TECH NEED

Seeking Uvc Led Technologies For Antimicrobial Applications

KEY INFORMATION

TECHNOLOGY CATEGORY:
Electronics - Lasers, Optics & Photonics
Environment, Clean Air & Water - Biological & Chemical Treatment
Environment, Clean Air & Water - Sanitisation

TECHNOLOGY READINESS LEVEL (TRL): **TRL4 TO TRL8**
COUNTRY: **SINGAPORE**
ID NUMBER: **TN174341**

BACKGROUND/DESCRIPTION

This company is seeking a human-safe UVC LED technology that is suitable for antimicrobial applications, specifically against viruses, to be used in areas that are at risk of bacterial or viral infections.

UV radiation is a part of the electromagnetic spectrum that has been classified to have wavelengths of 100 – 400nm, and within this range of wavelength, it is further broken down into 3 sections, UVC (short wavelength, 100 – 280nm), UVB (middle wavelength, 280 – 315nm) and UVA (long wavelength, 315 – 400nm).

Conventional broad-spectrum UVC is highly effective against bacteria and viruses by disrupting the molecular bonds of the DNA, and are commonly used in decontamination applications, especially in the medical sector. However, the conventional UVC is also a known human health hazard, causing skin cancers and cataracts, limiting its usefulness in public areas.

The company is thus seeking new and innovative UVC LED technologies that are effective against bacteria and viruses, yet harmless to humans, to be employed indoors, in locations such as transportation, hospitals, hotels, offices, etc., where there is a need to maintain a safe environment through frequent disinfection. Technology owners should be open to work closely with the company to test the solution, and further develop the technology to meet the said requirements.

TECHNOLOGY SPECIFICATION

The UVC LED technology should have the following properties (but not limited to):

- Operating wavelength(s) that are
    - Proven effective or shows potential in eliminating bacteria and viruses from air and surfaces upon exposure (in accordance with ISO 15714:2019)
    - safe for human exposure (in accordance with ISO 15858:2016)
- Suitable for implementation onto hardware or building fixtures
- Compatible and controllable with common lighting control and automation systems, e.g. sensors, remote controls, etc.
- It should be noted that the above standards provided are a guide, and other equivalent test standards may be used for testing.

WHAT WE ARE NOT INTERESTED IN

Conventional UVC/UVGI solutions.

PREFERRED BUSINESS MODEL

- Business Collaboration (Joint Venture, Distribution)
- IP Acquisition
- Licensing
- R&D Collaboration