Sub-1 GHz RF Family Brings More Robust, Reliable Wireless Connectivity

Texas Instruments introduced the sub-1 GHz RF performance line family, providing unmatched connectivity for low-power wireless applications in the security, Smart Grid , industrial, wireless healthcare, home and building automation, and other spaces. The sub-1 GHz RF performance line family meets the market's most stringent RF requirements and provides an industry-leading ability to filter out other RF sources. For developers and consumers, this translates into end products with robust and reliable wireless links that are resistant to disturbances from other wireless systems in a device's surroundings. The sub-1 GHz RF performance line family today consists of the CC1120 and CC1121 transceivers and CC1175 transmitter.

The sub-1 GHz RF performance line can be more than 30 times closer in proximity to other RF systems and potential connection "interferers" than competitive offerings, allowing streamlined coexistence between various connected devices in one environment. With 65-dB adjacent channel rejection at 12.5-KHz offset and 90-dB blocking, TI delivers the industry's most reliable sub-1 GHz connections. With a 139-dB link budget, the products' range reaches well beyond 10 km and provides maximum indoor penetration. Advanced RF sniff mode also allows systems to listen for RF packets using very low power consumption, with less than 3mA in receive (Rx) sniff mode, while maintaining full RF performance.

"The sub-1 GHz RF performance line is a key enabler of long-range, low-power wireless connectivity that provides uninterrupted, reliable user experiences regardless of the other wireless devices in the environment," said Erling Simensen, product marketing manager, LPRF, TI. "Consider the fact that one household can contain more than ten wirelessly connected devices in the same space – from family members' smartphones and health monitors to the home's smart meter, alarm system and more. Frequency is a limited resource, and these devices must communicate on the same bands while filtering out other RF traffic. Our sub-1 GHz RF performance line achieves this, and maximizes RF robustness for the best user experience."

Sub-1 GHz RF performance line family: Key features and benefits

• Scalable platform of solutions addresses full range of low-power wireless

applications
    o CC1120 transceiver:
• 12.5 kHz channel spacing, down to 8 kHz Rx bandwidth
• 65-dB adjacent channel selectivity
• FCC P90, ETSI EN 54-25, ARIB T96
    o CC1121 transceiver:
• 50 kHz channel spacing, down to 41 kHz Rx bandwidth
• 48 / 57 dB adjacent / alternate channel selectivity
• Alternative solution with lower cost: CC110L value line transceiver
    o CC1175 transmitter:
• High-performance transmit
• 6.25 kHz channel spacing
• Up to +16dBm output power
• Fully optimized for industrial, scientific and medical (ISM) frequency bands
    o 169, 433, 868, 915 and 950 MHz
• Range of more than 10 kilometers out-of-the-box with development kit
    o High output power (up to +16dBm) and excellent sensitivity (-123dBm @1.2kbps)
    o 139-dB link budget
• Lower field install cost with first pass installation success
    o Industry leading RF blocking and selectivity
    o 65-dB adjacent channel rejection at 12.5 kHz offset and 90-dB blocking
• Extended battery life with <3mA Rx sniff mode current consumption
    o Advanced RF channel sniff mode. Quick startup and settling time
• High spectrum efficiency
    o 9.6kpbs in 12.5 KHz channels (FCC part 90, narrowbanding mandate)
• Compatible with TI’s CC1190 range extender, MSP 16-bit microcontroller platform and TPS62730 step down converter

The sub-1 performance line family reiterates TI’s commitment to offering connectivity for any application, ranging from the most cost-sensitive to high performance sub-1 GHz applications. The performance line complements TI’s sub-1 GHz RF value line family, announced in July 2011, which offers low-cost connectivity solutions for sub-1 GHz RF applications such as remote controls, toys and security systems.

Tools, availability, packaging and price
The sub-1GHz RF performance line is available today from TI and through authorized TI distributors. The solution is packaged in a ROHS-compliant, 5 mm x 5 mm QFN-32.

The new CC1120DK development kit is available today for USD $299 on TI’s e-store. This kit supports 868 MHz and 915 MHz. Additional evaluation module kits can be purchased separately to support other frequencies.

www.ti.com [1]

Posted by Janine E. Mooney, Editor

November 4, 2011

Source URL (retrieved on *09/20/2014 - 2:18pm*):
http://www.ecnmag.com/product-releases/2011/11/sub-1-ghz-rf-family-brings-more-robust-reliable-wireless-connectivity?qt-recent_content=0

Links:
[1] http://www.ti.com