

G3-PLC Alliance Released the Final Version of the 2022 G3-Hybrid PLC+RF Dual-Mode Standard

Vertexcom Assists in the Formulation of Dual-Mode Frequency Hopping Spec

ZHUBEI CITY, HSINCHU COUNTY, TAIWAN, February 3, 2023 /EINPresswire.com/ -- FeThe G3-Hybrid PLC+RF dual-mode is the industry's first dual-mode communication standard. It provides enhanced capabilities for smart grid and IoT applications in a seamless management network over two kinds of media, which sets an important milestone for the communications industry. In January this year, the [G3-PLC](#) Alliance announced that the plugfests have successfully demonstrated interoperability of the G3-Hybrid. The latest plugfests aimed to test the interoperability between three G3-PLC dual-mode solutions including frequency hopping, and successfully realized seamless communication of dual-mode frequency hopping. [Vertexcom](#) Technologies Inc. (Vertexcom) is the only chip manufacturer in greater China

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Vertexcom is honored to be invited by G3-PLC Alliance to participate in the specification formulation of the G3-PLC protocol PLC+RF hybrid dual-mode.”

*Dr. HH Li, the president of
Vertexcom*

who participated in the plugfest and is a contributor to the G3-PLC communication specification.

In the G3-PLC interoperability plugfest, Vertexcom and its partner [Hexing](#) Electrical Co., Ltd. (Hexing) worked together. Hexing used Vertexcom's G3-Hybrid PLC+RF dual-mode chip to make modules and assisted Vertexcom to participate in the test. In addition to the existing G3-PLC protocol ITU-T G.9903, the G3-Hybrid dual-mode protocol stack is jointly built with the open standard IEEE 802.15.4-2015. Each device in the mesh network can use PLC as well as RF to communicate. Depending on the actual situation on site, the messages between two devices will be sent through the "best" available channel.

Dr. HH Li, the president of Vertexcom stated that Vertexcom is honored to be invited by G3-PLC Alliance to participate in the specification formulation of the G3-PLC protocol PLC+RF hybrid dual-mode. Vertexcom has long been committed to the development of PLC power line communication technology and RF wireless communication technology. The hybrid dual-mode communication solution provides a flexible, high-speed, stable, and reliable dual-channel

communication network for smart grid transmission.

G3-PLC Alliance expresses its gratitude to all active members of the technical working group for their hard work and contributions. Leon Vergeer, the G3-PLC Alliance General Secretary, said the Alliance is very pleased to have published the final version of the G3-PLC 2022 specification. This final version contains multiple corrections, clarifications, and enhancements to the beta version. The 2022 revision includes:

1. Frequency hopping
2. Last gasp
3. RF/PLC media switching improvements
4. Trickle and Clusterhead support for hybrid
5. New RF bands
6. FCC sub banding
7. Corrections & clarifications
8. Plugfest feedback

The features of G3-Hybrid PLC+RF dual-mode: VC6312 + VC7000:

- Radio Frequency
- IEEE 802.15.4g
- Frequency band
- ISM: 315, 433, 490, 868, 915, 920 MHz
- License frequency band: 230, 600, 839-847 MHz
- Maximum data rate: 400 kbps
- Modulation method: OOK, (G)FSK, 4(G)FSK and GMSK
- Internal power amplifier: Max. Tx +20 dBm
- Internal receiver sensitivity: -109dBm at 50 Kbps
- RF channel hopping
- PLC Analog front End
- IEEE 1901.2
- Support frequency band: 0-500 KHz
- Modulation methods: BPSK, QPSK, 8PSK and 16QAM
- Patented integrated 4-Amp high current line driver
- MCU & Memory features
- ARM Cortex M4 32-bit MCU
- 2 MB Flash, 2 MB SDRAM
- AES-128/192/256 Crypto Accelerator
- Interface: SPI x 1, UART x 4, I2C x 1
- G3-PLC / IPv6



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About Vertexcom Technologies

Vertexcom Technologies develops communication chips and networking software for long range, large scale, auto networks of IoT and smart grids. Vertexcom has a complete communication solution, including Wi-SUN, Homeplug AV & GreenPHY, HPLC, G3-PLC, and hybrid dual-mode communication solutions. As a contributor to international communication specifications, Vertexcom participates in the development of WiSUN FAN 1.1 and its plugfest specification, and G3-Hybrid PLC+RF dual-mode specification.

www.vertexcom.com

About Hexing Electrical Co., Ltd.

Hexing Electrical Co., Ltd. was founded in 1992, with the corporate mission of "promoting digital energy, sharing green economy, benefiting more people", and is committed to becoming the world's leading provider of green energy products and energy management solutions and service providers.

www.hxgroup.com

About G3-PLC Alliance

The G3-PLC Alliance is a consortium created in 2011 to standardize and promote G3-PLC technology globally. Today, the G3-PLC Alliance counts nearly 100 members that are international key stakeholders of the smart grid ecosystem, including utilities, semiconductor companies, equipment manufacturers and industrial companies. Together, they support, promote and implement the G3-PLC technology and established an industrial certification program to guarantee the interoperability of devices from different manufacturers.

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