



INTERNATIONAL ELECTROTECHNICAL COMMISSION

TECHNICAL COMMITTEE CISPR: INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE (CISPR)

Subject: Maintenance of IEC 161

IEC TC 1 requested that CISPR and TC 77 review IEC part 161 to assist them in the maintenance activity. The CISPR Steering Committee has sent the following to TC 1.

To IEC TC 1,

Revision of IEC 161-04-36 - the term “ground (reference) plane”

The CISPR Steering Committee has reviewed IEC 161 as requested by TC1 and makes the following observation.

IEC 161-04-36 defines the term “ground (reference) plane” as
“a flat conductive surface whose potential is used as a common reference”,

However this definition actually applies to the term “reference ground plane”. This brings forward several issues that need to be taken into account:

- “Ground” and “plane” are used together as this describes what kind of plane it is.
- “reference” cannot be in parentheses within the term, because the term “ground plane” alone may not be a reference.
- “reference plane” is the plane relative to which e.g. the height (of an antenna) is measured.
- “reference ground” is a conductive point, whose potential is used as a common reference”. IEC 195-01-01 defines “reference earth/reference ground” as “part of the Earth considered as conductive, the electrical potential of which is conventionally taken as zero, being outside the zone of influence of any earthing arrangement”
- consequently, the term “ground reference plane” is the plane that is used as a reference relative to which heights are measured and that is located at the ground, whereas “reference ground plane” is the conductive plane to which other (ground) potentials are to be referenced and/or measured.
- “conductive ground plane” is the plane that is used as a wave reflector on an OATS or in a SAC for radiated emission measurements in the frequency range of 30 to 1000 MHz. As it is conductive, it may be used as a reference ground plane for conducted emission measurements.

Summary:

Based on the above discussion, CISPR believes that the term of IEC 161-04-36 needs to be revised to read “reference ground plane” while the text of the definition is to be kept as it is now.

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