



September 20, 2018

Press Release

Key Patent “U.S. Patent No. 10,070,533” Awarded: “Photo-Definable Glass with Integrated Electronics and Ground Plane”

3D Glass Solutions, Inc. (3DGS), the world’s leading manufacturer of glass-based system-in-chip (SiP) and integrated passive devices (IPDs) for radio frequency (RF) and Internet of Things (IoT) applications, is pleased to announce the most recent patent to our growing portfolio that protects components and systems for the 5G, Millimeter Wave, Microwave and High-Speed Data Communications markets. This patent protects devices and systems requiring low noise, high-speed RF components with an integrated electrical isolation using a ground plane. This technology is especially useful in components such as: Inductors, Antenna, Resistors, Transmission Lines, Transformers, Oscillators, Isolators, and many other electronic devices in **ANY photo-definable glass**. This innovation prevents parasitic electrical signals from disrupting and/or degrading the performance of electronic devices. This and other 3DGS patents demonstrate the novel and beneficial aspects of our technology to the RF Market.

Mark Popovich, 3DGS CEO and President said of this patent: “This, our most recent patent, is a powerful and valuable addition to a growing and substantial patent portfolio that protects 3DGS’ technology. While conventional RF components perform well in LTE bands, their performance degrades rapidly at 5G frequencies and above. Our patent protected technology yields cost effective, high performance RF components for current and future product needs at 5G and MM wave frequencies. Our innovations are enabling system level designers to create more efficient and higher performing end products, from infrastructure to consumer devices. Because of this, we are seeing accelerating adoption of 3DGS’ products in worldwide markets where 5G, Millimeter Wave and High-Speed Data Systems are being designed and deployed.”

FORWARD-LOOKING STATEMENTS

Statements in this press release that are not strictly historical are forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements are based on management’s current plans, estimates, and projections. 3D Glass Solutions undertakes no obligation to update any forward-looking statement in light of new information or future events. Actual results or outcomes may differ from those implied by the forward-looking statements as a result of a number of operational, technological, regulatory, and related risks and uncertainties.

ABOUT 3D GLASS SOLUTIONS

3D Glass Solutions (3DGS) is a world-class expert on the fabrication of electronic packages and devices using photo-definable glass-ceramics. We manufacture a wide variety of glass-based system-in-package (SiP) devices and components using our patented low-loss photosensitive APEX® Glass technology for applications in radio-frequency (RF) electronics, photonics, automotive radar,



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integrated circuit (IC) electronics, medical, aerospace, defense, wireless infrastructure, mobile handset, and Internet of Things (IOT) industries. We offer high precision products with exceptional high frequency and low loss properties. 3DGS' glass-based RF products can be combined into any number of designs or devices to create incredibly unique and valuable SiP products. We have created foundational patent positions related to all photosensitive glass-ceramic materials and devices and we own the fundamental intellectual property for all four positions (materials, design, systems, & manufacturing) related to glass-ceramic devices for the electronics packaging industry. We leverage our unique product solutions providing device manufacturing and systems integration services for several standard and custom products. To learn more about 3DGS, to become a Key Industrial Partner, or if you would like to receive a detailed 3DGS product listing, please visit <http://www.3DGlassSolutions.com> or contact:

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