

# Operational Description

## General Description

BroadOne LS110 Residential Femtocell is LTE small Femtocell to deploy single unit in Home, clusters for Small Business. It supports 8 simultaneous session capacity, 2 x 2 MIMO, 100mW RF output power and advanced Interference Mitigation features.

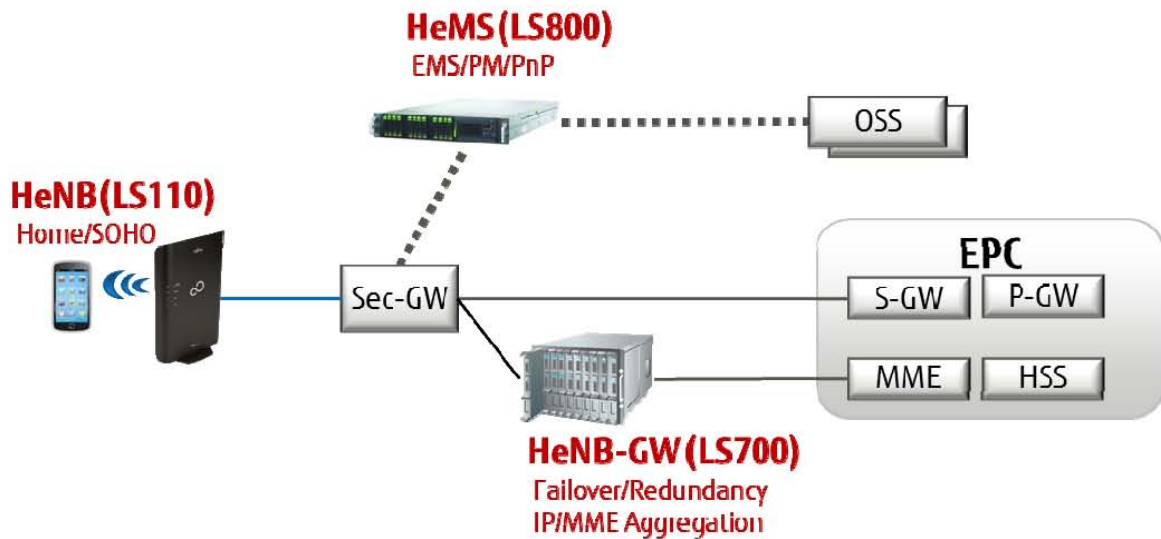


Figure1: System Overview

## Application

- LTE Network extension for Residential area, Small Business, and Retailer Shops
- LTE Network throughput improvement for Residential area, Small Business, and Retailer Shops

## RF Description

BroadOne LS110 Residential Femtocell RF portion consists of RFIC, Amplifier, Duplexer, RF Switch and VCTCXO oscillator.

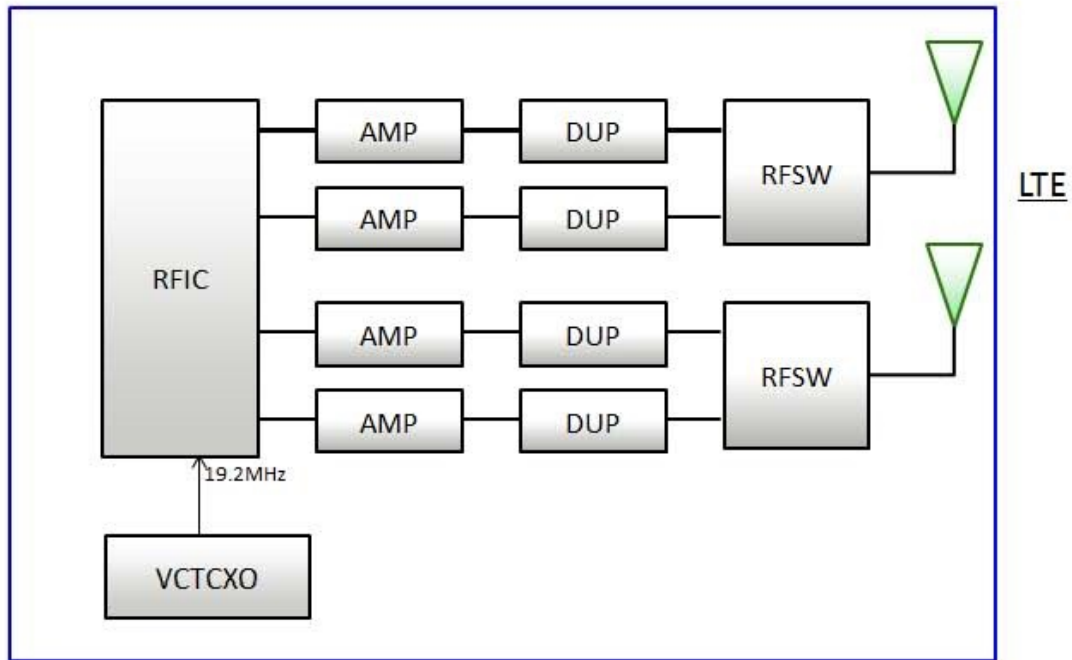


Figure2: RF Block Diagram

Object Short Text		Description	Note
LTE Standard		FDD-LTE Release 9	
Frequency	Band 4/13 model	Band 4 (AWS 2110-2155MHz downlink) Band 13 (700M Upper C 746-756MHz downlink)	Selectable
Bandwidth		5 / 10 / 15 MHz	(15 MHz only available in Band 4)
Transmit Power (EIRP)		50 mW x 2 Br	EIRP: Equivalent Isotropic Radiated Power
Frequency Tolerance		+/- 0.25 ppm	
Antenna Configuration		2TX / 2RX - DL: 2x2 MIMO - UL: Diversity only	
Antenna Type		Monopole Antenna	
Antenna Gain		0 dBi	
Number of Sector / Carrier		1 Sector / 1 Carrier	

Radio Access Technology	DL : OFDMA UL : SC-OFDMA(DFT-Spread OFDM)	
Modulation type	DL : QPSK, 16QAM, 64QAM UL : QPSK, 16QAM	
User capability	8 Users	

Chart1: RF Specification

### Circuit Description

BroadOne LS110 Residential Femtocell Circuit consists of the above RF portion, SoC, CPU, PLD, Memory, Flash, PHY, GPS, and connectors.

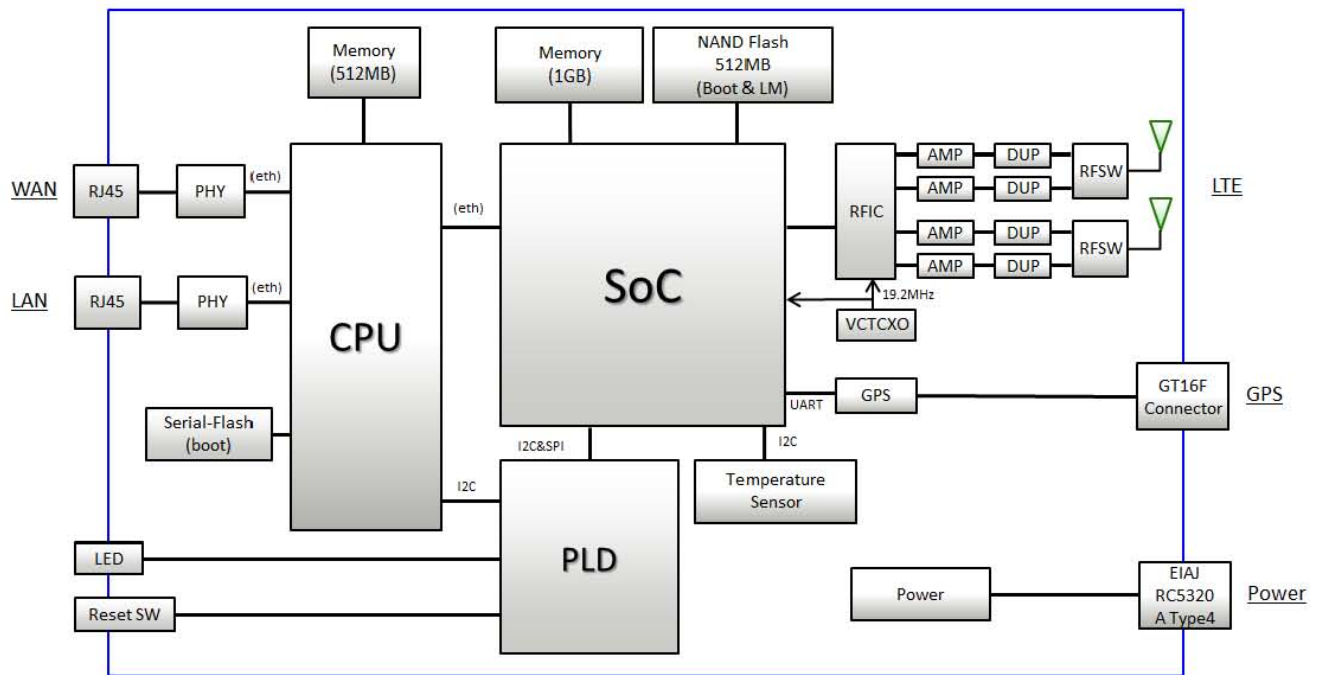


Figure3: Overall Block Diagram