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## FOR IMMEDIATE RELEASE

### Plexon Inc Launches New PlexBright® Lime LED Modules with Impressive Power and Broad Opsin Activation Spectrum

DALLAS, TEXAS -- (September 08, 2015) - Plexon Inc, the leader in advanced hardware and software solutions for neuroscience and behavioral research, expanded its robust spectrum of LED modules for optogenetics research by launching new PlexBright® Lime LED Modules just in time for Neuroscience 2015 in Chicago next month. The new Lime LED Modules offer an impressive intensity and a much broader wavelength activation spectrum that have positive implications for researchers working with either halorhodopsins or archaerhodopsins.

Optogenetic techniques in research provide a long sought-after level of control over neural tissue – the ability to activate or silence specific brain regions or cell types with extreme precision. Laser-based light sources were the first to make inroads in *in vivo* optogenetic experimentation; however, attention has turned to LED-based systems due to the more stable light output, outstanding temporal precision, and lower manufacturing costs.



PlexBright LED Modules are known for generating the industry's highest power outputs, and the new Lime LED Modules are no exception. With the Lime LED Module, researchers will experience 19.8mW of power emanating from either the Compact LED Module form factor for use with PlexBright compatible commutators, or from the Table-top LED Module form factor when commutators are not necessary.

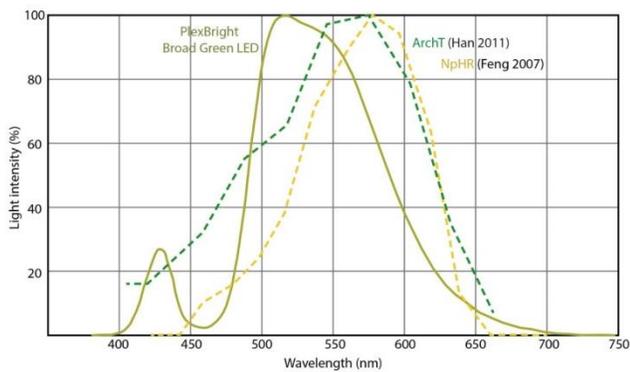
Although the LED Module output intensity is provided for easy comparison to third-party options, the actual amount of continuous light delivered to tissue is of most relevance to researchers. Light delivery systems lose power for a number of reasons as the light travels through the system, typically experiencing the most significant drops at connection points – such as between the LED Module and the optical patch cable. As a result, Plexon not only provides data for the power emitting from the LED, but also at different points throughout the system and with different product combinations. The table below provides LED output expectations at three points:

- from the PlexBright LED Module,
- from the LED Module out through a 1.0m high-performance PlexBright Optical Patch Cable, and
- from the LED Module through a 1.0m high-performance PlexBright Optical Patch Cable and out through either a PlexBright Fiber Stub Implant with a 200/230µm fiber or the smaller 110/125µm fiber.

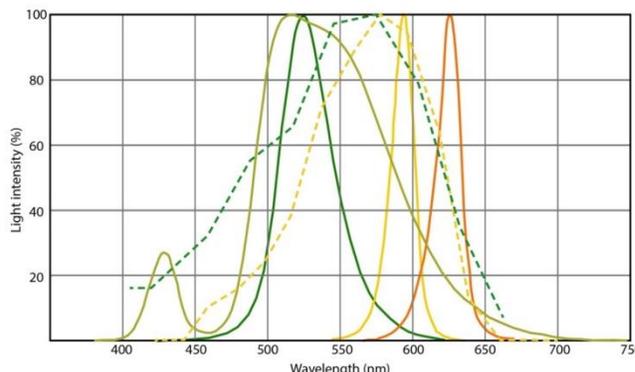
LED Module	At the LED Module	At the tip of a 200/230µm, 0.66NA Patch Cable	At the tip of a 200/230µm, 0.66NA Fiber Stub	At the tip of a 110/125µm, 0.66NA Fiber Stub
Color (Wavelength)	Measured Output	Measured Output (Normalized Output)	Measured Output (Normalized Output)	Measured Output (Normalized Output)
Green (525nm)	11.8mW	7.8mW (249mW/mm <sup>2</sup> )	6.2mW (199mW/mm <sup>2</sup> )	1.9mW (201mW/mm <sup>2</sup> )
NEW Lime (550nm)	19.8mW	11.5mW (336mW/mm <sup>2</sup> )	9.2mW (293mW/mm <sup>2</sup> )	2.8mW (295mW/mm <sup>2</sup> )
Yellow (590nm)	5.8mW	3.2mW (102mW/mm <sup>2</sup> )	2.6mW (82mW/mm <sup>2</sup> )	0.8mW (83mW/mm <sup>2</sup> )
Orange (620nm)	17.5mW	11.0mW (349mW/mm <sup>2</sup> )	8.8mW (279mW/mm <sup>2</sup> )	2.7mW (283mW/mm <sup>2</sup> )

Researchers will find that the new Lime LED Modules offer far more power across a wider range of wavelengths, including those typically attractive to those targeting both halorhodopsins (Halo/NpHR) often using yellow or orange LEDs and archaerhodopsins (Arch) with green LEDs. The spectral power distribution offered by Lime LED Modules at minimum of 40% power spans roughly 485nm to 600nm. See the approximate spectral comparison below illustrating the PlexBright Green, Lime, Yellow and Orange LED Modules (solid lines) overlapping the activation spectrum for relevant opsins (dashed lines). *Note: intensity is represented as percent, not an absolute value.*

**Spectral Power/Activation Distribution**  
Lime LED, Arch and NpHR



**Spectral Power/Activation Distribution**  
Green, Lime, Yellow and Orange LEDs, Arch and NpHR



— Green LED — Lime LED — Yellow LED — Orange LED — Arch — NpHR

New Lime LED Modules will be compatible with all PlexBright Optogenetic Stimulation System equipment, including the newly launched Carousel™ Commutator for use with digital headstages in neural recording and/or PlexBright LED Modules for optogenetics. Both new products will be on display at Neuroscience 2015, booth #1163 as part of the PlexBright Optogenetic Stimulation System demonstration stations. For more information, visit <http://www.plexon.com/products/plexbright-led-modules> or contact [info@plexon.com](mailto:info@plexon.com).

### About Plexon Inc

Plexon is a pioneer and leading innovator of custom, high performance data acquisition, behavior and analysis solutions specifically designed for scientific research. We collaborate with and supply thousands of customers including the most prestigious neuroscience laboratories around the globe driving new frontiers in areas including basic science, brain-machine interfaces (BMI), neurodegenerative diseases, addictive behaviors and neuroprosthetics. Plexon offers integrated solutions for *in vivo* neurophysiology, optogenetics and behavioral research -- backed by its industry-leading commitment to quality and customer support. [www.plexon.com](http://www.plexon.com).

