# 1 Baseband Modem

## 1.1 Overview

Sirius baseband modem is a flexible wireless bi-directional baseband IP that can be dynamically deployed to connect 1 AP and up to 4 users. Customers can configure this IP flexibly for broad applications such as drone, Miracast, safety protection network, and so on. The IP supports two kinds of RF transceivers, namely AD9363 and AR8003s. AR8003s can work at both 2.4G and 5.8G frequency bands.

**1.2 Features**

* Support wireless connection between 1 AP and up to 4 users
* Support bi-directional 4K transmission
* Configurable bandwidth of 1.25M/2.5M/5M/10M/20M on broadcast/CSMA
* Configurable bandwidth of 2.5M/5M/10M/20M/40M on slot
* Configurable 1x1,1x2,1x4,2x2,2x4 MIMO with STBC
* Support 1T2R for broadcast/CSMA and 1T2R, 2T2R, 2T4R for slot
* Support BPSK/QPSK/16QAM/64QAM/256QAM modulation
* Support 1/2, 2/3, 3/4, 5/6 LDPC code-rate codec
* Support max throughput to 80Mbps bi-directionally
* Real-time variable lengths on broadcast/CSMA/slot

**1.3 Architecture**

