Radiocrafts launches high power 2.45 GHz RF module designed for ZigBee™

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Radiocrafts AS, a leading provider of compact RF modules now expand their product line with a compact high power RF module design for ZigBee™ operating at 2.45 GHz. The new module deliver up to 18 dBm output power, and gives an increased communication range of up to 10 times compared to standard low output power modules.

The new RC2201HP is compliant with IEEE 802.15.4 and is designed for ZigBee Full Function Device (FFD) and Reduced Function Device (RFD) operation, or other protocol stacks using star or mesh topologies.

The complete shielded module is only 16.5 x 35.6 x 3.5 mm, optionally available with integrated antenna. An integrated microcontroller makes it possible to embed the complete application in this tiny module. The output power can be adjusted to comply with EU regulations for CE marking, as well as FCC and ARIB approvals.

Some of the unique features for the Radiocrafts RC2201HP module are:

- Up to 18 dBm output power, giving 10 times range increase
- Receiver sensitivity of -94 dBm at 250 kbit/s
- 16 channels at 2.45 GHz compliant with IEEE 802.15.4
- Small size: 16.5 x 35.6 x 3.5 mm
- Shielded module with integrated antenna
- 128 kB flash memory, 8 kB RAM
- 32 digital and analogue I/Os, 8 channel 10 bit ADC
- UART and SPI interfaces
- Suitable for full or reduced function ZigBee stack

The module is based on DSSS (Direct Sequence Spread Spectrum) technology and offer exceptional range and performance even in crowded and noisy environments compared to other 2.45 GHz technologies. Low power modes for increased battery life are available.

“With this new module, line-of-sight ranges of 1500 m can be achieved with external antenna, and 800 m with the integrated antenna”, says Peder Martin Evjen, Managing Director.

“OEM manufacturers without RF design knowledge can now easily add high performance wireless solution with extended range to their space limited products, and significantly reduce time-to-market, development and compliance testing cost”, says Tom Sjølie, Sales and Marketing Director. “The high output power gives extended area coverage using fewer routers”, he continues.

Typical applications include home, building and industrial automation, wireless security and alarm systems, automatic meter reading, remote control and telemetry, fleet and asset management. Operation at the 2.45 GHz licence free band enables world-wide usage.

The modules are suitable for pick and place automatic assembly for volume production and are available in tape&reel.
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About Radiocrafts AS: (www.radiocrafts.com)

Radiocrafts is a leading RF module design and manufacturing company. Radiocrafts’ standard RF modules provide compact, easy-to-use, low cost, low power and high performance RF solutions for a large number of wireless applications using license-free ISM bands. Using modules OEM manufacturers without RF design knowledge can easily add wireless technology into their design, reducing time-to-market, cost of design, test and compliance approvals. Radiocrafts also offers custom and application specific product development, supporting customers from initial project ideas to volume product delivery.