

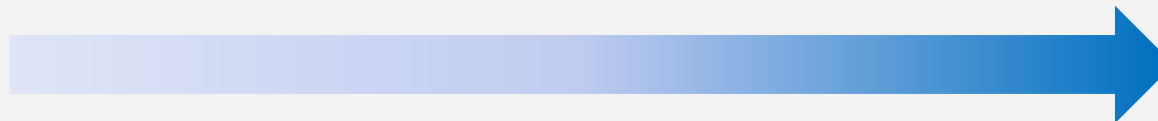
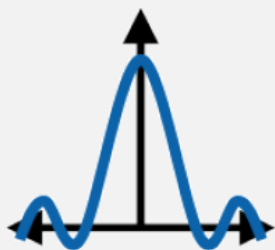
无线通信实验在线开放课程

主讲人：吴光 博士

广东省教学质量工程建设项目

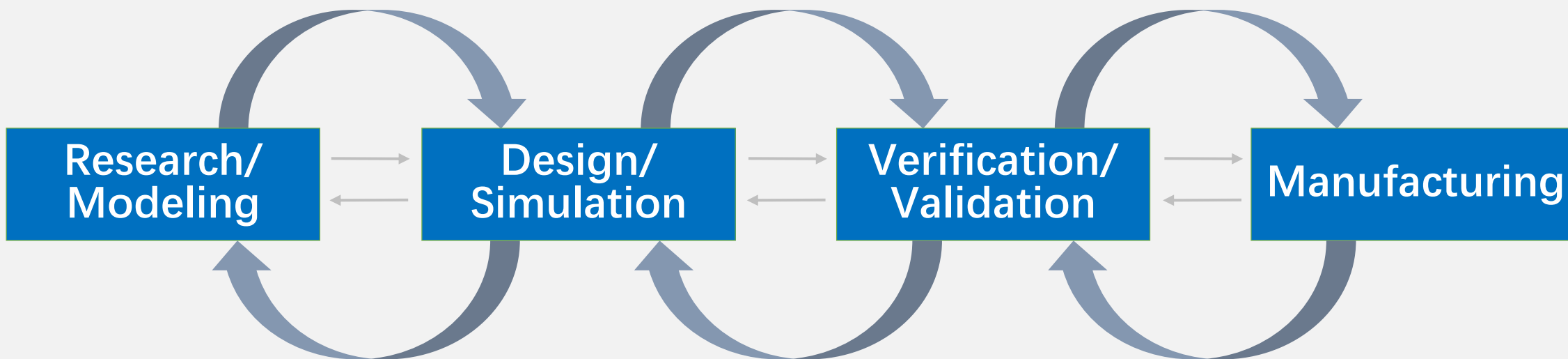


From Theory to Practice



Design Verification

Product Verification

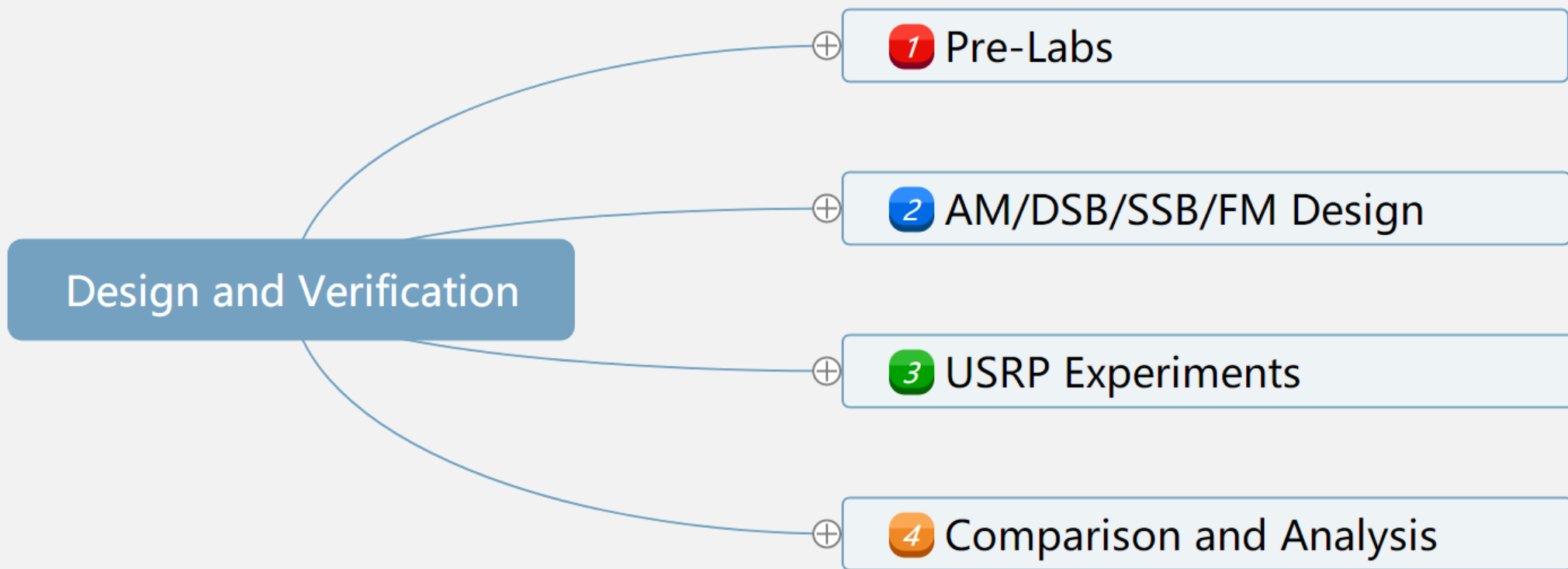




Lab 5: Voice Transmission using USRP

主讲人：吴光 博士

Email: wug@sustech.edu.cn

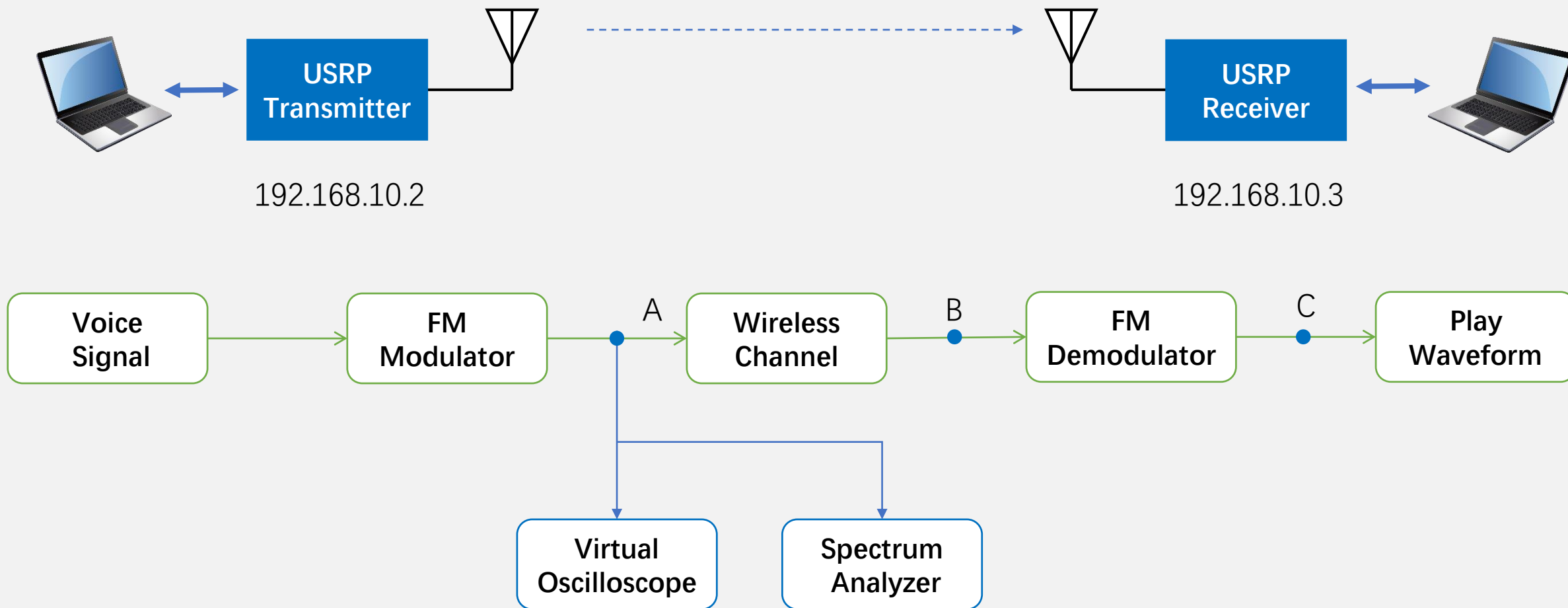




Demo: Voice Transmission using USRP



System Model





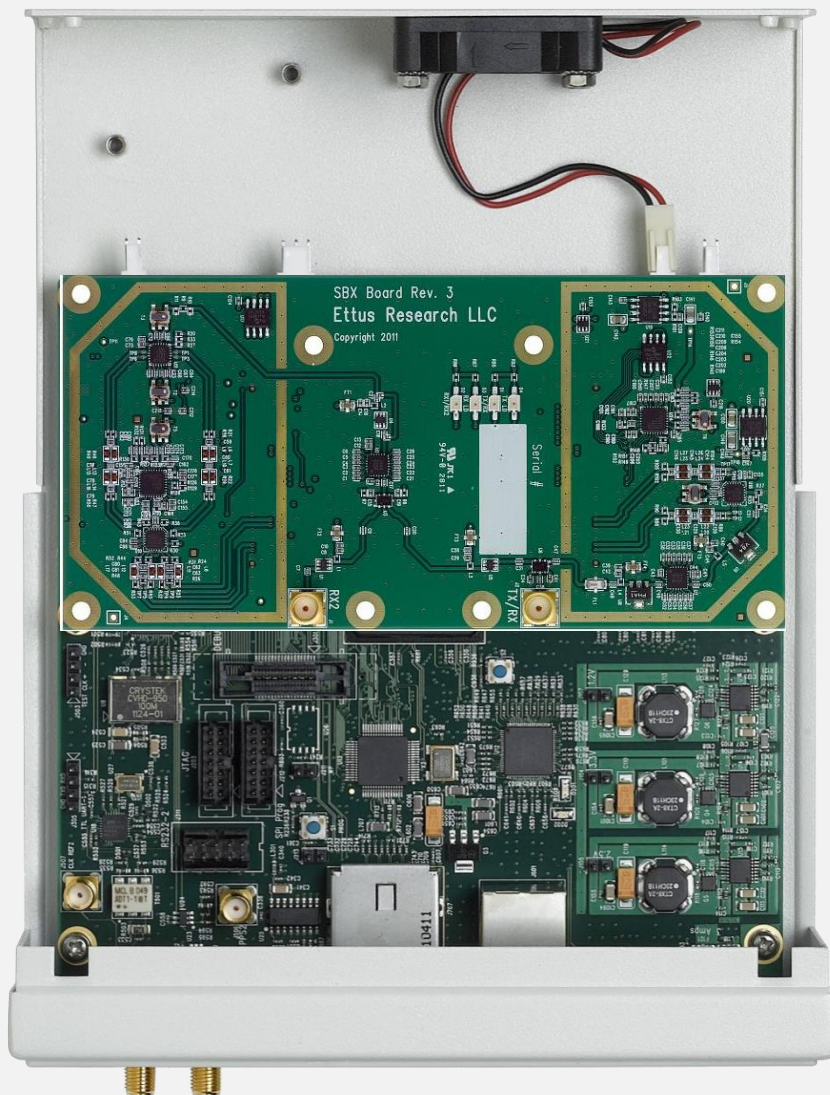
USRP: Universal Software Radio Peripheral



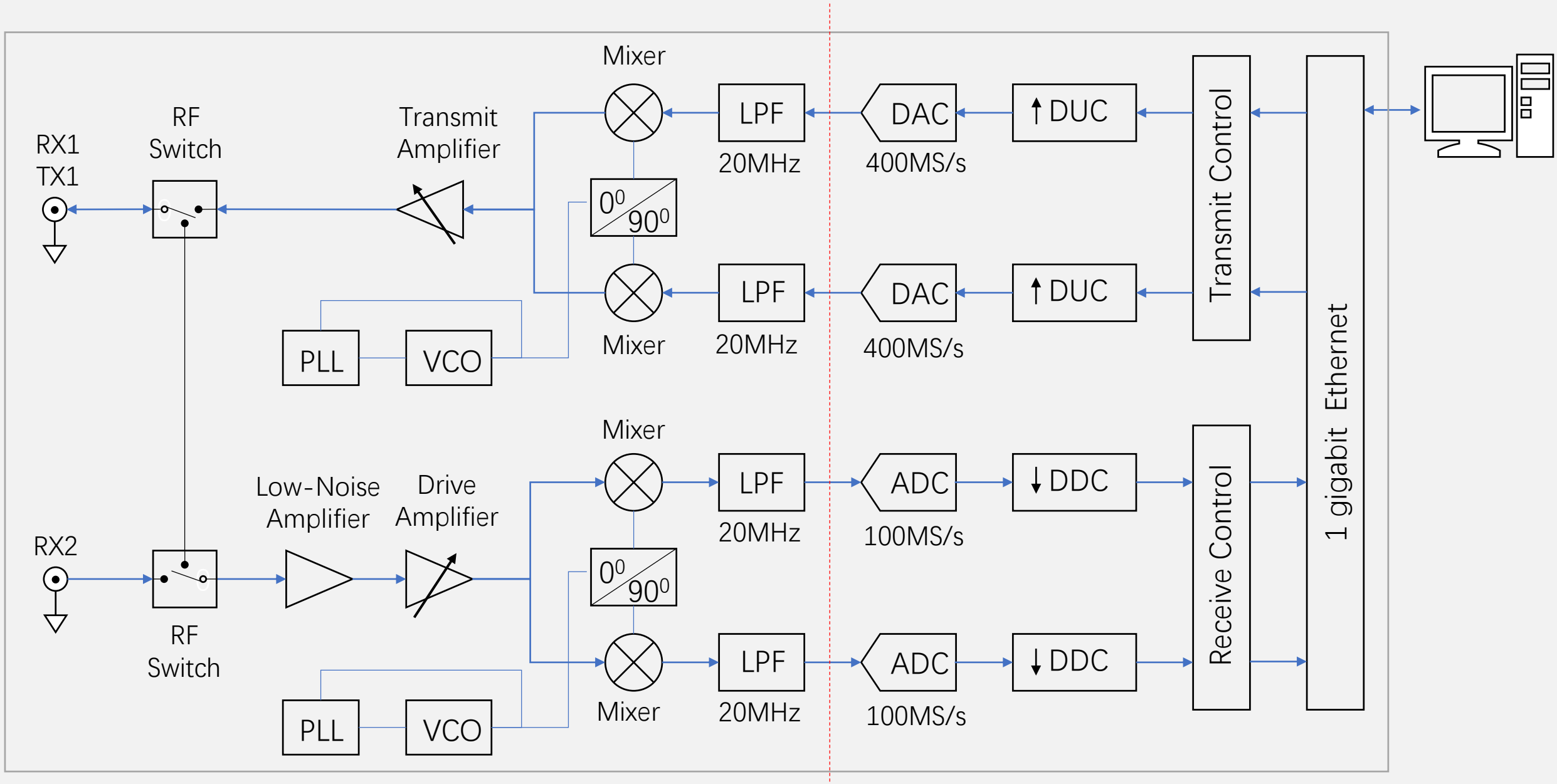
192.168.10.1

192.168.10.2





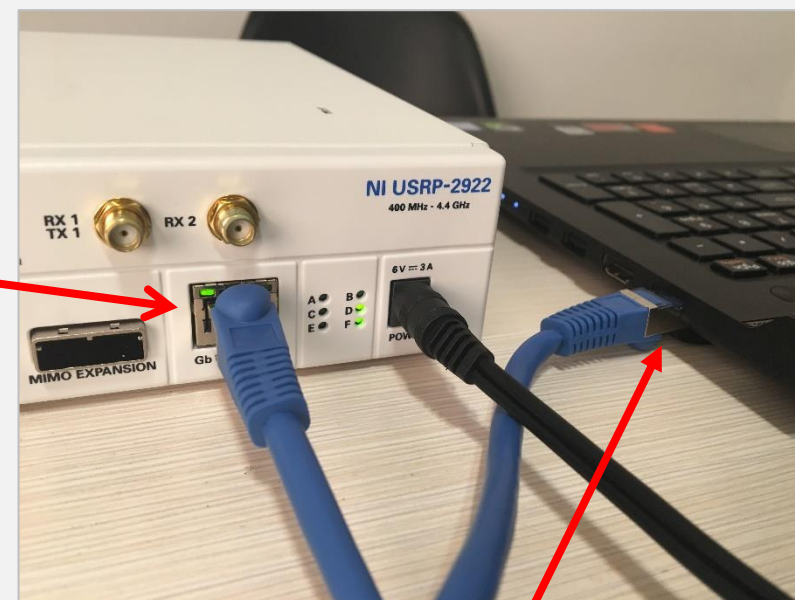
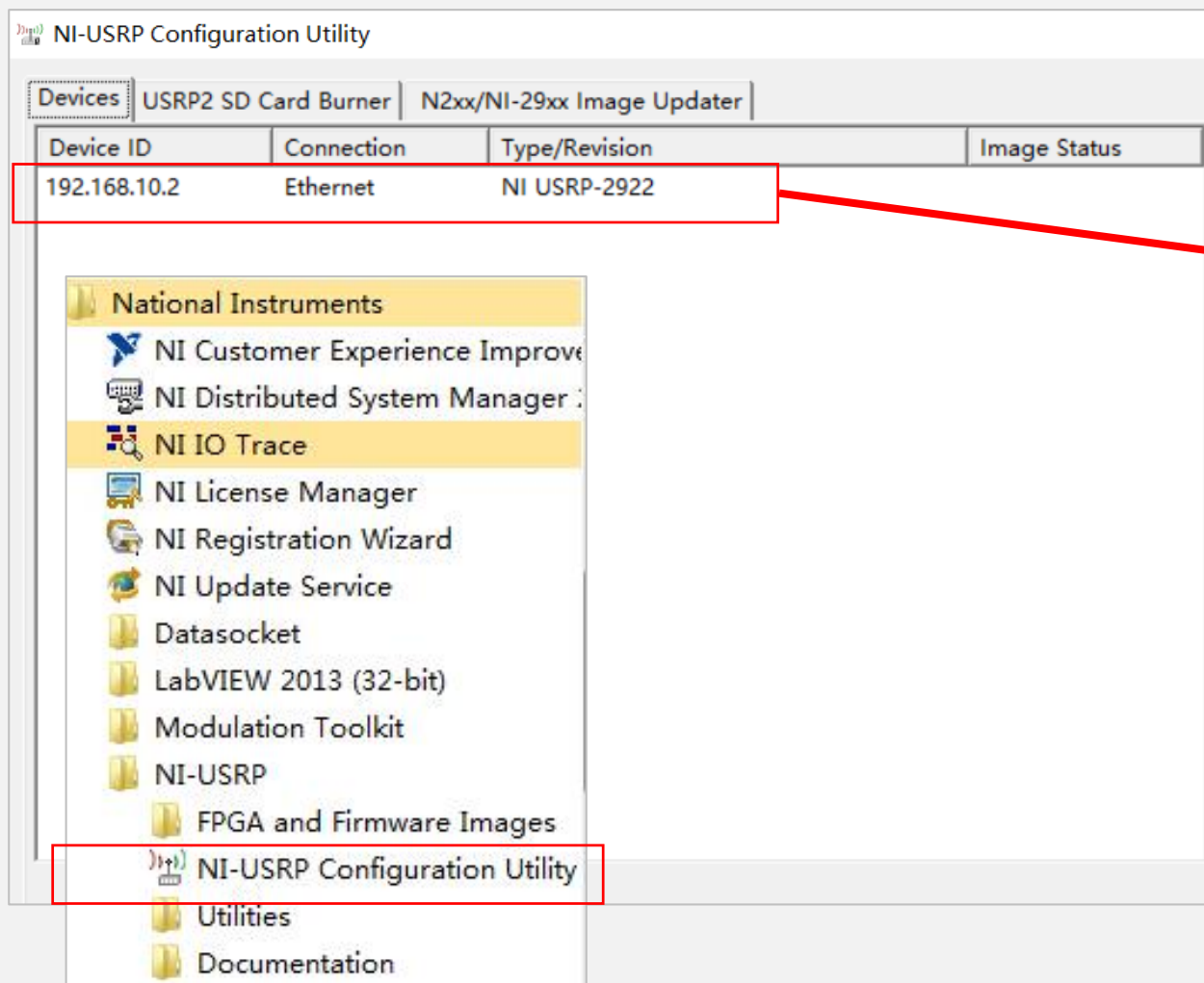
Daughter board	Frequency range
SBX	400 - 4400MHz
WBX	50 - 2200MHz
XCVR2450	2400 - 2500MHz
Basic	1 - 250MHz





Demo: Transmit a signal

Find USRP



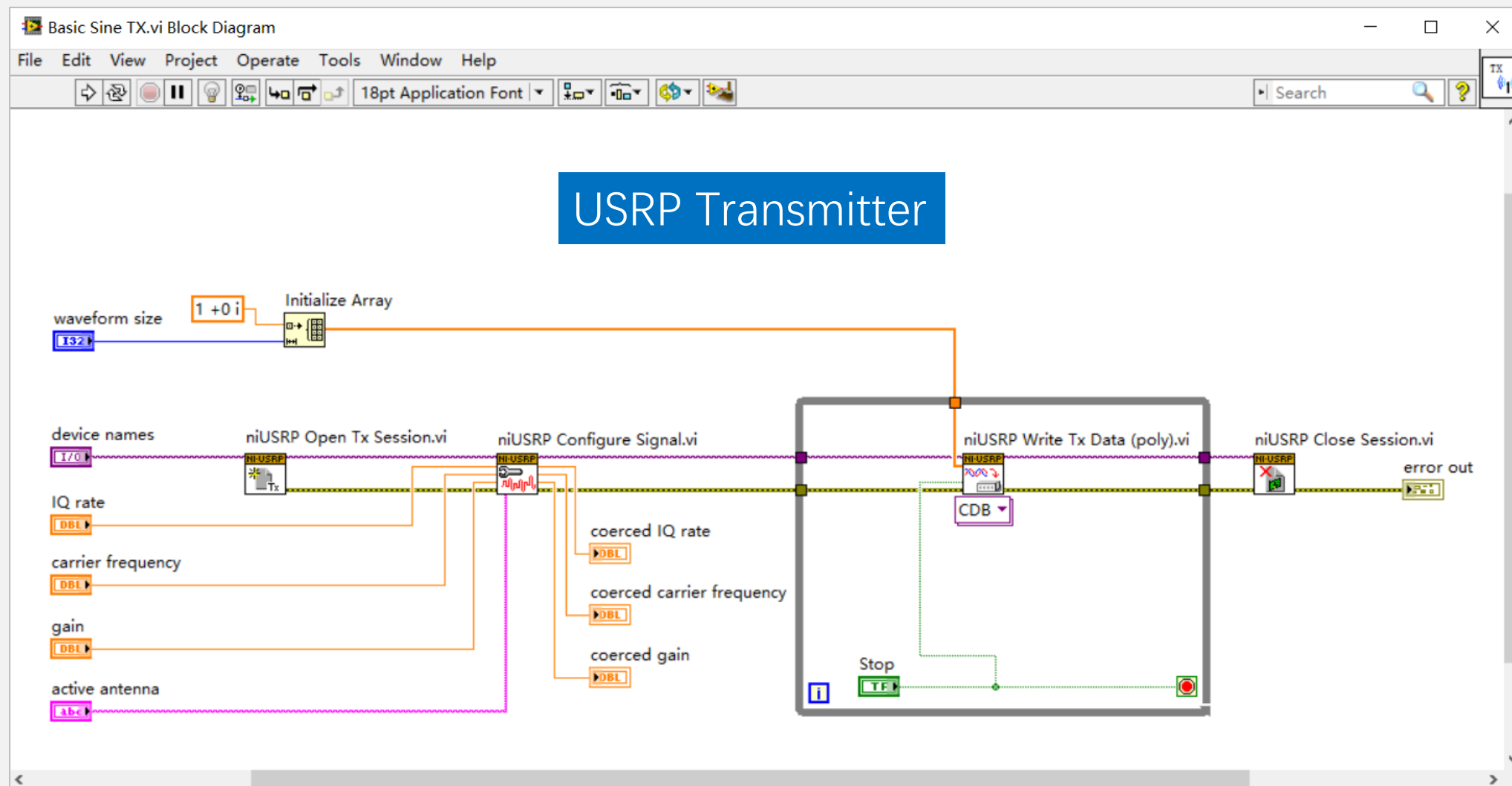
Host computer's IP:
192.168.10.1



Programming for Transmitter

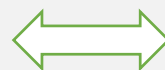


Block Diagram of the Transmitter

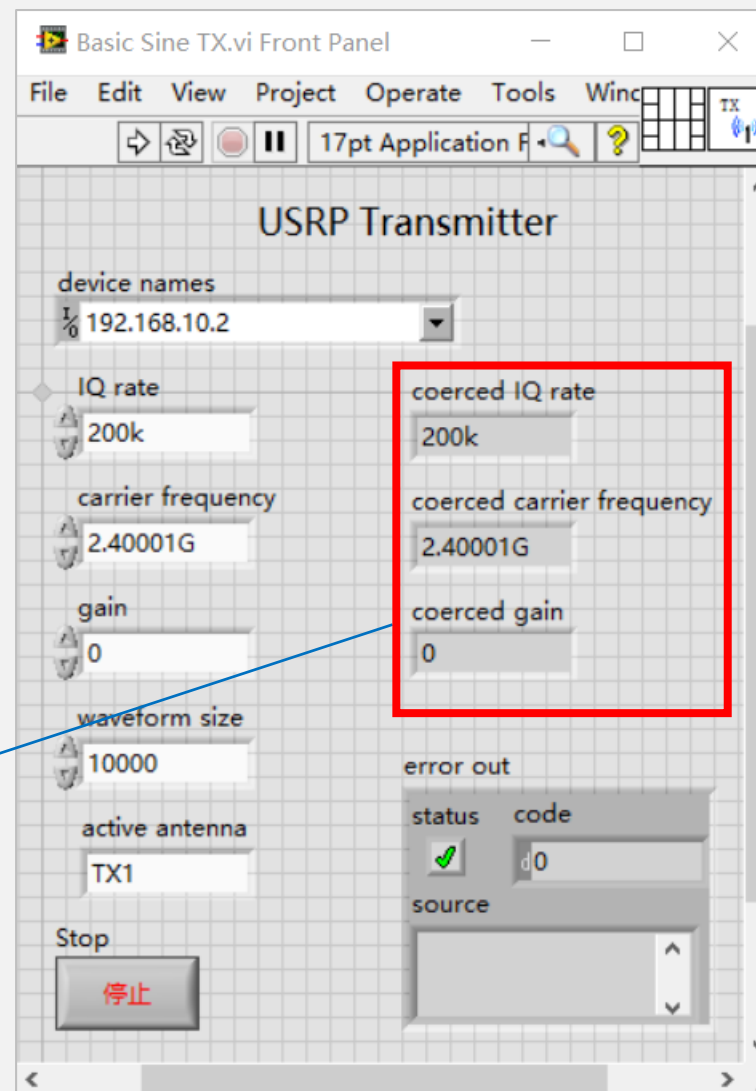


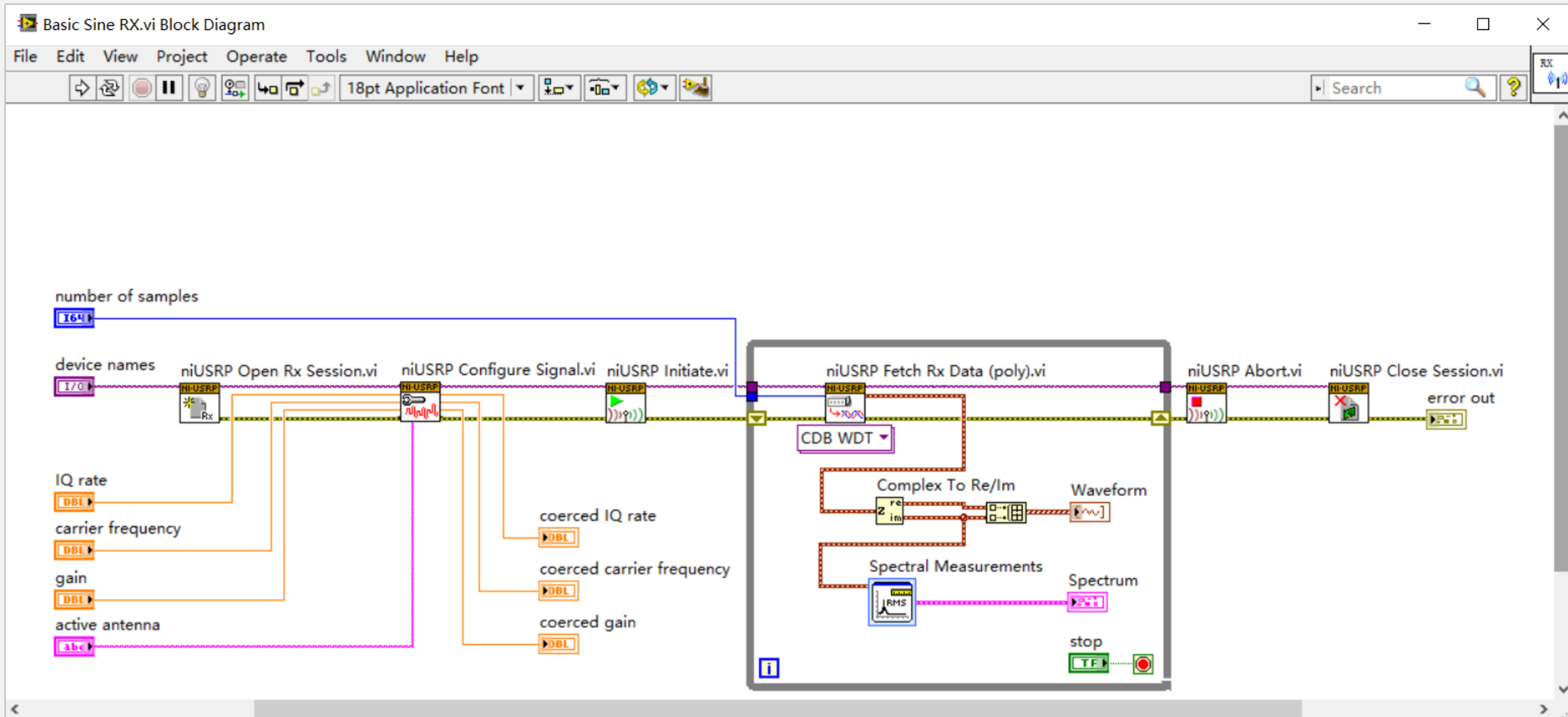
Configuration Parameters in Front Panel

Parameters	Value
Device names	192.168.10.2
Carrier frequency	2.40001GHz
IQ rate (samples/s)	200k
Gain (dB)	0
Waveform size	10000
Data	1+0i
Active antenna	Tx1



Actual value

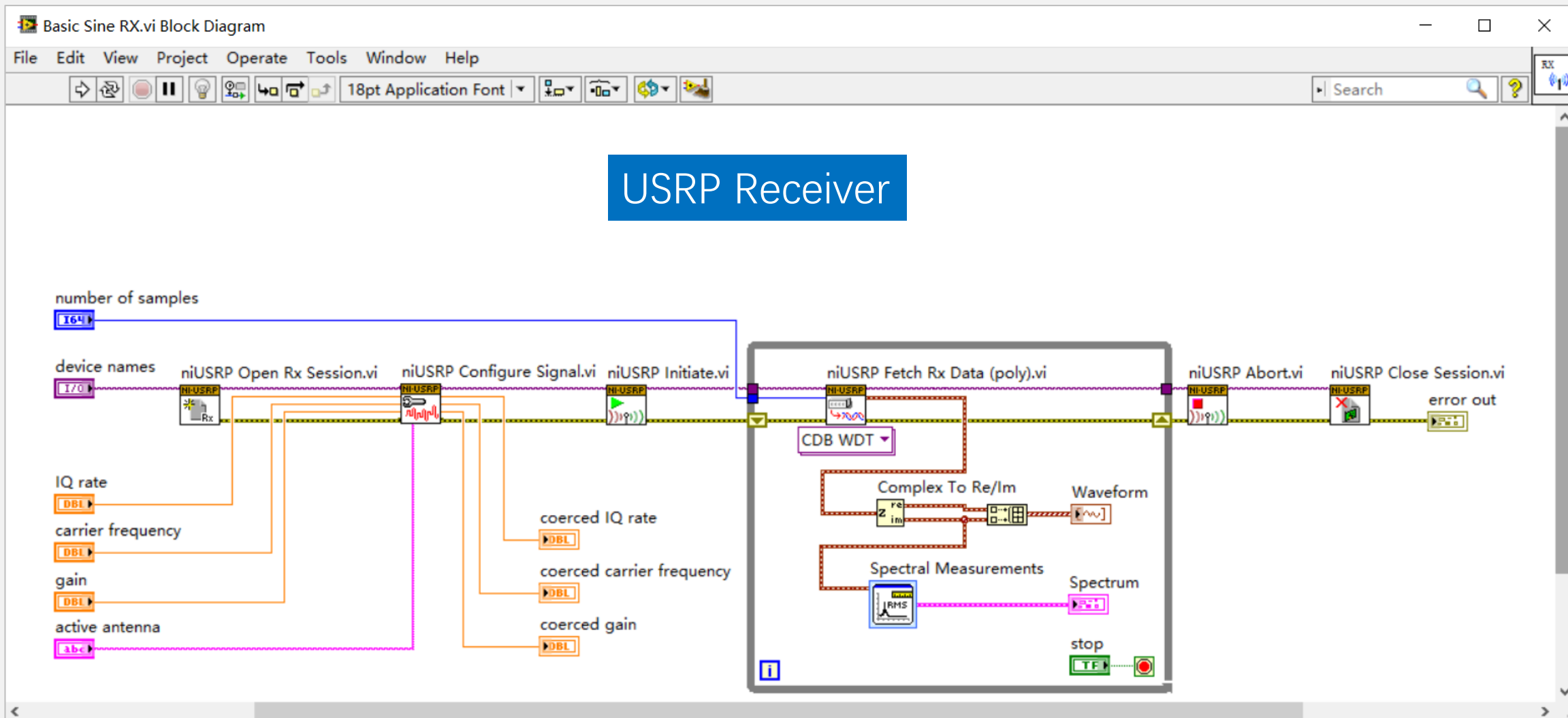






Block Diagram of the Receiver

USRP Receiver





Configuration Parameters in Front Panel

