SOFTWARE DEFINED POINT TO POINT COMMUNICATION PLATFORM

"Enabling custom waveforms, RF bands and bandwidths"

Point to Point (wireless) communication is used in various applications including (FPV) drone communication and in industrial and security domains. Consumer-grade ISM-band products are typically based on WiFi communication which is limited for RF bands and coverage and not tuned to the (mobile) use-case. NXP proposes the use of a Software Defined, DSP based solution using the LA9310 device for customizable communication links that can be use-case optimized.

BACKGROUND

Drones, robotics and affiliated systems require a remote video link of high resolution and low latency. Outside of consumer systems (WiFi based) and military systems (unavailable elsewhere), there are few options available. These communication systems benefit from waveform / modulation customization to the use case (mixed control/data, high doppler, low latency and asymmetric communication, et cetera).
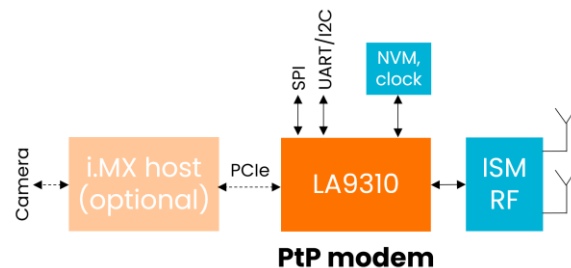
SOFTWARE DEFINED MODEM

The unique nature of the requirements drives the need for a flexible solution instead of custom silicon. NXP promotes a Software Defined solution based on the LA9310 DSP that can either operate stand-alone or in conjunction with a host processor (that operates as video feed over PCIe), targeting the high-performance point-to-point (or point to multipoint) communication market.

SPECIFICATIONS AND BENEFITS

- Targeting up to 40MHz bandwidth
- Low-speed GPIO/I2C/SPI and High-Speed SerDes (PCIe) IO
- Integrated DSP (80GFLOPS) and Arm M4
- Hardware LDPC Forward Error Correction
- Aggressive DC power, ~1W (LA9310 only)
- Enabled with software libraries/tools or development partners.

SYSTEM ARCHITECTURE

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