The KU-DEV-CORE Canceller is an RF device that front-ends an existing radio and cancels the self-interference that the transmitter presents to the radio receiver. For normal operation, an external coupler is used to couple-off a small amount of transmit energy to inject into the module. The module is placed in the receive path where an input signal that includes both the self-interference noise as well as the desired signal is cleaned in such a way that only the desired receive signal exists the module. The solution adapts in real-time to the changing reflection environment to ensure consistent self-interference cancellation.

- Analog + Digital Self-Interference Cancellation >80dB
- Up to 40MHz cancellation instantaneous bandwidth
- Up to 1.2us delay spread support
- Up to 85dB Dynamic Range
- Max output cancellation power of -5dBm
- Real-time tuning so cancellation is maintained even in presence of wireless channel variations
- Front-end existing radios without need for radio modifications
- Support for 2Tx 2Rx MIMO or SISO radios
- Cancellation bypass mode
- Multiple digital control interface options (USB, UART, JTAG) and GUI for configuration and control
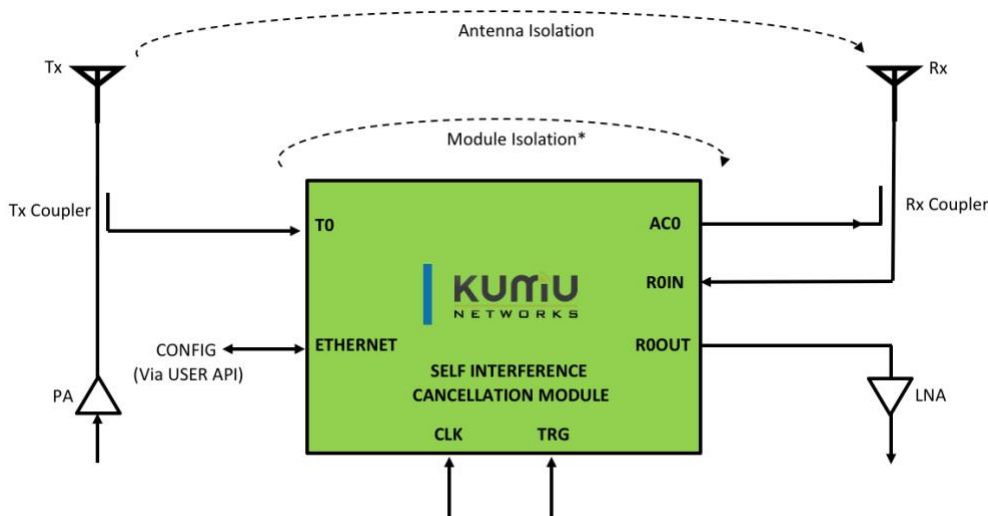
Performance

Typical performance of analog + digital cancellation for an OFDM waveform and noise figure measurements:
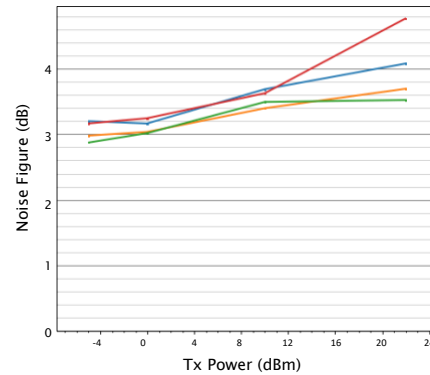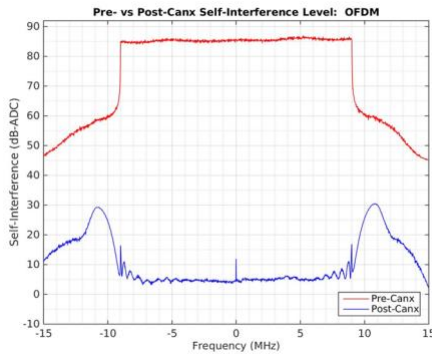
Electrical / Mechanical / Environmental

Parameter	Min	Typ	Max	Units	Comments
Dimensions		6" x 4" x 1.7"		in	
Power Consumption		40		W	
Input Voltage		12		V	
Allowed Input ripple			60	mV	
Temperature Range	-40		65	C	Ambient
Safety		UL60950-1			
Hazardous Materials		ROHS			

Interfaces

Interface	Physical Connector	Purpose
T0	MCX	Input Tx signal after Transceiver PA
AC0	MCX	Analog cancellation output signal
R0IN	MCX	Input Rx signal from antenna, with self-interference
R0OUT	MCX	Output Rx signal, after self-interference cancellation
ETHERNET	RJ-45	10/100/1000 Ethernet Configuration and statistics collection
CLK	MCX	External Reference Clock Input (Optional)
TRG	MCX	*Reserved (Not supported by this Model)*
Power	-	Power supply

SKU Variants

SKU	Operating Frequency Range	Comments
KU-DEV-CORE-18-2	1785 MHz – 1850 MHz	

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