

## CTL DECISION SHEET (DSH)

Standard(s) (incl. year)	Subclause(s)	Tracking No.	Year
IEC 62031:2018 IEC 60598-1:2014+A1:2017 IEC 61347-1:2015+A1:2017 IEC 62560:2011+A1:2015	General	DSH1086b	2023
<b>Category</b>			
LITE			
Subject	Keywords	Developed by	To be approved
Insulation class MCPCB material used for LED modules	- Insulation between tracks - Insulation layer - Metal Core PCB	ETF5	2023 CTL Plenary Meeting
Question			
<p>Is it possible to qualify the insulation layer between the track conductors and aluminium core in Metal Core PCB as an insulation layer providing reinforced insulation according to the following standards: EN 62031, EN 60598-1, EN 61347-1, EN 62560?</p> <p><b>Cross-Section View of Aluminum Core PCB with LED</b></p> <p>The diagram illustrates the cross-section of an aluminum core PCB with an LED. From top to bottom, the layers are: Copper Layer (35~70 μm), Insulation/Adhesive Layer (60 μm), Anodized Aluminum Layer, Aluminum Core (1.5mm), and Adhesive Layer. An LED is mounted on top with a Heatsink and Lead Wire. Red arrows indicate Heat Transfer from the LED through the copper and insulation layers to the aluminum core. A note states: 'Additional heat sink may be added at the back of the board to dissipate heat from the LED.'</p>			
Decision			
<p>This is covered under § 16.1 of IEC 61347-1:2014+A1:2017                  The insulation properties of printed circuit board over a metallic substrate (metal core printed circuit board – MCPCB) are only to be considered as a single level of insulation (basic or supplementary).</p>			
Explanatory notes			
<p>This decision updates the old decision sheet DSH1086A to be in line with NEW standard editions.</p>			