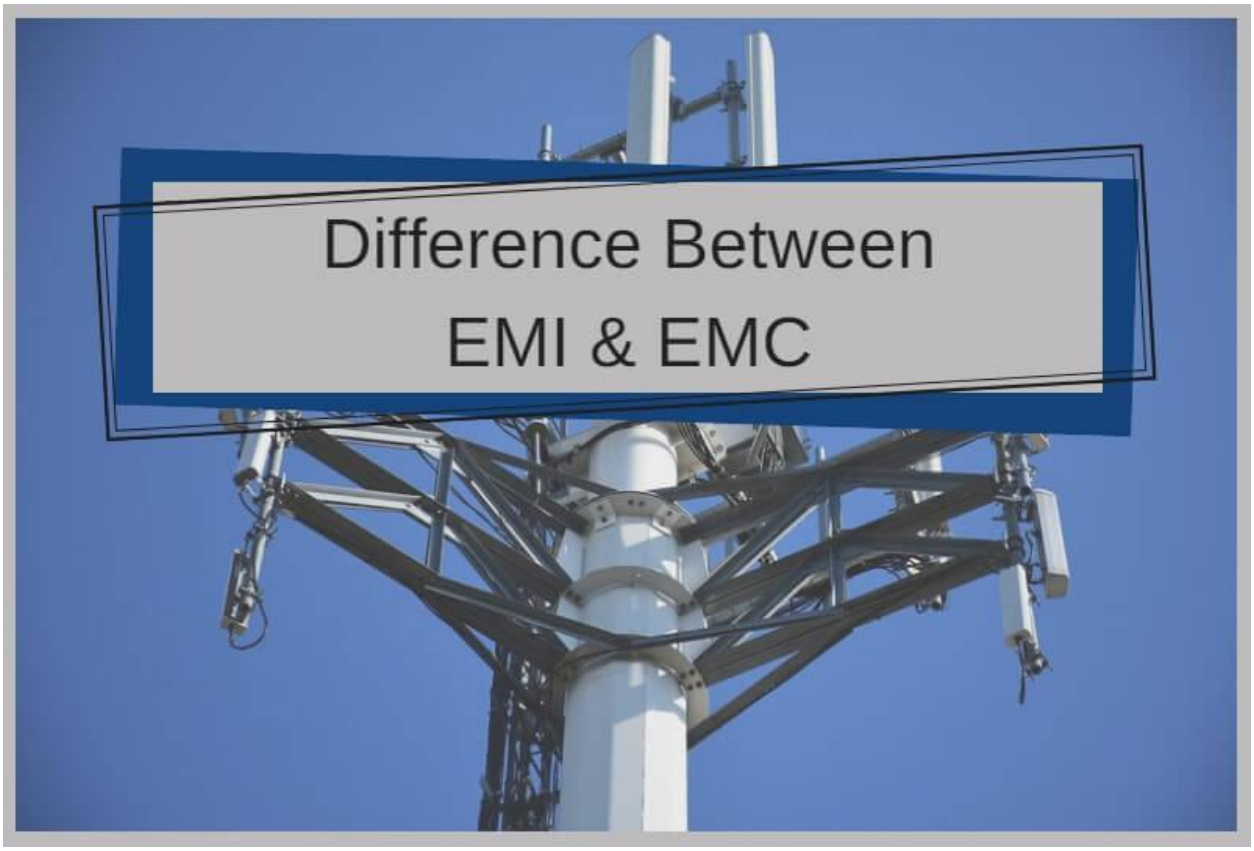
EMI vs. EMC - What's the Difference Between EMI and EMC?



When you're talking about modern electronic design, EMI and EMC are crucial topics you need to address. While both relate to electromagnetic waves the cause disruptions, malfunctions and failures to electronics and components, itâ€™s important to understand the difference between EMI and EMC.

EMI is an acronym for electromagnetic interference, and is essentially a disturbance voltage emitted from many types of electronics that cause performance issues with devices and components, such as printed circuit boards. While EMI occurs naturally from electrical charges, it has become extremely prevalent in modern society due to the widespread use of everything from high-frequency radios and cellphones to household appliances such as garage door openers and toasters. Other primary sources of EMI include transformers, converters, power sources and motors.

EMC stands for electromagnetic compatibility, and refers to the ability for a device or electronic system to tolerate disruptive electromagnetic radiation. Since almost every electronic emits a

level of EMI to function properly, electromagnetic compatibility relies on limiting the amount produced while maintaining the optimal level of performance.

Fighting Against EMI vs. EMC

There are many tactics electronic engineers and end-users take to protect devices from EMI and EMC. Manufacturers are required to conduct evaluations on how component designs are affected by EMI and to measure the amount of radiation the system is emitting. EMI shielding using spray-on and adhesive layers, and EMI gaskets are utilized to achieve electromagnetic compatibility.

It's critical to determine the EMC to protect against product malfunctions, data loss and safety concerns. Measuring and monitoring can be conducted in the field or a specialized testing chamber. The process involves using antennas, amplifiers and spectrum analyzers to get a precise reading inside component enclosures. The device is subjected to a range of EMI levels to determine how it will perform in different environments. Best practices dictate EMC testing and EMI testing occurs early in the development cycle for optimal efficiency and is governed by FCC regulatory guidelines.

Learn More About EMI and Electromagnetic Compatibility

Located in the Harrisburg, Pennsylvania area, JEMIC Shielding Technology is committed to providing the highest-quality EMI products and services at competitive prices. As industry experts with over 30 years of combined engineering experience, we will help you assess your requirements to deliver solutions that solve your EMI challenges. From I/O backplane gaskets, EMI profile gaskets, EMI cable shielding, and shielding laminates and tapes to bags and pouches for protecting small devices, we'll help you find everything on your list.
Contact us to speak with a knowledgeable representative about your projects today. We can handle orders small or large and have extensive in-house engineering capabilities to custom-configure a solution to your unique specifications.