Inductor, Choke, Filter
E-core, L-core, C-core: Transformer
Soft Magnetic Composites (SMC): Motor
Compact cores: Actuator, Sensor, Solenoid