SolarInnovate Energy Solutions

National regulations on electromagnetic battery protection for 5g base stations

Overview

Does 5G signal exposure affect base station compliance?

This agrees with measurements done in other countries whose authors conclude that the exposure to 5G signals is limited , , , but this does not assure the base station compliance as full load situation should be considered for such assessment. It also shows that the increase in the EMF field is due to the induced data traffic.

Why should a 5G base station be protected?

In addition to potential damage originating on the power line, the base stations must be sturdy to environmental electrical hazards such as lightning and electrostatic discharge (ESD) strikes. Design engineers need to protect their 5G base stations from these electrical hazards to prevent damage to the bases station and avoid critical downtime.

Should RF EMF exposure be considered when adding 5G radios and antennas?

When adding 5G radios and antennas to an existing base station site, the total RF EMF exposure from all antennas and technologies (2G, 3G, 4G, and 5G) has to be considered for assessment of compliance with limits and regulations. Figure 2.

Why is a 5G network a challenge?

5G networks deployment poses new challenges when evaluating human exposure to electromagnetic fields. Fast variation of the user load and beamforming techniques may cause large fluctuations of 5G base stations field level. They may be underestimated, resulting in compliance of base stations not fitting the requirements.

Do 5G base stations need a field meter?

Fast variation of the user load and beamforming techniques may cause large fluctuations of 5G base stations field level. They may be underestimated,

resulting in compliance of base stations not fitting the requirements. Apparently, broadband field meters would not be adequate for measuring such environments.

Can broadband field probes be used for 5G exposure assessment?

The use of broadband field probes for 5G exposure assessment is still possible under certain considerations and correcting the results considering the base station load and beamforming effects. 5G networks deployment poses new challenges when evaluating human exposure to electromagnetic fields.

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