HotSpot Episode 29: Inflatable Antennas for Small Satellites

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This week on WDD's HotSpot, brought to you by National Instruments [1], Linear Technology's LTC5551 ultra-high, dynamic range RF down converting mixer; a wristband, which uses the unique cardiac rhythm of consumers to authenticate their identity; a thin, wireless touch interface; and an inflatable antenna.

- Linear Technology's LTC5551 ultra-high, dynamic range RF down converting mixer offers plus 36 decibel power referenced to one milliwatt Input Third Order Intercept, 2.4 decibels of conversion gain, and a broad RF frequency range that operates from 300 megahertz to 3.5 gigahertz. The LTC 5551 is also powered from a single 3.3-Volt supply, with a current consumption of 204 milliamps. With a 0 decibel power referenced to 1 milliwatt LO drive level, the mixer enables receivers with outstanding dynamic range performance, very low power consumption and fewest external components.
- Canada-based Bionym has developed the Nymi wristband, which uses the unique cardiac rhythm of consumers to authenticate their identity by allowing them to wirelessly control their computer, smartphone, car, and much more. The Nymi can track your movements with its integrated accelerometer and gyroscope, and sense how far away you are from other devices with its Bluetooth Low Energy feature.
- Bluetooth Smart innovator CSR has developed a thin, wireless touch interface to demonstrate the revolutionary potential of the technology for computing interfaces. The flexible device is less than 0.5 millimeters thick and turns any area into a touch surface. It also wirelessly connects using the recently launched CSR1010® chip, allowing it to connect to the latest iOS7 mobile devices and Windows 8 PCs using a fraction of the power of standard Bluetooth.
- Researchers at MIT have developed and tested an inflatable antenna that can fold into a compact space and inflate when in orbit, significantly increasing the range of small satellites. According to MIT, this antenna could allow transmission from the moon, and even farther, and it is one of the cheapest and most economical solutions to the problem of communications.

For more information visit www.ni.com/redefine [1].

Do you have story ideas? Comment below or email wdd_web@advantagemedia.com [2] we'll cover them in an upcoming episode.

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