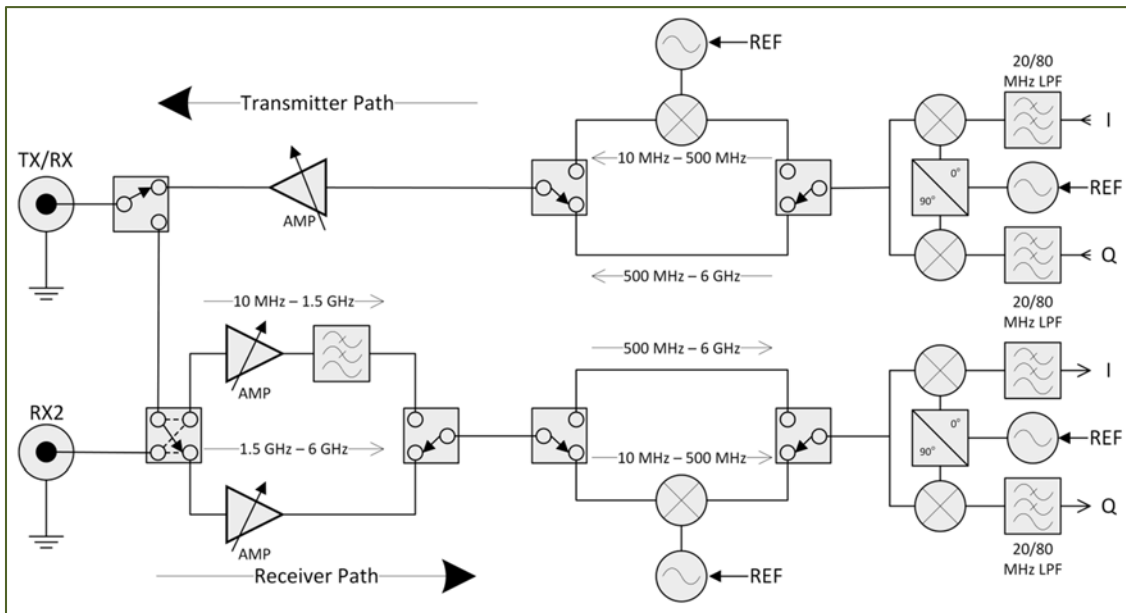


## UBX Daughterboard 10 MHz - 6 GHz

### FEATURES

- Wide Frequency Range: 10 MHz - 6 GHz
- Bandwidth and Compatibility:
  - UBX 40: 40 MHz Bandwidth  
Compatible with USRP N200/N210/X300/X310
  - UBX 160: 160 MHz Bandwidth  
Compatible with USRP X300/X310
- RF shielding
- Full duplex operation with independent TX and RX frequencies
- Synthesizer synchronization for applications requiring phase coherence or alignment\*



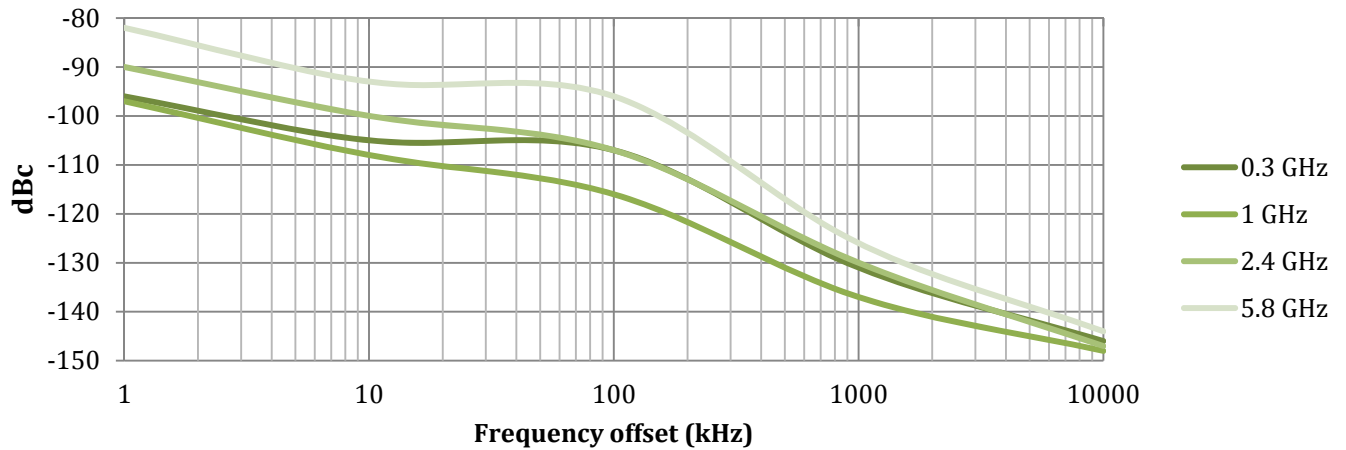
### UBX DAUGHTERBOARD PRODUCT OVERVIEW

The UBX is a full-duplex, wideband transceiver covering a frequency range from 10 MHz to 6 GHz with 40 MHz and 160 MHz instantaneous bandwidth options. The daughterboard enables full-duplex operation with the capability of achieving coherent and phase-aligned\* operation across multiple channels for MIMO and direction finding applications. The UBX daughterboard works interchangeably with existing USRP devices using the latest version of the open source USRP Hardware Driver (UHD) software.

\* UBX phase alignment is only supported on X Series USRP devices.

# UBX DAUGHTERBOARD

## TX Single Tone Phase Noise



RX		
RX Noise Figure	10 - 20 MHz	3 - 4 dB
	20 - 500 MHz	2 - 3 dB
	0.5 - 1.5 GHz	2 - 4 dB
	1.5 - 4 GHz	4 - 5 dB
	4 GHz - 6 GHz	5 - 7 dB
RX IIP3 (Max)*	10** - 35MHz	4 - 10 dBm
	35 - 500 MHz	10 - 12 dBm
	0.5 - 1.5 GHz	8 - 13 dBm
	1.5 - 6 GHz	8 - 9 dBm
RX IQ Imbalance	10 MHz - 6GHz	< -30 dBc

TX		
TX Power (Max)	10 MHz - 3.5 GHz	> 20 dBm
	3.5 - 4 GHz	18 - 20 dBm
	4 - 5 GHz	13 - 18 dBm
	5 - 6 GHz	7 - 13 dBm
TX OIP3	10 - 500 MHz	> 40 dBm
	0.5 - 3 GHz	> 36 dBm
	3 - 5 GHz	> 30 dBm
	5 - 6 GHz	> 26 dBm
TX IQ Imbalance	10 MHz - 6GHz	< -30 dBc

\* Noise Figure < 10dB  
 \*\* High Gain at 10 MHz

## About Ettus Research

Ettus Research is the world's leading innovator of software-defined radios, and is the creator of the USRP platform. Focusing on affordability and expansive capabilities, USRP products are used by engineers worldwide and remain the top choice for algorithm development, exploration, prototyping, and deployment. Ettus Research is committed to supporting the open-source community through projects such as GNU Radio.

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