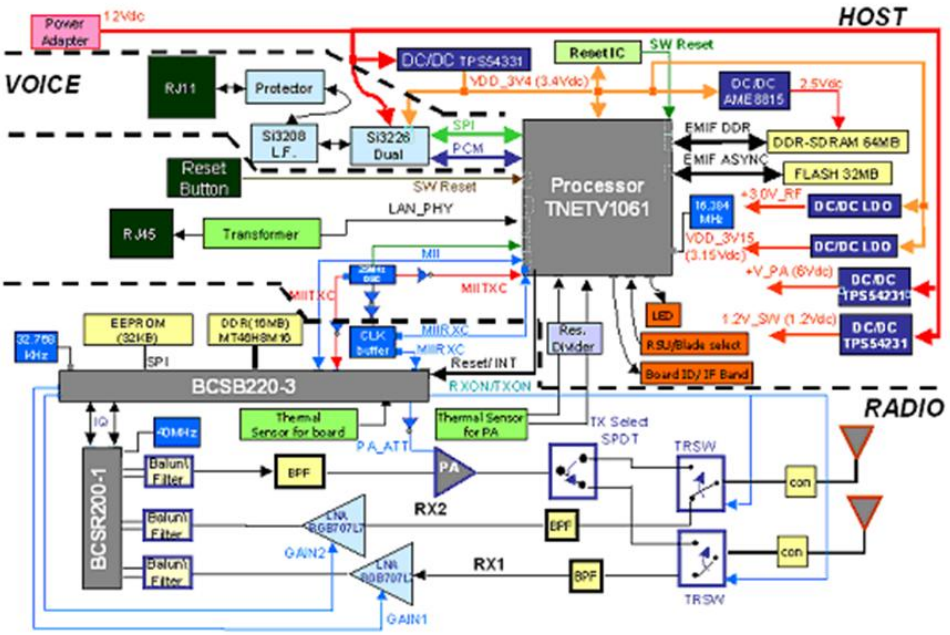
Operational Description

This device is a 2.5GHz 802.16e-2005 compliant WiMAX CPE with 5 or 10 MHz bandwidth. It is a broadband wireless solution that enables convergence of mobile and fixed broadband networks through a common wide area broadband radio access technology and flexible network architecture. The device Air Interface adopts Orthogonal Frequency Division Multiple Access (OFDMA) for improved multi-path performance in non-line-of-sight environments. OFDMA supports scalable channel bandwidths of 5 MHz and 10 MHz.



Note:

1. PA bias voltage is 6V dc and operating current at max rated power is 800 mA.
2. Device is only specified to operate over 0 - 40 C and will cease to transmit at temperatures below -20C.
3. End user is not able to change the frequency of operation or the transmitter output power.

The device supports QPSK, 16QAM and 64QAM and are mandatory in the DL. In the UL, the device supports QPSK and 16QAM. Both Convolutional Code (CC) and Convolutional Turbo Code (CTC) with variable code rate and repetition coding are supported. Table 2 show the coding and modulation schemes supported in the device.

		DL	UL
Modulation		QPSK, 16QAM, 64QAM	QPSK, 16QAM
Code Rate	CC	1/2, 3/4, 2/3, 5/6	1/2, 3/4
	CTC	1/2, 3/4, 2/3, 5/6	1/2, 3/4
	Repetition	x2, x4, x6	x2, x4, x6

Table: Supported Code and Modulations

MAC Layer Description:

The MAC layer is based on the time-proven DOCSIS standard and can support burst data traffic with high peak rate demand while simultaneously supporting streaming video and latency-sensitive voice traffic over the same channel. The resource allocated to one terminal by the MAX scheduler can vary from a single time slot to the entire frame, thus providing a very large dynamic range of throughput to a specific user terminal at any given time. Since the resource allocation information is conveyed in the MAP messages at the beginning of each frame, the scheduler can effectively change the resource allocation on a frame-by-frame basis to adapt to the burst nature of the traffic.

CPEi25150 Operational Description

By connecting to the accompanied AC/DC power adapter, the WiMAX CPE will auto power on. The WiMAX CPE base-band chipset control the RF chipset to go through one transmit and two receive antenna to search for Base Station and have the link established.